

INFLATION AND LIFE INSURANCE

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DURING the first two hundred years of its history, life insurance from a technical point of view has consisted very largely of a combination of life contingencies and contractual-type investments. Like most of our other modern financial media, including bonds, mortgages, and preferred stocks, it reached a high stage of development during that rather unique period of human history extending from the Napoleonic Wars to World War I, which had a kind of twilight zone lasting up to World War II. This period was generally one of stable money values in which the currency unit proved to be a reasonably satisfactory unit of account over long periods. In this respect, it differed from nearly all other periods of recorded human history, including the present one.

Since 1940 our dollar has lost over half of its value and most other currencies of the world have fared even worse. What is even more serious is the fact that these currencies, including our dollar, show no tendency to regain any appreciable part of their lost value and further loss in their value is considered likely by many students of the subject.

This inflationary trend is something to be resisted by all the means in our power, as in the long run it threatens to destroy our economic and social fabric. However, there does seem to be a case for hedging against its continuance insofar as life insurance is concerned, by making such adjustments in its technical structure as present day conditions seem to require. If the life insurance industry is to continue to fully perform in the future the role which it has performed in the past, then some attempt to merge life contingencies with equity investments, and to depend less exclusively on fixed currency investment media, seems in order. The alternative would seem to be for the business to become increasingly a provider of term insurance, with its savings aspects, which have been very important in the past and very beneficial to our economy as a whole, tending to decline in importance both relatively and perhaps absolutely.

MONEY AS A UNIT OF ACCOUNT

Money in our society serves two functions—as a medium of exchange and as a unit of account. It may perform the former function satisfactorily while failing at the latter. In life insurance the function of money as a unit of account is of dominating importance.

The technology of life insurance as it has existed up to the present has been based very largely on a combination of life contingencies and contractual-type investments, mainly bonds and mortgage loans. Its structure has been reared on the conscious or unconscious assumption that the currency unit over an extended period of time would provide a reasonably satisfactory measurement of value or purchasing power. This assumption was necessary because in the case of many types of policy contracts long periods of time tend to elapse on average between the collection of premiums and the payment of benefits. Such periods vary greatly with the type of policy contract. In the case of group insurance, or term insurance

TABLE 1

AVERAGE ELAPSED TIME FROM ISSUANCE OF POLICY TO PAYMENT OF
PREMIUMS AND RECEIPT OF BENEFITS

(Based on Commissioners Standard Ordinary Mortality Table)

PLAN	AGE AT ISSUE	AVERAGE ELAPSED TIME FROM ISSUE		
		To Payment of Premiums	To Receipt of Benefits	Difference
Ordinary Life	30	21.1 years	38.2 years	17.1 years
	45	14.9	25.7	10.8
20 Payment Life	30	9.3	38.2	28.9
	45	8.9	25.7	16.8
20 Year Endowment	30	9.3	19.1	9.8
	45	8.9	17.5	8.6
30 Year Endowment	30	13.8	27.3	13.5
	45	12.5	23.0	10.5
30 Year Term	30	13.8	19.7	5.9
	45	12.5	18.9	6.4

for relatively short terms, there is little time lag between premium collection and benefit payment. However, for retirement annuity contracts entered into at a relatively early age, this average time lag may cover several decades.

In the case of life insurance other than term, there is a substantial lapse of time on average between receipt of premiums and payment of claims. This time lapse varies with the plan of insurance and age at issue, as is illustrated in Table 1. It is greatest with limited payment life plans issued at the younger ages. For example, in the case of a 20 payment life policy issued at age thirty, a period of about 29 years would elapse on average between payment of premiums and receipt of benefits, assuming, of course, no lapsation of policies. Such a period is certainly long enough for inflation, even operating at the modest rate of 2% per annum, to reduce

the value of a currency unit by 44%. In the case of an ordinary life policy issued at the same age, the corresponding time lapse of about 17 years can be highly significant if it occurs over such a period as 1940 to 1957.

In the case of endowment policies, the average time between payment of premiums and receipt of benefits does not tend to be as long as for the whole life plans. However, since the former are predominantly savings plans, the effect of inflation on their future value tends to be magnified. On the other hand, term plans, even for relatively long terms, show a rather short average time lapse from payment of premiums to receipt of benefits; and the eroding effect of inflation is correspondingly minimized.

In order that the currency unit may serve as a satisfactory unit of account over extended periods, it must maintain its purchasing power within reasonable limits of fluctuation. This means that its value must increase at times as well as decrease, absolute stability being impossible. It is probably no coincidence that the life insurance business as we know it today had its origin and reached maturity during one of the few long periods in recorded history when money fairly well maintained its value.

A meaningful measurement of the value of money over an extremely long period is difficult to obtain. However, Chart 1 indicates the price of gold in shillings per fine ounce from the 13th Century onward. Remarkable stability in this price is indicated from the year 1700 to 1931, except for the Napoleonic Wars and World War I. It is notable that this stability had existed for over two generations when the Old Equitable, the first old line legal reserve life insurance company, was founded in London in 1760.

The record of prices in the United States is necessarily shorter. Indexes of wholesale prices for 30 basic commodities, published by the United States Department of Commerce, present a record from 1800 to 1930. These indexes for certain years over this period are presented in Table 2.

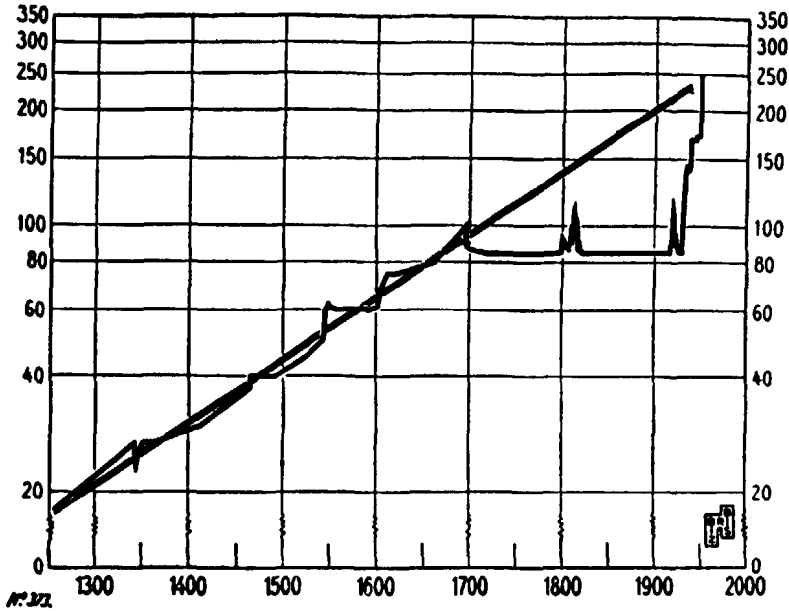
This set of index numbers covering 30 basic commodities rather closely parallels certain other indexes purported to cover a wider range of items. It, therefore, probably expresses in satisfactory measure the major price movements during the period.

The most striking conclusion to be drawn from these data is that, after major wars in the past, prices have ultimately deflated close to or even below their prewar levels. In 1879, just 14 years after the close of the Civil War, the United States dollar was again made freely convertible into gold at its prewar ratio, and prices had returned to approximately their prewar levels. This was a feat of monetary deflation such as has not been performed since and is very unlikely to be performed in our time.

Again, after World War I, our dollar regained a large part, but not all,

CHART I

Great Britain: Price of gold over seven centuries.
In shillings per fine ounce.



Source: *Twenty-first Annual Report of Bank for International Settlements*.
Logarithmic scale.

NOTE.—After a remarkable stability in the British gold price for more than two centuries (from about the year 1700 to 1931) the increases over the last twenty years have had the effect of bringing the price back into line with what may be called the secular development.

TABLE 2
WHOLESALE PRICE INDEX OF 30 BASIC COMMODITIES
(1910-14=100)

1800	133
1810	145
1814	221 wartime high
1820	114
1830	98
1840	97
1850	88
1860	102
1864	253 wartime high
1870	143
1880	104
1890	83
1900	86
1910	102
1920	231 postwar high
1930	118

Source: Warren and Pearson, published in U.S. Department of Commerce Supplement to Statistical Abstract.

of its former purchasing power, except as this applied to certain wholesale prices in the depths of the depression.

Certainly, up to the time of World War II, the record of our money was such as to make it a quite desirable, although not perfect, unit of long-term account. What has been said about the United States dollar applies with equal force to the Canadian dollar. The record was such as to provide a highly suitable background for the origin and growth to maturity of the life insurance business on this continent in the form in which it exists today.

PRICES SINCE 1941

The most widely used and one of the most meaningful indexes of the purchasing power of the dollar currently available is the Consumer Price

TABLE 3
DECLINE IN VALUE OF UNITED STATES DOLLAR BASED ON
CONSUMER PRICE INDEX OF U.S. DEPARTMENT OF LABOR

	Total Decline in Period	Annual Com- pounded Rate of Discount
December 1940 to December 1957 (17 years)	51%	4 $\frac{1}{4}$ %
Wartime 1941-45 (5 years)	22%	5 $\frac{1}{8}$ %
Immediate Postwar 1946-48 (3 years)	25%	10%
Stable Period 1949-50 (2 years)	No Change	0
Korean War Period 1951-52 (2 years)	10%	5 $\frac{3}{8}$ %
Stable Period 1953-55 (3 years)	$\frac{1}{2}$ %	$\frac{1}{4}$ %
January 1956 to December 1957 (2 years)	5%	3%

Index of the United States Department of Labor. This index is designed to take into account the cost of food, housing, apparel, and all other items which normally determine the cost of living. From December 1940 to December 1957, a period of 17 years, this index climbed from 59.9 to 122, indicating a decline in the value of the dollar of about 51%. This is equivalent to an annual discounting of this value at the rate of over 4 $\frac{1}{4}$ % compounded. This decline in value was not, of course, uniform over the period, a fact which is indicated in Table 3.

It would, no doubt, be incorrect at this time to project this 4 $\frac{1}{4}$ % annual rate of inflation into the future. It arose in large part from the creation of a very large amount of new money through deficit financing during and immediately after World War II.

The creation of this new money supply far more than outpaced the increase in production and new money thus created in the form of commercial bank deposits tends to be a permanent thing. Its existence made

the working of monetary controls on inflation rather ineffective for a period of years. Barring a great expansion of the money supply as a result of war or some other catastrophe, one would expect a slower average rate of inflation in future. Such deficit financing as may be used as a depression cure will probably be on a smaller and less inflationary scale than that which caused the inflation of the 1941-1948 period.

The pattern of prices during the war and in the years immediately thereafter followed those of other comparable periods in the past. Here the resemblance ceased. There has been no indication of a price decline such as followed World War I. Instead, our price level now seems to

TABLE 4
ANNUAL RATE OF CURRENCY DEPRECIATION VS. YIELD
ON LONG-TERM GOVERNMENT BONDS

	ANNUAL RATE OF MONEY DEPRECIATION		YIELD ON LONG-TERM GOVERNMENT BONDS	
	1946-56	1949-56	1946	1949
Belgium.....	4.3%	2.3%	4.2%	4.6%
Denmark.....	4.8	4.8	3.6	4.4
France.....	13.4	5.3	3.2	4.8
Italy.....	7.0	2.2	4.7	5.4
Netherlands.....	4.3	4.2	3.4	3.3
Norway.....	4.9	6.3	3.0	2.5
Sweden.....	4.9	5.3	3.0	3.0
Switzerland.....	1.4	1.3	3.1	2.9
United Kingdom.....	6.0	5.6	2.6	3.0
United States.....	3.7	2.2	2.2	2.3

Source: *Annual Report of Bank for International Settlements.*

operate on a kind of ratchet system—it will go up and then is stabilized at the higher level until it is ready to go up some more. Value once taken out of the dollar has not been restored. Following two years of stability in 1949 and 1950, the Korean War took 10% from the value of the dollar, probably permanently. Then, after three years of a stable cost of living, prices entering the cost of living again began to rise. This last rise is probably the most disturbing of all, as it took place during a period of a balanced federal government budget, in a time we have come to regard as peace, and in an administration originally dedicated to sound money.

Currency depreciation in recent years has been a worldwide phenomenon; and compared with most countries of the world, the United States and Canada have done a rather superior job of maintaining the value of their money. In Table 4 a comparison is made between the average

annual rates of money depreciation for 10 countries with the rate of return obtainable from purchasing the highest yielding government bonds of those countries at the beginning of the respective periods covered. For the 11 years 1946 to 1956, inclusive, the average annual rate of money depreciation exceeded the highest available rate of return from government bonds purchased in 1946 in the case of all countries except Switzerland. In the 8 years from 1949 to 1956, the record was a little better. The average rate of depreciation was at a lower rate than the yield on government bonds purchased in 1949 in the case of four countries, including the United States, although in the case of the latter country the margin was small.

CURRENT OUTLOOK

The forces which seem to be working toward declining value in our money stem from the kind of world in which we are living, and will be only briefly summarized here:

1. We live in a disorderly world, necessitating huge government budgets swollen principally by expenditures on armaments, which are non-productive. The current armament race, accelerated by the advent of ballistic missiles, will throw an increasing strain upon government budgets, and is entirely inflationary in its impact upon the value of our money.

2. The strength and militancy of labor unions have led to a wage-price spiral in which wage increases tend to outrun increases in productivity. In fact, throughout large areas of industry substantial hourly wage increases, coupled with costly increases in fringe benefits, are now regarded as a normal annual event. During the last two years in the United States and probably in Canada also, there has been little increase in real productivity per hour of work. Under these conditions, price increases inevitably follow wage increases.

3. Economic pressure groups are an inflationary force tending to increase both prices and government spending. Farm price supports are a well-recognized example. Other pressure groups oppose the use of such fiscal weapons as higher interest rates as a means of combating inflation. We have recently seen how promptly such weapons are sheathed at the slightest sign of deflation and before any drop in the cost of living has been experienced.

4. The nations of the world and their currencies are no longer subject to the discipline of the International Gold Standard. Under the classic working of this standard, if prices within a country rose unduly, imports rose, exports fell, gold departed, and credit was restricted. This tended

to deflate prices back into line. The process was usually accompanied by some unemployment and economic discomfort. Today currencies are exclusively the creatures of governments, and are very little subject to automatic discipline from outside.

It is doubtful if most western democracies are in a frame of mind to submit to the type of discipline necessary to avoid inflation. Certainly our experience in the present business recession would indicate that they are not. Public works and tax cuts are widely proposed, even when this means budget deficits which can be met only by the expansion of bank credit. This, in turn, will tend to provide the fuel for further inflation when the climate is right. Apparently when a modern government must choose between the maintenance of a full employment and a stable currency, the record so far indicates that it will generally choose the former.

With respect to all of the above conditions, our present place in history is in sharp contrast with the only period on record when the modern world experienced relatively stable money value, the century from 1815 to 1914. Over that period, we had a relatively peaceful world. Wars tended to be localized, and military establishments consumed only a small part of total productivity. Government budgets were low; and, in the laissez-faire economy of the time, the recognized economic responsibilities of governments were strictly limited. For example, the maintenance of full employment was not then recognized as a governmental function, nor was the maintenance of prices of basic commodities. In the years 1911 to 1915, the annual expenditures of the United States Government averaged \$720,000,000, which is well under 1% of the present dollar level of such expenditures. Of this, \$333,000,000 was for the Army and Navy, \$165,000,000 was for veterans' pensions, and \$222,000,000 covered everything else. The fact that money was able to retain its purchasing power under such conditions provides no basis for a belief that it can be made to do so under the entirely different conditions which now prevail and which contrast so strikingly with those of the preceding century.

It is an unpleasant fact that there is an increasing belief abroad that further inflation, if not inevitable, is at least a strong possibility. Certainly, during the last 17 years the currencies of most countries of the world, including our own, have proven to be unsatisfactory units of long-term account. Nearly all of them have lost at least half of their purchasing power during that period, and some of them much more. There seems little hope of their regaining any significant part of this loss as happened in other comparable historical periods. In fact, there is widespread feeling that further loss in money value is a very strong possibility and, in the opinion of many students of the subject, a probability.

DILEMMA FACING THE LIFE INSURANCE BUSINESS

The impact of currency inflation and the strong possibility of further inflation face the life insurance business with a difficult and cruel dilemma. To adjust its entire technical operation to the assumption that inflation is going to continue rather indefinitely into the future on a substantial scale would be a difficult, if not impossible, procedure and would also, no doubt, be construed as a defeatist attitude toward the most serious economic problem of our time. However, to make no adjustments in that technical operation in the light of events might also seem like a

TABLE 5
LIFE INSURANCE IN FORCE IN UNITED STATES COMPANIES
(Billions of Dollars)

Dec. 31	Life and Endowment	Term	Group	Term and Group	Dividend Additions	Total
1946.	138	7	28	35	2	175
	(79%)	(4%)	(16%)	(20%)	(1%)	(100%)
1956.	243	47	139	186	3	432
	(56%)	(11%)	(32%)	(43%)	(1%)	(100%)
Adjusted to Dollars of Constant Purchasing Power (1947-49=100)						
1946.	165	8	34	42	2	209
1956.	206	40	118	158	3	367
% Increase..	25%	.....	.....	276%	.....	76%

Source: *Spectator Year Book*.

defeatist attitude in itself. In following such a negative course, the life insurance industry runs the risk of withdrawing in large measure from some of the most important functions in our society, which it has heretofore helped perform to a very important extent, namely, the encouragement of savings and the mobilization of capital.

The analysis of life insurance in force presented in Table 5 points out certain trends within the industry. In the 10 years ending with 1956, life and endowment insurance, representing the plans which produce substantial reserve and asset accumulation, declined from 79% of total insurance in force to 56%, while term insurance, including group, increased from 20% to 43%. Reduced to dollars of constant purchasing power, the growth in life and endowment insurance over this period was 25%, a growth which did little more than keep pace with the growth in our popu-

lation in this period. On the same basis, term and group insurance increased 276%.

To what extent this swing toward term insurance has been due to inflation fears and to what extent it has been due to other factors, such as the growth of pension plans and other types of social security, is difficult to say. In any event, it has had its effect on the asset growth of life insurance companies. The annual growth of these assets increased at an irregular rate to reach a peak in the year 1954 of \$5,946,000,000. Thereafter it declined each year through 1957 when the growth was \$5,300,000,000, a drop of 11% from 1954. In view of the rising trend of dollar incomes and savings of individuals over this period, it seems that life insurance has tended to become a less favored medium for the accumulation of savings than formerly.

When faced with such a dilemma as now confronts the industry on this continent, it is interesting to observe how others in somewhat similar circumstances have reacted.

In the United Kingdom the postwar rate of money depreciation has been considerably more virulent than here, resulting in a decline in the purchasing power of the pound to about one-third of its 1939 value. Without much doubt, this inflationary trend has had a substantial effect on the investment policies of the British life insurance companies. At the end of 1957, 43 British insurance offices had on average 17.7% of their life, annuity, and capital redemption assets represented by common stocks at book value, and another 9.1% represented by real property, or a total of nearly 27% of assets in equity-type investments. One company had over half of its assets in common stocks and property combined, and 13 out of the 43 companies had over 30% of their assets thus invested. The highest proportion of assets in common stocks alone was that of the Scottish Widows which had 41.4% of assets thus invested, but 8 out of the 43 companies had over 25% of their life insurance assets in common stocks. These equity percentages represent book values and might be higher if taken at market values. The book value of the common stock holdings of this group of 43 companies has more than doubled over the 5 years ending with 1956, against an increase in their total assets of 43%. The increase in the book value of their common stock holdings accounted for 27% of their total increase in assets over the 7 year period ending with 1957.

The *Economist* of London comments on this investment trend as follows:

It is too simple to assure that the life insurance industry is merely in the business of selling money claims for future settlement, and therefore need not concern itself too closely with what happens to the value of money during the life of a policy. In its participating assurance business, indeed, the policyholder has a direct interest in the results of the life fund, and each office, in competition with the others, is anxious to do well for him. Moreover, competition by way of rates and service is felt no less keenly in non-participating business. The trend towards equities is a policy aimed at growth and at some protection against inflation. It is rational and inevitable.

TABLE 6
PENSION FUNDS VS. LIFE INSURANCE COMPANIES
(Amounts in Millions of Dollars)

YEAR	CORPORATE PENSION FUNDS*			LIFE INSURANCE COMPANIES† (49 COS. WITH 86% OF ASSETS)		
	Total Assets	Common Stocks	% in Common Stocks	Invested Assets plus Cash	Common Stocks	% in Common Stocks
1951	6,876	812	11.8%	56,544	482	0.8%
1952	8,505	1,228	14.4	60,336	537	0.9
1953	10,222	1,649	16.1	64,287	594	0.9
1954	12,153	2,286	18.8	68,506	791	1.2
1955	14,230	2,958	20.8	72,830	929	1.3
1956	16,639	3,774	22.7	76,901	965	1.3
1957	19,316	4,770	24.7	80,750	1,035	1.3

* Securities and Exchange Commission.

† Life Insurance Association of America.

One does not need to look abroad for a similar trend in the handling of funds accumulated for the purpose of providing social security in its broader sense. Uninsured corporate pension funds in this country have become heavy purchasers of common stocks, and, on a relative basis, such stocks are the most rapidly growing part of their assets. In Table 6 this trend in pension fund investment is compared with that of the major life insurance companies. Based on market value, common stocks constituted 30% of the assets of uninsured corporate pension funds at the end of 1957, and in that year 37% of the net receipts of such funds were invested in common stocks, a higher proportion than in any preceding year.

NEW INVESTMENT MEDIA NEEDED

It has been said that savings are one thing in the world that cannot be saved. They are dynamic rather than static by nature since they repre-

sent the excess of production over consumption. They are like an electric current or the energy in a flowing stream. They can be stored for future use only by transforming them into some other media, just as the energy in an electric current can be stored by transforming it into a chemical change in a storage battery, or the energy in a stream by storing water behind a dam. Media which are commonly used for storing the energy represented by the savings process are real estate ownership, bonds, stocks, bank deposits, or life insurance, all of these representing a claim on future production. The effectiveness of such media in preserving or even enhancing the fruits of savings can, of course, vary a great deal. If they prove ineffective to the point where a large amount of loss in real value results, then the savings process, which is the life blood of our economy, will be discouraged and slow down. This has already happened in some countries.

The ultimate justification for investing life insurance reserves largely in contractual obligations payable in a fixed number of currency units must lie in one of two assumptions. Either the currency unit is expected to maintain its value fairly well over extended periods of years, or the fixed rate of return received is designed to contain an element to offset the declining real value of the principal. To rely on the latter premise might prove unsatisfactory since it requires an advance judgment of the rate of expected inflation and it might require the imposition of interest rates which would appear usurious.

Therefore, if in the future money does not promise to serve as a reasonably satisfactory unit of long-term account—there is no such thing as a perfect one—we are at least encouraged to search for more satisfactory repositories of value than contractual investments payable in money. To accomplish this is not likely to be an easy task, and it is not to be expected that it can be accomplished to perfection. However, inability to perform a task perfectly is not a good reason for failing to attempt it at all.

The two types of equity investment media which suggest themselves as at least partial substitutes for contractual money investments are real property and common stocks. The former, if it is to serve its purpose in this respect, cannot be subject to long-term lease rental payments in a fixed amount of dollars. In such case, it would become just another contractual money investment. Either the rental must be subject to frequent adjustment, or it must be geared in some way to the earning power of the property. The profitable ownership of a large amount of real property on this basis would raise management problems of substantial proportions which not all life companies may be prepared to undertake. However,

considerable scope no doubt exists for this type of equity investment, particularly on the part of the larger companies.

A much broader field for equity investment no doubt exists in common stocks or shares. While these are by no means a perfect hedge against inflation—in the past their market values have tended to fluctuate much more widely than has the cost of living—they are probably the best large-scale medium available for this purpose.

Equity investments, and most particularly, common stocks, might be introduced more widely into the structure of life insurance by two approaches. The companies could continue to sell policies on the same fixed dollar basis as heretofore, at the same time adding substantially to their common stock holdings. The long-term capital appreciation and ultimately higher rates of return which would be expected to result from such a policy could be reflected in more liberal dividends on participating policies. If such higher dividends were paid in the form of paid-up additions to the face value of the policy, this would, of course, provide some offset to inflation.

To accomplish an increase in equity investments in this way, two things would probably be necessary. State investment laws in many cases would have to be liberalized. Also, some smoothing formula for the valuation of common stocks would probably be required if liabilities are to be rigidly valued and company surpluses limited to rather small proportions of assets.

Fortunately, a valuable precedent was recently set in establishing such a smoothing formula in the case of preferred stocks. This formula or some variation thereof might well be extended to cover common stocks. Along these lines, it might be provided that common stocks be written up or down in the course of a year by some fraction of the difference between their book or asset value at the beginning of the year, or their cost if purchased during the year, and their market value at the end of the year. The fraction used in the case of preferred stock is one-fifth. This fraction might possibly be considered too small in the case of common stocks, in which case one-fourth or even one-third might be substituted. To be conservative, nondividend-paying stocks might be carried at market value. Such a smoothing formula would go a long way toward ironing out substantial fluctuations in the asset values of common stocks and would be an important step in enabling life insurance companies to increase their investment therein substantially.

Such a suggestion seems no more radical than the long-accepted practice of valuing bonds in good standing at amortized values even though these values may for long periods differ widely from market values. Many

bonds purchased during the low interest period of the 1940's and early 1950's have for extended periods since that time been selling much below their amortized values, sometimes as much as 20% below.

SOME MORE TECHNICAL SUGGESTIONS

A more far-reaching suggestion which would involve some basic technical changes in the nature of the life insurance business is as follows.

Certain new types of policies might be issued involving both guaranteed fixed-dollar benefits and also benefits which would depend upon the results obtained from equity investments. What I have in mind can be best illustrated by some practical examples. Take a 20 year endowment policy. This can be broken down into a 20 year term policy and a 20 year pure endowment policy. The 20 year term part could have its reserves set up in the traditional way and invested entirely, or very largely, in fixed-dollar media so that the full face amount of the policy could be guaranteed in the event death occurred prior to maturity. The pure endowment reserve, however, might be invested all or in substantial part in equities, such equity investments to consist of participating shares in the company's entire common stock portfolio. While the amount payable at maturity would be a variable number of dollars depending upon the behavior of the common stock account, it would seem that the company could without much risk guarantee some minimum amount depending upon the proportion of the pure endowment reserve invested in equities. If this reserve were to be invested entirely in equities, such minimum guarantee might run as high as 80% of the face amount of the policy without much risk to the company, while a partial investment of the reserve in equities would permit a higher percentage guarantee.

A new type of 20 payment life plan might also be devised along somewhat similar lines. The premiums and reserves would be broken down into those applying to a 20 year term policy and those applying to a life policy deferred for 20 years. The 20 year term reserve would be invested in fixed-dollar media to provide for the payment of the face amount of the policy if death should occur in the first 20 years. The deferred life reserve could be invested entirely or in substantial part in equities which again might take the form of participating shares in the company's common stock account. The amount payable after 20 years would be greater or less than the face amount of the policy, depending upon whether the reserve accumulated in such participating shares was worth more or less than the conventional reserve. Here again some substantial minimum guarantees might be made without material risk to the company. At the end of the 20-year period the insured might use the then current

value of the reserve to purchase paid-up insurance of a fixed-dollar type, if economic conditions at that time seemed to make this a desirable move.

There seems to be no good reason why the same line of thought could not be carried into ordinary life policies. Part of the premium would be used for the first 20 years to purchase a fixed-dollar 20 year term policy. The remainder would be invested in equity shares to go toward the building up of a deferred life reserve at the end of 20 years, to which the premiums collected after 20 years would continue to contribute. The amount payable after 20 years would be a variable amount depending on the dollar value of the equity shares in the reserve.

The reason for selecting twenty years as the initial term in all of these cases is that experience has shown that, except in the most unusual circumstances, a reserve intelligently invested in equities over such a long period will tend to represent a larger dollar accumulation at the end of the period than a fixed-dollar reserve. For shorter periods one cannot feel so confident of this. For those insured who cared less for a fixed guaranteed amount for a long period of years and who were prepared to more fully and immediately trust themselves to an equity position, a shorter initial period of fixed term insurance might be in order.

SOME EXPERIMENTAL CALCULATIONS

Certain calculations based on the market price behavior and yields on stocks over various 20-year periods of time give a good deal of encouragement to the above suggestions. For the years 1929 to 1956 Moody's common stock averages for 200 stocks were used (see Table 11). This common stock average is a very broad one. It embraces 125 industrial, 25 railroad, 24 utility, 15 bank, and 10 insurance stocks. Each stock is weighted by the number of shares currently outstanding. In computing the averages, adjustments have been made for all stock splits and stock dividends, so that the series are comparable throughout the period covered. Market prices, dividends, and yields are annual averages of the month-end figures. Unfortunately, this series begins only in 1929 and so for common stock experience prior to that time resort had to be made to the Dow-Jones Industrial Average of 30 Stocks.

In making the calculations which have been summarized in Table 7, I assumed the investment of \$100 in the stock averages in each of 20 consecutive years, 1915 to 1934 inclusive, for example, with the accumulation being carried through to 1935. In making such an accumulation, a rate of return was allowed on market values which was $\frac{1}{2}\%$ less than the rate of dividend return actually achieved on such values. This deduction was made to allow for expenses and profits. The dividend return, less the $\frac{1}{2}\%$

deduction, was assumed to be received annually at the end of a year of experience and reinvested in the stock averages at that time.

The three 20-year periods chosen for experimentation had widely differing characteristics. The 1915-35 period embraced World War I, the stock market boom of the 1920's which reached its crest in 1929, and the period ended in 1935 when recovery from the depression was just

TABLE 7
ACCUMULATIONS RESULTING FROM INVESTMENT OF \$100 PER ANNUM IN
COMMON STOCKS VS. FIXED-DOLLAR ACCUMULATIONS
WITH 3½% INTEREST

PERIOD OF EXPERIENCE	MORTALITY SURVIVORSHIP FACTOR	MARKET VALUE OF FUND AT THE END OF VARIOUS PERIODS			
		5 Yrs.	10 Yrs.	15 Yrs.	20 Yrs.
1915-1935*.....	None	\$595	\$1,889	\$4,446	\$ 3,365
1929-1949†.....	None	450	1,204	2,333	4,186
1936-1956†.....	None	462	1,620	3,904	10,311
Dollar Accumulation at 3½%.....	None	555	1,214	1,997	2,927
1915-1935*.....	CSO Initial Age 30	603	1,945	4,714	3,696
1929-1949†.....	CSO Initial Age 30	454	1,237	2,456	4,590
1936-1956†.....	CSO Initial Age 30	467	1,872	4,128	11,391
Pure Endowment at 3½%.....	CSO Initial Age 30	562	1,249	2,105	3,202
1915-1935*.....	CSO Initial Age 45	615	2,048	5,275	4,494
1929-1949†.....	CSO Initial Age 45	462	1,299	2,712	5,558
1936-1956†.....	CSO Initial Age 45	476	1,969	4,596	13,990
Pure Endowment at 3½%.....	CSO Initial Age 45	573	1,314	2,331	3,863

* Dow-Jones Industrial Averages.

† Moody's 200 Stocks.

under way. In 1935 the Dow-Jones Industrial Stock Average was at only 38% of its 1929 average level.

The 1929-49 period began in a year when Moody's stock average was at a peak level which it did not regain for 25 years. It embraced the period of the depression and of World War II, during which excess profits taxes tended to depress corporate earnings and stock market values. In 1949, at the end of the period, Moody's 200 stock average was still at only 54% of its 1929 level.

The 1936-56 period covers the most recent 20 years available. Common stocks hit a peak in 1936 which they did not regain until 1945, nine years later. The last part of this period, of course, embraced the stock

market boom of the 1950's, which accounts in large part for the generally excellent experience of the accumulations over this period.

While the data in Table 7 are not all-embracing, they do seem to encourage some significant conclusions. It appears that over an extended period of years common stocks which are selected with an average amount of skill and good fortune are a more efficient accumulator of dollars than fixed-dollar investments which yield $3\frac{1}{2}\%$ on average. Over a 20-year period this has been almost universally the case. It would be possible to pick a 20-year period in the past when this was not true, but such a period would have to end in the depression years 1932, 1933, or 1934, which were very exceptional years in our economic history. It is unlikely that such a period will be repeated. Even over shorter accumulation periods than 20 years, the comparison has in general been favorable to common stocks.

TABLE 8
CHANGE IN VALUE OF STOCK PRICES, 1871-1957 INCLUSIVE

Length of Period	Number of Periods	Periods of Gain in Value	Periods of Loss in Value	Same	% Chance of Gain in Value
1 year.....	87	50	36	1	57%
5 years.....	83	56	27	0	67
10 years.....	78	65	13	0	83
20 years.....	68	64	4	0	94
30 years.....	58	58	0	0	100

In determining the end results of such accumulations as are summarized in Table 7, the level of the stock market at the end of the period is extremely important. However, it is not necessary to seek out a period which ends with stocks at a relatively high level to make such accumulations turn out superior to fixed-dollar accumulations.

In the event that the initial period ends at a time when stocks are selling at relatively low levels, the insured or beneficiary might choose to leave all or part of the proceeds on deposit in the form of equity shares to wait for a more propitious time to withdraw.

Some additional light is shed on the long-term behavior of common stocks by the study of an index which goes back over a period of 87 years. This index is based on the Alfred Cowles & Associates Common Stock Index for the period 1871-1937 which has been grafted into the Standard's Statistics Index which began about 1918. In compiling these indexes each stock price has received a weight equal to the price per share multiplied by the number of shares outstanding.

The period covered includes 87 single years, 83 periods of 5 consecutive years, 78 periods of 10 consecutive years, 68 periods of 20 consecutive years, and 58 periods of 30 consecutive years. The behavior of this stock index in these various periods is summarized in Table 8.

There were four periods of 20 consecutive years in which the index ended lower than it began the period. These periods and the behavior of the index over them were as follows:

Period	Index Beginning of Period	Index End of Period
1873-93.....	38.0	37.7
1874-94.....	36.2	34.7
1912-32.....	75.5	48.6
1913-33.....	67.3	63.0

Earlier in this paper the writer suggested 20 year endowment and 20 payment life plans with guaranteed dollar amounts payable on death in the first 20 years, but with the balance of the premium over and above that required to pay for such term insurance to be invested in equity accumulations. One practical defect of such a type of policy would be the sudden change in the amount payable at or after the end of the initial 20-year term. That this change is likely to be substantial is indicated by the accumulation figures in Table 7. In the case of the first three sets of equity accumulations shown in this table, which do not contain any survivorship factor, the amounts at the end of 15 and 20 years, with one exception, exceed the pure endowment reserves for ages at issue 30 and 45 at the end of an equal period of time from issue.

This suggests that some fraction—25% might be a suitable one—of the pure endowment premium might be invested in stocks and accumulated without benefit of survivorship. This part of the stock accumulation could then be paid as a supplementary death benefit in addition to the fixed-dollar term insurance. The remainder of the pure endowment premium would be accumulated in stocks with benefit of survivorship and would be payable only in the event of the insured living to the end of the term. By such an arrangement the abrupt change in benefit payments at the end of the initial term would be somewhat mitigated.

The data in Table 7 also suggest that it would be quite possible to guarantee some minimum level of cash values in the case of such policies. It appears likely that such minimum guaranteed cash values could be set at not less than 75% of those allowed in the case of the same initial amount of fixed-dollar insurance for the same premium and age at issue,

without exposing the issuing company to appreciable risk. These minimum guaranteed cash values could be supplemented by such additional amounts as the behavior of the stock accumulations might justify. After all, the guaranteeing of cash values in the case of fixed-dollar reserves has involved some risk, in view of the rather wide fluctuations which have taken place in bond prices.

REASONS FOR SATISFACTORY BEHAVIOR OF STOCK ACCUMULATIONS

One reason for the satisfactory behavior of common stock accumulations, even in the face of market conditions which at first glance would seem to mitigate against the process, is the beneficial effect of dollar averaging. As a result of this, fewer shares would be bought in such years as 1929, 1936, or 1957, when stocks attained peak levels, and a larger number of shares would be purchased in periods when stocks were at relatively low levels. The average cost per share, therefore, tends to be below the average level of the market.

More fundamental to the success of such a program is the fact that American corporations over a long period of years have done a pretty good job of maintaining the percentage of their sales which they have been able to carry through to net earnings after taxes. Such earnings as a percentage of sales have fluctuated by individual companies and by industry, but for business as a whole the showing has been a relatively favorable one. It would not be possible to demonstrate this accurately without a great deal of statistical research. However, the general truth of the assertion is implied in the data presented in Table 9, which the writer believes to be one of the most important in this paper.

In Table 9 earnings per share for Moody's 200 stocks have been compared with the Gross National Product as computed by the Department of Commerce. As previously stated, these per-share earnings have been adjusted for stock dividends and stock splits so as to produce a comparable series. The table indicates that over an extended period of years, which has included depressions and booms, a World War and quite substantial inflation, coupled with a revolutionary increase in taxation, earnings on these shares have maintained a fairly consistent relationship to the Gross National Product. Holders of them have fairly well maintained in the form of earnings their share in the total national income. It is quite true that there have been fluctuations in this relationship. The period 1929-33 cannot be regarded as normal by any economic yardstick. In the late 1930's selling prices of products tended to run ahead of costs and corporate profits tended to recover rapidly, with a setback in 1938. During the war, the excess profits tax restricted the share of corporate

profits in a rising Gross National Product. Allowing for these factors, the constancy of the relationship between earnings on these stocks and the Gross National Product is fairly impressive. Earnings per share have tended throughout to represent a fairly constant share of the Gross National Product.

SOME FALLACIES AND FACTS REGARDING COMMON STOCK INVESTMENTS
BY LIFE INSURANCE COMPANIES

The writer has on several occasions heard the thought expressed that there are a comparatively small number of blue chip stocks in existence in

TABLE 9
COMMON STOCK EARNINGS COMPARED WITH GROSS NATIONAL PRODUCT

Year	Gross National Product (Billion \$)	Earnings per Share 200 Stocks	Ratio of Earnings per Share to G.N.P.*	5-Year Running Average
1957.....	434.4	\$9.10	2.1	.....
1956.....	412.4	9.25	2.2	.....
1955.....	390.9	9.39	2.4	2.2
1954.....	360.7	7.54	2.1	2.1
1953.....	363.2	7.25	2.0	2.1
1952.....	345.4	6.80	2.0	2.2
1951.....	328.2	6.80	2.1	2.2
1950.....	285.1	7.67	2.7	2.3
1949.....	257.3	5.94	2.3	2.3
1948.....	257.3	6.48	2.5	2.5
1947.....	232.2	4.93	2.1	2.4
1946.....	209.6	3.48	1.7	2.5
1945.....	213.6	2.97	1.4	1.7
1944.....	211.4	3.15	1.5	1.6
1943.....	192.5	3.10	1.6	1.8
1942.....	159.1	3.10	1.9	2.0
1941.....	125.8	3.17	2.5	2.2
1940.....	100.6	2.67	2.6	2.2
1939.....	91.1	2.23	2.4	2.4
1938.....	85.2	1.40	1.6	2.6
1937.....	90.8	2.79	3.1	2.5
1936.....	82.7	2.57	3.1	2.4
1935.....	72.5	1.69	2.3	2.4
1934.....	65.0	1.17	1.8	1.9
1933.....	56.0	0.90	1.6	1.7
1932.....	58.5	0.43	0.7	1.9
1931.....	76.3	1.55	2.0	2.5
1930.....	91.1	3.08	3.4	.....
1929.....	104.4	4.91	4.7	.....

* Earnings per share in cents divided by Gross National Product in billions of dollars.

which a life insurance company would care to invest, and if heavy life insurance company buying were concentrated in these stocks, they would be forced up in market price to levels where they would no longer be attractive. This train of thought seems erroneous on several counts. There are in existence a very large number of common stocks in which a life insurance company might invest under proper conditions. In the electric utility industry alone, there are about 130 companies of some stature, at least 105 of which have annual revenues in excess of \$10,000,000. The stocks of some of the smaller of these companies have in the past been much more rewarding than those of some of the largest and may very well continue to be so. There are at least 69 substantial gas utilities in the country, of which 46 have annual revenues over \$10,000,000. While these industries may be extreme examples, they point to the fact that the number of common stocks from which an institutional investor may properly choose is very large.

One should not lose sight of the fact that bonds, preferred stocks, and common stocks are simply media through which savings flow into investment. The supply of no class of such media is fixed in relation to the others. Bonds are issued only because there are people who will buy them. If bonds and preferred stocks could not be sold readily, or if they could not be sold other than on a very high yield basis, then more common stocks would be issued and the supply of these increased. Again, take the utilities as an example. It has been their custom to raise by far the greater part of their outside capital requirements through the sale of bonds, and to a much lesser extent by the sale of common stocks. At the end of 1955, about half of all public utility bonds were owned by life insurance companies. These bond holdings, purchased largely over the last 15 years, have not on the whole been a rewarding investment. Generally speaking, they have been poor receptacles for the retention of real value. Not only has the currency in which they are payable lost value, but their market prices have tended to shrink as a result of rising interest rates.

The common stocks of these utility companies, on the other hand, have been purchased to only a small extent by life insurance companies. By any standard of comparison, they have been a much more rewarding investment medium than the bonds of these companies, and are likely to continue to be so. As inflation has progressed, the public service commissions, either on their own volition or as a result of pressure from the courts, have had to pay increasing attention to reproduction costs in setting permissible levels of earnings for the utilities. The benefits accruing from this trend, which is in the nature of an upward revaluation of the property in terms of dollars, go entirely to the common stock-

holders, as the holders of the bonds and preferred stocks have only fixed-dollar claims.

Likewise in the industrial field very large amounts of bonds have been issued in the last 15 years, a large proportion of which have been purchased by life insurance companies. If a market had not thus been provided for these bonds, these industrial companies would have had to issue a much larger volume of new common stocks than was actually the case. This would have tended to depress the market for these stocks and added to their attractiveness as potential purchases.

At the present time, taxable corporate bonds are sold very largely in what may be described as a captive market. This market is largely provided by institutional investors which, by law or because of the nature of their liabilities, feel that they must invest largely in fixed-dollar media. The largest segments of this captive market are life insurance companies and public and private pension funds.

Corporate bonds which are fully taxable are no longer purchased to any extent by individuals unless these bonds happen to be convertible. Investment by individuals is now directed very largely towards tax exempt municipal bonds, common stocks, or some other type of equity investment, such as mutual funds or real estate. It is the writer's opinion that the above described captive market for corporate bonds has become rather static in size and may even have started to decline. As has been pointed out previously, life insurance assets appear to be growing at a less rapid rate than formerly and pension funds, particularly the private ones, are directing their attention increasingly towards equity investments.

It is sometimes pointed out that the yield on some common stocks, taking into account the cash dividend only, may not compare well with that on bonds and mortgages. This is held to be an objection to the former from the point of view of a life insurance company which is trying to maintain or improve the average yield on its funds. The real return on common stocks, of course, accrues in two ways, from the cash dividend paid and from the earnings retained in the business for the ultimate benefit of the stockholder. For example, in 1956 Moody's 200 stock average had a mean market value of \$130.55, earned \$9.26, and paid in dividends \$5.31. The real return accruing to the stockholder was about 7.1%, of which 4.1% was paid in cash and 3% was retained. The latter was about sufficient to offset the rate of inflation then going on, so that the 4.1% could at least be regarded as a real net return.

The case of fixed interest media is, of course, different. There the interest paid is the sole return. A realistic bondholder of the last 17 years

would have had to regard a large part of any interest received, perhaps all of it, as an offset to loss in the real value of the principal, and not as an interest return at all. Unfortunately, this was learned only after the event.

PROBLEMS AND PITFALLS OF COMMON STOCK INVESTMENT

It is not the intention of this paper to imply that common stock investment by a life insurance company is likely to be an easy street leading always in the right direction. The process is likely to be beset with a group of problems, trials, and doubts far exceeding in intensity and continuity those encountered in the making of fixed-dollar investments. It is probably a fact that the intelligent handling of common stocks and other types of equities requires a higher and somewhat different type of investment skill than that required in the purchase of fixed-dollar media. This skill, which is a purely relative thing, will be compounded of knowledge, judgment, and a healthy amount of suspicion. It will include a blending of daring with caution, along with much patience and basic humility. It is no field for a perennial optimist or a promoter.

This required type of investment skill is not likely to be built up overnight and an institution embarking in this field should be content to crawl before it walks and walk before it runs. One is unlikely to stumble badly while crawling, and one can stumble worse while running than while walking.

The handling of a common stock portfolio is a day-to-day and hour-to-hour proposition. Therefore, a good deal of responsibility as to the selection and buying of an individual stock must be placed in the working investment staff. Until this staff has been built up to a level where it has the confidence of the management, the carrying out of any common stock program will be difficult. It is different from the case of bonds where individual purchases may be authorized at periodic meetings of a finance committee and comparatively little discretion left to the investment staff.

A valuable attribute to a common stock program is continuity. The rate of buying may be maintained at a constant level over extended periods or it may be made to fluctuate depending on relative conditions in the stock, bond, and other financial markets. However, if the program is halted altogether, it may be difficult to get it started again before valuable buying opportunities have been lost. Also it might be difficult to maintain the attention of the investment staff in stocks after action ceases altogether.

The chief technical problem in connection with common stock invest-

ing is that stocks go down as well as up in price. This is clearly illustrated by Table 10. This table indicates that there were four occasions between 1900 and the onset of the great depression in 1929 when industrial stocks, measured by the Dow-Jones Industrial Average, lost nearly half of their value in the course of a single decline. The 1929-32 period was, of course, unique, and the active expectation of the recurrence of such a period would put a damper on any common stock program. There were two occasions between 1933 and World War II when stocks again lost nearly half of their value in the course of a decline. After World War II the de-

TABLE 10
MAJOR DECLINES IN COMMON STOCK PRICES AS REFLECTED
BY DOW-JONES AVERAGE OF 30 INDUSTRIAL STOCKS

	Drop in Stock Prices	Low Point of Decline
June 1901 to Nov. 1903.....	-46%	31
Jan. 1906 to Nov. 1907.....	-49%	39
Nov. 1916 to Dec. 1917.....	-40%	66
Nov. 1919 to Aug. 1921.....	-47%	64
Sept. 1929 to Nov. 1929.....	-48%	195
Apr. 1930 to July 1932.....	-86%	41
Mar. 1937 to Mar. 1938.....	-49%	97
Oct. 1939 to Apr. 1942.....	-40%	93
May 1946 to Oct. 1946.....	-25%	160
June 1948 to June 1949.....	-17%	161
Jan. 1953 to Sept. 1953.....	-14%	254
July 1957 to Oct. 1957.....	-19%	419

clines have not been as great percentagewise, probably because of the buoyant effect of inflation on stock prices and the freedom from major recessions in this period.

The encouraging feature of the table is that stocks as a whole have come back in price after each decline and have proceeded to go higher. Except for the 1929-33 period, the low points reached in each successive decline tended to be progressively higher than the preceding low points.

It is evident from this market performance of common stocks that the size of a company's surplus, investment contingency reserves, and mandatory security valuation reserves will be a limiting factor on its common stock investments as long as its liabilities must be rigidly valued in dollars. A company under these circumstances should probably so conduct its affairs as to be able to look with some indifference on a 25% decline in the market value of its common stock holdings. It should even be able to

bear up under a 50% decline, possibly with some discomfort, being hopeful that the discomfort will not be too long-lived. It is also evident that in view of the short durations of the periods of decline during the last 25 years a smoothing formula such as has been advocated earlier in this paper would be a great help in expanding permissible common stock investment.

In the event the technicalities of the business were so altered as to permit some liabilities to be expressed in equity shares having fluctuating dollar values, much of the restriction arising from present bookkeeping methods would be removed from common stock investment.

Probably the greatest safety factor a life insurance company can find in investing in common stocks is the element of diversification, diversification among industries and also among companies within an industry. This does not mean that all industries, no matter how unpromising and regardless of the price of their shares, should be represented. It does mean that enthusiasm for any one industry or company should be kept within bounds to the point where a disproportionate part of the available common stock fund does not become represented thereby. The fortunes of different industries and their stocks may be moving in different directions at the same time, and with broadly diversified stock investments, favorable trends have a chance to offset unfavorable ones.

It is true that staff considerations and the supervisory problem will impose some limit on the number of stocks represented. However, the ability to select through close analysis and the ability to supervise may turn out to be less acute than was expected, and it will prove more comfortable in the long run to err on the side of too many names rather than too few. One advantage in a long list of names to work from is that, in periods of relatively high stock prices, a long list permits better selection of the comparatively few fields where good value may still exist.

CONCLUSION

This paper will probably raise more questions than it can hope to answer. There are probably at the present time a number of obstacles, including legal ones, to putting some of the suggested ideas into effect. Some of these ideas may have superior alternatives. This paper is, in a sense, exploratory, but it deals with a field which seems to require exploring at this time.

The writer believes that a strong case can be made for a substantial amount of equity investment by life insurance companies aside altogether from inflationary considerations. Certainly this paper is not meant

to convey the thought that continuing large-scale inflation over the long pull is inevitable. Such a prospect would be calamitous for our economic and political systems and it must, therefore, be resisted by all the means in our power. Lenin is said to have declared that the best way to destroy the capitalistic system is to debauch its currency, and he must be granted the status of an expert in this field.

However, most economists today recognize that our economy does contain strong forces which make further inflation on some scale a strong possibility and some of them consider it a probability. One well-known

TABLE 11
MOODY'S COMMON STOCK AVERAGES OF 200 STOCKS

	Market Price per Share	Market Price Index (1936 = 100)	Earnings per Share	Price Earnings Ratio	Dividend per Share	Yield
1957.....	\$125.46	276	\$9.10	13.8	\$5.43	4.33%
1956.....	130.55	287	9.25	14.1	5.31	4.07
1955.....	117.36	258	9.39	12.5	4.75	4.06
1954.....	89.07	196	7.54	11.8	4.23	4.78
1953.....	72.81	160	7.25	10.0	4.00	5.49
1952.....	71.73	158	6.80	10.6	3.94	5.50
1951.....	66.98	148	6.80	9.9	4.09	6.12
1950.....	56.23	124	7.67	7.3	3.53	6.27
1949.....	46.68	103	5.94	7.9	3.09	6.63
1948.....	47.46	105	6.48	7.3	2.74	5.78
1947.....	46.46	102	4.93	9.4	2.38	5.13
1946.....	51.34	113	3.48	14.7	2.02	3.97
1945.....	46.02	101	2.97	15.5	1.92	4.19
1944.....	38.12	84	3.15	12.1	1.84	4.81
1943.....	35.36	78	3.10	11.4	1.73	4.89
1942.....	26.66	59	3.10	8.6	1.77	6.67
1941.....	30.50	67	3.17	9.6	1.90	6.25
1940.....	33.84	75	2.67	12.7	1.78	5.31
1939.....	35.72	79	2.23	16.0	1.48	4.15
1938.....	33.25	73	1.40	23.8	1.43	4.38
1937.....	44.04	97	2.79	15.8	2.04	4.77
1936.....	45.41	100	2.57	17.7	1.59	3.50
1935.....	32.44	71	1.69	19.2	1.30	4.06
1934.....	29.74	65	1.17	25.4	1.21	4.11
1933.....	26.78	59	.90	29.8	1.13	4.42
1932.....	21.05	46	.43	49.0	1.50	7.36
1931.....	40.82	90	1.55	26.3	2.42	6.17
1930.....	65.90	145	3.08	21.4	2.93	4.54
1929.....	86.00	189	4.91	17.5	2.89	3.41

professor of economics, in the course of a lecture to the Life Insurance Investment Officers Seminar in 1957, expressed the belief that modern governments lack either the will or the ability to maintain the value of their money. Many people and institutions desire to hedge against this possibility in their investment and pension programs and many are already doing so. This is something which the life insurance business cannot very well ignore insofar as its technical operation and investment policy are concerned.

DISCUSSION OF PRECEDING PAPER

D. N. WARTERS:

Mr. McDiarmid has well and ably presented the theories of those who who believe that an investment in common stocks will provide protection against the ravages of inflation. Therefore, I shall confine myself in this discussion to the negatives. I believe them to be sufficient to defeat any widely used program such as he suggests.

I find the following major weaknesses:

1. The opinions and figures are largely based on hindsight and not on actual investment over long and varied periods of time of a substantial fund with the objective of maintaining the purchasing power of the fund during anticipated periods of inflation. I am somewhat reminded of the catastrophic experience with the disability income benefit. Our industry made the error of basing premiums on statistics reflecting a different benefit under different conditions. Also, we ignored the changes that would be brought about by the impact of the benefit when it was widely accepted.
2. If any plan such as the author describes received wide acceptance, past market experience would not be repeated. The attempt to invest vastly increased sums in stocks and little in bonds would greatly affect the market and make the course chosen by the majority far less profitable.
3. Mass opinion swings with day-to-day events and forces action based on the then current opinion regarding the future. This is one of the major reasons for the swings in the market value of stocks. Under the actual pressure of events, it is very difficult, if not impossible, for an institution handling the funds of others to carry out a planned program of investment such as the one proposed by the author where continuous investment each year is to be made irrespective of market swings.
4. The sale of and wide acceptance of this plan will cause and mean that great numbers accept the inevitability of inflation. Any such popular feeling will of itself change creeping inflation into a runaway inflation as all seek other than dollar investments. As the author implies in the third paragraph of his paper, this will destroy our social and economic fabric.
5. Contracts based on stock investment are not satisfactory for those who depend on the annual income from that investment for day-to-day

living. Dividends on stocks are subject to judgment and are often suspended not only in bad times, but also at times when the company thinks it profitable to use earnings otherwise. A suspension of dividends forces the sale of the investment often at the bottom of the market.

The author's Table 11 shows many occasions when dividends on many stocks decreased and the effort to provide living income under such a program could force sale at disastrous prices. As the number of people dependent upon the return from stocks for day-to-day living increased, the impact on the market would increase and resulting declines would probably be greater than those shown in Table 11.

6. Any such program of institutional investment on a large scale would give institutions a larger measure of control over the nation's corporations. This is undesirable in our economy and our Congress has traditionally opposed such control. Stocks not carrying the voting privilege would certainly not be attractive investments. The owner would be left without control over the payment of dividends even at times when earnings were adequate.
7. There is no magic by which we in the United States can have a war (cold or hot), government deficits, full employment, and increases in wages above increases in productivity, and still have all of our citizens come out ahead financially. If all of us avoid investment in bonds and fixed dollar commitments, the price will have to be paid in some other way, either out of current earnings or from accumulated values. One possibility is a rapid socialization of our government and economy, perhaps resulting in zero earnings on stocks while still paying interest on bonds as the senior obligation.

There are many places in the paper where the author seems to be unduly optimistic.

In commenting on Table 3, he points out that in the past after major wars prices were ultimately deflated but seems to feel that this will not happen again. Here, and in commenting on Table 4, is he not overlooking the fact that World War II has not ended but still continues as a cold war? Let us hope that the ending of this cold war, if it does not bring deflation, will at least stop further inflation.

Table 5 is interesting but certainly does not cover a period on which to base any long-term conclusions. Countries suffering from inflation are eventually forced to face their problems. When that occurs, interest rates become very high. We have examples in the world today. The current discount rate of the central bank in England is now 5%; in Japan it is 7.3%; in France 5%, as against 2% in the United States. In our own country in place of the 2.3% in Table 5 for 1949, we now have

3.75% on long-term government bonds, and there is no assurance that the government will be able to finance the deficit even at that rate.

It is interesting to see the awakening that is taking place in our own country. Our people are learning to fear and hate inflation. They are becoming increasingly aware of its causes. It is now widely realized that covering deficits by selling short-term securities to the banking system is very little different from printing money, and there is a mounting opposition to this practice. We see the government trying to place more of the government debt in long-term securities in order to tap the savings of the country. However, in the face of continuing government deficits, the savers of the nation are increasingly reluctant to place their money in long-term government bonds and are demanding very much higher interest rates for taking the risk. In addition, questions are being raised about full employment philosophy and wage increases in excess of increases in productivity. Perhaps there are today in our country forces moving which will correct the purely domestic causes of inflation and give us a stable dollar even while the cold war continues.

In his summary of the current outlook, not only does the author seem to overlook some of the above signs but many of the statements he makes seem to need modification. As of today, something is being done about farm price supports. We again have higher interest rates. The Federal Reserve Board is again pursuing an anti-inflationary policy. The United States is now losing gold to other countries. Our democracy and those of the English and of the French are indicating a growing willingness to submit themselves to necessary disciplines. Many are learning that a wide belief in the inevitability of inflation will of itself ruin our economy and change our way of life. Investment in equities is no long-run protection in such a situation. In fact, it is the opposite. Anything that encourages us to delay in taking necessary steps to correct our ways increases the price that must eventually be paid.

Table 7 showing the relative investment in common stocks for the period 1951-1957 of insured versus uninsured pension funds is probably affected and biased by the continually rising prices in the stock market over the period in question. It should be pointed out that the rewards and the penalties for a common stock investment program are not the same in insured and uninsured plans. Benefits under many insured plans are in large part guaranteed by the insurance company and the percentage of vesting is heavy. Any loss under these guarantees falls on the insurance company and the company cannot afford to risk any substantial part of the funds involved in the fluctuating stock market. Any loss on investments under uninsured pension plans largely falls back on the shoulders

of the employees or the employer. Unfortunately, it is not always remembered that the loss will generally occur at times when the employer and the employees can least afford to make up the deficiency.

In his section suggesting that new investment media are needed, the author criticizes investment in fixed dollars, pointing out that certain chances are taken, but does not seem to give similar weight to the risks in equity investment. He seems fairly sure of ruinous inflation but does not worry about fluctuating earnings and market values on stocks. Looking at his Tables 10 and 12, we notice that earnings on stocks in recent years have not kept up with the increase in market value. At the present time, many stocks are sold on a lower yield basis than good bonds. The author makes the interesting suggestion that nondividend-paying stocks be carried at market value. If such had been the practice, how would companies have maintained their solvency in the early 1930's? It is the guarantee of continuing interest payments that makes the amortized basis satisfactory for bonds. There is no such guarantee as to dividends on stocks. Need for cash income in bad times would make necessary the sale of stocks at the bottom of the market.

There would be great risk in guaranteeing a cash value of 75% of the reserve where that reserve was entirely invested in equities. It is very comforting to use tables showing that in the past this would have worked in all but a few years and hope that the bad periods will not be repeated. Insurance companies cannot ignore the possibility of lean periods. Our clients have to eat in those years, too. We also must assume that many clients will be affected by mass opinion and come to us for their money just when stock values are at the bottom.

One of the difficulties in basing figures on tables such as Moody's Common Stock Averages for 200 Stocks is that there is continual change in the composition of the 200. Psychologically and practically it would be very difficult for the investor to make similar changes in his holdings. If large numbers attempted it, market values would be greatly affected and generally adversely to the investor. If the American public had been widely purchasing the insurance policies suggested by the author, I very much doubt that Table 8 results would have followed. Table 9 illustrates the difficulty in carrying out the plan proposed. In the many periods when stocks decline, it is difficult to carry out a dollar averaging plan. Far from investing new funds, individuals oppose any further investment in a medium already showing a loss for them and may want to close out the fund.

The author's suggestion that fewer bonds would be issued and more stocks if people stopped buying bonds and wanted stocks is undoubtedly

correct. However, this will affect the desirability of stocks. The lack of the leverage provided by underlying bonds will tend to reduce the ratio of earnings to equity. The increased demand for stocks will tend to increase the market values and thus again reduce the ratio of earnings to market values.

The author points out that the real return on common stocks accrues from both dividends paid and earnings retained in the business. However, book earnings are not always realistic. In many cases the increasing cost of replacing existing plants and equipment has not been fully included in annual charges for obsolescence and depreciation. Thus, I cannot agree with the author's calculation that the real return to the stockholder in 1956 was as much as 7.1%.

The fluctuations shown in Table 11 are in my opinion sufficient to cast grave doubt on the wisdom of any substantial investment of insurance funds in equity. Very wide changes in our laws and in the place of insurance in our economy will be necessary before a company can invest substantially in stocks and, as the author hopes, "look with some indifference on the 25% decline in market value" and "even be able to bear up under a 50% decline." Any wide acceptance of the underlying theories involved in the author's program would involve major changes in the entire credit system under which we operate today. Fortunately for all of us there are many indications that some of the causes of our recent inflation are now being widely recognized. As creditors and others become more fully aware of the effects of the practices that have been followed, we can hope to see changes made. It would seem unwise to assume that we are now in some period of a "mature economy" or a "new era" in which market values will continuously increase. Let us not put our faith in hedges which in the long run cannot protect us against the folly of our actions. Let us put all our force and power behind the re-establishment of a sound and stable currency, the only real solution to our problems.

EDWARD A. GREEN:

Mr. McDiarmid, in his thought-provoking paper, raises the question of the extent to which the swing to term insurance has arisen from inflation fears and the extent to which it has been due to other factors. For the reasons outlined below, I feel that factors other than fear of inflation have been predominate forces in this swing.

We are all familiar with the provisions in our tax laws which encourage the individual to join with his employer in seeking security benefits, both protection in event of death and savings for old age. The substantial

bite taken by the Social Security tax out of the first dollars of income and by the income tax out of the later dollars of income leaves relatively little for one to spend himself on personal security. Furthermore, the income tax laws favor the purchase of group insurance and pension benefits for an individual by his employer over the purchase of an individual policy by himself.

The startling aspect of Table 6 arises from combining group insurance with individual term insurance. In a great many instances a group insurance plan is companion to a pension plan and the two considered together have both the protection element and the asset-producing savings element of life and endowment insurance. While some of the assets arising from the savings elements of the group insurance-pension combination have gone into life insurance funds through the group annuity or pension trust route, a substantial portion of them have gone into separate corporate pension funds. To get some perspective on this I referred to the ALC-LIAA study, "Trends in the Sources and Uses of Capital Funds." This study shows that during the decade 1946 to 1956, during which life and endowment insurance in force increased \$105 billion and group insurance \$111 billion, the net annual flow of life insurance funds into the capital markets increased about \$1.5 billion while that of corporate pension funds increased about \$2.0 billion. It would appear that during the decade 1946-56 roughly half of the increase in voluntary personal security benefits for death and old age was provided through the employer-employee relationship.

With this relinquishing by the average individual of the right to make the purchase of roughly one-half of his voluntary personal security, fostered by the tax laws, we find the buyer making the mass purchase of these benefits tending to use different criteria than the personal buyer. The mass buyer, usually the employer, is apt to look at the purchase much more impersonally than he would if he were buying for himself alone. He is spending a large sum of money in a pattern more akin to a business expenditure than to a personal one. In his business expenditures he is in the habit of following economic cycles and business trends rather than individual family circumstances and of taking the so-called calculated business risk. It is not surprising that he tends to look more to immediate price and the factors which affect it, and less to future guarantees and certainty of payment.

To meet the change in relative degree of emphasis on price and on certainty of payment sought by the mass buyer, the insurance industry has devised a number of modifications of the traditional group annuity pattern. However, the fact remains that the rigidity of the investment

laws of some states limits equity investments by an insurance company to a much smaller proportion than many such buyers think reasonable. Also, the federal law and some state laws impose a tax burden on insured pension plans which noninsured plans do not share. As a result, large sums of money have gone into corporate pension funds, rather than into life insurance funds where they seem to belong because of the nature of the benefit they are expected to provide.

To get an over-all picture of changes in the voluntary systematic provision for personal security during the decade 1946-56 and compare it with changes in personal income, I have prepared the accompanying table. Group insurance has been combined with life and endowment

ITEM	BILLIONS OF DOLLARS		% INCREASE
	1946	1956	
Insurance in Force Dec. 31:			
Life, Endowment & Group	166	382	130
Individual Term	7	47	.....
Dividend Additions	2	3	.....
Total	175	432	147
Net Annual Flow into Capital Markets:			
Life Insurance Funds	3.3	4.8	45
Corporate Pension Funds .....	.4	2.4	.....
Total	3.7	7.2	95
Wages, Salaries, Business & Professional Income* ..	133	258	94
Disposable Personal Income*	161	290	80

* From Department of Commerce's "Survey of Current Business."

insurance on the grounds that it has its savings element in companion pension plans and the increase in corporate pension funds has been added to the increase in life insurance funds, since they both involve life contingencies. Noninsured death benefits are not included because of lack of reliable data, but the effect of this exclusion is small. The voluntary personal security benefits in total purchased directly by the individual and indirectly through his employment have more than kept pace with the rise in personal income. The ten-year increase in insurance in force adjusted to dollars of constant purchasing power becomes 63% for life, endowment and group compared to 25% for life and endowment alone.

The percentage growth of insurance in force, whether individual

term is included or not, is well ahead of that of either of the personal income measures. It would look as though the total amount of protection held by the insuring public had made substantial gains during the decade in relation to the income to be protected. At the same time, the percentage growth of capital flow arising from voluntary systematic personal security plans has kept pace with or exceeded that of the personal income measures. The decline in the over-all rate of asset growth of life insurance companies has been offset by a corresponding rise in the rate of asset growth of corporate pension funds. The public in general, to the extent that the individual makes his own purchase rather than running from the savings element in insurance through fear of inflation or otherwise, seems to have superimposed on its former buying pattern a substantial amount of individual term insurance. Such superimposition is certainly in part due to the efforts of the insurance industry to assist the buyer in increasing his protection at minimum outlay by designing and aggressively selling family income, mortgage redemption and double protection policies, term riders of various sorts, and the more recently developed family policies which contain term insurance on dependents as well as supplemental term benefits on the breadwinner.

In the accompanying table I have listed in parallel columns the term

Year	Purchasing Power Index	% Term	Year	Purchasing Power Index	% Term
1946	120	10	1952	88	28
1947	105	13	1953	87	29
1948	97	19	1954	87	29
1949	98	26	1955	87	27
1950	97	28	1956	86	28
1951	90	27			

insurance proportion of John Hancock new business, exclusive of group, and the index of the purchasing power of the dollar based on the consumer price index, taken from the "Survey of Current Business." The John Hancock proportion of term appears reasonably close to that of the industry, since the figures in Table 6 show that term insurance constituted 27% of the increase of business in force exclusive of group from 1946 to 1956. While the proportion of term insurance sold did increase rapidly from 1946 to 1948 during the immediate postwar sharp decline in the purchasing power of the dollar, it did not follow the same pattern with the further sharp decline from 1950 to 1952. In fact, it has remained remarkably stable since 1949.

These figures seem to further indicate that the public, in so far as the individual makes his own purchase, is not running from the savings element in insurance and that the swing to term insurance referred to by Mr. McDiarmid is largely due to factors other than fear of inflation. Such factors would include the tax laws, the shift from the individual to the mass purchase of benefits, the difference in criteria used by the mass buyer and the personal buyer, the separation of death and pension benefits in providing group coverage, and the public desire for increased protection.

Mr. McDiarmid's suggestions regarding a semivariable type of insurance contract and a greater permissible proportion of equity investments behind the traditional type of insurance contract with a stabilizing stock valuation formula deserve thorough consideration by the insurance industry and by supervisory authorities. But even more important in stimulating the growth of life insurance funds, it seems to me from the above analysis, is the development of means of making the insured pension attractive to more mass buyers. This would involve equality of taxation between insured and noninsured plans and legislation which would permit substantially increased equity investments behind insured pension plans.

ROBERT C. MORROW:

In reading Mr. McDiarmid's paper, I could not help recalling several discussions I had with people in England ten years ago. These people were in the age range 60-70 and were at our office to settle their current maturing endowment policies with a view to a retirement income. The bulk of these policies ranged from 100 to 250 pounds, and were generally of at least 20 years' duration. Mr. McDiarmid indicates the effect of inflation that occurred during these years, which meant that the amounts involved were pitifully small in relation to the cost of living at that time. Several times I wondered about the satisfaction of both the insured and the agent at the time of the sale, where, I expect, they both believed a satisfactory arrangement had been made for retirement. While I am undoubtedly somewhat of a neophyte in the business and of a generation that has seen nothing but inflation during my working years, I cannot help agreeing with the author of this paper. On the technical side, it might be considered realistic to envisage a policy that would allow for variations in the investment element, the insurance element, and also the portion of equity investments. Such a policy would seem to require that our agents maintain a periodic review of a man in the insured's position to vary the three elements as conditions warranted.

Mr. McDiarmid suggests the possibility of varying a traditional endowment or limited life with a view to introducing an equity portion. There seems to be no particular reason why we must adhere to the traditional contracts, and not rather, with the equipment available today, consider the basic element of insurance as completely divested from the savings portion. At least two companies have such contracts in existence today, both using punch card equipment. Here I presume the major credit goes to the Teachers Insurance and Annuity Association which, I believe, developed the original concept and contracts. Their problems are somewhat different from those of the insurance industry generally, and to this extent my own Company has adapted the T.I.A.A. concept to what may be called a commercial basis, introducing a commission and expense allowance setup that seems to be quite manageable. In National's concept of this contract, the term insurance element is completely divorced as a separate policy where the amount may be varied at will each year, subject to our underwriting requirements. With regard to the savings element, again the amount contributed may be varied up or down each year and, in addition, we supply a statement once a year showing the current dividend, dividends to date, premiums to date, paid-up annuity purchased to date, annuity at retirement if the current premium is continued, and the current year's cash value. This contract is currently available to pension trust cases only, but there is no administrative difficulty in extending the idea to individual insureds, including a similar treatment for equity investments. Undoubtedly the greatest problems to be overcome would be the education of our field forces and the general public to such a concept.

Following the tradition established by the late Mr. Jackson of my Company, it would seem apropos to mention settlement options. The above mentioned contract provides for changing the settlement options at any time for future premiums, this concept being adopted directly from T.I.A.A. Admittedly, this may be considered as only a partial step, but a necessary step where the policyholder may vary a premium at will in the future.

In considering the possibility of a substantial investment in common stocks by the insurance industry, the question always arises as to the position of the insurance company as owner or part owner of another corporation. Generally, it is suggested that the purchases by an individual company could be limited to avoid the management problem. However, there seems to me a more fundamental problem involved. If the investment in common stocks becomes reasonably widespread, it would be quite possible for a number of insurance companies to own the majority of the

stock of a corporation, but if they declined to take an interest in the management of the company, then it would seem quite possible for a minority stockholder to manage the company to the disadvantage of the other owners. I am inclined to doubt that management can be divorced from ownership.

If, by chance, the industry should adopt a policy as indicated above, several interesting points of speculation arise. To simplify the discussion, consider only a mutual organization. Here the insurance element would seem to be completely nonprofit, being merely a redistribution of capital. The normal investment element would seem to be closely akin to a banking operation, where earned interest would be credited each year, making appropriate allowances for the expenses involved, even charging for individual services as performed, if desired. The equity portion would seem to consist of two elements, earned income and capital gains, the latter presumably being nontaxable until actually received. Looking at the contract as a whole, guaranteed values forecast in advance would not seem to be either necessary or possible. Members of a family could all be included under one contract, the statement supplied each year detailing the individual members. Finally, the education of an actuary might be simplified.

J. B. CRIMMINS:

I was glad to read in the conclusion of Mr. McDiarmid's excellent paper that he had not meant to convey the thought that continuing large-scale inflation was inevitable. I had the feeling up to that point he had just the opposite in mind. At any rate, I think it is fair to assume—from the statistics presented and the inferences made throughout his paper—that he does believe continuing inflation on at least a gradual scale will be the pattern for the indefinite future.

Based on this premise, Mr. McDiarmid infers that the life insurance industry is faced with a dilemma. This dilemma would give us a choice of either retreating to a position where we are largely underwriters of term insurance with little savings element involved, or of increasing our holdings of common stock, either as a hedging investment, or as a basis for writing life insurance policies providing some or all of the benefits on a variable, nonguaranteed basis. The paper gives one the strong impression that he is far more intrigued with the latter idea of selling nonguaranteed benefits based on common stock.

Frankly we at Metropolitan do not share this pessimistic outlook for the future. We are not at all convinced that continuing inflation, either large-scale or gradual, is inevitable. Large-scale inflations have resulted in the past from major wars and their aftermaths; and in the

absence of another major war a large-scale inflation does not seem imminent in the future. Although gradual inflation has taken place following the impact of World War II and the Korean War, there have also been periods in that time when price levels remained stable or actually started to dip. This is especially significant in light of the fact that we have not really enjoyed normal peacetime conditions since the end of World War II.

We seem to have reached the stage where the pent-up demand for consumer goods—generated by World War II and by subsequent gains in the economic well-being of the population as a whole—is now largely satisfied. This, in turn, creates a climate where there is good reason to expect a more balanced future relationship between supply and demand than has existed for many years. The recent recession we have been going through is a good indication that this is so, and it may well mark a turning point in our whole economy.

Another reason for optimism is that in spite of the inflation we have witnessed, we are very fortunate in that an inflation psychology has not yet permeated the country. No major segment of the population seems as yet to have accepted the delusion that a little inflation, year after year, is good, or that it is inevitable, or that we can find some easy and satisfactory way to live with it.

I question whether the drop in the proportion of total insurance on life and endowment forms, referred to by Mr. McDiarmid, can be interpreted to mean that there is a swing away from permanent forms of life insurance because of fears of inflation. A very significant element in that drop was the increase in the proportion of group insurance. This increase in group insurance, of course, should in no way be regarded as a replacement of an existing market for individual insurance but, rather, as an entirely new market which would otherwise remain largely unsatisfied. The major portion of group insurance is sold on a term insurance basis because that is its most natural form. In that form it is simple and easy to explain, readily adaptable to change, and most economical to administer in bulk. Furthermore, while undoubtedly there is a market for permanent forms of group insurance, its development in that direction has been impeded considerably by its tax status which makes it unattractive for an employer to pay part of the cost of group insurance when written on a permanent form.

As for individual policies, there are many factors involved which have had some effect on the decrease in the proportion of insurance on life and endowment forms to total amount of insurance in force. One impor-

tant factor is that some of the need formerly filled by permanent forms of insurance is now being met in part through other channels of savings. For example, the vast growth in private pension plans, both insured and noninsured, and the extension of benefits provided through the Social Security scheme have replaced, to some extent, a former market for long-term endowment and retirement income policies. These changes in the purchasing habits of the insuring public do not by any means represent a flight from savings because of inflation fears.

It is significant also that the volume of savings deposits in banks and savings and loan associations has continued to show a healthy growth during the postwar years. These savings institutions, like life insurance companies, have fixed-dollar commitments to their customers, and their investments are mainly in fixed-dollar types of securities. If inflation fears were strong, we might expect that those fears would be reflected in the volume of deposits to those institutions even more than in the case of savings through the purchase of life insurance policies.

Mr. McDiarmid's proposal to meet the problems of inflation by issuing life insurance policies providing nonguaranteed benefits based on common-stock investment would, I think, be a very unwise move. It is one of the developments which we have always feared would eventually grow out of the variable annuity schemes if life insurance companies ever got aggressively into that field. But it has a far greater potential for catastrophic loss to the beneficiary than is the case under an annuity plan where the pay-out period may extend over many years. And once a sharp stock market drop does occur—and no one has ever suggested that this will no longer be the case—it is difficult to see how we could avoid a very severe loss of confidence on the part of the insuring public.

In essence, this proposal is an attempt to mix the sale of insurance with the sale of participation in a common-stock fund—two ideas that are fundamentally different. It is difficult to see how we could continue to sell contracts providing guaranteed fixed-dollar benefits—which are most attractive when price levels are stable—and at the same time commence to sell nonguaranteed benefits based on common stock—which would be most attractive when price levels are rising. To give up our traditional concept of the life insurance business and adopt this new scheme would be to admit that we no longer hope to halt inflation and that we no longer believe in the type of guaranteed business through which we have made our reputation. What would be the reaction of an agency force asked to sell fixed-dollar business and fluctuating-dollar business at the same time? What would be the reaction of the insuring public

when they hear that the life insurance companies have now devised a contract to be sold as a hedge against inflation? At the very least we should expect a great deal of confusion, both in the minds of our agency force and in the minds of the public as to what our product really is. Very likely we should expect a run on cash values or on changes to the new policy forms. And inevitably we should expect an enormous weakening of any further resistance to inflation.

All this leads to the conclusion that the insurance industry should continue to sell the type of guaranteed security the public has come to associate with our business, and that we should leave the sale of common-stock shares to those who specialize in that field. Our role should be to continue to fight inflation as we have in the past. We have too much at stake to take any other course. It is the people of limited means who are hurt most by inflation, and it is these same people who make up the bulk of our policyholders. This scheme would merely be an attempt to ride with inflation rather than to halt inflation and, as such, I believe it could not to fail to result in ultimate injury to our customers and to the business as a whole.

JOHN C. MAYNARD:

The central point of Mr. McDiarmid's argument is that continuing inflation is probable. In support of this contention he shows that the value of the U.S. dollar is still declining at the annual rate of 3%, twelve years after World War II. In contrast to this, following the other inflationary war periods back to 1800 a recovery in the dollar has always set in within ten years. The different conditions which have prevailed in the recent period undoubtedly explain the differences in the record so far; particularly important has been the very high cost of World War II and the high level of expenditures for defense since the war.

However, there is considerable opinion which holds that a state desiring to exercise leadership and freedom cannot permit an appreciable amount of inflation to occur continuously and indefinitely during a period in which there is no war. Even the modest annual decline of 3% amounts geometrically to 50% in 23 years and comes to be regarded as appreciable. The danger is that once it becomes evident that some inflation is being permitted, persons with long-term savings will attempt to withdraw them from currency and lodge them in safer form. Such attempts may be infectious, energetic, and ingenious, and will quicken the underlying inflationary trend. Long-term contracts will then be difficult to negotiate and business confidence will be impaired. In the end either freedom

will give way to a new economic order forcefully imposed, or the state's power of leadership will be seriously reduced. This is the day of atonement.

Recent events indicate that the problem of continuing inflation may be coming to a head. Common stock prices have risen to a level which can hardly be justified by any normal standard of value. The central banks of the United States and Canada have shown marked decisiveness in permitting rapid increases in rates of interest in the summer of 1958, at a time when recovery from the 1957-1958 recession was barely evident. In Great Britain the inflationary trend has been reduced by letting interest rates run to high levels, and public opinion has hardened against it. An indication of this is the recommendation of a Parliamentary commission that some unemployment be permitted in the interest of controlling prices. With all of these signs it would be wise to defer a decision for a few more years concerning the probability of continuous future inflation.

It is very doubtful if life insurance can be technically transformed so that in a future period of more inflation it will perform the function of a medium for savings which it has performed in past periods of stability. The essence of the permanent life insurance contract is long-term faith. More inflation may easily destroy this attitude and may easily replace the willingness to save by the widespread desire to speculate. A technically modified life insurance contract would be regarded as a speculation and would have to compete against the other speculative avenues of the moment, to be picked up or discarded as it appeared to be promising or inferior.

A more serious criticism of technical changes of the kind described in the paper is that they can hardly hope to relieve the greatest responsibility of the life insurance business, which is to existing policyholders. Further inflation may easily lead directly to heavier loans and surrenders in the future. This tendency could be greatly accelerated if life insurance companies themselves suggested and encouraged transfers away from contracts written in terms of dollars. The prospect of wholesale transfers in contracts might require investment operations of a prohibitive magnitude.

It would appear that the best interests of the life insurance business would be served not by trying to devise structural changes, but by realizing that its continued fine reputation will depend on monetary stability. It is freely admitted that monetary stability can be maintained; all that is required is the will to maintain it. The life insurance business is in a unique and favorable position to affect the public will and to urge upon it financial moderation in many fields.

PEARCE SHEPHERD:

The first three paragraphs of Mr. McDiarmid's paper state the problem very clearly. He backs it up with a thorough historical analysis of investment results. It is a real contribution to the literature on this subject.

The minute that actuarial calculations involve the accumulation of funds, the problem of valuing those funds becomes a proper subject for actuarial investigation and consideration. The arithmetic of compound interest is not enough; the real accumulation in terms of purchasing power is the heart of the problem.

A backward look at actual and theoretical investment results shows clear advantages in favor of equity-type investments over fixed-dollar investments. This holds true for the recent past when prices have been rising, as well as when prices remained relatively stable. Inflation simply makes the comparison more striking.

A backward look at life insurance results shows the obvious deficiencies of fixed-dollar contracts in periods of rising prices. The sale of individual life annuities has fallen off to a trickle. The sale of group annuities becomes more difficult as retirement plan money goes more and more into equities. And the "living values" of permanent life insurance plans have lost most of their sales appeal.

It clearly seems time for actuaries to tackle this problem and see if it is not possible to devise contracts which combine life contingencies with probable investment results of funds in equity investments. This is not surrendering to inflation but simply using our talents to come up with better answers to these problems than we have had up to this time.

ARTHUR PEDOE:

I must express myself disappointed at the discussion of Mr. McDiarmid's outstanding paper. He deals with one of the great problems of our business and one in which the life insurance industry could be accused of lacking in its duties to its policyholders. Last March the Canadian Association of Actuaries held a joint meeting with the investment officers of Canadian life insurance companies, and there appeared to be no feeling of satisfaction with the status quo regarding life insurance company investments. So long as the laws regarding valuation of securities remained unchanged and, on a fixed date of the year, irrespective of economic or political conditions, a Canadian (and U.S.) life insurance company has to show its financial position on a *market value basis*, so long will the officers of the company seek to minimize possible fluctuations in the values of their assets and avoid investments in common stocks. They

have the right to concentrate on "evidences of debt," for that is what their policy contracts express themselves to be.

For over twenty-five years, by published articles in the Canadian financial press and at life insurance meetings, I have stressed the need for a broadening of the basis of life insurance company investments in Canada. One of the articles was dated August 8, 1931, when it was not a question of combatting inflation. Diversification is one of the oldest and soundest principles of life insurance company investment, and to deliberately avoid common stocks is, apart from the "valuation" deterrent mentioned, a refusal to recognize how much the economics of investment have changed in the last fifty years. However, so long as the views expressed by the previous speakers prevail, so long will a change in law be deferred to the detriment of our business.

May I mention that, although Canadian life insurance companies are permitted by law to invest in common stocks up to 15% of their assets, the actual percentage is 3%, and if Canadian common stocks only be considered it is less than 1%. In Canada we have additional deterrents, as so much of our industry is represented by branch plans and subsidiaries of U.S. companies. Therefore a representative distribution of common stocks by industry would involve investment in U.S. common stocks, thus introducing the additional complication of covering liabilities in Canadian dollars with assets in U.S. dollars. It is also worth mentioning that the Provincial Superintendents of Insurance in Canada do permit a "smoothing formula" of one-fifth per annum for common stocks. Further, in Canada the Provincial Superintendents' valuation rules apply to quite a small fraction of life insurance company assets.

As Mr. McDiarmid mentions the life insurance companies of the United Kingdom, may I point out a most important consideration? They do not have to publish their statements on a market value basis or indicate their surplus on a market value basis, but just certify that the values of their assets are in excess of the book values. Thus a company like the Scottish Widows which he mentions (and one of the outstanding life insurance companies in the world) may, over the years, accumulate a surplus as regards the difference between market values and book values which may make it absolutely impregnable to market value fluctuations even on the basis of 41.4% of its assets (book values) in common stocks. However, apart from this the United Kingdom life insurance companies have followed the time-honored principle of diversification in their investment policy, which means not only common stocks but real estate and other forms of sound equity investments. Now that inflation has occurred, their policyholders are reaping the

benefit. British life insurance company management is as loyal to their country as the management of similar institutions in other countries and there has never been any suggestion that their investment in equities is disloyalty, as a denigration of their currency. As the quotation from the London *Economist* given by Mr. McDiarmid states: "The trend towards equities is a policy aimed at growth and at some protection against inflation. It is rational and inevitable." I should like to add: "It is also prudent."

Table 7 in the paper, showing a doubling in the total assets of uninsured corporate pension funds in the period 1953 to 1957 as against an increase of only 25% in insured pension funds, with the former showing 24.7% in common stocks and the life insurance companies a mere 1.3%, is striking enough.

To adopt the policy of a wider diversification of investments does not mean one assumes that inflation is inevitable. The Prime Minister of Canada a day or two ago in a television appearance stated that in Canada inflation is under control, and in the same breath favored a policy of "full employment," without considering that the two objectives are contradictory. Personally I am at a loss to resolve the conflicting statements with which we are bombarded, but Mr. McDiarmid's tables and charts will require a lot of answering.

The thought of the index of well-being of a country being determined by the stock market is utterly repugnant to me. To prevent the loss of the "investment type policy" field entirely, the life insurance companies may move into the "unit equity" business to compete with mutual funds and investment trusts. The types of policies Mr. McDiarmid outlines make me more dubious than ever of the business.

Some of the speakers imply that liberalizing investment policy to include common stocks is an admission of the certainty of inflation. I deny that. But certainly, if the life insurance companies replace their dollar contracts by "units" based on stock market values, it will be an admission that the dollar has ceased to be a unit of value. The papers by the French actuaries at the recent International Congress of Actuaries in New York should make us worry about a move of this kind.

My last published article on the subject of Inflation and Life Insurance is dated April 19, 1958, and was written at the request of the editor of Canada's leading financial journal. I feel that the life insurance industry is unaware of the strong opinions held by many important people outside the business that we are failing our policyholders in this regard.

In case it is thought that I advocate common stock investments regardless of yield, may I point out that \$1,000 invested to yield 2% per annum

accumulates to \$1,486 in twenty years, whereas at 5% per annum it accumulates to \$2,653. In other words, if a common stock investment yields 2% according to the dividend rate at time of investment, it should give a 75% appreciation in capital value and accumulated income in twenty years to equal the return on a bond yielding 5%, apart from the much increased chances of the stock going sour.

I do advocate a change in the investment laws governing life insurance funds which will not only permit a wider field for equities generally but will remove the "overhanging fear" regarding common stocks for which present valuation laws are responsible. This will permit investment policy to be based on judgment and wisdom and not on laws passed fifty years ago under entirely different economic conditions.

We should all be grateful to Mr. McDiarmid for his paper.

MEYER MELNIKOFF:

Mr. McDiarmid deserves our thanks for giving us an opportunity to study the views of a man whose qualifications as an actuary and investment expert give him unusual competence in an area where these disciplines converge. Although he states that this paper raises more questions than it can hope to answer, he has done a real service nonetheless, for answers seldom, if ever, are discovered before the questions are posed—and he has posed fundamental questions which deserve genuine soul searching and much study. There can be little doubt that these questions currently require our professional attention.

My Company, the Prudential Insurance Company of America, has done much work on the subject of combining life contingencies and equity investments, in connection with variable annuities. Our legislative bills, currently pending in the New Jersey legislature, would permit us to offer variable annuity contracts, but not contracts of variable insurance of the type suggested by Mr. McDiarmid as worthy of further research. In view of our experience, we can attest that he understates the case when he states, "There are probably at the present time a number of obstacles, including legal ones, to putting some of the suggested ideas into effect."

American actuaries, in general, have tended, I believe, to have an oversimplified view of investment matters. Mr. McDiarmid makes a significant point very quietly, in directing our attention to the market value fluctuations of bonds. Recent events have indicated the real risk in all investments, *not* excluding government bonds. I believe we are particularly indebted to Mr. McDiarmid for his excellent discussion of common stock investments, as far too little has been written on that subject by American actuaries.

Mr. McDiarmid suggests that a strong case for substantial equity investment by life insurance companies can be made entirely apart from considerations of inflation. It may be in order to illustrate this point. Surely, a long-term, persistent increase in our productivity is not only to be expected, but to be desired. The fruits of this increase in productivity, which is the only source of an increase in our standard of living, can be shared in three ways: higher wages, higher profits and lower consumer prices. But how much can be seen as coming in the form of lower prices? The following brief figures may be of interest:

	PERSONAL INCOME PER WORKING PERSON		DISPOSABLE PERSONAL INCOME PER WORKING PERSON (i.e., AFTER TAXES)	
	Current Dollars	1957 Dollars	Current Dollars	1957 Dollars
1940.....	\$1,638	\$3,281	\$1,583	\$3,173
1957.....	5,111	5,111	4,482	4,482

Source: *Economic Report of the President—1958; Survey of Current Business, July, 1958.*

From 1940 to 1957, there was an increase of more than 50% in real wages, superimposed on a 50% decrease in the purchasing power of the dollar. Consider employee A, who was earning \$3,000 a year and retired in 1940 on a pension of \$1,500. He was succeeded by B, a much younger man, who received the same pay of \$3,000 a year. In effect, A, after retirement, had a current income of one half the current income of his successor. When it is considered that A should have been finished with many of the expenses still ahead of B, then it would seem possible for A to continue living on about the same standard as B and thus retain his position in the community. If B is still working in 1957, and if his earnings have kept pace with the change in average personal income, he is now earning about \$9,300 a year, and A's pension is giving him a current income of only 15% of B's current income. Even if there had been no inflation, B would now be earning 55% more than in 1940, or about \$4,650, and A's current income would be about 32% of B's current income, instead of 50%, as it was when he retired. Even if we could prudently postulate no further inflation, would we want to postulate also that there will be no increase in our standard of living, or that long-term savings and pensioners should not share in it, or that the increase in our standard of living will be adequately reflected in lower consumer prices? Does it not seem prudent to provide for participation in the real growth of our economy's productivity, by placing a part of long-term funds in common stocks?

We agree with the *Economist* of London that the responsibility of the life insurance industry goes further than selling money claims for future settlement—for, if not, we may gradually cease to be the repository of long-term savings for many people of modest means. Surely, in a free economy such as ours, it should be possible to devise appropriate means whereby individuals could utilize the facilities of insurance for pooling the hazards of life, to make provision for future income on a basis which they consider more prudent than merely assuming the indefinite continuation of the present price level and standard of living. As Mr. McDiarmid has pointed out, this is not an easy problem, and it may not have a neat or perfect solution, but it certainly cannot be ignored.

J. B. MACDONALD:

I am confining my comments to the first part of the paper—that which suggests that money deteriorates in value over the years. The graph certainly appears to indicate this deterioration, but I think what it really indicates is the relationship between gold and silver over the period because the shilling was a silver coin which until very recently contained an amount of silver purchased by one shilling. It should also be remembered that, for the first several centuries illustrated by the graph, England was on the periphery of the world and the value of gold and silver was determined by events in the Islamic world rather than the Atlantic world. It might be very interesting to plot a similar graph showing the variations in the price of some staple such as grain. Of course, such a graph would fluctuate more widely, as factors such as wars and droughts also would play their part in affecting the price, but the trend would still be upwards.

I thought that it might be interesting if similar information might be obtained for classical times and I visited with Professor F. M. Heichelheim at the University of Toronto who is a leading authority on economics in ancient times. He very kindly made available to me his research on the same subject, which included graphs showing the price of grain in Egypt from about 700 B.C. to A.D. 500. His graphs also indicated a steady deterioration in the purchasing power of money, although there were wide swings in prices because of wars, etc. Generally, both the high prices and the low prices became higher as time progressed.

(AUTHOR'S REVIEW OF DISCUSSION)

F. J. MCDIARMID:

I have been both flattered and a little frightened by the attention which this paper has received, both in and out of actuarial circles. Agreement was hardly to be expected with all of the ideas presented,

and in this respect the discussion has not been disappointing. I wish to thank those who have added greatly to the value of the paper by the discussions which they have prepared thereon. I happen to agree with the validity of a substantial number of points raised by the critics of the paper. It is only on the relative weight to be given these points that we seem to differ.

Mr. Green has stressed the interesting fact that a combination of private uninsured pension funds and life insurance funds produces totals which have kept pace with national income figures. His calculations, and also the data in my Table 7, indicate that the uninsured pension funds have been gaining at the expense of the life insurance companies. There was probably also a case for taking into account public employees' uninsured pension funds. These have also attained a large size and are growing rapidly.

In 1957, insured pension funds accounted for 42% of total private pension fund accumulations, but a projection by the S.E.C. estimates that by 1965 this proportion will be down to 34%. Mr. Green's argument that taxation of life insurance companies places them at a competitive disadvantage in this field seems very well based.

According to figures recently released, the proportion of whole life and endowment insurance to total life insurance in force slipped from 56% at the end of 1956 to 54% at the end of 1957, so that the trend noted in my paper has continued through another year.

I can hardly agree with the premise expressed by some speakers that substantial investment by life insurance companies in equities is unwise or improper, or with the allied premise that insurance or annuity contracts with a substantial equity base are unworkable and likely to end in disaster. In my paper I made no attempt to belittle the problems involved in an equity program, but actual experience does not indicate that these problems are insuperable.

In this respect, an ounce of experience may be worth a pound of theorizing. If the British life assurance companies had not invested to a substantial and increasing extent in equities, both common stock and real estate, their results achieved in recent years would have been much more dismal than has been the case. Since the end of World War II they have been faced with a 48% decline in the value of the pound and with sharp declines in bond prices from which they have not been sheltered by the temporary anesthetic of bond amortization. In spite of this they have managed to pretty well maintain their stature in the community and they continue to attract funds into investment-type contracts on a substantial scale.

In this country certain large investment trusts successfully sell different types of contracts through the same sales force, some of them based largely on fixed dollar contracts, some based entirely on equities, and some with a mixed base. Also it is a matter of record that the only company in this country which has for a number of years sold annuities with a partial equity base has very well maintained its sales of regular life insurance contracts. Can it be rightly claimed that the process of delivering a few lectures in some college should provide one with the right to purchase an annuity with an equity base up to 50%, from which right all others should be excluded?

The assured payment of a fixed number of dollars monthly is, of course, a very fine and desirable thing, provided—but only provided—that those dollars will accomplish in terms of purchasing power some rough approximation to what the policyholder envisaged when he purchased the contract. Over the past two decades this has not been the case; and after weighing all the available evidence, can anyone give reasonable assurance that it will be the case in the foreseeable future? Many intelligent people have shown a willingness to take their chances with substantial fluctuation in dollar retirement income, such as a retirement annuity partially based on equities would provide. Such, at least, has been the reported experience of the Teachers Insurance and Annuity Association, with the vast majority of college teachers eligible to purchase annuities taking the maximum allowed participation of 50% in the College Retirement Equities Fund. In doing so they are taking a conscious risk but a lesser risk they, no doubt, feel than that involved in exposure to the full impact of inflation.

The possible impact on the capital market of a change in life insurance investment practice may easily be overemphasized, particularly if this change takes place gradually as a type of hedging operation. The life insurance companies probably do not dominate the capital market to the extent suggested by some speakers. Uninsured pension funds and investment trusts are now growing relatively faster than the life insurance companies, assetwise.

The market value of the stocks listed on the New York Stock Exchange is currently in excess of \$200 billion. There is also a very large volume of other stocks not so listed, many of which are considered suitable for institutional investment. Any such volume of common stock buying by life insurance companies as my paper contemplates could have only a quite limited impact on the over-all price level of this very large volume of stocks and would be only one of a number of factors affecting this price level. Also, as my paper stated, a fractional switch by life insurance com-

panies from bond to stock buying would tend to decrease the amount of new bonds sold and increase the supply of new common stocks.

The argument that life insurance company buying of common stocks would exert undue and improper influence on corporate managements loses considerable of its force in this era of large, directly-placed loans by life insurance companies. Under this system of lending, one, or a group of life insurance companies or other financial institutions, may purchase an entire bond issue of a corporation. The loan instrument usually contains carefully drawn protective provisions which exercise certain broad controls over the financial management of the corporate borrower. These provisions are inserted only for the purpose of protecting the large amounts of loan capital involved by helping to maintain the credit standing of the borrower, and they, no doubt, serve a useful purpose in this regard. They provide a guide to the borrower with respect to sound and conservative financial policy. They also represent an essential part of the agreement between the lender and the borrower. They may cover such matters as the creation of additional debt, both long-term and short-term, the maintenance of working capital, dividend payments, capital expenditures, and depreciation policy. It is quite true that provisions of this type are often inserted in publicly-sold bond issues also, although on average they are not so detailed as with directly-placed issues. It would seem that provisions of this sort exercise at least as much influence over corporate managements as would result from the holding of a small fraction of the common stock of the corporation by one life insurance company, or a somewhat larger fraction by a group of life insurance companies.

The investment trusts in recent years have been quite large buyers of common stocks, with some individual trusts holding over \$1 billion worth of these. It is not a matter of record that these investment trusts have exercised objectionable or improper influence on corporate managements. Their policy seems to be to sell a stock if they do not like the performance of a management.

There is strong basis for the belief that common stock cash dividend payments now tend to be more stable than was the case a generation ago. For one thing, many industrial corporations now pay out in regular cash dividends a much smaller proportion of average earnings than formerly, such dividends in many cases averaging less than one-half of earnings. These regular dividends tend to be supplemented by extra cash dividends and by stock dividends. In spite of a sharp drop in the earnings of many corporations in the recent recession, the total of cash dividend payments declined only a negligible amount. The earnings

of the operating public utilities have established a record of resistance to declines in the economy to a point where their current dividend rates are considered very secure, more secure in fact than the interest on quite a few bonds. The same is true of the quite conservative regular cash dividends of many other corporations. I, therefore, find it extremely difficult to envisage a situation in which bond interest will be generally paid and common stock dividends not paid.

One is, no doubt, on considerably more tenuous ground in suggesting that enough depression resisters, such as unemployment insurance, social security, and government spending, have been built into our economy to render depressions less severe and shorter than at certain times in the past. Such, at least, has been the record of the three business declines experienced since World War II. However, any plan for the purchase of common stocks should continue to expect large fluctuations in their market values, and it is only reasonable to point out that, at the time of writing, stock prices are at their historic highs. As I was at great pains to point out in my paper, the successful handling of a common stock purchase program by a life insurance company is likely to prove no easy task, a point of view based on over 20 years of experience. Any institutional investor unable to develop the philosophy that a 25% drop in the market value of his common stock portfolio signals a buying opportunity and not a catastrophe should probably stay out of that field.

No disagreement was exhibited by anyone discussing the paper as to the vital interest of the life insurance business in combating inflation. However, one may question the optimism of some of the speakers as to the success already achieved, or soon to be achieved, in this field, much as one would like to share this optimism. It is true that there has been an increasing awareness in many quarters as to the dangers involved and some courageous steps have been taken by the monetary authorities in the United States, Canada, and Great Britain, to try to halt the trend. These steps have, no doubt, achieved some degree of success, temporarily at least.

Unfortunately, this opposition to inflation is far from being universal and there are large and influential groups with whom inflation does not seem altogether unpopular. Many parties who owe money—and this includes governments, corporations, and individuals—may think they have a vested interest in continuing inflation. An executive of one of our leading hotel chains was recently quoted as saying that he favored inflation because it tended to lighten the debt of his corporation and increase the stockholders' equity. Shortly thereafter his corporation sold another bond issue. His point of view is probably far from unique.

What specifically can the life insurance companies do to combat inflation? For some years they have conducted a publicity campaign on the subject, which is, no doubt, commendable although its influence is difficult to weigh. We, as individuals in the business, can exert our personal influence by writing to our political representatives and by such other methods as are within our power. However, probably the most important and concrete thing the life insurance companies can do is to conduct their investment policies so as to minimize the vested interest in continuing inflation of those who draw upon life insurance funds as a source of capital. This should involve a thorough reconsideration of the types of investment contracts and media through which our funds flow into investment—an excellent topic for an actuarial paper, by the way. It should be borne in mind that our present investment media are man-made instruments of no great antiquity. They were not handed down on Mt. Sinai along with the Ten Commandments. Those involving fixed dollar payments were largely developed against a background of relatively stable money value.

The following specific ideas for revising or adjusting these media may be worthy of some consideration. Some of them are, no doubt, highly theoretical at this time but others are more immediately practical.

1. Loans to all types of corporations should, to the maximum extent possible, be made convertible into the common stock of those corporations at predetermined prices.

2. The fictitious nature of fixed interest rates in an inflationary period could be recognized by making these rates vary to take care of loss in principal through inflation. For example, if the base interest rate on a loan was 5%, and in a given year, according to a predetermined index, the dollar lost 1% of its value, then an extra 1% interest would be charged for that year. If the dollar gained 1% in value, then the interest rate would be reduced 1%. If it is possible to negotiate labor wage contracts on some such basis, why not contracts for the use of capital? A party owing money under such a contract would have no reason to favor inflation, as he would have to pay immediately in the form of extra interest for any loss in value of principal due to inflation. This suggestion was directly inspired by expressed sentiments of the hotel executive previously quoted.

3. A less drastic suggestion would be that interest and principal payments on loans be geared to a price index, so that the lender would receive payments of the purchasing power envisaged at the time the loan was made. This would seem to be a matter of simple justice, and some variation of this plan is now being used in Finland.

4. A new type of call provision might be inserted in loans so that in the event the dollar lost some predetermined percentage of its value, say 5%, after the making of the loan, then the loan would become callable at par at the option of the lender on one year's notice. The year would give the borrower an opportunity to refinance the loan, while the lender would have an opportunity to reinvest on terms in keeping with the changed situation, possibly at a higher interest rate, or in equities.

5. In the meantime, until we have more assurance than at present that the inflationary trend has been halted, loans at fixed interest rates should be kept as short as possible in order to permit a reappraisal of the investment situation in the not too distant future. It should also be realized that in the investment and economic climate in which we live the dominant element of risk in connection with the lending of money through the purchase of carefully selected bonds and mortgages is probably not the failure to pay interest or principal, but the loss in value of the medium in which such payment is made.

The impact of inflation on the value and effectiveness of many types of life insurance contracts under the present operating methods of the industry is increasingly well understood and appreciated by the insuring public and by the economic community as a whole. Whether or not an attempt is made to modify our operating methods in an effort to minimize this impact will probably have little effect on the public's awareness of the situation. A purely negative policy, however, is not likely to excite much admiration.