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IMPACT OF INFLATION ON LIFE INSURANCE COMPANIES

1. New variables and uncertainties determining future
   a) Reserve and surplus levels
   b) Operating expenses and net gains.
2. New financial and administrative procedures motivated by its presence.
3. Development of contingency plans.
4. Can long-term benefits continue to be soundly written with continued high inflation?

CHAIRMAN W. JAMES D. LEWIS: The world-wide disparity between demand and supply leads to the conclusion that inflation is entering a new phase characterized by persistence. If societies are unable to correct this disparity, either by lessening or reallocating demand, or by increasing supply, we face a new dimension in inflation levels. This, in turn, raises a question as to the insurance industry's ability in the future to achieve its traditional stability in the light of economic ups and downs.

MR. FRANK P. DiPAOLO: Between 1944 (the year of the Bretton Woods agreement) and 1967, the Consumer Price Index random-walked between two barriers - one set at the minus 1% level and the other at plus 3%. The 3% upper barrier was broken only 3 times - in 1948, 1951 and 1957 when the Consumer Price Index increased 7.77%, 7.91% and 3.56% respectively. In 1968, when the International Gold Bullion Standard was abolished de facto, the annual rate of increase of the Consumer Price Index broke through the 3% barrier never to re-enter again. In fact, between 1968 and 1974, the Consumer Price Index averaged an annual rate of increase of 5.66%. Thus, it seems that the immediate consequence of the de facto abolishment of the International Gold Bullion Standard was the replacement of creeping inflation with trotting inflation. Unless we go back to the International Gold Bullion Standard, there is little hope of seeing creeping inflation with us again.

Last September, the Institute of Life Insurance published a Trend Analysis Program report on the impact of inflation on life insurance companies. The authors of the report considered the development of the life insurance industry under three inflationary scenarios.

The first scenario assumed an annual rate of inflation which, between 1975 and 1990, would move from 7½% to 15% along a path almost resembling that of an upward moving cycloid. The second scenario assumed a rate of inflation which would decline rapidly from 7.50% in 1975 to 4.50% by 1978 remaining constant to 1990. The third scenario assumed a rate of inflation which would rise rapidly from 7.50% in 1975 to 12% by 1977 and then drop like a ton of bricks to zero the following year to rise again but slowly towards the 2½% level by 1990.

I tend to believe that the first scenario is the most realistic of the three. In fact, I believe that during the next 15 years the rate of inflation will randon-walk between a 6% lower barrier and a 12% upper barrier.

The late American economist, Irving Fisher, theorized that the rate of interest is subject to both variations in the purchasing power of money and variations connected with other and deeper economic causes. Fisher maintained that the investment yield, which he calls the "money rate of interest," is equal to the "real rate" of interest plus the rate at which the purchasing power of money depreciates. For example, if the real rate of interest is, say, 3%, and the rate of inflation is, say, 9%, we may expect investment yields to gyrate around the 12% level. Thus, as we face a long period of trotting inflation, we are also likely to face a long period of high interest rates.

When we think of inflation, our immediate concern is with rising operating expenses. One way of dealing with rising operating expenses is to offset excess costs with excess investment income. If the average reserve per thousand is, say, $100, then an additional one percent in the investment yield would generate an extra dollar per thousand available for expenses. However, this is true if the company is in a Phase II tax position. If the company is in a Phase I tax position, the extra one dollar of investment income may be worth less than 50 cents after federal income tax. Frankly, I would rather solve the problem of rising costs with stringent budgetary controls, improved productivity, and properly calculated unit expense rates. In fact, unit expense rates are generally related to parameters such as premium income, the amount of new business written, etc. Now, the force of inflation operates on costs as well as on the parameters to which unit expense rates are related. Thus, if each type of expense is analyzed and classified by its degree of sensitivity to inflation and then related to parameters with equal sensitivity, it is possible to produce unit expense rates which could withstand a force of inflation up to, say, 10% or so, providing, of course, that the company is able to write new business at a rate consistent with a 10% force of inflation.

The 10% limit is imposed by both our current distribution system which involves high first year commissions, and by the stringency of our valuation laws. In order to cope with a higher rate of inflation, it would be necessary to accelerate the writing of new business at a speed which could result in new business strain which, in turn, could impair the solvency of the company.

Trotting inflation may undermine the public's confidence in ordinary life insurance. Paid-up additions under a participating ordinary life policy are, in most cases, sufficient to offset the erosive effect of creeping inflation on the death benefit, but they are helpless in controlling the erosive effect of trotting inflation. How will the buyer react? Will he stop buying life insurance? Most unlikely. In fact, I believe he will buy even more life insurance, but not ordinary life insurance with level premium and level sum assured; rather he is likely to buy term insurance with or without a cost-of-living feature, or, perhaps, a fully indexed cash value policy with indexed sum assured and indexed premium. At any rate, I believe the size of the average policy will increase substantially.

A term insurance policy is a rather simple contract. It can be easily read, understood, and compared. There are no complex nonforfeiture clauses or, if there is one, it is likely to be of little importance, and there is not a multitude of dividend options to choose from. Thus, it is quite likely that, if the consumer acquires a taste for term insurance, term products will be marketed under very severe competitive pressures. Some companies will bring into the market term rates with very little loading for operating expenses and hardly any security loading at all. Of course, these companies will withdraw their hot rates the moment they realize they are going bankrupt or, perhaps, the moment they realize they have been eating soup with a fork - lots of activity, but very little nourishment. Deficiency reserves in the United States may help to keep term competition from degenerating into a full scale price

war.

If the sales mix of an insurance company experiences a heavy shift towards term insurance, the size of adverse mortality fluctuations is likely to increase significantly, and it may well increase out of proportion in relation to the size of the company's surplus.

For example, take a company with one billion dollars of insurance in force, a surplus of $5,000,000 and a premium income of $20,000,000 of which 90% is related to cash value insurance and 10% is related to term insurance. The death benefit expected to be paid by this company is $3,000,000 and the expected death strain (that is, the death benefit less the reserve released) is $2,750,000. The standard deviation of the expected death strain is $250,000 or just about 5% of the company's surplus. If a sudden shift towards term insurance brings the company to a position where it still has a surplus of $5,000,000 and a premium income of $20,000,000 of which only 50% is now related to cash value insurance and 50% to term insurance, then the amount of insurance in force will increase to $2,333,000,000, the expected death benefit will increase to $7,000,000, the expected death strain will increase to $6,850,000 and the standard deviation of the expected death strain will increase to slightly over $500,000 or about 10% of the company's surplus. If this company should be subject to three consecutive years of very adverse mortality fluctuations, it will see its surplus almost entirely wiped out. Of course, this company may be able to control its risk by means of a suitable reinsurance arrangement which includes stop-loss and catastrophe coverage or, perhaps, by convincing other companies with the same problem to participate in an intercompany mortality pool for term risks.

Our statutory valuation system requires only the creation of mathematical reserves and does not require the creation of mortality fluctuations or contingency reserves. Of course, mathematical reserves are based on a mortality table which contains a loading for adverse fluctuations in mortality. But this loading is based on the likely fluctuations that may be experienced by a company with a portfolio largely composed of cash value insurance. Will the loading in the 1958 CSO continue to be adequate if the portfolio of a company becomes largely composed of term insurance. Perhaps our valuation system should be modified to require the creation of contingency reserves to cover the risk of adverse mortality fluctuations in addition, of course, to the regular mathematical reserves, which could be based on more realistic mortality.

The effect of high investment yields on the operating statement and the balance sheet is most powerful and needs to be studied in depth.

If investment yields rise to, say, 12% or higher and remain there for three years, a Canadian company with, say, 30% of its assets in industrial bonds and a statement surplus of about 6% of assets will find itself in a state of bankruptcy at the end of the third year or perhaps even before. According to Section 71(4) of the Canadian Insurance Companies Act, industrial bonds must be valued at market; however, the difference between market and amortized can be spread over a three year period. Fortunately, U.S. insurance laws permit companies to carry most industrial bonds at amortized value and, therefore, the statement of solvency of a U.S. company is not poignantly threatened by a rapidly falling bond market.

I believe that, in 24 states, the maximum statutory rate of interest for policy loans is 6%, and 5% in one state. Now, when investment yields reach, say, the 12% level, the demand for policy loans, because of arbitrage or otherwise, will become so heated that it could well absorb the entire cash flow of the company. Indeed, a company may well experience a negative cash flow, in which case it will be forced to sell low coupon bonds at market prices which

are likely to be 20% to 30% below the amortized value of such bonds. The Mandatory Securities Valuation Reserve may absorb some of the capital losses, but, even though the M.S.V.R. has reached its maximum value, it may not prevent disaster as the demand for loans continues relentlessly. The contractual moratorium period for policy loans may help prevent disaster provided the bond market acquires some strength from time to time.

Another problem caused by high investment yields is in the area of taxation. Section 805(c) of the Life Insurance Companies Income Tax Act describes the formula which must be used to calculate "adjusted life insurance reserves". This formula produces very interesting results. If the rate of interest assumed in the calculation of reserves is, say, 3% and the "adjusted reserve rate", which is the lower of the current earning rate or the earning rate averaged over the last five years, is also 3%, then the tabular rate of interest, as a percentage of actual reserves, is 3%. Under these circumstances, the company's share of the investment income is zero and, therefore, there is no tax problem. Now, when the "adjusted reserve rate" lies between 3% and 10%, the resulting tabular rate of interest, as a percentage of actual reserves, exceeds 3%. In fact, it reaches a maximum of 4.225% when the "adjusted reserve rate" is 6.5%. However, when the "adjusted reserve rate" exceeds 10%, the tabular rate of interest becomes less than 3% and when the "adjusted reserve rate" exceeds 13%, the tabular interest rate becomes zero. That is, if the "adjusted reserve rate" is 13% or higher, then the entire investment income, except for the permitted deductions, becomes taxable. Under these circumstances, a Phase I company will find itself in a Phase II position and, unless it pays less than $250,000 in dividends, it could end up with a negative net gain from operations after dividends to policyholders and federal income tax, in spite of astronomical investment yields.

Another disturbing aspect of the Income Tax Act is that, if negative cash flows force the company to sell bonds at depressed market prices, the realized capital losses can only be offset by long or short term capital gains. But, if interest rates remain high, it is most unlikely that the company will be able to realize a significant amount of capital gains during the five year period following the realization of capital losses. Thus, some of the capital losses which the company is forced to realize to satisfy the demand for policy loans may not even be tax-deductible.

Indeed, the Life Insurance Company Tax Act which was introduced in 1959 was designed to fit the climate of the late fifties characterized by creeping inflation and 4% to 5% interest rates. The climate is now changing and the 1959 Tax Act, as it stands now, may well become an albatross hanging from the neck of the insurance industry.

Tables I to VI illustrate the dramatic change in the surplus position of an insurance company as it moves from a climate of creeping inflation to one of trotting inflation.

Table I projects the operation of a mutual insurance company with 4.0 billions of ordinary insurance in force at the beginning of the projection period. The figures on this table cover only the ordinary business of the company. The projection has been done on a deterministic basis and the company's own experience has been assumed in the area of mortality, lapses, rate of growth, the rate at which policy loans increase, etc. The Consumer Price Index has been assumed to grow at an annual rate of 3% during the projection period, the real interest rate has been assumed to be also 3% and, therefore, the new money interest rate has been assumed to be 6%. The company's progress during this five year period is quite satisfactory. The net gain should really be somewhat larger, but the company is growing rapidly and it uses a rather stringent valuation basis, thus the first year strain is really eroding the net gain.

TABLE I

PROJECTED OPERATING STATEMENTS

(in thousands of dollars)

	PROJECTION YEAR				
	n+1	n+2	n+3	n+4	n+5
Percentage Increase in Consumer Price Index	3%	3%	3%	3%	3%
New Money Rate	6%	6%	6%	6%	6%
Premiums	110,000	124,000	139,000	154,000	170,000
Net Investment Income	20,500	24,000	27,500	31,500	36,500
Total Income	130,500	148,000	166,500	185,500	206,500
Claims and Benefits	27,000	31,000	36,000	42,000	48,000
Increase in Reserves	51,000	57,500	64,000	71,000	79,000
Direct Expenses*	28,000	30,500	33,000	35,500	38,000
General Insurance Expenses	10,000	11,000	12,000	13,000	14,000
Dividends	11,000	13,500	16,500	19,000	21,500
Federal Income Tax	2,500	3,000	3,500	3,500	4,000
Total Outgo	129,500	146,500	165,000	184,000	204,500
Net Gain from Operations after Dividends and Federal Income Tax	1,000	1,500	1,500	1,500	2,000

* Direct Expenses include all premium related expense (i.e. commissions, overrides, premium tax, etc.).

TABLE II

PROJECTED ASSETS AND LIABILITIES

(in thousands of dollars)

	PROJECTION YEAR				
	n+1	n+2	n+3	n+4	n+5
Percentage Increase in Consumer Price Index	3%	3%	3%	3%	3%
New Money Rate	6%	6%	6%	6%	6%
Assets					
Bonds	182,000	211,000	243,000	280,000	320,000
Mortgages	137,000	159,000	183,000	210,000	240,500
Common Stocks	30,000	30,500	31,000	31,500	32,000
Policy Loans	65,500	75,000	86,000	97,500	110,500
Other Assets	21,500	24,500	28,000	32,000	37,000
Total Assets	436,000	500,000	571,000	651,000	740,000
Liabilities					
Aggregate Reserves for Life Policies	357,000	414,500	478,500	549,500	628,500
Other Liabilities including M.S.V.R.	39,000	44,000	49,500	57,000	65,500
Surplus	40,000	41,500	43,000	44,500	46,000
Total Liabilities	436,000	500,000	571,000	651,000	740,000

TABLE III

PROJECTED OPERATING STATEMENTS

(in thousands of dollars)

	PROJECTION YEAR				
	n+1	n+2	n+3	n+4	n+5
Percentage Increase in Consumer Price Index	9%	9%	9%	9%	9%
New Money Rate	12%	12%	12%	12%	12%
Premiums	110,000	124,000	139,000	154,000	170,000
Net Investment Income	21,000	25,000	29,000	33,000	37,500
Total Income	131,000	149,000	168,000	187,000	207,500
Claims and Benefits	27,000	31,000	36,000	42,000	48,000
Increase in Reserves	51,000	57,500	64,000	71,000	79,000
Direct Expenses	28,000	30,500	33,000	35,500	38,000
General Insurance Expenses	10,500	11,500	13,000	14,000	15,000
Dividends	11,000	13,500	16,500	19,000	21,500
Federal Income Tax	2,500	3,500	4,000	4,500	5,000
Total Outgo	130,000	147,500	166,500	186,000	206,500
Net Gain from Operations after Dividends and Federal Income Tax	1,000	1,500	1,500	1,000	1,000

TABLE IV

PROJECTED ASSETS AND LIABILITIES

(in thousands of dollars)

	PROJECTION YEAR				
	n+1	n+2	n+3	n+4	n+5
Percentage Increase in Consumer Price Index	9%	9%	9%	9%	9%
New Money Rate	12%	12%	12%	12%	12%
Assets					
Bonds	159,000	157,500	149,500	124,000	81,000
Mortgages	120,000	117,500	112,000	106,000	101,000
Common Stocks	18,000	19,000	20,000	21,000	22,000
Policy Loans	105,500	170,000	251,000	351,500	471,500
Other Assets	21,500	24,500	28,000	32,000	37,000
Total Assets	424,000	488,500	560,500	634,500	712,500
Liabilities					
Aggregate Reserves for Life Policies	357,000	414,500	478,500	549,500	628,500
Other Liabilities including M.S.V.R.	37,000	42,000	48,000	53,000	61,000
Surplus	30,000	32,000	34,000	32,000	23,000
Total Liabilities	424,000	488,500	560,500	634,500	712,500

TABLE V

PROJECTED OPERATING STATEMENTS

(in thousands of dollars)

	PROJECTION YEAR				
	n+1	n+2	n+3	n+4	n+5
Percentage Increase in Consumer Price Index	9%	9%	9%	9%	9%
New Money Rate	12%	12%	12%	12%	12%
Premiums	110,000	124,000	139,000	154,000	170,000
Net Investment Income	21,000	27,000	33,000	40,000	47,500
Total Income	131,000	151,000	172,000	194,000	217,500
Claims and Benefits	27,000	31,000	36,000	42,000	48,000
Increase in Reserves	51,000	57,500	64,000	71,000	79,000
Direct Expenses*	28,000	30,500	33,000	35,500	38,000
General Insurance Expenses	10,500	11,500	13,000	14,000	15,000
Dividends	11,000	13,000	15,000	16,000	17,000
Federal Income Tax	2,500	4,500	6,000	7,500	9,500
Total Outgo	130,000	148,000	167,000	186,000	206,500
Net Gain from Operations after Dividends and Federal Income Tax	1,000	3,000	5,000	8,000	11,000

* Direct Expenses include all premium related expenses (i.e. commissions, overrides, premium tax, etc.).

TABLE VI

PROJECTED ASSETS AND LIABILITIES

(in thousands of dollars)

	PROJECTION YEAR				
	n+1	n+2	n+3	n+4	n+5
Percentage Increase in Consumer Price Index	9%	9%	9%	9%	9%
New Money Rate	12%	12%	12%	12%	12%
Assets					
Bonds	175,000	194,000	214,000	233,000	253,000
Mortgages	131,500	145,000	160,500	175,000	189,000
Common Stocks	18,000	19,000	20,000	21,000	22,000
Policy Loans	78,500	108,000	143,500	192,000	251,000
Other Assets	21,500	24,500	28,000	32,000	37,000
Total Assets	424,500	490,500	566,000	653,000	752,000
Liabilities					
Aggregate Reserves for Life Policies	357,000	414,500	478,500	549,500	628,500
Other Liabilities including M.S.V.R.	37,000	42,000	48,000	55,500	64,000
Surplus	30,500	34,000	39,500	48,000	59,500
Total Liabilities	424,500	490,500	566,000	653,000	752,000

Table II shows the projected balance sheet of our heuristic company. The surplus of the company is increasing at a somewhat lower speed than the assets. It must be noted, however, that the company also markets group life, health and pensions and when the surplus position of the company is viewed in its totality, the company appears to be in a fairly healthy position. I would like to make a point about the common stock portfolio. It is most difficult to make a deterministic projection of a stock portfolio. For the sake of simplicity, an assumption has been made that every cent of the investable cash flow is invested in bonds and mortgages, while the slight increases in the value of the common stocks are due to unrealized capital gains. The stocks are valued at market.

Table III projects the operating statement of the same company under a somewhat different set of rules. An assumption has been made that during year n, severe structural changes take place in the U.S. economy and, as a result, the Consumer Price Index has been assumed to increase throughout the five year projection period at the annual rate of 9%. The new money rate has been assumed to be 12%. Also it has been assumed that the policy loan rate of interest remains at 6%. Thus, arbitrage will cause policy loans to increase rapidly throughout the five year period to about 75% of reserves. The purpose of this projection is to determine the marginal effect of rapidly increasing policy loans on the solvency of the company. Therefore, all other assumptions dealing with the rate of growth, business mix, mortality, lapses, premium related expenses, etc. remain the same. In this projection the only items that recognize the effect of inflation are the investment income, overhead expenses, the Federal Income Tax,and, of course, the net gain.

During the first three years, the company's cash flows are sufficient to cover the demand for policy loans and, in addition, leave a very small amount of money to be invested in bonds and mortgages at 12%. In the fourth year, the company experiences a negative cash flow of about $14,000,000. In order to realize this amount of money, the company is forced to sell $20,000,000 worth of bonds and realizes a capital loss of $6,000,000. In the fifth year the cash flow shortage is $20,000,000 and the company must sell $30,000,000 worth of bonds realizing a capital loss of $10,000,000.

Table IV shows the projected balance sheet of our unhappily policy-loaned company. An assumption has been made here that during year n, while the economy undergoes serious structural changes, the stock market drops 40% causing the company to experience an immediate capital loss of $12,000,000 partly offset by the Common Stock Component of the Mandatory Securities **Valuation Reserve.** As you can see, the surplus of the company receives a severe blow in the fifth year. The capital losses experienced in the fourth year are partly offset by the Bond and Preferred Stock Component of the Mandatory Securities **Valuation** Reserve. The management of this company must make a very difficult decision in the fifth year. Should the company reduce dividends and penalize all its policyholders on account of those who borrowed heavily against their cash values?

Table V projects the operating statement of the same company operating under the same set of economic conditions as described with respect to Table III. However, the company is now permitted to classify as a unique dividend class all policies with policy loans and, while the maximum contractual loan interest rate remains at 6%, the company will reduce the actual dividends payable to their policyholders by an amount equal to the average value of the loan throughout the policy year times the difference between the yield experienced by the company's bond, mortgage, common and preferred stock portfolio and the policy loan rate of interest.

It is quite debatable whether or not this approach is equitable, reasonable or even legal. However, any alternative solution of this problem may not have

an immediate effect. Even if the Model Bill adopted by the N.A.I.C. in June of 1973 were to be enacted into law by all states and even if the maximum flexible rate were to be set at, say, 10% or 12% (incidentally, the N.A.I.C. task force that drafted the bill recommended a maximum flexible rate of 8%), the effect of the higher rate will not be felt until five or 10 years later. The bulk of the policies in force now have a 5% or 6% maximum loan rate and the bulk of the loans will be taken by these policyholders. Thus, unless some action is taken through the distribution of dividends, it will be very difficult to safeguard the solvency of the company against the onslaught of heated demand for policy loans, nor, at best, will it be possible to be fair and equitable to those policyholders who chose not to borrow against their policies.

If the demand for policy loans can be cooled off by means of dividend action, then the emerging operating gains are likely to be quite satisfactory. In fact, if policy loans can be kept from rising beyond 40% of reserves, the results, as portrayed in Table V, are most encouraging. Indeed, the management of this company is faced with the rather pleasant problem of having to decide by how much the dividends will have to be increased.

Table VI shows the projected balance sheet of the not-so-unhappily loaned company. Its surplus is developing at a rather fast rate which will probably be slowed down by dividend increases.

These projections were developed to highlight the marginal effect of inflation and high interest rates on policy loans. There are many other parameters also seriously affected by inflation, such as the rate of growth, the business mix, etc., but in these projections we have chosen to ignore the effect of inflation on these parameters.

The main problem caused by trotting inflation is that we have little experience with this new type of economic environment and therefore we are faced with a large number of uncertainties. On the other hand, our colleagues of a generation ago were also faced with the uncertainties of a severe depression and they did manage to learn very quickly how to cope with their problems. I do hope we will be able to learn how to cope with our problems as quickly and as thoroughly as they did.

MR. RALPH J. ECKERT: Do you think that the high rate of inflation that has been predicted will result in a trend toward more group and social insurance?

MR. DiPAOLO: I believe that expense pressures resulting from inflation will, over the next 3 or 4 years, force many companies to increase their minimum policy size to $25,000. This may in turn encourage the growth of group and social insurance by leaving a basic coverage gap.

MR. THEODORE S. ROSKY: Current term insurance rates include relatively low expense margins. Do you think it would be appropriate to require companies to establish a type of special deficiency reserve to cover these higher future operating expenses?

MR. DiPAOLO: Current deficiency reserve requirements are based upon the relationship between the valuation net premium and the gross premium. To the extent that the mortality margins included in the CSO table are not adequate to cover the level of expense increases produced by current rates of inflation, we are undervaluing our liabilities. Revised requirements for deficiency reserves may be necessary to make adequate provision for rising costs.

MR. ECKERT: Our current inflation/recession economy is subjecting us all to a profit squeeze. Costs of doing business have been climbing while the impact of means to counteract such rising costs has been diminishing.

Cost cutting within our own operation then becomes the one sure means to cope with a problem that must be met and brought under control if we are to survive in reasonably good shape. Management on all levels--from the president to the supervisor--faces an important challenge.

Top management must re-examine its budgetary decisions in the light of a permanent narrowing margin of profit.

Supervisors must be induced to accept as a permanent part of their continuing responsibility the vigilant patrolling of costs.

All employees must learn that no company can afford wastefulness. This is not easy as many consider "penny-pinching" a management vice and are antagonized by it. Employee understanding and co-operation must be enlisted in cost cutting and, in this period of high unemployment, employees certainly are most receptive to this type of action. A cost saving award system can be helpful, not only by generating new ideas to reduce expenditures, but by making employees more cost conscious in their day-to-day activities.

Companies have been successful in reducing expected costs by freezing or reducing employment levels, limiting first class air travel, reducing association meeting attendance, reducing the usage of xerox and telephones, providing smaller automobiles, minimizing travel and entertainment expenses, and so on, while striving to maintain and improve service to policyholders and not compromising sales efforts.

My company has been able to reduce employment by 20% over the past four years solely by attrition while business has increased some 40%, by a steady program of budget control and methods work rather than by any crash program.

In my operation, the management team must be constantly aware of corporate goals. This awareness is increased greatly when their compensation is tied to the achievement of these goals by a bonus system. I believe that the total bonus pie should be related to the attainment of certain corporate goals, with bonuses to individuals tied to management level rather than to individual performance. This tends to create a better team effort and spirit of co-operation and is simpler in operation.

Two items of great concern to me are the current epidemics of malpractice and punitive damage claims. Both greatly affect the cost of doing business and seem a long way from solution. The unwise generosity of juries is leading to a very serious situation for our industry as well as business in general. Awards are no longer even close to the relative damages incurred. The practice of defensive medical and hospital care, caused by fear of malpractice lawsuits, is a significant factor in the rising cost of **health care, with** the real loser being the consumer.

In the case of punitive damages, there is nothing that makes one feel more helpless and frustrated than to be hit with a large claim that is based on a percentage of your surplus when you honestly believe that the claim handling has been proper; and, then, to have expert legal counsel recommend settlement rather than depend on an overly-generous jury verdict against the "large, distant, insurance company." The cost of these cases not only includes punitive damage and legal expenses but, increased future claim costs due to future attitudes of our claim departments.

Several punitive charges against our Company were on claims, both life and disability, that were finalized three and five years previously--and assumed to be handled satisfactorily as we received no further correspondence of any sort. To attempt to alleviate this sort of problem, we have included the following good faith paragraph in applicable pre-recorded letters:

> "....Our decision in this matter has been based on information in our file. We are willing to answer any questions, or review any additional information, you may wish to submit which would have an effect on the consideration that has been given to your request for benefits....."

Hopefully, this will keep us aware of areas of unhappiness and enable us to either correct a mishandled situation or better prepare for a future punitive charge.

Now for a few comments on investments:-

Current high interest rates have caused large market declines in older, fixed income investments. For instance, 4½%, 25 year maturity quality bonds purchased 10 years ago at par, have a current value of only 60% of their original purchase price. These bonds are carried at amortized values for annual statement purposes and therefore do not create book losses.

Large losses, however, could ensue should we be required to sell for reasons of a national health insurance program, increased policy loans, or increased surrenders caused by a large consumer trend whereby permanent insurance is terminated and replaced by term insurance.

We also may be limited by these potential surplus losses from making desirable investment portfolio changes where federal income tax considerations would indicate such changes in order to maximize income.

This past year, the stock market has not treated companies too kindly with many losing all of Component 2 of their Mandatory Securities Valuation Reserve and some losing up to one-half of their surplus. Business bankruptcies have caused mortgage foreclosures, bond losses, and real estate vacancies. And yet, with all of these negatives, opportunities abound with all-time high yields being available on fixed income investments and real estate and common stock being available at favorable prices.

Future inflation suggests that investment strategy be examined as to level of funds invested in equities versus fixed income, level of funds invested in short-term versus long-term, level of yield, and quality of investment.

Changing investment strategies, changing marketing strategies, and changing surplus requirements require improved communications and co-ordination between the various department of our companies.

I would like to close with the obvious, that there is no magic formula for success during this period of inflation and rapid change. We are all acquainted with the same fundamental concepts, techniques, and approaches. However, what will make the difference will depend on the number of superior people we have working for us; people that think creatively and act courageously. Perhaps, during this period of unemployment, we can attract and retain more of these people to our companies.

CHAIRMAN LEWIS: The Institute of Life Insurance's booklet, Life Insurance and the Impact of Inflation describes three inflation scenarios. Scenario I, the "ratchet scenario", envisions inflation increasing in a cyclical pattern. Rates of inflation in each succeeding cycle will be higher than those for the preceding cycle. Presumably, interest rates will follow the pattern of inflation rates. What are the implications of this pattern for a company's investment policy? Will this affect the choice between long and short term investment?

MR. ECKERT: My company has adopted a policy of investing in relatively short-term investments, three to five year maturities, partly in anticipation of the

type of situation described in Scenario I, but also to provide asset liquidity for a possible negative cash flow resulting from the loss of the health care market to a national health insurance plan. A large part of our business is derived from that market. Investing short term also provides more flexibility should federal income tax considerations favor portfolio changes in the proportions of taxable and non-taxable securities.

MR. DiPAOLO: Are companies able to offset current cost increases by current higher investment returns, apart from the effect of policy loans?

MR. ECKERT: This has been true over the last five years. An important cost offset for my company has been improved productivity resulting from more effective use of our computer and from use of management-by-objective techniques. Over the next five years, it will be more difficult to realize further savings in these areas.

MR. DiPAOLO: Do you feel that work measurement techniques and job enrichment programs will help offset cost increases resulting from inflation.

MR. ECKERT: Yes. It is very important that the individual employee become enthusiastically involved in efforts to improve productivity. This is easier to do in a small company where it is possible to address personally the entire employee group about the problem.

MR. ROSKY: Inflation has disrupted the bond, stock and mortgage markets. Is there a need for closer monitoring of investment portfolios in future,

MR. ECKERT: Current market disruptions, bankruptcies, and foreclosures have caused companies to take a closer look at their existing portfolios and consider strengthening investment reserves. However, by then, the horse is already out of the barn. Emphasis on new investments is on quality and the bond market is currently reflecting this by the large yield spread between high and low quality issues.

MR. ROSKY: In addition to inflation, pressures from consumer and regulatory groups are adding to industry difficulties. Equal employment opportunity regulation is a specific example of this.

MR. ECKERT: These pressures may combine to reduce the viability of individual insurance products. For example, the annual statements of many companies show operating losses in the individual accident and health lines even while experiencing loss ratios of only 50-60%. Consumer and regulatory pressures to increase allowable loss ratios may accelerate the trend toward group or mass-marketing coverages.

CHAIRMAN LEWIS: In a mutual company, do increases in costs and in interest rates, whether or not they offset one another, raise questions of equity in the dividend distribution system between term and permanent insurance policyholders?

MR. DiPAOLO: It does create a serious equity problem, but a more important consideration is that the company survive as a solvent, viable corporation. If the company fails, all policyholders will be adversely affected.

MR. ROSKY: As has been suggested by the preceding remarks, continued high rates of inflation pose serious threats to the way we conduct our business. We've done a little rudimentary work on <u>past</u> impacts of inflation from which we concluded that additional investment income probably has more than offset the negative impacts of increased costs of doing business and higher policy loans and lapses. In the future, this is not likely to continue to be so. As policy loans increase, and the portfolio rate begins to "top out", we'll begin to lose leverage, and the financial results will begin to deteriorate. Emphasis on productivity and cost reduction are a must, of course, but activities

in these areas alone probably won't be sufficient to prevent reduced profits and/or increased costs to policyholders. Marketing and product design responses must also be considered.

Inflation is likely to decrease the disposable income of our customers, which may swing more sales to term. In addition, an inflation psychology may tend to discourage people from buying permanent insurance, where the level premium lays out more "dear" dollars in the early years and "cheaper" dollars in later years. This would decrease agents' incomes. This point may be more theoretical than real. It does not appear to have occurred in the present high inflation period. In fact, some feel that cash value insurance, with its fixed guarantees, is an even better buy when the glittering inflation hedges--stock investments, real estate investment trusts, tax shelter programs--have faltered so badly. The tax-free build-up that cash value insurance enjoys helps us have a leg up on savings banks and other fixed income investment vehicles. A move toward multiple line marketing--life, securities, other accumulation vehicles, property and casualty--is probably a good idea in that it hedges one's bets, providing a fuller spectrum of products to cope with an uncertain future.

Turning for a moment to Mr. DiPaolo's tables, Tables I and II were described as the ideal, Tables III and IV showed a deterioration in surplus levels, and Tables V and VI showed the effect of change in dividend scales. I note that the surplus level shown in Table VI is significantly higher than that shown in Table II, the so-called ideal situation. Is there any reasons for this?

MR. DiPAOLO: Table V reflects a change in the dividend scale only to the extent necessary to offset the effect of higher policy loans and is intended only to illustrate the marginal effect of this change.

MR. ROSKY: This illustration certainly points out the need for stock companies to consider the effect of policy loans carefully since they cannot offset higher costs if policy loans eliminate the possibility of earning additional investment income. Introduction of a fixed 8% interest rate or a flexible interest rate capped at 8% may not be an adequate solution to the problem if we encounter more frequent periods of high interest rates in future. An uncapped interest rate which floats with money market rates is needed if we are to avoid the possibility of generally available interest rates exceeding policy loan rates.

Inflation also increases the producer's costs of doing business. This is offset partially, if not entirely, by increases in the average size sale, as inflation increases the customer's need for insurance protection. This will not occur, of course, if we experience a substantial swing from permanent insurance to term.

There is one silver lining to our current recession/inflation dark cloud--we're finding that we're better able to hire good men and women when alternative jobs are scarce, and short-term agents' persistency should be improved.

The costs of recruiting, selecting, training and financing agents will increase. This will put further pressure on our industry's already too high costs of acquiring business. This argues for changes in our commission structures--the spreading of commissions through a reduction in first year commissions and an increase in those paid in renewal years. At the same time we may have to bite the bullet and define renewal service and require some reasonable level of renewal service as a prerequisite to earning these renewal commissions. This would be likely to help our lapse problems, as well.

A move toward levelling of commissions would also help us to respond to the increasing--and not totally unfounded--charges of consumerists that whole life insurance is a gigantic rip-off since many contracts are lapsed in the early

years producing a very poor return to the customer because the lion's share of early premiums goes into acquiring the business.

The direct charging of a fee for services is another potential way to meet the producer compensation problem. This solution is fraught with control problems from the standpoint of the insurance company--how do you control the level of the charges and be sure of the quality of the service? It also may require changes in state laws to accomplish. Further, any kind of analytical service for which a fee is charged by a purveyor of products can be suspect in terms of objectivity. But I've heard of at least several companies which plan to charge separate fees for services on individual policy pension trust plans, and our industry may be able to get valuable experience from this--experience that could be applied to the design of a fee system for non-pension insurance service.

Can long-term benefits continue to be soundly underwritten with continued high inflation? I feel that the answer is a definite "yes". We undoubtedly will have to use all of our imagination and innovative ability--and state laws must be amended--but this must happen if we are to continue to play a vital role and serve the needs of our customers.

Expanded and extended guaranteed insurability options are one solution. We've had a number of years of experience with existing options, and should be able to broaden the coverage we offer, based on the experience we've collected to date. Cost-of-living riders and index policies have been developed by a few companies. Cost-of-living riders, in particular, should have appeal in a period of off-again, on-again inflation. The simplest variety of rider would guarantee the level of one year term rates, and tie the face amount of the rider to some cost-of-living index. Both the face amount and the premium would increase with increases in the cost of living. The policyholder might have the option of refusing the increase for any year. The principal problem with this approach is that the producer might resist it because it deprives him of making some repeat sales, but I really question the number of times that this is actually done in practice.

Life cycle contracts hold promise, in my opinion. In its most blue sky form, a life cycle contract is simply a "main frame" contract which would permit the policyholder to exercise a number of options as his financial needs change. He could increase or decrease his current insurance protection. He could put money into a variety of accumulation vehicles. He would borrow against his accumulated savings at money market rates. His advisor, our producer, would be available to assist him in deciding on the exercise of those options, and would receive reasonable compensation for doing this--possibly via a fee. There are a number of legal, underwriting, marketing, administrative and actuarial problems to be solved before this sort of arrangement can become a reality--and it may be hard for the customer to understand what we're trying to sell--but this sort of contract could be an ideal answer to many of the problems we've been discussing this morning. A variation on this theme is an arrangement which would unhook the cash value levels from their current fixed interest rate straight-jacket. One such arrangement might be to credit a going rate of interest each year to the cash value accumulation. A minimum rate of 2½% to 3% might be guaranteed. This would go nicely if it were packaged with a free floating policy loan interest rate.

Any litany of product ideas would be incomplete without at least passing mention of variable life insurance. The plunging stock market in the face of heavy inflation has taken some of the glitter from this product, but there are those who still feel that it can be attractive to customers, producers, and companies.

I'd like to close these prepared remarks with a few caveats and admonitions:

1. Product design and distribution systems must begin with an understanding of what the customer needs and wants.
2. The producers' needs must be kept clearly in mind--if what we produce doesn't meet his needs, it will fail.
3. Let's not further confuse or complicate the lives of our customers and producers--let's try to keep it as simple and easy as possible!
4. A number of these potential products require changes in laws and regulations; to accomplish these we must do a more effective job in explaining the problem and motivating the legislators and regulators to help us accomplish the required changes.

CHAIRMAN LEWIS: You have stated a persuasive case for levelling agents' commissions. However, recognizing the fact that only the new business related element of agents' compensation can respond to inflation, I wonder if levelling commissions will not have the unfortunate effect of reducing the responsiveness of agents' compensation to inflation? Inflation would seem to encourage higher rather than lower front-end loads.

MR. ROSKY: That is true. Another consequence of a switch from heaped to levelled commissions might be a need for large additional agent support expenditures during the transition period. However, if, by stressing renewal service and bringing our producer closer to his customers, we can improve persistency, the net result may be beneficial. Levelling commissions may also make it more difficult to attract highly motivated agents. High front-end compensation levels attract many of these individuals to the business.

MR. ECKERT: Statistics I have seen indicate that the number of U.S. life insurance agents has not increased significantly over the last ten years. Agent earnings, at least in our company, have not increased satisfactorily. This seems to be a national problem and, if so, certainly makes it more difficult to attract new manpower into our sales forces. Some companies have turned to property and casualty sales as a means of supplementing agents' incomes. Do you think that this will help solve the income problem?

MR. ROSKY: Agency recruiting and retention is a major problem for all companies. It is my impression that the average size of new policies sold has kept pace with inflation and this has helped solve the income problem. Personally, I am watching the progress of the large mutual companies' property and casualty ventures with great interest. I have a feeling that, initially, agents' compensation will be increased by property and casualty sales, but that, in the long term, as claim problems start to eat into the time available for selling, compensation may be adversely affected. Also, I wonder how many products an agent can market effectively. Life insurance and property and casualty products are complicated and it takes an exceptional individual to understand both lines.

CHAIRMAN LEWIS: Since I am with the Prudential, I feel called upon to respond at least in part to these questions. It perhaps is too early to evaluate results and you may have a point. However, early indications are that there is a high correlation between successful marketing of life and property and casualty products. Agents who are successful in one line also tend to be successful in the other line. Secondly, after two and one-half years of experience there does not seem to be a trade-off between property and casualty sales and life sales. Property and casualty sales seem to be in addition to life sales with one caveat. During the initial period of operation the extensive training required to licence agents may temporarily reduce life production.

MR. DiPAOLO: Mr. Rosky's idea of crediting excess interest to cash values is intriguing. Increased consumer sophistication combined with the limited ability of companies in a Phase 2 tax position to pass on increased investment

income will create difficulties. An alternative to the current form of participating policy might be a policy incorporating guaranteed mortality and expense rates, but limiting interest rate guarantees to 3%, 3½%, or whatever cash value legislation will permit. Excess investment income would be paid as a dividend or rate credit of some type.

New premium calculation techniques would have to be developed for such a product. Currently, in calculating non-par premiums the interest rate assumption might be a high initial rate scaling down to a rate such as 3% after 10 or 20 years. This in effect builds a margin into your premium rates and may enable you to use realistic mortality and expense rates. The use of a low interest rate combined with a provision for crediting excess interest as a dividend or rate credit would eliminate this margin and would require additional margins in the mortality and expense assumptions. Under this approach higher investment income would not be available to offset higher expenses.

MR. ROSKY: Stock companies would also have to reconsider the form of their profit margin assumption for pricing.

MR. IRWIN T. VANDERHOOF: Actuaries have been, I think, trained to consider money as a real quantity. We are now in a period when a sharp distinction has got to be drawn in our own minds between real things and money because this identity is obviously gone.

I would like to comment on the relationship between interest rates and inflation. Irving Fisher first hypothesized about this relationship in the 1920's. In 1968, Yohe and Karnowski (in the 1968 Review of the Federal Reserve of St. Louis) tried to verify these theories. They based their work on the theory that current rates were the result of a base underlying rate plus perceived inflation, as measured by recent inflation rates.

We have tested this relationship recently and have found that for the United States over the last fifteen years the current level of interest rates can be explained in terms of the inflation rate for the current and the four previous years and a base rate of about 3%. The R^2 correlation co-efficient is about 99.5%.

We have also made similar studies of seven other countries and have found that, as a minimum, 75% of the change in interest rates over the past fifteen years is explainable solely in terms of inflation.

This leads to a couple of interesting conclusions. If in any of our gross premium calculation rates we assume an interest rate of 6% we have implicitly assumed that inflation will average 3% during the period under consideration. To be consistent we should include a 3% inflation assumption in our expense factors. Even though the rate assumed may be wrong we should make the expense and interest rate assumptions consistent.

Consistency would seem to be more important for pension funds than for life insurance, especially for final average pay plans. If you assume a 6% interest rate you have implicitly assumed a 3% inflation rate and this should be reflected in projections of future benefits. Use of a lower rate of inflation for benefit calculations could result in serious underfunding.

A third point I would like to make is that the interest rates at which life insurance companies are currently investing money are too small. Because of the effect of income taxes, a 10% gross rate of return produces a negative real rate of return. If the inflation rate were 7%, interest rates would have to be 15% to produce a real rate of return.

Mr. Rosky pointed out that the surplus shown in Mr. DiPaolo's Table VI was higher than that shown in Table II. It was suggested that further dividend

scale changes might be made to reduce this surplus. However, since Tables V and VI assume a 9% inflation rate versus a 3% inflation rate in Tables I and II, the company's real surplus and its capacity to handle real risks have in fact declined. This underlines the need to distinguish between money terms and real terms.

CHAIRMAN LEWIS: I was surprised at the almost precise relationship your studies seem to have found. I would have thought that the relationship, if it does exist, would have been between expectations of inflation and current interest rates.

MR. VANDERHOOF: I hope that I said that the relationship was between the expectation of inflation, which it is assumed can be measured by inflation over the last four or five periods, and current interest rates. Determining the public's expectation of inflation is a major problem. The hypothesis we used was that inflation rates over recent periods are a reasonable proxy for expectations. Interestingly enough in the U.S., where we are much more sophisticated in the mathematical handling of this kind of problem, the relationship between current inflation and interest rates is stronger than in the other nations we studied. I think that there are many reasons to believe that this type of relationship will hold in the future.

MR. ROSKY: It is true that there has been a 3% differential between past inflation and interest rates. However, I wonder if that wasn't so because a very knowledgeable person said it and most people believed him and behaved accordingly. If that is the case and if all the ground rules are up in the air now, the historical 3% differential may change. My own feeling is that the differential may increase.

MR. VANDERHOOF: In 1968 when Yohe and Karnowski carried out their study, as far as I know, there was no general belief that their hypothesis was true. They concluded, nevertheless, that the base rate was approximately 3.3%. At that time, Government and Federal Reserve economists generally took the position that interest rates were very flexible and could be conveniently and safely controlled through manipulation of the money supply.

In Europe, where, as far as I know, studies of this type have not been done, our own work produces base rates in the 3% to 4% range even though Europeans haven't been exposed to this theory.

Finally, if you review the History of Interest Rates by Sidney Homer (Rutgers University Press, 1963) you will find that in non-inflationary, non-catastrophic periods, interest rates in stable economies have always seemed to bounce down to around the 3% level. This was true in the Netherlands and in 17th and 18th century England.

I'm not sure what this means since there are certainly supply and demand factors involved, but it would seem that there has been, over long periods of time, something like a base underlying rate. If your feeling is correct we will certainly have to think in terms of what a real interest rate is, independently of historical perspectives. However, it seems likely that the real rate is more often going to be in the 3% to 4% range than in the 5% to 6% range.

MR. E. J. MOORHEAD: Panelists this morning have deplored the drift from so-called permanent life insurance to term insurance. I believe actuaries can take several important steps to build and maintain public confidence in whole-life coverage even amid troublesome economic conditions. Here are four suggestions:

1. Reconsider the appropriateness of nonparticipating insurance for policies of potentially long durations. I doubt that any actuary

today really considers himself capable of calculating a nonparticipating premium that offers a reasonable prospect of being fair to both policyholders and the company over many future years. Is not the answer a policy that provides for change in the premium rate in the event that changes in the underlying factors make the original premium unreasonable? Please see the 1963 discussion of this question by Mr. Meno Lake (TSA XV, D220-221), and the recent experiments along this line by at least one Canadian life insurance company.

2. Improve the ability of whole-life coverage to compete satisfactorily with term insurance by reversing the deterioration of persistency that has occurred in recent years. We cannot legitimately say that whole-life insurance is advantageous unless a reasonably high proportion of those who purchase it continue their policies in force for at least ten years. A large part of the lapse problem is the excessive quantity of inappropriate replacements.
3. Actuaries should take a close look at the Institute of Life Insurance booklet The Nature of the Whole Life Contract, reflecting upon its entire message and not overlooking the section "As the Actuary Sees It", pages 13-16. I doubt that actuaries are even close to the unanimity implied in that publication--especially actuaries who use the protection/savings split to calculate policy dividends. It seems to me that we would all do better if we were to make sure that the package really is superior to its components purchased separately, rather than waging a hopeless battle against the concept of splitability.
4. It sounded as though one of the panelists believes that today's problems of heavy termination rates, public misunderstanding and inexpert usage of the advantages afforded by whole-life insurance can be at least partly solved by improving service to existing policyholders through the agents. I doubt that such a solution offers much promise. Agents as a breed are not interested in furnishing service to people who are not prospects for new policies, and the cost of raising service fees to the point at which providing such service would be attractive would be exorbitant.

MR. ROSKY: Let me deal with your comments in reverse order. I do not assume that we will be spreading commissions tomorrow nor that this will be a successful effort. My comments were more a plea to move in this direction. I agree that this approach is not a panacea.

I agree completely that the current industry position regarding treatment of permanent life insurance as a combination of savings and permanent insurance is unrealistic. Separate measurement of these elements is difficult, but can be approximated.

I could not agree more with your comments on the replacement question. This problem is particularly acute in the group insurance market. In most cases new business results from a change of carrier rather than from untapped sources. If we lived in Africa this would be called cannibalism, and I think it has this impact on insurance companies if they compete without some amount of discretion. The same result would be realized on the individual side if we permitted or encouraged our agents to seek replacements.

The thought that it might no longer be appropriate to write nonparticipating insurance disturbs me greatly. Personally, I don't agree with you. I feel that we have the resourcefulness to adapt this product to the challenge of inflation. If mutual companies react to high policy loans and inflated costs by making substantial dividend cuts, the guarantees included in nonparticipating policies may make these even more popular with consumers. However, stock

companies must adapt sufficiently to the new environment they face to ensure that their guarantees are meaningful.

MR. G. ECKSTUT: One effect of inflation is to reduce the supply of capital in the economy. This in turn slows economic growth and may eventually lead to long-term stagnation. I feel that the life insurance industry, as a representative of middle class savings, should take a stronger stand against inflation than is currently the case. It should attempt to protect the capital formation process.

MR. ROSKY: This erosion of the dollar through inflation doesn't show up on the balance sheet. Yet its impact on capital is real.