

Impact of Inflation on Life Insurance Policies

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ABSTRACT

Life insurance is a popular saving instrument. However the public have a negative attitude towards its return. Public comment is that what would one get from life insurance policy, if the policy matures. This paper analyses the nominal return and real return of the life policies. Analysis revealed that life policies have a nominal return commensurate with savings bank account deposit. However the real return of the policies are negative. It ultimately will result in erosion of money of the investors. So the paper suggests that insurance policy should be adjusted with price level index.

1. Introduction

Life Insurance is a popular saving instrument among people. Though the main purpose of life insurance is to protect against risk due to death, life insurance is more popular as a saving instrument. The main argument against life insurance is, whether life insurance provides adequate return on the investment. As a long term saving instrument, inflation may affect life insurance. So the next question arises, how much is the effect of inflation on life insurance and whether it erodes the hard earned money invested by the people. The paper evaluates the impact of inflation on life insurance.

2. Review of Literature

Babbel (1979) tried to measure the extent of inflation's impact on life insurance cost in Brazil. Babbel's study uses capital Budgeting procedure for measuring inflation's impact on life insurance cost. Both non-indexed and indexed policies were studied and it was found that if expected inflation was 40 percent, the net cost per unit of insurance benefit was approximately nine times higher than the cost of similar protection under stable prices. In order to maintain the real value of insurance, study suggests two methods, i.e. purchase of index-linked policies, or purchasing additional policies. The study found that both the approaches maintain constant real level of protection but purchase of an indexed policy always results in lower expected net present cost per unit of benefit than the purchase of additional policies.

Babbel (1981) tried to examine the impact of expected inflation and income on life insurance purchase decision in Brazil. Babbel divides the period of study into two, before pre-indexation (prior to 1968) and Post indexation (period after 1968). A time series multivariate regression model was used to relate inflationary expectation and income variable to life insurance purchases. This study uses the net real life insurance in force per capita as the proxy variable for life insurance purchases, and expected inflation and human life value as independent variables. Consumer price index is used as the proxy for inflation expectation and future disposable personal wage income an individual expects to earn during his lifetime, is used as proxy for income

3. Objectives

1. To examine the nominal return of life policies.
2. To examine the real return of life policies

4. Hypotheses

1. Life policies earn an average return in par with savings bank deposits.
2. Inflation adjusted return of life policies is negative.

5. Methodology

The study is analytical in nature. The study is based on secondary data. The secondary data was collected from LIC of India, Kottayam Division. Data about 32 endowment policies, that matured in September 2017 were collected. Data about age at entry, term of policies, annual premium, maturity amount (Claim), year and month of starting the policy etc. were collected. Nominal return is calculated by using the excel function IRR. Real (inflation adjusted) return is calculated by using the Fisher equation. Return is calculated for the saving component of the premium. Saving component is calculated by deducting mortality component from the Total premium. Mortality component is calculated by multiplying the sum assured with mortality rate applicable to particular age.

$$\text{Real Return} = (1 + \text{Nominal Return} / 1 + \text{Inflation rate}) - 1$$

Inflation rate is calculated by using the formula = (Closing CPI - Opening CPI) / Opening CPI

6. Analysis and Discussion

Return of the policies is calculated by using capital budgeting technique IRR. Premium payment is taken as cash outflow and maturity claim is taken as cash inflow. Return is calculated for the saving component of the policies. Saving component is calculated by deducting risk component from the premium. Risk component is calculated by multiplying sum assured with mortality factor. Excel function is used for calculating IRR.

Table: 1
Table showing calculation of nominal return and real return

Term 25,Plan 14,SA25000,Age at Entry 24					
month year	Premium	Mortality Component	CO	CI	NET
Sep-92	984	29	955	0	-955
Sep-93	984	29	955	0	-955
Sep-94	984	29	955	0	-955
Sep-95	984	29	955	0	-955
Sep-96	984	29	955	0	-955
Sep-97	984	29	955	0	-955
Sep-98	984	29	955	0	-955
Sep-99	984	29	955	0	-955
09/00	984	29	955	0	-955
01-Sep	984	29	955	0	-955
02-Sep	984	29	955	0	-955
03-Sep	984	29	955	0	-955
04-Sep	984	29	955	0	-955
05-Sep	984	29	955	0	-955
06-Sep	984	29	955	0	-955
07-Sep	984	29	955	0	-955
08-Sep	984	29	955	0	-955
09-Sep	984	29	955	0	-955
10-Sep	984	29	955	0	-955
11-Sep	984	29	955	0	-955
12-Sep	984	29	955	0	-955
13-Sep	984	29	955	0	-955
14-Sep	984	29	955	0	-955
15-Sep	984	29	955	0	-955
16-Sep	984	29	955	0	-955
17-Sep				67050	67050
Nominal RETURN					7%
Real Return					-0.39

From the above method nominal return and real return of the thirty two policies were calculated.

The above table shows that the nominal return is positive. That is 7 percent. However real return is negative.

Following table shows the calculated Nominal Return and Real Return of thirty two policies by the above method.

Table2
Table showing nominal return and real return of policies

Policy Serial No	Return (%)	Inflation Adjusted Return(%)
1	7	-39
2	6	-31
3	6	-31
4	7	-30
5	7	-30
6	5	-31

7	3	-33
8	6	-31
9	7	-30
10	6	-31
11	6	-31
12	7	-30
13	6	-28
14	6	-23
15	6	-23
16	6	-23
17	5	-24
18	5	-23
19	5	-23
20	-24	-24
21	5	-23
22	-26	-26

23	5	-22
24	5	-23
25	5	-23
26	5	-23
27	4	-24
28	4	-24
29	5	-23
30	5	-23
31	4	-24
32	6	-22

The table 2 shows that the nominal return of majority policies ranges between 3% to 7%. However these policies have negative real return. The return shows that all the policies have negative real return. This shows that though life policies are good investment, truly they erode the money of the investor.

7. Hypothesis Testing

Significance test of nominal return is calculated by using one sample T Test. The cut off value taken for the return is 4%. Table shows that t value is -304 with p value of 0.769. So the test accept the null hypothesis that average nominal return of Life policies is >4%.

Table: 3
Table showing significance test of nominal return

	N	Mean	Std. Deviation	t	Sig
Nominal Return	3	3.5938	7.56844	-304	0.763

The variable taken for analysis is nominal return of Life Insurance policies. Test reveals that the life Insurance policies have a nominal return greater than 4% as the significance level of one sample t test is greater than 0.05. Hence the

result accepts the null hypothesis that life Insurance policies have nominal return greater than savings bank accounts.

Table: 4
Table showing significance test of real return

	N	Mean	Std. Deviation	t	Sig
Real Return	32	-26.5313	4.31789	-34.759	0.00

The significance test of real return is conducted by using the one sample T Test. The cut off value taken for analysis is 0. The result shows that t value of -34.759 with a p value of 0.000. So the test reject the null hypothesis as real return is greater than or equal to zero and accept the alternate hypothesis as real return is less than zero

The variable taken for analysis is real return of Life Insurance policies. Test reveals that the life Insurance policies have a real return less than zero as the significance level of one sample t test is less than 0.05 Hence the result reject the null hypothesis that life Insurance Policies have real return less than savings bank accounts.

8. Conclusion

From the forgoing discussion, it can be concluded that life insurance provides a fair nominal return to the policy holders. However on real return basis it is a loss to the policyholders. It erodes the hard earned money invested by the holder in the policy. So the paper suggests that life insurance benefits should be attached to a price index so as to adjust the benefits and costs of the policy to real return terms. It will benefit the millions of the households and policy holders. Not only that, this is the main reason for low penetration of life insurance. So indexation will also improve the penetration of the life policies. So the IRDA should issue guidelines for the introduction of index linked policies by insurers.

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