

A CRITICAL EVALUATION OF THE PREMIUM STRUCTURE OF INDIVIDUAL NON-TERM LIFE INSURANCE IN ETHIOPIA

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ABSTRACT: The life insurance market in Ethiopia is almost entirely an untouched market. The share of life insurance in total annual gross premium income has been low in both pre-and post-rationalization periods.

Of the many problems that might have been encountered in expanding the life insurance business in the country, the price (premium) factor needs to be carefully examined. Under the present premium structure for individual non-term life policies (mainly Endowment and Whole Life), no conscious person will buy Endowment or Whole Life policies if he makes a proper cost-benefit analysis. Greater benefit will be derived by adopting a strategy that may be labeled as: "Buy Term and Invest the Difference". Therefore, it is necessary for EIC to make a quick review of its life insurance pricing in light of the changes taking place in the environment, principally in view of the rise in bank saving deposit rate from 6% to 10%.

INTRODUCTION

Life insurance has been used as a tool of handling personal risks for many years. The economic justification of life insurance is that under circumstances where financial dependency in a family leads to severe financial or economic insecurity, it will alleviate the financial hardships that dependents might face in the event of premature death of the supporting person.

The role of life insurance in providing financial security is greater in developed countries compared to developing countries. But this does

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not in any case undermine the significance of life insurance in developing countries. In fact in developing countries life insurance can (i) help individuals in providing their families some protection against financial loss due to premature death, (ii) serve as a means of saving money for emergencies and for retirement (UNCTAD 1982).

A strong and efficient life insurance market is believed to ensure social stability, mobilize funds for investment, promote saving and contribute to the overall economic development of a society.

There are three principal forms of life insurance: term, ordinary endowment and whole life. Term life policy provides temporary financial protection whereby the sum assured is payable only in the event of death happening within the policy period. Ordinary endowment and whole life insurance policies embody two components: protection and saving. Here, the sum assured is payable either in the event of death (protection component) or survival (saving component). The three forms of life insurance policies can be sold on an individual basis (individual scheme) or group basis (group scheme). It should be also noted that life insurance is bought by the assured or can be a component of employee benefit schemes of organizations.

Premium constitutes the price of insurance services (the product). The premium structure definitely will have an impact on the marketability of life insurance policies. In the Ethiopian case, quite a number of factors might have been observed as obstacles in exploiting the life insurance market. Among those factors, the price (premium charge) of life insurance policies can be singled out as one main factor. This paper presents an evaluation of the present life insurance premiums of individual non-term life policies (ordinary endowment and whole life) in the Ethiopian Insurance Corporation.

The second part of this paper provides brief insights into the development of insurance in the country with emphasis on life insurance business. The third and fourth parts address the issue of whether or not it is advisable to buy non-term individual life policies at the present premium rates by comparing the two alternatives: *purchase of non-term individual life policies and bank deposit arrangement*. The fifth part presents a brief description pertaining to the present life insurance premium structure and some of the obstacles in expanding the life insurance market in the country.

THE LIFE INSURANCE MARKET IN ETHIOPIA

Life Insurance in pre-1975 years

Life Insurance has been undertaken by very few insurance companies in the country. Most insurance companies were doing marine, fire and general accident insurance business. Of the 13 insurance companies that secured license only three were doing life insurance business in 1972. The life insurance business during the pre-1974 period was not in a strong position by any measure. First of all, the share of life insurance in the total gross premium income of the insurance industry was declining steadily from 15% in 1967 to 8% in 1972 as shown in Table 1.

The second indicator of the weakness of the life insurance business is the comparison of the annual growth rates of gross premiums of life insurance with that of non-life insurance. As can be observed from Table 2, life insurance gross premiums were increasing in one year and decreasing in another with an average annual growth rate of 2.5 percent for the period 1968-1972. In the case of non-life insurance business, gross premiums increased consistently at an average rate of 18.4 percent per annum.

Table 1. Share of life Insurance in the Insurance Business (1967-72, in percent)

YEAR	LGP/GP	LGC/GP	LGC/GC
1967	15	4	13
1968	15	3	10
1969	11	9	36
1970	11	5	28
1971	8	5	28
1972	8	4	31

Note. LGP is Life Insurance Gross Premium, GP is Gross Insurance Premium, LGC is Life Insurance Gross Claim, and GC is Gross Claim.

Source: Author's calculations using data from Insurance Controller's Annual Report, 1974

Table 2. Growth Rates of Gross Premiums in Life and non-Life Insurance

Year	Life (%)	Non-Life (%)
1968	9.7	12.9
1969	(9.6)	21.6
1970	13.2	13.8
1971	(3.0)	33.4
1972	2.3	10.3

Source: Author's calculations, data from Insurance Controller's Annual Report, 1974

It might also be informative to see which types of life insurance policies had demand during those years (1967-1972). Regarding this, information was obtained only for 1972. Life portfolios at the end of December 1972 had a total value of Birr 46.6 million. The number of life policies in force at December 31, 1972 is presented below. Endowment policies were dominating the life portfolio. It is very likely that the demand for term life policies was very low. In fact, one general factor that shows the strength of an insurance company in selling life insurance is the extent of domination of the life portfolio by the term life policies.

The higher the percentage of Term Life policies, the higher the strength (See Table 3).

In summary, it seems that, prior to nationalization of the insurance companies, life insurance business had difficulties in attracting sufficient number of customers and many of the insurance companies preferred to concentrate on general insurance business.

Table 3. Life Portfolios at December 31, 1972

Type of Policy	Total policies		Total Value	
	Number	Percent	Birr	Percent
Endowment policies	2508	91	6,188,283	77.6
Whole life policies	32	1	1,203,000	2.5
Others	207	8	9,269,119	9.9
Total	2747	100	46,660,402	100

Source: Insurance Controller's Annual Report (No.2, 1974)

Nationalization of Insurance Companies: 1975 and After

The 1975 nationalization act led to the formation of a state-owned insurance corporation. Consequently, the Ethiopian Insurance Corporation (EIC) was established effectively on January 1, 1976 by bringing under one umbrella the 13 insurance companies that were nationalized. The three life insurance companies were reorganized to form the Life Main Branch of the Ethiopian Insurance Corporation. Since then, the Life Main Branch has been responsible for undertaking life insurance business across the country through commission agents stationed in Addis Ababa and other major cities.

Analysis of the operating performance of EIC after its establishment indicates that gross premium income from non-life policies has shown an increasing trend from year to year, while gross premium income

from life insurance policies has been steady for almost a decade. Annual premium growth rates were more predictable in the case of non-life insurance than that of life insurance. Overall profits have also shown an increasing trend and given the high income tax rate in the country, the overall operating performance of the corporation has been remarkable. Figures 1 and 2 present an insight regarding premiums, claims and premium growth rates for the period 1980-89.

The poor state of life insurance business in Ethiopia after 1975 can be clearly seen from cross-country comparisons as well as from its development through time. A survey by UNCTAD (1990) shows that the overall (life plus non-life) ratio of the Ethiopian insurance industry is slightly higher than the overall average for Africa. It can be seen that the non-life insurance business is the reason for this since the ratio for the life business is relatively low. (See Table 4).

Table 4. Premium income as a percentage of GDP (1986)

Country	Life	Non-Life
Ethiopia	0.04	1.29
Egypt	0.16	0.83
Nigeria	0.21	0.63
Tanzania	0.21	0.73
Zambia	0.77	1.97
India	0.65	0.43

Source: UNCTAD (1990).

It appears that the performance of the Life Main Branch of EIC has been unsatisfactory during the last decade. The share of life insurance business in the total gross premium income of the Corporation averaged 4.3% during 1981-1990 while gross claims for the same period averaged 4.6%. Average annual life insurance premiums during the same period were Birr 6.2 million and average annual gross claims were Birr 2.4

million. The highest premium observed was Birr 11.5 million (in 1989) and the highest gross claim was Birr 3.6 million (in 1990).

Figure 1 Gross Premium Income, Life vs Non-life (1980 - 1989)

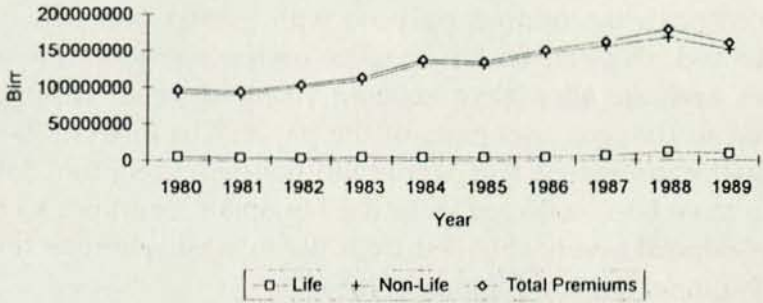
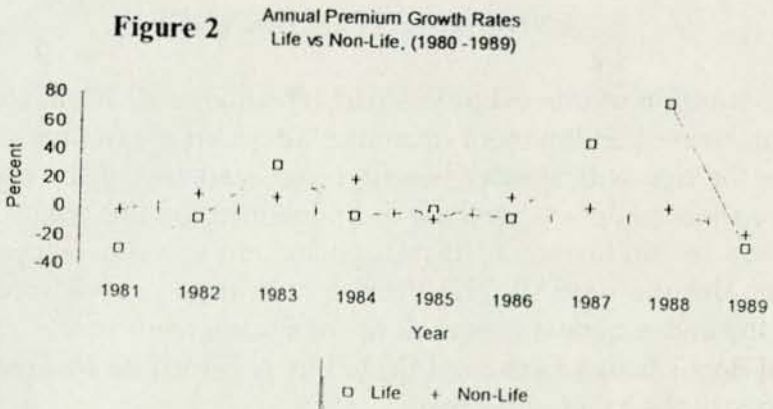


Figure 2 Annual Premium Growth Rates Life vs Non-Life, (1980 - 1989)



The potential market for life insurance in the country is not yet exploited by EIC. Why has it become so difficult for EIC to stimulate its life insurance business? A number of factors have contributed to the low performance of the life insurance business in EIC. Among other things,

there exists a serious pricing problem in the case of the major forms of life insurance policies.

The decision to purchase whole life or endowment life insurance is based on a sound cost-benefit analysis since other strategies (options) can accomplish the desired purpose with greater benefits. A detailed analysis and comparison of benefits under non-term life insurance schemes and an alternative scheme (bank deposit arrangement) is provided in the next two parts of the paper. The analysis is made for individual endowment and whole life policies. Premium data for the analysis have been collected from the Ethiopian Insurance Corporation. Savings deposit rate is obtained from the interest rate directives issued by the National Bank of Ethiopia (NBE).

ENDOWMENT INSURANCE

The question of interest in this part is: can an individual considering the purchase of endowment insurance adopt an alternative strategy to handle the risk with greater benefits? Two varieties of the endowment scheme are considered: purchase of Endowment (main) policy only, and purchase of Endowment (main) policy along with Supplementary Accident Insurance (SAI). The alternative strategies considered here are using the entire annual premium of the Endowment policy (i) to make annual deposits in a bank, and (ii) to buy a Term Life Insurance policy and deposit the balance in a bank.

The benefits of the alternative schemes are compared under three conditions: in the event of death, surrender, and maturity. Comparison is made by considering an endowment policy for Birr 1000 maturing at age 55 (retirement age). This policy is to be purchased at ages of 25, 30,

35, and 40. Table 5 gives the sample premium quotations of EIC for these conditions.

Table 5. EIC Quotations of Annual Premiums for Birr 1000 Sum Assured of Individual Endowment Insurance (1958 CSO, Mortality Table, 3.5%)

Age	Annual Premiums				
	10 years	15 years	20 years	25 years	30 years
25	119.52	84.16	66.89	57.03	<u>50.82</u>
30	119.76	84.57	67.45	<u>57.82</u>	51.92
35	120.36	85.40	<u>68.60</u>	59.30	53.82
40	121.59	<u>86.97</u>	70.58	61.82	57.63

Endowment Policy Only

Strategy 1: Annual deposit of the entire annual premium of the endowment policy.

A. Maturity Proceeds

Value comparison in the case of maturity (at retirement age) is presented below. Under the Endowment Scheme, the insured receives the Maturity Value (Sum Assured) of the policy. Under the Deposit Scheme, he receives the accumulated (deposit) value upon retirement (age 55). The Deposit Value on maturity is calculated using the Annuity Due formula shown below. Since premiums in life insurance are paid at the beginning, it is assumed that deposits of such premiums under the Deposit Scheme will be made at the beginning of each year. Compounding is made semi-annually.

$$CV = \left[\frac{\left(1 + \frac{i}{m}\right)^{nm}}{\left(1 + \frac{i}{m}\right)^n} \right] \left(1 + \frac{i}{m}\right)^m$$

where, CV is compound value, n is number of years, m is number of compounding in a year (2 times in this case, semi-annual compounding), i is annual interest rate.

Comparison of the values in Table 6 indicates that the deposit values upon maturity of the policy (at age 55) exceed the sum assured for each sampled age.

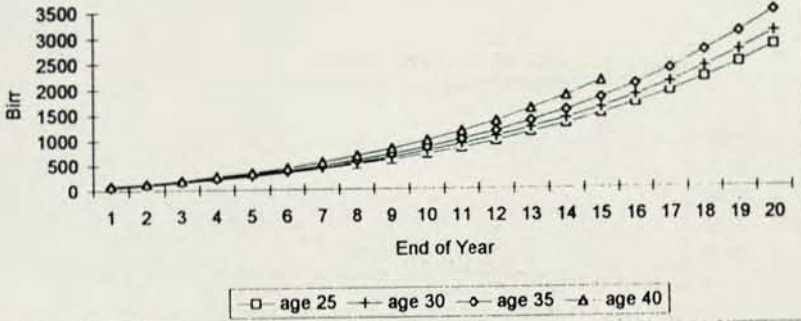
Table 6. Comparison of Maturity Proceeds-Strategy I: Endowment Versus Deposit Scheme

Age	Deposit Scheme	Endowment Scheme	Difference
25	9664	1000	8664
30	6510	1000	5510
35	4457	1000	3457
40	3108	1000	2108

B. Surrender

Surrender Value or Cash Value is the amount of money that a policy-owner collects from the insurer in the form of a refund if he/she cancels a life insurance policy and surrenders it to the insurance company. The *Deposit Value* in any given year is to be compared with the corresponding *Cash Value* of the endowment policy. Figure 3 presents the differences between the Deposit Values and the Cash Values for the sampled ages. The differences are all positive, indicating that deposit values exceed cash values in any given year.

Figure 3 Benefit Comparison - Surrender
Deposit Values less Cash Values

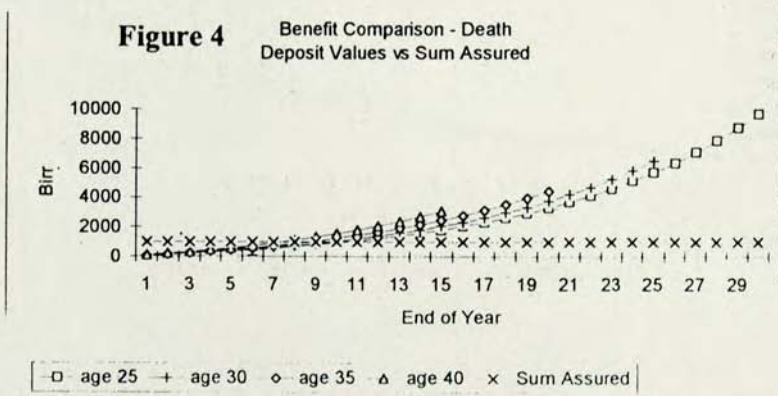


C. Death

In the event of death, the values to be compared are the *Deposit Value* at the time of death and the *Sum Assured* of the endowment policy, which is Birr 1000. To allow better comparison it is assumed that death claims are paid at the end of the year in which death occurred. Figure 4 provides a vivid comparison of benefits under the Endowment Scheme and the Deposit Scheme.

As can be observed from the graph, deficiencies are observed during the early period of the endowment insurance. They indicate that death claims of the endowment policy exceed the corresponding deposit values. It is important to note, however, that there is an element of uncertainty related to the superior benefits of Endowment Policy. They materialize if and only if the insured dies prior to the break-even point. The Deposit Values, on the other hand, reflect *certain outcomes*. Thus, it will not be correct to compare the uncertain death claims with the

deposit values unless the uncertain death claims are converted into certainty equivalents.



Thus, proper comparison of the values requires the incorporation of present value factors and death probabilities so that the present value of accumulated deposits of a given year is compared with the corresponding present value of expected death claim. The present value of expected death claim is calculated as follows:

$$\text{PV of Expected Death Claim} = \text{Death Claim} + \text{Probability of Death} + \text{Present Value Factor}$$

Using a discount rate of 10% and death probabilities calculated from the 1958 CSO mortality table which the Ethiopian Insurance Corporation adopts in calculating life insurance premiums, the analysis shows that the present values of accumulated deposits exceed the corresponding present values of expected death claims in any given year for each

sampled age. This shows that the Deposit Scheme is superior to the Endowment Scheme.

Nevertheless, It is possible that the insured may not feel comfortable with such analysis and hence may not like the deposit scheme, particularly in the event of death since there will occur deposit deficiencies during the early years. The individual may prefer the endowment scheme in order to cover the risk. However, this risk can easily be handled by another strategy.

Strategy II: "Buy Term and Invest the Difference"

In this strategy, the premium that would have to be paid for the Endowment policy is applied for two purposes: a portion of the premium is used to buy Term Life policy to protect the insured against risk of death, and the remaining portion of the premium is deposited in a savings account which provides interest at 10% compounded semi-annually.

To illustrate the second strategy, we consider an individual endowment policy for Birr 1000 purchased at age 35 and maturing at age 55. The person will allocate the endowment premium for the two purposes as follows:

1. buy 15-year term life insurance for sum assured of Birr 1000 with a portion of the premium to cover the deficiencies,
2. deposit the remaining balance annually in the bank.

Accordingly, the person purchases 15-year term life insurance for sum assured of Birr 1000. The Term Life insurance provides financial protection equal to the sum assured Birr 1000, for fifteen years. The

annual premium for 15-year term life policy purchased at age 35, according to EIC quotation is calculated as follows:

	Birr
Basic premium	10.15
plus: Policy Factor	<u>22.55</u>
Annual premium	<u>32.70</u>

The annual deposit is Birr 35.90, (68.60-32.70). The term life policy expires after 15 years. The premium (32.70) will then be deposited each year for the next five years, i.e., until age of retirement. The values to be compared under the second strategy for each of the three possible cases are summarized as follows:

	<u>Deposit Scheme</u>	<u>Endowment Scheme</u>
a. Maturity	Deposit Value	Sum Assured
b. Surrender	Deposit Value	Cash Value
c. Death	Deposit Value + Sum Assured (Term Life)	Sum Assured (Death Claim)

A. Maturity

Upon maturity the two schemes provide the following benefits to the individual (Table 7). The Deposit Scheme provides more benefits to the person.

B. Surrender and Death

The Deposit Values exceed the corresponding Cash Values at any given year up to retirement. In the event of death, the death claim of the Term life policy (Birr 1000) offsets the death claim of the endowment policy (Birr 1000). The net advantage to the person under the Deposit

Scheme is, therefore, the deposit value at the time of death. The comparison is presented in Figure 5 for age 35.

Table 7. Comparison of Maturity Proceeds-Strategy II: Deposit Vs Endowment Scheme

Age	Deposit Scheme	Endowment Scheme	Difference
25	5096	1000	4096
30	3605	1000	2605
35	2554	1000	1554
40	1810	1000	810

Note. 15-year term life policy is purchased for each sampled age.

Note that even prior to the increase of the bank deposit rate to 10%, purchase of endowment insurance was not recommendable. At the time when the bank deposit rate was 6%, a Deposit Scheme (Term Life insurance plus Deposit) was providing more benefits to the individual in the event of retirement, surrender or death. If the previous analysis is made using Table 8 gives the benefits under the two schemes for retirement assuming a 6% annual bank deposit rate and semi-annual compounding.

Table 8. Comparison of Benefits in the Case of Retirement Deposit Vs Endowment Scheme (6% semi-annual compounding)

Age	Deposit Scheme*	Endowment Scheme	Difference
25**	4860	1000	3860
30**	1739	1000	7395
35**	1356	1000	3564
40***	1259	1000	259

* Deposit plus Term Life Insurance.

** 20-year Term Life policy for Birr 1000.

*** 15-year Term Life policy for Birr 1000.

To summarize, the purchase of individual endowment policy to save money with an added advantage of financial protection does not constitute an optimal decision to make under the present premium rates of EIC. The insured will be better off if he/she decides to deposit a portion of the endowment premiums in a bank that provides interest at 10% compounded semi-annually and purchase term life insurance with the remaining portion of the endowment premiums. This strategy, which is called "*Buy Term and Invest the Difference*", brings more benefits to the individual with respect to maturity proceeds, surrender or death claims.

Endowment Policy with Supplementary Accident Insurance (SAI)

Actual data are considered here to evaluate whether or not the purchase of an individual endowment policy supplemented by accident insurance is a wise decision to make. The Supplementary Accident Insurance is sold in conjunction with the main policy (whole life or endowment). It is not sold separately. It is to be purchased for the same sum assured and duration of the main policy.

The following information pertains to one organization in Addis Ababa that purchased an Individual Endowment policy with SAI as a

pension plan for one of its employees. The policy was purchased from the Ethiopian Insurance Corporation (EIC). The following facts are gathered:

Age of employee at time of policy purchase	35 years
Type of policy	Individual endowment policy maturing at age 55 for the sum assured of Birr 20,000, and SAI for sum Assured of Birr 20,000
Annual premium charge	Endowment Birr 944 and SAI Birr 150, total Birr 1094

As will be clearly shown below, the organization has not made an optimal decision to buy individual endowment insurance as a pension plan for its employee. The employee would have obtained substantial benefit if a combined strategy (deposit plus other type of life insurance policy) was adopted for the same cost. Therefore, the organization should have adopted a policy that involves the purchase of a 20-year term life insurance for Birr 20,000; the purchase of Personal Accident Insurance (PAI) every year until age of retirement; and making annual deposits equal to the total premiums of the Endowment Scheme *less* the annual premiums for term life policy and the personal accident policy.

Term life policy is to be purchased to cover the deficiencies as explained above. Personal Accident Insurance (PAI) is to be purchased as a substitution for SAI under the Endowment Scheme.

The annual premium for a 20-year term life policy for sum assured of Birr 20,000 (rounded to the nearest Birr) is Birr 256 as per the quotation of EIC. The annual premium for PAI is estimated on the basis of the premium quotation submitted by EIC for group personal accident insurance for the employees of the organization. The premium quotation was Birr 8272.50 for 25 employees who had total gross monthly salary of

Birr 27,492. The monthly salary of the employee under consideration was Birr 488. A proportional estimate of the annual premium for personal accident insurance for this employee is Birr 147.

Personal Accident Insurance is a yearly renewable term policy. The annual premium charge is likely to increase with the increase in the age of the employee. To accommodate this annual increase in premiums and to be conservative in our estimate, the annual premium for the personal accident insurance is increased to Birr 231 throughout the policy period. The benefit to the employee in the event of death due to accident is five-years' salary which is 29,280 (488x12x5). Here, we have made a rigid assumption that his monthly salary will remain fixed until age of retirement, which is a very unlikely situation. The annual deposit amount will thus be Birr 607 (1094 - 256-231). The benefits to the employee under the two schemes can now be identified and compared (see Exhibit 1).

Exhibit 1. Comparison of Benefits Under Alternative Schemes

		Benefits	
	Endowment with SIA	Deposit + PAI + Term Life	
Maturity	Sum Assured	Deposit Value	
Surrender	Cash Value	Deposit Value	
Death due to:			
Natural cause	Sum Assured	Deposit Value plus Sum Assured of Term Life Policy	
Normal Accident	Sum Assured	Deposit Value plus Sum Assured of Term Life Policy plus Five Years' Salary*	
Public Accident	Sum Assured	Deposit Value plus Sum Assured of Term Life Policy plus Five Years' Salary*	

* Benefits in the case of death due to normal or public accident.

A. Maturity

Maturity proceeds at the age of 55 years is Birr 20,000 under the Endowment Scheme (the scheme the organization has adopted) and Birr 39,435 under the Deposit-Scheme (the alternative scheme). Therefore, the alternative scheme provides superior benefits of a difference of Birr 19,435.

B. Surrender (Job Termination)

The accumulated value that the employee receives under the Deposit Scheme exceeds the corresponding Cash Value that he will receive upon surrendering of the policy when the employee terminates his job with the organization. The comparison is provided in Table 9.

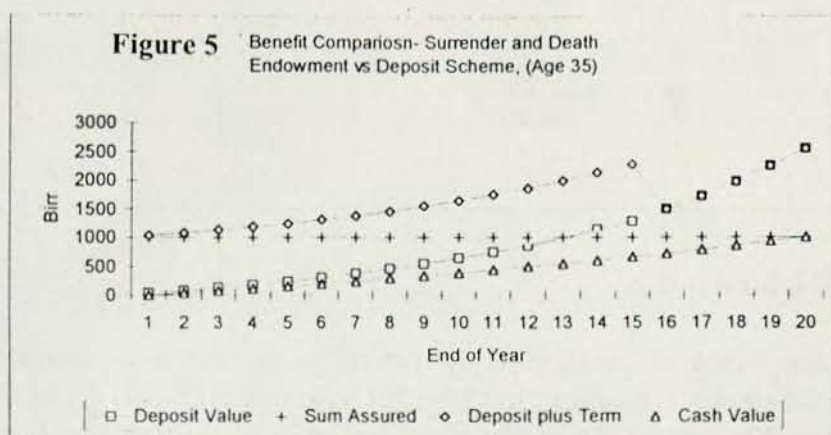


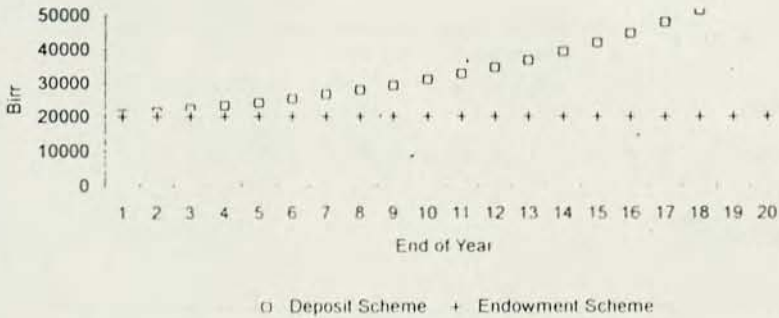
Table 9. Comparison of Deposit and Cash Values in the Event of Policy Surrender

End of Year	Deposit Scheme (Deposit Value)	Endowment Scheme (Cash Value)	Difference
1	669	0	669
2	1407	700	707
3	2220	1500	720
4	3117	2300	817
5	4106	3140	966
6	5196	4020	1176
7	6398	4900	1498
8	7723	5840	1883
9	9184	6780	2404
10	10794	7780	3014
11	12570	8800	3770
12	14528	9860	4668
13	16686	10960	5726
14	19065	12120	6945
15	21689	13500	8389
16	24581	14520	10061
17	27770	15820	11950
18	31286	17160	14126
19	35162	18540	16622
20	39435	20000	19435

C. Natural death

In the event of death due to natural cause the benefit under the Deposit Scheme is equal to the Deposit Value plus the Sum Assured of the term life policy. Since the Sum Assured of term life policy (Birr 20,000) offsets the Sum Assured of the Endowment policy (Birr 20,000), the net benefit to the employee is the Deposit Value at the time of death. The deposit arrangement is superior to the Endowment insurance (see Figure 6).

Figure 6 Benefit Comparison - Natural Death
Endowment vs Deposit Scheme



D. Death due to Normal or Public Accident

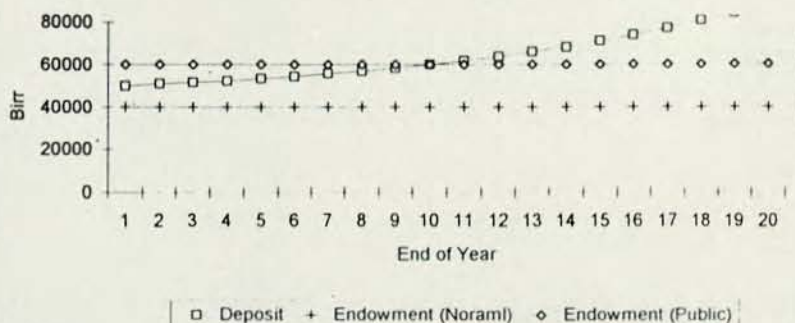
If death occurs due to accident under normal conditions, the Deposit Scheme provides benefits equal to the sum of the Deposit Value at the time of death, Sum Assured of the term life policy and five years salary payable under the Personal Accident policy. The Endowment Scheme provides benefits equal to double the Sum Assured (Birr 40,000 in this case). The analysis indicates that the Deposit Scheme provides more benefits to the employee in the event of death due to normal accident.

If death occurs to the employee due to public accident (accident while using public facilities), the benefits under the Endowment Scheme are triple the Sum Assured (Birr 60,000 in our case). The Deposit Scheme provides the same benefits as in the case of death due to normal accident. Figure 7 provides a clear comparison of benefits under the two schemes.

It is to be admitted that in the event of death due to public accident, the Endowment Scheme provides greater benefits during the first 9 years, Thereafter the benefit of the Deposit Scheme exceeds the benefit of

the Endowment Scheme. The highest deficiency, Birr 10,051, occurs in the first year of the policy.

Figure 7 Benefit Comparison - Accidental Death
Endowment vs Deposit Scheme



The deficiencies represent a very unlikely outcome. The probability of death due to public accident is indeed very low. Yet, the possibility of such risk exists and the employee may feel uncomfortable with the uncertainty.

However, this uncertainty can be eliminated by raising the Sum Assured of the Term Life Policy from Birr 20,000 to Birr 31,000 to remove the maximum deficiency. This decision increases the annual premium for the term life policy by Birr 105 and reduces the annual deposit amount by the same amount. The annual deposit becomes Birr 502, (607-105). Consequently, this adjustment will lead to receiving total benefits of Birr 60,833.45 if death occurs in the first year due to public accident. This benefit exceeds the benefit derived from the Endowment insurance.

The analysis made so far indicates that even purchase of individual endowment insurance together with Supplementary Accident Insurance

(SAI) as a pension plan at the present premium rates will not be a wise decision. Again, the employee will be better off if his employer adopts a deposit strategy in conjunction with term life insurance and personal accident insurance instead.

WHOLE LIFE INSURANCE

It is also necessary to check whether or not the purchase of whole life policy from the Ethiopian Insurance Corporation at the current premium rate is justifiable or not. A sample of whole life premium quotations by EIC is considered for the analysis. They are presented in Table 10.

Table 10. Annual Premium for Individual Whole Life Policy (for sum assured of Birr 1000)

Age	Annual Premium
20	39.57
25	41.85
30	44.59
40	53.87

Here too, two alternatives are to be compared: purchase of Whole Life Policy or annual deposit of whole life premiums. Comparison is made for three possible situations: Maturity, Surrender and Death.

A. Maturity

The Sum Assured of the Whole Life Policy is compared with Accumulated Value of the annual deposits of whole life premiums. Annuity deposits are made until age 99. So the accumulated value refers to the value when the insured reaches age 100. This is because

the whole life policy matures at age 100 unless it is surrendered in between, say at age 55.

The maturity value for each sampled age exceeds the Sum Assured. To provide an insight, it is sufficient to determine the Accumulated Value around the break-even point for each sampled age and compare those values with the Sum Assured. This comparison is provided in table 11.

Table 11. Value Comparison-Deposit Scheme Versus Whole Life

Age	Deposit Scheme		Whole Life	
	End of Year	Deposit Value	Sum Assured	Difference
20	13	1087	1000	87
25	12	1002	1000	2
30	12	1067	1000	67
35	11	1008	1000	8
40	11	1116	1000	116

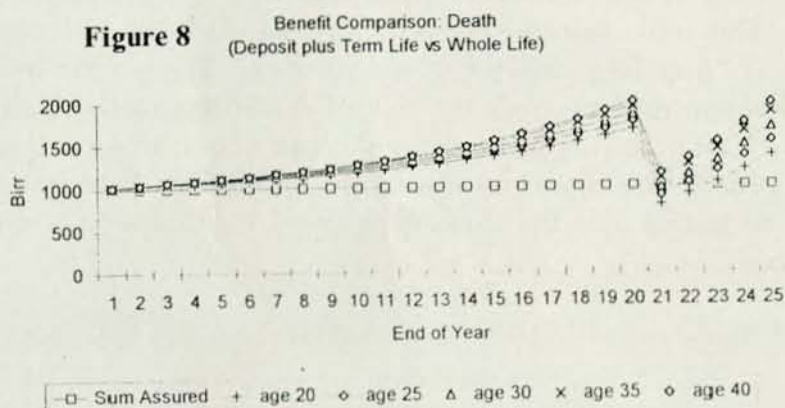
B. Surrender

The insured can surrender the policy at any time. He is then provided with three options: cash value, reduced Paid-up Insurance or extended term insurance. Here, it is assumed that the insurer selects the cash value. The *Cash Value* of the whole life policy of a given year is then compared to the corresponding *Accumulated Value*. The *Accumulated Value* of any given year exceeds the corresponding *Cash Value* for all the sampled ages.

C. Death

In the event of death due to natural cause, whole life insurance is superior to the deposit arrangement during the early period of the whole life policy (refer to the comparison for maturity above). Below

As can be observed from the graph, the total benefits under the Deposit Scheme (Deposit plus Term Life) exceed the Sum Assured of the Whole Life policy for each sampled age until the term life policy expires (20 years). Thereafter, the values to be compared are the Accumulated Values and the Sum Assured. Deficiencies are observed for age 20 (2 years), and 25 (1 year) and age 30 (1 year).



This indicates that financial protection for risk of death is greater under the Whole Life policy during those deficient years only. Compared to the overall financial benefits that could be derived from the Deposit Scheme prior to or beyond the deficient years, the excess benefits of Whole Life insurance during those years can not be used as a strong justification to purchase Whole Life policy. The Deposit Scheme is by far superior to the purchase of Whole Life insurance.

FACTORS AFFECTING LIFE INSURANCE BUSINESS IN ETHIOPIA

Current Premium Quotations

The present life insurance premium structure is largely an adaptation of the premium rates of two life insurance companies that were nationalized in 1974. The current rates for individual life policies are those of the Ethio-American Life Insurance Company (1977) while the current rates for group life insurance are adaptations of the premiums of the Ethiopian Life Insurance Company (1977). Since then, there have not been major revisions of the premium rates.

Two crucial factors that are used in calculating net premiums of life insurance policies are the mortality rate (death probability) and the interest rate. Life insurance premiums are directly related with mortality rate and inversely related with interest rate.

Interest Rate

The interest rate structure during the Derg regime had an impact on premium rates. Premiums were calculated using an annual interest rate of 3.5%. This rate is still maintained by EIC. According to the interest rate structure that prevailed in the country until June 30, 1986, financial institutions (EIC is one of them) were able to earn a return of 6% annually on time deposits and savings deposits. Consequently, the Corporation was able to obtain a margin on the investment of premium collections in either time deposits or savings deposits.

The situation was reversed beginning July 1986 when an amendment of the interest rate structure in the country led to a decline in the annual interest rate on time deposits from 6% to just 1%. The Amendment also

forbade financial institutions from maintaining savings deposits in the banks. It is evident that starting July 1, 1986 up to the pronouncement of a new interest rate structure by the Transitional Government of Ethiopia (TGE), EIC had been allowing an interest rate of 3.5% to its life insurance clients while it actually had an opportunity to earn a return of 1% annually from its investments of life insurance premiums on time deposits. An upward adjustment of the premium rates would have been justified under such circumstances. However, there was no premium adjustment by EIC.

A question might arise here as to whether EIC could have invested premium collections on other investment opportunities to generate high returns and thereby improve its premium rates. It is to be noted that during the Derg regime, alternative investment opportunities were limited as the private sector was heavily discouraged from investment activities. Moreover, in as much as the Corporation itself was under centralized management with a socialist credo, the motivation to formulate strategic business plans and undertake activities along the path of business lines could have hardly existed. Consequently, the available option to invest life premiums were basically fixed deposits.

Mortality Rates

The current premium rates are based on mortality rates determined using the 1958 (CSO) mortality table. Latest mortality tables (1980 CSO, for example) reflect lower mortality rates which lead to lower premium rates.

There seems to exist a feeling that mortality rates, in the context of Ethiopia, have risen; and even the 1958 CSO mortality table provides a lower mortality rate for the present situation in Ethiopia. Based on this feeling alone, there seems to exist an argument to keep the interest rate

unchanged at 3.5%, despite an increase in bank deposit rates, to compensate for the unconfirmed rise in the mortality rate. This feeling, however, is not concretely substantiated through a study of the mortality situation in the country by the insurance industry.

Evidently, there has emerged a major risk element, AIDS, which could alarm EIC in selling life insurance policies. The unpredictability of this risk would definitely create difficulties in establishing reasonable premium rates and might even force EIC to set higher premiums.

Other Obstacles in Expanding Life Insurance in the Country

The price of life insurance (premium) is just one factor that would influence the marketability of life insurance policies. It is to be noted that besides the price, there are other problems that might have contributed towards the stagnation of the life insurance business in the country. The major problems include:

a. Disruption of the agency system after nationalization. Subsequent re-instatement of the agency system could not bring fruitful results in exploiting the life insurance market. Though EIC has been making consistent effort in training agents and placing them in various cities to solicit potential buyers of life insurance, it was found difficult to attract as many customers as anticipated. Consequently, many of the agents start withdrawing from the agency business after few trials of market seeking. Also, the agents tend to prefer to push for endowment policies because this ensures them a higher commission income. Term life policy, which should have been given primary attention in life insurance business, is undermined by agents.

b. Absence of systematic and continuous educational efforts to enlighten the public about the essence and significance of life insurance. Though some efforts have been made to create awareness through advertisements and the preparation of brochures, posters, pamphlets and the like, their design and publicity seems to have a shortcoming. They have been undertaken on and off rather than systematically and continually, retarding the improvement of public awareness regarding the advantage of life insurance.

c. Lack of skill to undertake actuary tasks; or analyze and adjust premium rates in the light of changing circumstances. To some extent, there exists a shortage of qualified personnel who can undertake detailed technical analysis in life insurance pricing. It is found that employees in the Corporation can, if they wish, undertake studies in such foreign insurance institutions as Certified Insurance Institution (CII, UK) and Life Office Management Association (LOMA, U.S.A) through correspondence. However, there exists some reservation regarding the quality of knowledge acquired through correspondence studies. It is the opinion of many people (including the author) that studies in the form of fellowships or scholarships abroad could have resulted in a more competent and knowledgeable manpower that is needed to assume the task of making detailed technical analysis.

d. The income level of the society is also an important factor in purchasing life insurance. The benefits of Life Insurance are long-term. Citizens, the majority of whom have very low incomes, are likely to concentrate on the satisfaction of their short-term needs.

CONCLUSION

The life insurance business in Ethiopia has remained stagnant for more than a decade. There are diverse problems contributing to the low performance of the life branch of the Corporation as compared to the non-life branch. One of the shortcomings analyzed in this paper is the pricing of the individual non-term life insurance policies, mainly Endowment and Whole life policies. The premiums for these policies are determined based on the 1958 CSO Mortality Table and an annual interest rate of 3.5%. Significant premium revisions have not been made by the Corporation for a long time. The analysis presented in this paper has shown that the current life insurance premium rates of the Corporation are unlikely to attract buyers. Potential buyers, if they are conscious enough, will rather adopt an alternate strategy which is labeled as "Buy Term and Invest the Difference". Hence a price revision is required. To this end, it is necessary to examine the mortality rate and the interest rate that is currently being used by the Corporation.

The use of an interest rate of 3.5% will not be acceptable since the bank saving deposit rate has increased from 6% to 10%. An upward adjustment to the interest rate is justifiable. The effect of adjusting the interest rate upward is that life insurance premium rates will decline. This could partially help in exploiting the potential life insurance market and is a necessity in the light of the changes taking place in the economic and business environment in the country.

It is to be noted, however, that an adjustment to the premium rate only will not lead to significant improvement in the life insurance business of the Corporation. Price is only one factor to be looked into. As there exist other shortcomings, some of them mentioned in this paper, it will be necessary to examine the various shortcomings that contributed to the stagnation of the life insurance business for more than a decade.

Considering the present circumstances, improvement in life insurance business in the country is going to require a lot of effort. With the emergence of a new type of risk, AIDS, it may be discouraging to undertake life insurance business. New entrants to the insurance industry are more likely to concentrate on non-life insurance rather than life insurance.

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