

SOUTH AFRICAN LIFE ASSURANCE:
CIRCUMSTANCE, SIGNIFICANCE
AND TECHNIQUE

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DOCTOR OF PHILOSOPHY

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DECLARATION

I declare this thesis to be my own work. It is submitted for the degree of Doctor of Philosophy at the University of the Witwatersrand, Johannesburg, and has not been submitted for any degree or examination at any other University. Save as acknowledged, this work has not been prepared under the aegis or with the assistance of any body, organisation or person outside of the University of the Witwatersrand, Johannesburg.

Brian Cyril Benfield
Johannesburg
December 1987

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CONSPECTUS

This study starts with a brief reference to the history and development of life assurance in South Africa and elsewhere in the world. It then discusses the essential precepts of the life assurance product, how a life office develops, how it spreads its risks and how it is managed, regulated and governed.

The important role of the life assurance industry within the framework of the free enterprise economy emerges throughout the work. In addition, the investment alternatives open to the industry, the management of these portfolios and the principles, objectives and constraints applicable to them are discussed at length.

This work also examines and records the changing philosophies now current in the life assurance industry in South Africa and ends with a succinct chapter which sets out a suggested approach to management practices for South African life insurers.

SOUTH AFRICAN LIFE ASSURANCE :
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CHAPTER 1
OBJECTIVES, SOURCES AND STRUCTURE

1. OBJECTIVES OF THIS STUDY

This work began under the title of 'Product Design and Investment Strategy of the South African Life Assurance Industry'. It was intended that it should study the evolution of investment policy by South African life assurance offices in their attempts to meet new demands by the insuring public for more flexible life assurance products covering an ever extending range of needs at lower cost in inflationary times. However, as the research proceeded and the work developed, two things became clear. Firstly, there is a dearth of material regarding the life assurance industry in South Africa. Secondly, no discussion of the investment constraints or techniques of the industry can be complete without wide reference to the inter-relationship of the many other factors which surround and impact upon the investment problem.

Having moved into the area of these numerous other influences, and having been regularly frustrated in the search for material, it became clear that research into the matter of the investment problem alone would be inadequate. There was an obvious need for additional work to be done in the creation of a mathematical model of a developing life office as both an investment and office management tool. In addition, it became apparent that no South African work had been done in the area of life reinsurance, an important determinant of the long-term profitability of a life office.

Several additional chapters grew out of these needs, among which were Chapters IV and V which may now be considered to be among the most important contributions of this work.

2. INFORMATION SOURCES AND RESEARCH UNDERTAKEN

Once having embarked on the search for relevant and up-to-date life assurance information, it was discovered that, whilst much 'popular' information in the form of newspaper and magazine surveys or 'year-books' is available, very few academic works have been written on the subject. Most of the works discovered were actuarial in nature and covered only limited parts of the operation of a life office. No single and comprehensive manual or text book on both the establishment and the day to day management of a life office could be found. Hence, it was necessary to glean information from numerous disparate sources and to attempt to tie these together in a logical sequence in one comprehensive work.

The only South African work of note which traversed as wide and as similar a territory as that of this thesis, was the thesis of Dr M Bernstein, published eleven years ago in 1976. Where our paths have crossed, Bernstein's contributions have been duly acknowledged. Nevertheless, the discerning reader will note important differences in approach and emphasis, always in the hope of further illumination and edification.

The questionnaire used in Chapter XI and which formed the basis of research into South African life assurance corporate policy and practice, was drawn up with the assistance of two actuaries, one economics professor and two investment analysts, with a view to subsequent largely quantitative rather than qualitative analysis.

Having been sent to twenty-six South African life offices, the high response to the questionnaire of nineteen offices was pleasing. It has given the research greater reliability than any similar research undertaken in South Africa which could be discovered.

3. STRUCTURE OF THE STUDY

The work has been divided into three logical parts: the Life Assurance Industry and its Management; Investment and the Life Assurance Industry; and Empirical Research, Analysis and Conclusions.

Chapter II briefly touches on the history of life assurance and its world-wide development. Chapter III sets out the essential precepts of life assurance and systematically describes each of the basic types of life assurance products and their construction.

Chapter IV proved to be a mammoth task due to the hundreds of hours which had to be spent on the development of the computer models and the extent of the other original work which was required. It is hoped that this chapter might prove to be one of the most useful to students of the technique of life office management.

Chapter V, as far as can be established, is the first South African work of its kind. Reassurance is a relative new-comer to the life assurance world but has given the smallest of life offices the ability to stand on an equal footing with the largest and most powerful. It has also offered offices an entirely new spectrum of opportunities for the maximisation of profitability.

VI sets out the background to life assurance legislation and on in South Africa and attempts to bring developments over the past fifty years into perspective.

Chapter VII describes and highlights the role of the life industry in the economy of the country and in the formation of capital and employment.

Chapters VIII, IX and X were the original core to this work and cover the spectrum of investment considerations ranging from life office investment alternatives to the principals which govern such investments and the essential elements for the analysis and management of investment portfolios.

In the last section of the work, Chapters XI and XII endeavour to analyse the empirical research undertaken, draw conclusions and, with as much humility and lack of pretence as possible, to make suggestions about life office management practice, reassurance technique and accounting, actuarial and investment approaches.

PART A

THE LIFE ASSURANCE INDUSTRY AND ITS MANAGEMENT

A STUDY OF THE HISTORY, DEVELOPMENT, ESSENTIAL
CONCEPTS, MANAGEMENT AND REGULATION OF THE
SOUTH AFRICAN LIFE ASSURANCE INDUSTRY

PART A

THE LIFE ASSURANCE INDUSTRY AND ITS MANAGEMENT

CHAPTER II

LIFE ASSURANCE: A BRIEF HISTORY

Life Assurance products as we know them today were first available in 1762 when the "Equitable Society of London", a mutual society, used scientific principles to determine premium rates which differed according to the age of the life assured at inception.¹

The earliest types of modern day life assurance took the form of non-renewable term assurance plans for which the premiums were negotiated between insured, broker and underwriters. At the end of the given term cover could be renewed, again on freshly negotiated terms and conditions. As noted in Section 2 below, this all changed in 1762 when term and whole-life assurance plans (more fully described in Chapter III) were offered at actuarially calculated premium rates which were constant for the duration of the contract. Modern endowment assurance and annuity products were subsequent developments.

1. INSURANCE IN ANTIQUITY

Certain forms of life assurance already existed in antiquity. It is recorded that in the time of the Babylonian Empire about B.C.2500, members of caravans shared common losses caused by robbery or attack and, while it is not quite clear whether compensation for loss of life was included, it seems improbable that the killing of valuable slaves (as with the loss of other commodities and chattels) would have been omitted from any such arrangements. Regulations on

Insurance were found in the ancient legal code of Hammurabi, the Babylonian king of B.C.1792 whose surviving set of laws were once considered the oldest promulgation of laws in human history. They were inscribed on a diorite stele in the Babylonian Temple of Marduk and are now preserved in the Louvre.

Excavations have shown that there was a type of life assurance in the city of Miletus in Asia Minor in the year B.C.2052. For example, citizens of the town paid 3 600 drachma into a common fund and in return received 30 drachma per month for life. On his death any balance remaining reverted to the fund except for 150 drachma which was paid to the next of kin to cover funeral expenses. It is known that the basic principle of life assurance had already been mastered during the time of ancient Greece. The Etaireiai and the Thiasoi in ancient Athens were benevolent societies established and maintained by contributions from members. They later developed into societies providing for the payment of burial expenses and the immediate needs of deceased members' dependants.³

The Romans also understood the basic principle of life assurance. The Collegium Cultorum Dianae et Antinoi et Lanuvium was apparently a mutual society established to ensure that sufficient money was available for a suitable funeral on a member's death.⁴

Romans customarily bequeathed annuities to their dependants. The earliest form of mortality table dates back to A.D.208, when Domitius Ulpianus perfected some tables by which a fairly accurate estimate could be made of the length of human life.

The Romans are known too to have adopted from the Greeks a form of loan agreement under which money advanced to finance a ship's voyage was repayable with interest only if the voyage was successfully completed. This form of agreement became known as Bottomry Bond. The Bottomry Bond was revived by the medieval Mediterranean traders, and if the "ship should suffer shipwreck or perish by any other misfortune" there was no repayment of the amount advanced. If the voyage was successful the lender was then entitled to reward by

virtue of the risk to which he had been exposed. These Bottomry Bonds are known to have existed early in the fourteenth century and one dated 1329 has been preserved in Venice.

Since cargoes often consisted of slaves (i.e. chattels), the taking out of insurance on the safe transport of human beings became recognised and it was but a short step from the insuring of human cargo to the insuring of ship's officers against death or capture by pirates during the voyage.

It would appear too, that some of the Roman military societies also established funds to provide for the payment of sums of money in the event of members dying within a specified period. Also provided for were lump-sum payments on survival to a specified date or the payment of an annuity for the life of the member.⁵

2. ENGLAND

England is regarded as the original home of modern-day insurance, the merchant guilds having provided, in many instances, for a good funeral for a member who died, and for the continued sustenance of his widow and children.⁶

The earliest modern-day life assurance contract of which we seem to have a record was issued on June 18, 1583 and is registered in the Chamber of Assurances in the Royal Exchange in London. It was a term policy for a period of twelve months, the sum assured being £383.6.8, on the life of one William Gybbons, "citizen and salter of London" and a premium of £30.13.4 was payable.⁷ Very much like short term insurance today, premiums in those days were not calculated on any actuarial basis but were bargained for between the insured, the broker and the underwriter.

The policy was issued by Richard Martin and underwritten by a group of sixteen merchants, as at that time there were no insurance companies. The reason why we have a record of this early insurance policy is that when Gybbons died after the contract had been in force for three hundred and sixty five days, the merchants promptly

decided not to pay out. The matter went to court and the appeal court ruled in favour of Gybbons' estate. The reasoning of the insurers, that the term "year" in the policy was to mean twelve LUNAR months of twenty-eight days each, was overruled by the court which established that a "year" obviously was meant to mean a period of twelve CALENDAR months.

The first modern mortality table was published in 1693 by the famous Dr Edmund Halley, Astronomer Royal. This was the first mortality table based on a scientific calculation by an important citizen and it showed the probability of life and death in the City of Breslau in Silesia (now Wroclaw in Poland). It also contained an annuity determination, an important development for modern life assurance. Known as the Breslau Tables of Mortality, they paved the way for life assurance later to become much more of a science than an art. (See Chapter III).

The records show that the first life assurance company (life office) to become registered in England was the 'Hand-in-Hand' Society which was founded in 1695 by one hundred incorporators.⁸ 'The Society of Assurance for Widows and Orphans' established in 1699 appears to have been the first office open to the general public. A death benefit of £500 on the death of a member was its object and a contribution of five shillings from each of two thousand members was required. This society apparently never attained the required membership and survived for only twelve years. It paved the way, however, for the 'Amicable Society for Perpetual Assurance on Lives', founded in 1706 and operating on similar lines by virtue of a charter from Queen Anne. In the beginning this Society charged an annual premium of £6.4.0 irrespective of age, for a death benefit the size of which depended on the number of deaths amongst members during the year.⁹ There was a fixed number of shares (2 000) offered to the public and persons between the ages of twelve and forty-five were eligible for membership. The contributions received during the year, less outgoings, were to be divided at the close of the year between the representatives of members who had died during the year. In 1770 the society claimed that during its

history it had paid 3 643 claimants the total sum of £378 184 and that the sums paid on death in the seventeen years prior to 1770 had averaged £154 each.

This concept of offering a death benefit equal to the fund available divided by the number of deaths during a particular period was not insurance as we know it today. Furthermore, the plan differed substantially from today's life assurance in that premium was a fixed amount per £100 death benefit, irrespective of the age at entry of the life to be assured.

One of the earliest schemes of mutual assurance in England was set up by the workers of the University Printing House, Oxford in 1707. It was agreed that each should deposit one shilling upon every third Saturday, and also at Christmas, Easter and the Wayzgoose (a trade picnic day) to be placed in a chest, the keys of which were kept by two nominated workmen. On the death of a member there was paid to his widow or next-of-kin a sum depending on the length of time he had been a subscriber. Sums up to half the total amount paid in by a member could be advanced at interest but repayment by weekly instalments was compulsory during the ensuing year.

'The Society for the Equitable Assurance on Lives and Survivorships' was another of the several life offices established in England in the early 18th century. Established in 1756, this company still exists today and is known as the 'Old Equitable'.

The policies issued by the 'Old Equitable' in 1762 marked the beginning of life assurance as we know it today. For the first time actuarial principles were applied and premiums calculated according to age at inception of the policy. Whole-life and term assurance for periods of one or more years were offered and an essential difference to previous policies was that premiums remained constant for the duration of the contract.¹⁰ The first such policy issued by the society was granted to Edward-Rowe Mores, a graduate of Oxford and a fellow of the Society of Antiquaries, and the description in the minutes shows "that he was aged thirty-two

years, that his state of health was and always has been exceedingly good and that he was not given to drink and other intemperance". The annual premium was £3.17.6 together with an entrance fee of £0.15.0 and a deposit of £1.0.0.

A scientific valuation of the profitability of the Society was first made in 1776 by one William Horgan, company actuary at the time. The investigation revealed that premiums were too high for the mortality actually experienced, and a decision was taken that the resultant surplus would be distributed to existing policyholders. Premiums were reduced by one tenth and a bonus equal to one tenth of the premium paid was distributed to members in the form of cash or as a reduction in future premiums due. This first exercise in the distribution of accumulated surplus resulted in the development of the first with-profit policies and the placing on a scientific basis of the major life insurers operating in England at that time, such as the 'Royal Exchange Assurance', the 'Westminster' and the 'Pelican', all in the year 1783.11 During the next fifty years a large number of life offices commenced business in the United Kingdom and the uniform reversionary bonus system, a method for distributing accumulated surplus, became firmly entrenched. Tables 2.1 and 2.2 show the continuing growth of the United Kingdom industry in modern times and its enduring world-wide significance.

Apart from poor new business years in 1974 and 1977 as shown in Table 2.1, new business growth has remained firm and has sometimes been exceptional. Using the latest available statistics, the Table shows that linked business (Chapter III) first became significant in 1972, with 1979 and 1983 having been exceptional for this class of business at 42,7 per cent and 71,8 per cent respectively, and having been instrumental in making those years the best years of total industry growth at 33,4 per cent and 47,9 per cent, respectively.

Table 2.2 also indicates a steady decline in the importance of industrial business (See Chapter III below) in both the United Kingdom and worldwide (15,5 per cent to 8,4 per cent). However, whilst the importance of business conducted by United Kingdom

TABLE 2.1
LIFE, FIRE AND BUSINESS IN UK
(£ Millions)

INDIVIDUAL ASSURANCES													YEARLY PREMIUMS					SINGLE PREMIUMS				
Year	Total	Total Indus.	Total Linked	Non-Linked	Ordinary	Annual-tion	Pensions	Pensioners*					Total	Total Linked	Non-Linked	Ordinary	Annual-tion	Pensions				
								Perms. Health	A Life Schemes													
1971	178	51	119	91	28	1	6	1	1	(128)		308	106	2	104	191	11					
1972	222	58	166	118	28	1	15	2	2	(168)		418	312	16	296	287	19					
1973	252	63	170	132	38	1	16	2	2	(204)		476	353	7	346	299	24					
1974	255	73	180	120	40	1	18	3	3	(206)		480	335	8	125	401	26					
1975	304	86	218	132	45	1	20	4	4	(192)		518	107	23	86	84	27					
1976	387	102	285	174	65	2	39	5	5	(407)		568	208	50	158	141	39					
1977	414	109	305	192	70	1	54	5	5	(402)		530	317	101	216	137	56					
1978	527	130	397	244	63	1	60	9	9	(712)		579	356	74	282	152	71					
1979	703	179	524	318	120	1	92	12	12	(4817)		685	422	113	309	182	81					
1980	813	207	606	358	142	2	92	13	13	(975)		793	521	206	325	162	100					
1981	949	230	719	421	170	1	134	13	13		1	244	808	297	522	255	181					
1982	1054	277	777	438	214	1	164	13	13		1	430	1000	287	713	404	224					
1983	1559	255	1304	830	290	1	181	19	19		2	400	1610	200	1410	493	298					

% INCREASE OVER PREVIOUS YEAR				
1971	15.4	13.5	8.5	92.7
1972	24.7	24.3	13.7	100.1
1973	13.5	13.6	8.6	15.1
1974	1.2	0.8	15.9	-56.2
1975	19.2	19.0	17.8	14.3
1976	27.5	27.5	18.6	-62.3
1977	7.0	7.1	9.8	-19.5
1978	27.3	26.7	16.1	88.1
1979	53.4	54.0	37.7	94.4
1980	14.2	15.4	15.6	117.4
1981	16.7	16.9	1.4	36.6
1982	12.7	12.8	8.1	52.4
1983	47.9	48.1	3.5	18.3

1 Source: The British Insurance Industry - A Statistical Review, 1984/85 Edition. - R. I. Carter, A. H. Golden, K. W. Publishing, Middlesex

* Not Included in Yearly Totals

2 Excluding Permanent Health

TABLE 2.2
LONG TERM BUSINESS - REVENUE PREMIUMS - UK OFFICES
(£ MILLIONS)

	NORTHAMERICA			UNITED KINGDOM			UK OFFICES BASED OVERSEAS			
	Total	Indust. (UK)	Ordinary etc. UK	Total	Indust.	Ordinary etc. Single	Pern. Health	Total	Irish Land	Europe
1971	2 006	312	1 694	1 482	212	1 270	374	15	212	15
1972	2 596	331	2 265	1 998	267	1 731	754	19	267	19
1973	2 984	356	2 628	2 234	394	2 590	825	15	394	21
1974	3 336	392	2 954	2 461	493	2 963	926	15	493	22
1975	3 386	418	2 968	2 391	577	2 809	917	18	577	23
1976	4 200	462	3 746	2 984	762	3 846	1 057	22	762	29
1977	4 706	515	4 195	3 427	766	4 340	1 180	32	766	34
1978	5 518	573	4 945	4 151	794	4 728	1 301	40	794	41
1979	6 513	746	5 769	4 967	802	5 713	1 580	47	802	56
1980	7 593	884	6 709	5 829	880	6 713	1 880	69	880	55
1981	9 269	950	8 319	7 143	1 176	8 093	2 200	75	1 176	35
1982	10 653	1 000	9 647	8 137	1 510	9 137	2 500	87	1 510	135
1983	12 826	1 080	11 746	9 966	1 780	11 046	3 000	106	1 780	471
% DISTRIBUTION										
1971	100.0	15.5	84.5	71.9	10.6	100.0	20.9	0.8	100.0	7.1
1972	100.0	12.7	87.3	77.0	10.3	100.0	32.4	0.8	100.0	7.1
1973	100.0	11.9	88.1	74.9	13.2	100.0	31.9	0.5	100.0	5.3
1974	100.0	11.4	88.6	73.8	14.8	100.0	29.1	0.5	100.0	4.5
1975	100.0	12.3	87.7	70.6	17.1	100.0	18.4	0.6	100.0	4.5
1976	100.0	11.0	89.0	70.9	18.1	100.0	18.5	0.6	100.0	3.8
1977	100.0	10.9	89.1	72.0	16.3	100.0	21.0	0.9	100.0	4.4
1978	100.0	10.4	89.6	75.2	14.4	100.0	20.8	0.8	100.0	5.2
1979	100.0	11.4	88.6	76.3	12.3	100.0	19.6	0.8	100.0	7.0
1980	100.0	11.6	88.4	76.8	11.6	100.0	19.1	1.0	100.0	6.2
1981	100.0	10.3	89.7	77.0	12.7	100.0	23.5	0.9	100.0	7.9
1982	100.0	9.4	90.6	76.4	14.2	100.0	25.5	1.0	100.0	9.0
1983	100.0	8.4	91.6	77.7	13.9	100.0	29.9	0.9	100.0	7.3
Aut./life and NZ Africa Other										
1971	55	70	46	15	212	15	11	55	70	46
1972	69	91	54	16	267	19	18	69	91	54
1973	79	125	95	20	394	21	54	79	125	95
1974	97	128	119	20	493	22	107	97	128	119
1975	120	134	120	25	577	23	135	120	134	120
1976	166	169	33	170	762	29	195	166	169	33
1977	160	171	161	32	766	34	208	160	171	161
1978	146	177	108	37	794	41	265	146	177	108
1979	163	173	77	49	802	56	306	163	173	77
1980	206	173	93	67	880	55	286	206	173	93
1981	231	232	113	96	950	75	351	231	232	113
1982	362	284	147	154	1 510	135	426	362	284	147
1983	465	352	169	186	1 780	140	471	465	352	169

1. Source: (as overleaf).

offices in Australia, New Zealand and Africa has been declining since 1971, its business in Europe has increased in significance over the same period (5,2 per cent to 26,4 per cent).

3. UNITED STATES AND ELSEWHERE

The first organisation in the United States of America established for the purpose of providing benefits payable on death was a 'Corporation for the Relief of Poor and Distressed Presbyterian Ministers and of Poor and Distressed Widows and Children of Presbyterian Ministers'.¹² Established in 1759, it is still in existence today, now known as the 'Presbyterian Ministers' Fund'. The fund apparently granted survivorship annuities commencing on the death of the policyholder and payable for the life of the beneficiary. Annuities could be purchased for between \$10 and \$35 per annum, the annual premium being one fifth of the annuity payable on death.

Chartered in 1794, 'The Insurance Company of North America' was one of approximately thirty life assurance companies which had been founded during the last fifteen years of the eighteenth century, five of which had the power to issue life assurance policies. 'The Pennsylvania Company for Insurance on Lives and Granting Annuities', established in 1809, was the first commercial company to be organised in America for the sole purpose of issuing life policies and annuities. It was also the first American company to operate on a scientific basis, requiring an application form, a medical examination, and a premium which varied by age at inception.¹³

In 1842 'The Mutual Life Insurance Company of New York' was chartered as the first American company to operate as a mutual society, issuing four thousand policies during its first five years of existence. A year later the 'New England Mutual' was established and two years later 'Mutual Benefit of New Jersey' was established. Many life offices were subsequently founded and by 1869 there were 110 active in the United States.¹⁴

In Europe the first country to enjoy the presence of life assurance companies appears to have been Holland where the 'Hollandsche

Societeit van Levensverzekeringen' was founded in 1807 on sound actuarial principles.¹⁵ In France, the first life assurance company was founded in 1819, whilst in Italy, the 'Compagnie di Assicurazioni di Milano' was founded in 1826. By 1850 life assurance business was being transacted in Germany, Austria, Switzerland, Canada, and Australia but it would seem that in other parts such as Russia, Japan and Turkey life assurance started much later.¹⁶

4. SOUTH AFRICA

In 1826, directly as a result of the arrival of the 1820 Settlers, two British offices set up branch operations in the Cape Colony. These were the 'United Empire and Continental Life Assurance Association' and the 'Alliance British and Foreign Fire and Life Assurance Company'. In 1831 the first local company to set up operation was known as the 'South African Life Assurance Company'.

Established shortly thereafter on May 17, 1845 was the 'Mutual Life Assurance Society of the Cape of Good Hope', founded by John Fairbairn with an initial fund of £5 000. Fairbairn, later known as the father of South African journalism, was elected first Chairman. Now widely known as the 'Old Mutual', this company is today both the oldest and the largest life office in South Africa. The value of the assets of the society reached £1-million in 1867¹⁷, £100-million in 1955, R1 300-million in 1975, R2 823-million in 1979, and in excess of R26 000-million in 1987.

Founded by a Scotsman named William Elliot, former employee of the 'Gresham Life Assurance Society of England', the second oldest South African life office in existence today is the Southern Life Association. The Southern was formed as a mutual society and the inaugural meeting of foundation policyholders was held on January 26, 1891. With the concurrence of the Registrar of Insurance, the society was demutualised in October, 1984 in order to permit it to merge with the second largest proprietary company in existence at the time, 'Anglo American Life Assurance Company

Limited'. The name of the organisation then became the Southern Life Assurance Company Limited and at the time formed the fourth largest of all life offices in South Africa and the second largest proprietary office with assets in excess of R6 600-million in 1986.

In 1987 Sanlam was the second largest life assurance company in South Africa. Founded on June, 8, 1918 as the 'Suid-Afrikaanse Nasionale Lewensassuransie Maatskappy', it was a registered company wholly owned by Santam, a short term general insurer. Mr Alfred MacDowall, also a Scot by birth and member of the Scottish Institute of Bankers, was the first General Manager and Secretary. Mr George Patterson served as first Actuary and a Mr Joe Harris, another Englishman, was first Agency Manager. On January 28, 1953, the shareholders resolved to convert into a company without share capital. This meant that the company became a mutual society with control (at least theoretically) in the hands of its policyholders.

By 1975 Sanlam's total net assets had grown to R973-million, by September 1979 these stood at R1 940-million and by 1987 the market value of its assets exceeded R20 000-million.

The operations of the 'Liberty Life Association of Africa Limited' and the 'Manufacturers' Life Insurance Company of Toronto Canada', were merged in 1972 and in 1974 the 'Sun Life Assurance Company of Canada' was merged with the Liberty Group. By the end of 1974, the 'Liberty Life Association of Africa Limited', which had been founded in Johannesburg in 1958, was one of the four largest life assurance companies in South Africa and from approximately 1975 has remained the largest proprietary life office in South Africa with assets exceeding R6 000-million in 1985. In September, 1986 Liberty announced its acquisition of the Prudential Assurance Company of SA Limited, hence assuring its position as South Africa's largest proprietary office with assets exceeding R10 000-million.

By 1926 there were thirty-four life companies operating in South Africa. Of these nine were domestic insurers and twenty-five were of foreign origin.¹⁸ In 1970 this number had increased to a

total of fifty-six life companies operating in South Africa, forty-two of which were local and only fourteen of which were foreign. By 1987 because of the continuing policy of the Financial Institutions Office not to issue any more life licences, (Chapter VI) the total number of life offices in South Africa had declined to thirty, almost exclusively as a result of mergers and take-overs. The foreign insurers had reduced largely to the six reinsurance companies operating in South Africa, some of whom had an element of local shareholding. The reduction in their number stemmed mainly from the transfer of their interests to South African insurers which commenced during the early 1960s. In 1970 the Franzsen commission recommended that the remaining branches of foreign insurers be converted into local subsidiaries within a given period, and this has subsequently led to the almost complete elimination of the interests of foreign insurers in direct-writing life companies in South Africa.¹⁹

5. WORLDWIDE DEVELOPMENT DURING THE PAST TWO DECADES

This section deals briefly with the private life assurance industry in the world in general (excluding Eastern Bloc countries) and its economic significance in terms of premiums. The figures used in Tables 2.3 and 2.4 were taken from publications of supervisory authorities and insurance associations and published by the Swiss Reinsurance Group in their "Sigma" and "Experiodica" publications from time to time.

The countries were compared on the basis of gross premiums from direct domestic business of local and foreign insurance companies. In the case of Great Britain, France, Canada, Italy and Switzerland (countries with a relatively high amount of foreign business) only premiums from domestic business were taken into account. For all other fifty countries it was largely not possible to separate the relatively insignificant foreign business. The figures quoted cover countries with a total premium of at least \$100-million. In 1984 their number was fifty-five, with a total share of about 99 per cent of the world premium volume.

When comparing results, it should be borne in mind that private insurers operate under greatly varying conditions which apply to both the insurance industry and other economic sectors. Nevertheless, the figures compiled provide an excellent insight into world-wide life assurance activity in modern times.

Table 2.3 illustrates that, without exception, accelerated growth in the life industry in all countries was experienced during the most recent decade quoted. Significant among the countries shown is Japan. Since the Second World War Japan's life assurance industry has grown faster than the life industry in any other country in the world and Table 2.4 shows that at 27,24 per cent it now accounts for more than a quarter of all life assurance sold throughout the free world.

Also significant in Table 2.3 is the growth of the South African life assurance industry. When compared with OCED and world totals, the South African life industry led during the 1960/70 decade and remained high up in the rankings during the 1970/80 decade. (Table 2.6 shows that this growth continues, and that between 1980 and 1986 S.A. premium growth averaged 26,5 per cent per annum).

From Table 2.4 premiums per capita in each country may be noted and point to the level of development of the national insurance markets. The average premium volume per capita of population, indicates the assurance "density" or extent of the assurance protection of the population in each country and their willingness to effect private life assurance. Although these figures are affected by currency fluctuations and by population growth rates, it is clear that South Korea, Taiwan and Japan show leading growth patterns.

The role of the life assurance industry within the overall economy of a country or economic area can be illustrated by means of the ratio of premiums to gross national product (GNP). This value is not affected by currency influences. It should be noted that the highest level of both development and growth is registered in the

most highly industrialised countries. Apart from Ireland with the surprisingly high ratio of premiums to GNP of 5,9 per cent in 1985 (up from 3,6 per cent in 1983), these are the USA, Great Britain, Denmark, Switzerland, Sweden, West Germany, Netherlands, Canada, Japan, Finland, Norway, South Korea, Taiwan and South Africa, each with registered values in excess of 2 per cent of GNP. The high South African figure of 5,54 per cent of GNP in 1985 is closely followed by that of South Korea which at 5,51 per cent is the third highest in the world. These countries are followed by Japan at 5,0 per cent, Britain at 4,3 per cent and Switzerland Switzerland at 3,8 per cent of GNP. In all of these countries and almost all other industrialised nations, Life premiums as a percentage of GNP have risen steadily during the 1980's. Indeed, this may be said to be a characteristic of all developing nations.

It may also be noted from Table 2.4 that in only a few countries did life business account for 50 per cent or more of total business. (Great Britain, Ireland, Switzerland, Sweden, Finland, Japan, South Africa, South Korea, India, Taiwan, Philippines, Thailand, Chile and Zimbabwe.) Here again, these were generally the more highly industrialised nations, with South Korea showing the highest percentage life business at 79,7 per cent and South Africa second at 76,7 per cent. No doubt varying factors are responsible for these high shares of life business, such as little developed social security, or life insurers who are the main carriers of pension schemes. In the majority of countries covered however, less than half of total domestic business was accounted for by life assurance, the world average being approximately 45 per cent in 1985.

Chapter VII deals with the role which the South African life assurance industry now plays in the capital and employment formation process of the country. Indeed, when viewed in the light of its high percentage of premiums to GNP, the role of the life industry in South Africa may be considered to be indispensable to the continued economic well-being of the Country. (Tables 7.1, 7.2, 7.3 and 7.4 in Chapter VII below underscore this point.) Tables 2.5, 2.6 and 2.7 further illuminate the outstandingly successful history of this

TABLE 2.3

GROWTH RATES IN LIFE BUSINESS

	Average Annual Growth Rates in % (by Premiums)	
	1960/70	1970/80
EC	9,6	17,3
Rest of Europe	9,9	20,1
North America	6,7	9,9
Japan	21,6	23,2
Rest of OECD	9,8	11,3
OECD	8,4	14,4
Non-OECD countries	9,7	18,3
South Africa	10,5	16,0
World Total	8,4	14,5

Source: SIGMA/Swiss Re 4/82 - Private Publication

: Annual Reports of the Registrar of Insurance.

TABLE 2.4

LIFE ASSURANCE: COUNTRIES AND PREMIUMS

Country	1985 % Share in Total Insurance Business (i.e. Incl. Short Term)	Premium Per Capita (US - \$)			1985 World Market Share %	1981 % of GNP	1983 % of GNP	1985 % of GNP
		1981	1983	1985				
North America								
USA	37,5	330,4	344,7	476,6	19,80	2,6	2,4	2,9
Canada *	46,8	270,8	253,1	312,4	2,77	2,4	2,0	2,4
					22,57			
EC								
Great Britain	59,8	278,7	289,0	389,5	7,63	3,2	3,7	4,3
W Germany	41,0	255,2	244,5	298,0	6,35	2,3	3,4	2,4
France	34,4	106,4	98,8	170,4	3,28	1,1	1,1	1,6
Netherlands	46,7	222,8	212,3	269,3	3,36	2,2	2,5	2,2
Italy	15,5	15,3	15,6	27,1	0,54	0,3	0,3	0,6
Belgium	27,8	103,0	80,4	102,7	0,35	1,1	1,1	1,1
Denmark	47,1	197,3	136,8	284,9	0,51	1,9	1,4	2,3
Ireland	63,2	171,5	155,3	318,3	0,39	3,7	3,6	5,9
Greece	28,7	6,9	7,5	9,8	0,03	-	0,2	0,3
Luxembourg	24,1	74,0	59,5	91,9	0,01	0,6	0,5	0,6
					20,45			
Rest of Europe								
Switzerland	53,3	479,0	479,0	679,9	1,51	2,9	3,3	3,8
Sweden	57,1	235,1	191,3	356,8	1,04	1,9	1,9	2,7
Finland	61,2	336,3	262,7	367,6	0,63	3,4	2,8	3,0
Norway	47,5	188,8	191,3	323,1	0,47	1,4	1,7	2,1
Austria	27,3	89,1	86,2	125,7	0,33	1,0	1,0	1,2
Spain	14,9	10,2	7,4	13,4	0,18	0,2	0,2	0,3
Portugal	10,0	4,9	3,9	5,7	0,02	0,2	0,2	0,3
Turkey	2,0	0,1	0,1	0,1	0,002	0,2	0,2	0,1
					4,182			
Japan 1	71,3	357,1	411,8	646,3	27,24	3,7	4,1	5,0
Oceania								
Australia	31,0	175,5	166,6	155,8	0,86	1,7	1,7	1,7
New Zealand 2	44,2	117,3	118,1	120,0	0,14	1,6	1,8	1,7
		2 938			1,00			

Source: SIGMA / Swiss Re 4/80 - 5/87
Private Publications

1 31.3.85/86
2 30.6.84/85
3 21.3.85/86

* Provisional or Estimated

TABLE 2.4 CONTINUED LIFE ASSURANCE: COUNTRIES AND PREMIUMS

Country	1985 % Share in Total Insurance Business (i.e. Incl. Short Term)	Premium Per Capita (US \$)			1985 World Market Share	1981 % of GNP	1983 % of GNP	1985 % of GNP
		1981	1983	1985				
Other Countries								
South Africa *	76,7	83,0	75,8	75,3	3,95	3,6	4,3	5,34
South Korea	79,7	34,0	72,9	108,7	1,56	2,2	4,0	5,51
India	80,5	1,8	1,8	1,9	0,51	0,8	0,8	0,7
Taiwan	88,4	24,1	26,8	38,2	0,40	0,9	0,9	2,1
Philippines	55,5	4,3	5,9	4,5	0,08	0,6	1,1	0,8
Venezuela	12,1	15,0	15,2	9,3	0,06	0,3	0,4	0,3
Malaysia	41,8	12,0	15,5	22,2	0,13	0,7	0,8	1,2
Mexico	24,8	8,2	3,1	3,7	0,10	0,12	0,3	0,3
Thailand	51,9	3,0	4,1	4,5	0,08	0,4	0,9	0,6
Nigeria	29,5	2,8	2,1	1,8	0,06	0,3	0,3	0,3
Chile	52,5	13,2	14,8	12,0	0,06	0,5	1,0	1,1
Brazil	12,0	2,3	1,3	1,1	0,06	0,1	0,1	0,1
Indonesia	22,4	0,8	1,0	0,8	0,05	0,1	0,2	0,2
Singapore	39,5	39,8	56,8	67,2	0,07	0,7	0,9	0,9
Israel *	21,9	32,5	33,9	29,0	0,04	1,0	1,1	0,8
Algeria *	7,4	2,9	3,9	2,3	0,02	-	0,2	0,2
Colombia	18,6	3,4	3,7	2,6	0,03	0,3	0,3	0,3
Zimbabwe *	59,3	20,1	11,7	19,1	0,06	2,5	1,7	1,9
Panama	47,4	25,8	38,1	37,6	0,03	1,4	1,8	1,7
Pakistan *	38,3	0,7	0,9	0,9	0,03	0,2	0,3	0,3
Iraq *	12,5	1,5	4,5	4,7	0,03	-	-	-
Egypt 2	18,2	0,9	1,4	1,8	0,03	0,2	0,2	-
Dominic.Repub.	28,1	-	-	7,3	0,01	-	-	-
Morocco	17,7	1,8	1,7	1,9	0,01	0,2	0,3	0,3
Kenya *	23,7	2,1	1,6	1,7	0,01	0,6	0,6	0,6
Kuwait *	11,2	13,7	16,7	18,1	0,01	-	-	-
Argentina	6,5	4,6	0,9	2,5	0,03	0,2	0,1	0,1
Iran * 3	6,1	0,7	0,3	0,7	0,01	-	-	-
Peru	2,9	0,4	0,04	0,2	0,001	-	0,1	0,1
Ivory Coast *	7,0	0,2	0,6	0,9	0,003	-	-	-
Tunisia *	5,3	1,1	0,7	1,1	0,003	0,1	0,1	0,1
Libya *	1,3	1,0	0,9	0,8	0,001	-	-	-
Rest of Countries	8,8	-	-	-	0,17	-	-	-
					4,56			

1 31.3.85/86

2 30.6.84/85

3 21.3.85/86

* Provisional or Estimated

TABLE 2.5

SOUTH AFRICAN LIFE OFFICES - 1987

NAME

AA Life Assurance Association Limited
African Life Assurance Company Limited
Allied Insurance Company Limited
Anchor Life Assurance Company Limited
Atlantic & Continental Assurance company of SA Limited
AVBOB Mutual Assurance Society
Charter Life Limited
Colonial Mutual Life Assurance Society Limited
Commercial Union Assurance Company of SA Limited
Crusader Life Assurance Corporation Limited
Federated Life Assurance Company Limited
Guardian National Insurance Company Limited
IGI Life Assurance Company Limited
Lifegro Assurance Limited
Liberty Life Association of Africa Limited
Metropolitan Homes Trust Life Limited
Momentum Life Assurers Limited
NBS Insurance Company Limited
New Era Life Insurance Company Limited
Norwich Union Life Insurance Society
Prosperity Insurance Company Limited
Protea Assurance Company Limited
Rentmeester Versuikersers Bepark
Sage Life Limited
South African Mutual Life Assurance Society
SANLAM
The South African Trade Union Assurance Society Limited
Southern Life Assurance Company (Pty) Limited
Standard General Insurance Company Limited
UBS Insurance Company Limited

Cologne Reinsurance Company of SA Limited
Gerling Global Reinsurance Company of SA Limited
Hollandia Life Reinsurance Company Limited
Mercantile & General Reinsurance Company of SA Limited
Munich Reinsurance Company of SA Limited
Swiss-SA Reinsurance Company Limited

Source: Annual Reports of the Registrar of Insurance.
Life Offices' Association of SA Annual Review 1986.
The South African Life Assurance Year Book.

TABLE 2-6
THE RICH GROWTH OF THE SOUTH AFRICAN LIFE ASSURANCE INDUSTRY
(R MILLIONS)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Total Premium Income	490	594	717	802	981	1 110	1 314	1 705	2 124	2 745	3 451	4 284	5 424	6 240	8 689
Investment Income	192	224	268	336	414	507	613	791	985	1 359	1 795	2 211	2 816	3 649	4 238
TOTAL INCOME	682	818	985	1 138	1 395	1 617	1 927	2 496	3 109	4 104	5 246	6 495	8 240	9 889	12 927
Death & Disability Payments	90	99	116	134	172	182	211	240	295	386	466	554	730	859	1 028
Maturity Payments	50	58	66	76	87	104	118	138	160	194	240	343	449	538	724
Annuity & Pension Surrender/withdrawals	42	52	57	65	82	98	129	149	186	265	369	500	780	1 104	1 788
Surrenders (Individual)	42	42	51	61	75	93	93	89	89	93	133	172	214	347	465
TOTAL PAYMENTS	224	251	290	337	416	477	551	616	730	935	1 208	1 569	2 173	2 848	3 996
TOTAL ASSETS	2 900	3 400	3 955	4 609	5 257	6 205	7 412	9 199	11 159	14 540	18 028	23 386	28 726	36 621	54 541
% GROWTH OVER PREVIOUS YEAR		17.2	16.3	16.5	14.1	18.0	19.5	24.1	21.3	30.3	24.0	29.7	22.8	27.5	48.9

Source: Life Offices' Association of SA, Annual Reviews 1975 - 1986.

TABLE 2.7 TWENTY LARGEST SOUTH AFRICAN LIFE OFFICES - 1987

RANKING BY:

Total Assets	Net Premium Income		Total Assets R Millions	Net Premium Income R Millions	Year End
1	1	Old Mutual #	19 030,0	2 362,0	Jun
2	2	Sanlam	9 558,3	2 084,1	Sep
3	3	Liberty	7 637,8	911,8	Dec
4	4	Southern #	6 609,0	777,1	Mar
5	5	Lifegro	2 747,6	548,7	Dec
6	7	Prudential	2 368,5	217,3	Dec
7	6	Federated	1 713,0	285,0	Dec
8	8	Metropolitan	1 350,2	213,2	Sep
9	10	Commercial Union	830,9	121,2	Dec
10	9	Sege Life +	797,8	160,1	Dec
11	11	Norwich Union	678,6	114,6	Dec
12	12	Colonial Mutual #	584,1	80,7	Dec
13	14	Allianz	289,7	34,1	Dec
14	17	Momentum - #	186,0	20,4	Dec
15	13	AA Mutual Life	155,4	38,5	Apr
16	16	Standard General #	126,0	22,1	Dec
17	18	Charter Life o	108,2	20,4	Dec
18	20	Protea	104,1	8,9	Dec
19	15	IGI #	85,0	30,0	Mar
20	19	African Life	83,6	13,1	Mar

Source: Financial Mail. Top Companies Supplement - May 1987
South African Life Assurance Year Book - 1986/87
LOA Annual Review Reports

Estimates as at December 31, 1986

* Total assets pertain to SA long-term business at market value.

- Includes single premiums, annuities & pensions & industrial & funeral premiums. NFI is net of reinsurance.

- Formerly at book value.

+ Formerly Ned-Equity, now merged with National Mutual.

o Formerly Guardian National.

industry in South Africa by showing the number and size of life offices now operating in the country and their contribution to social and economic stability.

Table 2.5 shows that there were thirty direct life assurance companies and six life reinsurance companies actively operating in South Africa in 1987. When Table 2.6 is read with Table 2.7, it is clear that the top five South African life insurers account for approximately 75 per cent of the South African market. The remaining 25 per cent of the market is therefore divided among the remaining twenty-five life insurers. This fact, together with the authorities' known reluctance to issue new life licences, may well serve to reduce the number of life offices operating in South Africa yet further (See Chapter VI below) and ensure the continuation throughout the next decade of the established merger and acquisition trend in the South African life assurance industry.

Table 2.6 is of particular significance (See Chapter VII below for more reasons) as it highlights the consistently solid growth of the South African life assurance industry in recent years, not only in terms of premium and investment income but also in terms of benefit payments to South African policy holders which in 1985 exceeded the total State Health and Welfare budget.²⁰ In the last five years alone, both total income and total assets have more than trebled in size, (from R4,104-million to R12,927-million and from R14,540-million to R54,541-million respectively) and total payments to policyholders have more than quadrupled over the same period from R935-million to R3 996-million.

From humble beginnings in the very earliest times, the Life Assurance industry world wide, particularly in the industrialised nations, with South Africa no exception, has become an element of major social and economic consequence. It grew out of man's elementary need for economic security and peace of mind, and has become sophisticated in its answers to the needs of modern society. It is the epitome of free enterprise answering the needs of societies around the world and through the ages. No known State social security system has proven to be so enduring.

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20. The Tables prepared for this Chapter were collated over a period of six years using a variety of sources. In themselves they represent a valuable collection of information, not all of which has been analysed in this work. They may yet prove useful to other students as they contain data not readily available elsewhere.

CHAPTER III

THE ESSENTIAL PRECEPTS OF LIFE ASSURANCE

This is a descriptive chapter in which are set out the essential concepts of life assurance. Only cursory reference is made to the numerous modern endeavours at the sophistication of these fundamental concepts and the needs to which they are applied. This simplification permits a better understanding of the essential nature of life assurance and of the chapters which follow.

The potential earnings power of every individual is one of the greatest assets that any family or business can own. Earnings power is worth many times more than the buildings, motor vehicles or other assets that are normally considered valuable. When an individual dies, particularly at a young age, the largest loss suffered is that of his or her future earnings potential, but other losses may also be incurred because of medical, funeral, legal or estate duty costs following the death. Life assurance serves to protect the assured's family, creditors and others against financial loss arising out of the death or disability of the assured. Life assurance may also provide for the retirement of the assured and thereby protect him and his family against the decreased earnings capacity of old age.

The essential difference between life assurance and other forms of insurance which are designed solely to protect against an uncertain peril, is that life assurance frequently has the added function of accumulation and thereby creates an estate for the assured upon death, disability or retirement. The life assurance contract can therefore not be said to be one of indemnity, as, when settlement is made, the beneficiaries under the policy are not obliged to demonstrate a direct financial loss as a result of the death,

disability or retirement of the assured. The assured's value as a producer may have long since ceased, yet the beneficiaries have the right to participate fully in the policy in accordance with its terms, without regard to actual monetary loss. In all other forms of insurance, the happening of an unfavourable contingency which gives rise to a loss is uncertain. In life assurance, the contingency is death, which is universal and certain. As the happening of the contingency insured against is certain, life policies provide for certain payment, the uncertain element in the contract being the time when such payment must be made.

1. THE LEVEL PREMIUM

A landmark in life assurance history was arrived at with the development of the level premium method of premium payment. As indicated in Chapter II, early life assurance contracts were based on premium payments which were unscientifically assessed and which were reassessed at the end of each contract year. It was intended that the premium calculated for each year would be sufficient to cover the mortality risk incurred during that particular year and also meet the expenses involved in administering the policy during the year.

This process resulted in the premium increasing each year as the life assured grew older and also meant that the policy had to be renewed each year at the discretion of both the life assured and the assurance company. This basis of contract led to the two fold difficulty of premiums rising rapidly as age increased and the fact that the assured could only renew his policy if his health continued to be good. This double problem naturally led to the frequent failure of policyholders to renew their contracts each year and therefore to a significant loss of revenue by the life offices. Thus followed the development in 1762 of the concept of charging a level premium for the duration of the contract and the guaranteeing of the renewability of the policy irrespective of whether the life assured continued in good health or not. (See Chapter II above).

In order to calculate a level premium payable for the duration of the policy it became necessary to charge a higher premium than otherwise required at younger ages. The additional premium was then used to create a growing investment reserve from which to draw in later years of the policy to offset the costs of the higher premiums that would normally have been required in the later years.

Thus, an investment reserve was deliberately created and assumptions were made regarding the rate of interest that could be earned on such funds.

Bernstein¹, used Table 3.1 to illustrate how a level whole life premium could theoretically be established. This Table shows, at various decennial ages, the theoretical whole life level premium for life assurance cover of 1 000 monetary units compared with the expected number of deaths per annum per 1 000 lives at these ages. Ignoring expenses and profit margins, the Table therefore shows the theoretical year by year premium required to be exactly sufficient to meet the expected death claims arising each year. The expected deaths per year shown in the Table are based on the ultimate mortality Tables of South African Assured Lives 1956-1962. The theoretical whole life level premium, shown as the alternative to the year by year premium rates, was calculated on the assumption that a rate of interest of four per cent per annum could be earned on the "reserve" created by the accumulation of premiums paid.

It will be observed that at age thirty for example, the year by year premium rate is lower than the level premium of R10,61 for more than the first twenty years, but that thereafter the year by year premium rate rises steeply and, after fifty years, is nearly ten times that of the originally charged level premium rate. The "break-even" point is reached sooner for older ages than for younger ages.

In the same work Bernstein² produced Table 3.2 to demonstrate theoretically the level of reserves created by a life office from level annual premium on whole life assurance contracts. Flowing from the Table 3.1 assumptions, this Table shows that the longer a

policy is in force the larger are the reserves and thus more adequately compensate for the increased mortality costs in later years. Higher ages at entry result in the earlier build up of reserves due to higher level annual premiums and shorter life expectancies in the older age groups. Thus, after twenty years a thirty year old at inception has accumulated a reserve value of R251 361 per R1 000 of life cover, whilst a fifty year old at inception has accumulated a reserve of R429 498 after the same period.

2. LEVEL PREMIUMS AND MORTALITY RATES

In order to calculate the theoretical amount required to meet expected death claims and create the necessary reserve for survivors, where:

tV_x and $t+1V_x$ are the theoretical reserves held by the company after t and $(t+1)$ years respectively for a person aged x at inception of a contract.

q_{x+t} and p_{x+t} are respectively the probabilities of a person $(x+t)$ years old dying in or surviving the following year,

i = rate of interest earned on funds.

P_x = net premium used in a valuation for person aged x at inception,

the following equation is mathematically true:

$$(tV_x + P_x) (1 + i) = q_{x+t} + (t+1V_x) P_{x+t}$$

Verbally, this equation means that the reserve held after t years for a person aged x at inception, plus the level premium paid, accumulated at interest rate i , provides sufficient to meet expected death claims and to create the necessary reserve for survivors. This relationship is more particularly true for a group of

TABLE 3-1

COMPARISON OF LEVEL ANNUAL PREMIUMS WITH ONE YEAR TERM PREMIUMS FOR 1 000 MONETARY UNITS OF LIFE COVER

Age X	Theoretical Whole Life Level Premium	Expected Deaths Per Year Per 1 000 Lives of Age							
		X	X+10	X+20	X+30	X+40	X+50	X+60	X+70
20	7,10	1,43	1,59	2,91	7,88	19,30	44,62	100,29	212,63
30	10,61	1,59	2,91	7,88	19,30	44,62	100,29	212,63	401,48
40	16,70	2,91	7,88	19,30	44,62	100,29	212,63	401,48	-
50	27,09	7,88	19,30	44,62	100,29	212,63	401,48	-	-
60	44,81	19,30	44,62	100,29	212,63	401,48	-	-	-
70	76,44	44,62	100,29	212,63	401,48	-	-	-	-

TABLE 3-2

TABLE OF RESERVES ACCUMULATED FOR WHOLE LIFE ASSURANCES*

Age at Inception	Reserves Accumulated per RL 100 Sum Assured After				
	10 Years R	20 Years R	30 Years R	40 Years R	50 Years R
20	71,578	174,047	304,948	452,797	603,471
30	110,369	251,361	410,610	572,900	716,886
40	158,484	337,488	519,913	681,743	802,405
50	212,717	429,498	621,928	765,191	854,146
60	273,352	519,690	701,748	814,737	-

Source: Reference 1 & 2

* Based on SA 1956 - 62 Ultimate Mortality Table and a 4% per annum rate of compound interest.

policyholders all aged $(x+t)$ years at the beginning of the year. Total reserves held in respect of these lives, plus the total premiums due, accumulated at interest rate i , will be sufficient to meet the expected death claims and to create the necessary reserves for the survivors.

In the above few paragraphs the reasons for the accumulation of funds by life offices have been summarised. The development of the level premium system led subsequently to life offices acting as intermediaries for the collection of the savings of the public and suitably to investing these to provide reasonable benefits when they were most needed. It also led necessarily to life assurance companies becoming involved with, and to their developing expertise in, the whole question of the investment of funds. More latterly growing demand for endowment assurances with their larger investment element has further emphasised the investment aspect of the nature of life assurance operations. As might naturally have been expected, growing investment expertise has had its effect on the assumptions used in the development of modern life assurance products and their premium rates.

3. FUNDAMENTAL TYPES OF LIFE ASSURANCE

There are three basic types of life assurance: Term assurance, Whole Life assurance and Endowment assurance. Figures 3.1, 3.2, 3.3, and 3.4 set out a much simplified graphic description of each of these.

(a) Term Assurance

This type of life assurance (See Figure 3.1) was the very first type of assurance as we know it today (See Chapter II) and provides cover for a given term of years at a relatively low annual or monthly premium. Premium rates are higher for older ages than for younger ages at entry, are higher for longer periods of cover, and are respectively lower or higher for sums assured which decrease, remain level, or increase during the term of the contract. Benefits are payable in the event of death only, and no investment portion is set

up for return to the policy owner at the end of the term of the policy. Whilst premiums for this type of policy are apparently low, one would be mistaken to suggest that they are "cheap" as there is no prospect of any form of return to the policy owner or his beneficiary if death does not occur during the term of the contract. In addition, no loan, surrender, paid-up, or collateral security values are usually available under this type of plan but, on the payment of a small additional premium, an option to renew the cover later or convert the plan to a whole life or endowment plan may be included.

Term assurance, particularly decreasing term, is also used in the construction of Whole Life and Endowment plans. From Figure 3.4 it will be noted that the difference between the invested portion of premiums (allocation amounts) plus guaranteed growth is made up by decreasing term assurance in order to arrive at the guaranteed sum assured. In this way, term assurance, which is the oldest basic form of life assurance used today, forms an essential ingredient in most other more recently developed basic plans. When even greater amounts of term assurance are added, the plan is said to be a 're-inforced' whole life or endowment plan.

Level term assurance is most often used when a low-premium, high life cover plan is desired. Decreasing term is frequently used to provide cover for the repayment of a reducing debt (e.g. house mortgage bond) in the event of untimely death, and increasing term may be used as a low-premium method of providing increasing life cover. In all cases, term assurance, when purchased on its own, provides benefits in the event of death during its 'term' only. It is left to the whole life and endowment assurance plans (i.e. combinations of term assurance and investment amounts) to provide the maturity, loan and other benefits so commonly associated with life assurance.

(b) Whole Life Assurance

As the name implies, this type of plan (See Figure 3.2) does not provide cover for a fixed term but for the whole of the life of the

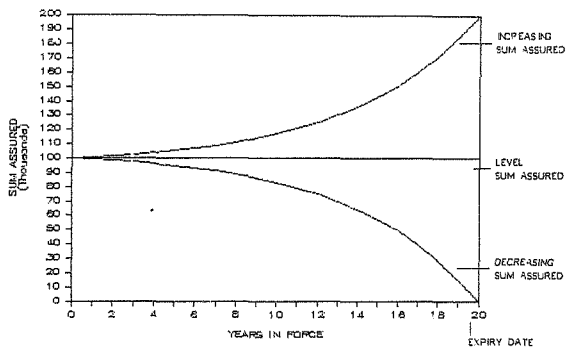


FIGURE 3.1

TERM ASSURANCES :
LEVEL, INCREASING AND DECREASING

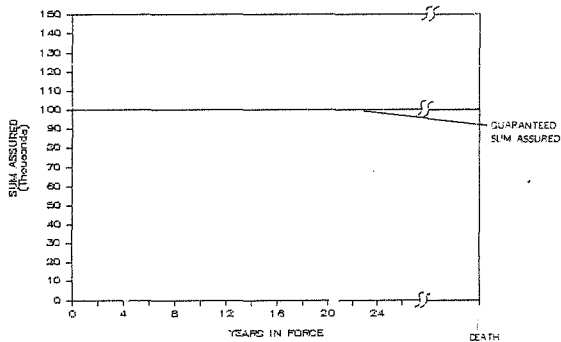


FIGURE 3.2

WHOLE LIFE
(NON-PROFIT) ASSURANCE

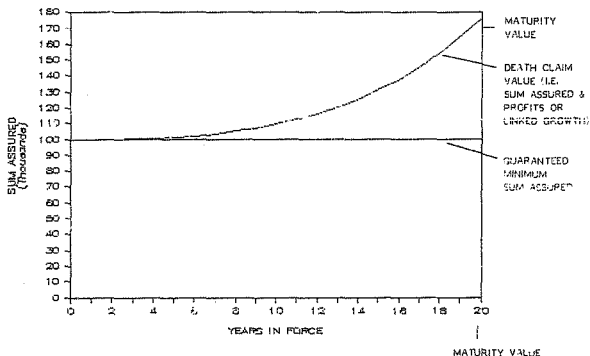


FIGURE 4.3

ENDOWMENT ASSURANCES :
(LINKED OR WITH-PROFIT)

assured. Premiums are affected by age at entry and are lower when payable for the whole of life than when payment is limited to a given age. Whilst rates may be higher than for term assurance, cover is for an indefinite period and loan, surrender, paid-up, and collateral security values usually prevail after a few years' premiums have been paid. The plan can include an option to convert it to an endowment and can be made to include the right of participation in Company profits (i.e. With-Profits plan).

(c) Endowment Assurance

As with term assurance (See Figures 3.3 and 3.4), endowment assurance provides cover for a given term, but matures after a given number of years or at a predetermined age. However, as a large investment portion (allocation amount in 'linked' plans) is included, premiums per R1 000 of sum assured are higher than for term assurances. As a result of such investment and the yield or bonuses declared thereon under 'linked' or 'with-profit' plans, maturity values frequently far exceed total premiums paid over the term of the contract and loan, surrender, paid-up and collateral security values are available after a few years' premium have been paid.

It will be noted from the 'linked' endowment example in Figure 3.4 that no investments have been made in the first year. This is called a 'front-end loaded' policy as all initial expenses have been recovered from available premiums in the first year. Thereafter, the investments made plus growth in excess of the 4,5 per cent per annum guaranteed minimum, taken together with the built-in decreasing term assurance, give rise to an increasing death claim value.

Retirement Annuities: Over the past twenty years it has become popular in South Africa to sell endowments in the guise of 'Retirement Annuities'. Similar in construction to most endowments, retirement annuities differ in that their encashment, loan and maturity rules vary and in that their contributions (premiums) are largely income tax deductible in the hands of the

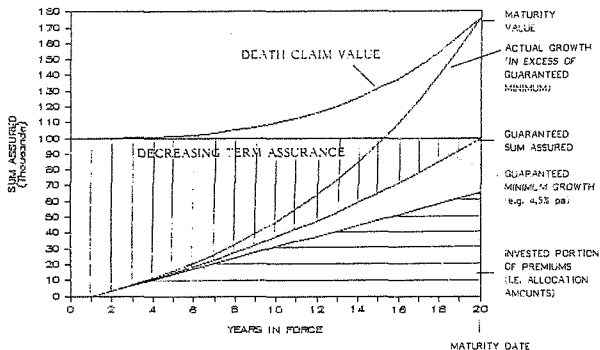


FIGURE 3.4

LINKED ENDOWMENTS :
A TYPICAL CONSTRUCTION

owner (10 per cent of premiums paid for term, whole life and endowment policies are usually income tax rebateable up to a maximum of R75 per taxpayer per tax year). Unlike endowments in their usual form, with retirement annuities surrender, loan, and collateral security values do not become available and, under age fifty-five, no encashment is permissible. At maturity a maximum of one-third of their value may be taken in cash, the remainder having to be applied to the purchase of a life annuity.³ Numerous other differences in rules pertain, but these do not alter the essential 'endowment' character of retirement annuities.

In recent times, all of the above "basic" life assurance types have been available with automatic inflation adjustments to both premium and benefits, these adjustments frequently being referred to as "upgrades", "updates", "adaptions", etcetera. These basic plans may be sold in any combination and when whole life or endowment plans are combined with decreasing term assurance plans, they are generally referred to as "reinforced whole life" or "reinforced endowment" plans.

Both whole life and endowment plans may be sold as non-profit, with-profit or linked contracts and sometimes may be sold as combination with-profit/linked contracts. Combination with-profit/linked contracts are sometimes referred to as 'quasi-linked', 'market related' or 'smoothed' contracts:

(i) Non-Profit Contracts. This class of business has a fixed premium and benefit structure, and does not provide for the policyowner to participate in the profit experience of the life office. Also known as without-profit or non-participating business, premiums for this class of business are often lower than those for with-profit business with a concomitant reduction in benefits which may be expected by the policyowner.

(ii) With-Profit Contracts. This class of business entitles the policyowner to share in the declared profits of the life office by way of bonuses. These bonuses may be "reversionary" or "terminal"

or both. Reversionary bonuses, once declared, form part of the sum assured and are payable at the same time and under the same circumstances as the sum assured. They also form part of the calculation of any loan or surrender values. Terminal bonuses are paid only at the time of a claim arising from death, disability or maturity and do not form part of the surrender or loan value calculation during the course of the life of the policy. With-profit contracts have an extra premium loading to pay for the right of the policyowner to participate in company profits. The future rate of bonus is usually not guaranteed and will depend on the profit experience of the life office as it emerges over a period of years.

(iii) Linked Contracts. This class of business provides for the systematic allocation of a portion of the premium paid to a given real or notional investment portfolio. Sometimes known as 'investment-linked' or 'unit-linked' business, unlike with-profit contracts, there is usually no additional premium charge under this class of business for participation in the net gains made under the specific investment portfolio to which the policy contract is linked. Various forms of management charges may, however, be made against the investment portfolio before the net performance can be established. This net portfolio performance is then used in establishing loan, surrender, maturity and all other values. Where the full net portfolio growth is not allocated to the policy but retained for declaration in a later year when portfolio performance for that year is perhaps below average, such contracts are sometimes referred to as being 'quasi-linked' or 'smoothed' in nature.

4. SUPPLEMENTARY BENEFITS

Also known as ancillary benefits or "riders", supplementary benefits, as their name implies, may be added to any one or combination of the above basic policies in order further to enhance the value of such contracts. These benefits, which are usually selected and included at the inception of modern life assurance contracts, may be grouped as follows:

(a) Accident Benefits

If selected, this benefit will pay an additional amount in the event of the accidental loss of life or limb by the assured. Premiums vary widely and are affected by the definitions given to "accident" and what constitutes the loss of a limb or eye, and the range of activities, events, or occurrences which are specifically excluded from cover. The additional sum assured payable is influenced by Section 36 of the Insurance Act and, at present, may not exceed the sum assured of the basic plan to which this supplementary benefit is attached.

(b) Capital Disability Benefits

Also referred to as 'accelerated death benefits' or 'occupational disability benefits', this supplementary benefit, if selected, will ensure that the sum assured under the basic policies to which it is attached, is paid out to the policy owner in the event of the life assured becoming permanently disabled. Premiums are affected by age at entry, the term of the contract, what constitutes disability, the occupation of the assured, and the specifically excluded events, activities, or occurrences.

In this category one may also include a similar but somewhat less costly supplementary product known as 'waiver of premium benefits'. This benefit ensures the continued payment of premiums by the life office on behalf of the policy owner in the event of the permanent disability of either the life assured, or the payor of premiums, depending on which has been assured, if they are not one and the same person. Waiver of premium rates are affected by substantially the same factors as those for capital disability benefits but total premiums per £1 000 of benefit are usually lower than for capital disability benefits due to the lesser value of these benefits.

(c) 'Dread Disease' Benefits

Sometimes known as "Special Drawing Rights" or "living-benefits", this supplementary benefit is a recent innovation to the South African life assurance market and, as far as can be established, is

not yet sold in any other part of the world. The benefit (a form of capital disability benefit) provides for the payment of all or part of the death claim value under the policy if the life assured is able to demonstrate to the satisfaction of the life office that he has, for example, been diagnosed for cancer, undergone surgery for cardio vascular disease, suffered a stroke, had a heart attack or been the victim of urban terrorism. The unique concept of indemnifying oneself against the so-called 'dread-diseases', was introduced to South Africa and apparently to the world by a South African life insurer in 1983. By late 1985 several other South African companies had done similarly under various marketing names, these later versions of the benefit often including indemnity against other classes of disease or occurrence.

Another disability product actively marketed by the life industry in South Africa during the past decade is commonly known as 'Permanent Health Insurance Benefits' (PHI), 'Income Continuation Plan' (ICP), or 'Income Security Plan' (ISP). In order to avoid conflict with Section 36 of the Insurance Act,⁴ this product is not usually sold as a supplementary benefit attached to a basic policy but frequently as an independent policy. The PHI plan provides a monthly income to the assured in the event of either temporary or permanent disability causing inability to continue usual or similar employment. Premiums here are affected by age at entry, duration of cover, excluded events or occurrences, nature of occupation and the length of the 'waiting period' between the onset of the disease or injury and the commencement of the payment of benefits.

(d) Guaranteed Assurability Benefits

This benefit permits the purchase of a given amount of further life assurance at regular future intervals (usually every three years) without the necessity of the life assured having to submit evidence of continued good health. Some companies have enhanced this benefit by stating that they will require neither evidence of health nor evidence of occupation or recreation (i.e. no evidence of 'assurability') at the time a Guaranteed Assurability Benefits (GAB) option is exercised, and this benefit therefore can be extremely

valuable to people who have deteriorating health, who enter more hazardous occupations or who undertake more dangerous recreational activities.

5. THE USES OF LIFE ASSURANCE

The permutation of needs provided for by the life assurance products mentioned in the previous sub-section seems to be limited only by the application of mind and ingenuity of the life assurance companies' marketing and sales staff and the public with whom they deal. Some of the more common needs provided for by one, or a combination of the basic and supplementary plans listed above, are discussed below. It should be noted that in almost every case, the need provided for is one or more of life's age old vicissitudes of dying too soon, living too long, or suffering some form of disability.

Although the life assurance contract is not one of indemnity, this fact does not preclude the requirement basic to all insurance of an "insurable interest" existing at the time a policy is effected. *Persons are considered to have an unlimited insurable interest in their own lives, whilst close family blood relatives are similarly considered to have no monetary limit to the extent of their insurable interest in each other.* However, others wishing to assure the lives of third parties, require to demonstrate at the time of effecting the policy that they may suffer loss in the event of death or disability of the life to be assured. This is particularly true of creditors, business partners and employers.

(a) Domestic (Household) Needs

In the home the original and most common use of life assurance was to protect the family against the financial loss incurred on the early death of a breadwinner, or the disability of such person, be it total, partial, temporary or permanent. The savings element of life assurance has also been widely used to supplement the retirement savings of lives assured who live beyond the period during which life assurance is required to protect their families. During the past two decades it has become common practice for

endowments to be sold in the form of retirement annuities, with the necessary terms and conditions permitting the policy owner to take advantage of income tax regulations that ensure that the Receiver of Revenue effectively contributes to his retirement savings. The inherent disadvantages of retirement annuities during the earlier life of their owners, such as lack of loan, surrender and collateral security values, and access to only one third of the capital at retirement have, however, often been overlooked.

Products ensuring the future assurability of policy owners such as plans with automatic annual premium and sum assured increases ("upgrades") and (GAB), as well as plans to ensure sufficient liquidity to pay estate duty upon death of the assured, have today been recognised as being highly desirable inclusions in most life assurance portfolios. Frequently, younger breadwinners with dependants start their portfolio with a low premium term assurance plan to provide for the immediate danger of untimely death, often ensuring the such term plan includes accident benefits, capital disability benefits, future assurability (GAB) provisions, and an option to convert to either whole life or endowment plans or to a combination of all three types of plans, as their financial position improves in later years and the need to provide for retirement benefits becomes more significant.

The provision of liquidity for the payment of estate duty on the death of the assured is often found to be necessary. Persons who have dependants, and whose estates will exceed approximately R400 000 in value on death, are often required to pay estate duty, depending on their marital status and other circumstances at the date of death.⁵ Whole Life assurance is frequently used to provide the cash required to pay the estate duty, particularly in cases where the assets of the estate are held primarily in fixed assets which cannot readily be liquidated at true market value, or of which the heirs do not prefer to dispose. In 1983 a product which had become popular for this use was the packaged combination of whole life and decreasing term assurance commonly known as "Reinforced Whole Life", its popularity apparently stemming from the

relatively low premiums required for high levels of life assurance cover and the fact that, unlike term assurance, loan and surrender values became available over time. By 1985, the attractiveness of this type of plan had largely been replaced by the introduction of 'Universal Life' endowment/wholelife plans which offered maximum flexibility in regard to the ratio of life cover to investment portion and to encashment dates.

(b) Business Assurance Needs

Most businesses have more than one active partner or shareholder and there is an obvious need for partners to protect themselves against the sudden death or disability of any one of the other partners as such death or disability may cause heavy losses to the undertaking. Particularly in new and developing companies, partners are dependent on each other's respective skills and general business "input" for the success of their enterprise. They need therefore to provide both for the replacement of the loss caused by a departed partner and the money required to purchase such partner's shares in the business from his estate. If they do not purchase the departing partner's shares, surviving partners may find themselves in business with one of their competitors who was able to buy the shares, or with the departed partner's son, wife or relative.

Key partners (or employees) are therefore often insured under what is commonly called a "Keyman" plan, designed to provide the enterprise with cash to cover the loss experienced by the death or disability of a Key man. The premiums paid by the company for such assurance are tax deductible in terms of Section 11(w) of the Income Tax Act.

Partners often insure the lives of the other partners in order that on the death, disability or retirement of a partner, they may have adequate resources to purchase the shares of such departed partner. A 'buy-and-sell' agreement, signed at inception of the business, is a most necessary ingredient to the success of such arrangements and ensures that departed partners' shares are sold to remaining partners at a pre-determined value or at a value established by a pre-determined method or formula.

Section 11(w) of the Income Tax Act also permits the deduction of premiums paid into plans providing for the deferred compensation of employees. The idea is that pre-tax money is set aside for the benefit of an employee after the attainment of a certain age (often age fifty-five). This has the advantage of allowing an employee to accumulate a cash lump sum to boost his retirement income using untaxed earnings. In 1986 the Income Tax Act permitted the payment of a sum of up to R30 000 tax free as a retirement gratuity, any balance being taxed over the following three successive tax years. Older employees often prefer the creation of such deferred compensation schemes to the receipt of salary increases which are subject to high levels of marginal income taxation.

Businessmen and institutions may also wish to insure their debtors against death or disability prior to the repayment of their debts. This is not an unusual practice and is often undertaken by financial institutions which have advanced large amounts to their clients and who thus have an insurable interest in the clients' lives.

In all of the above uses of life assurance products, the trained advisor is required to select the product or products, as outlined in Sections 3 and 4 above, which are most suited to the assured's needs and ability to pay premiums.⁶ In all cases these products provide for human needs which have existed in one form or another since the beginning of time and which can be expected to remain essentially unchanged for the rest of time. This fact makes the life assurance industry unique in an age of rapid product and industry obsolescence.

CHAPTER III: SOURCE REFERENCES

1. Bernstein, M (1976). The Life Assurance Industry in South Africa : Environment, Structure, and Objectives. A Thesis submitted to the Faculty of Commerce, University of the Witwatersrand, Johannesburg, for the Degree of Doctor of Philosophy.
2. Ibid. p.10.
3. Income Tax Act No. 58 of 1962 as amended: Section 1, Definition: "Retirement Annuity Fund".
4. Section 36 (d) (i) of the Insurance Act No. 27 of 1943 limits the payment of monthly benefits under supplementary benefits to 1,25 per cent of the sum payable under the basic policy on the death of the life assured.
5. A study of the Estate Duty Act of 1955 as amended will be required if the reader wishes to know more about the calculation of Estate Duty.
6. Much of the information contained and views expressed in this Chapter are the result of personal experience of selling and subsequently developing and marketing life assurance products in South Africa. Where recognised, attempts have been made to eliminate subjective bias.

CHAPTER IV

MANAGING THE DEVELOPMENT OF A LIFE OFFICE

The intention of this Chapter is to produce an outline of the essential factors which distinguish a life office from other commercial undertakings, and to describe those crucial variables affecting a life office as it develops, highlighting the fundamental constraints and dangers it faces. A general overview is provided of the most important financial and managerial considerations for a growing life office that writes both 'linked' and 'with-profit' business. The chapter is ended with a computer generated model of a hypothetical Life Office.

1. LIFE ASSURANCE COMPANIES AND OTHER COMMERCIAL UNDERTAKINGS

Whilst life assurance companies are similar to other financial trading companies in that they must have on offer an acceptable range of goods and services, production and handling systems, competent administration and working and investment capital, two fundamental differences are notable. These are in the structure of the life office and in its method of operation.

(a) The Life Office Balance Sheet

The first essential difference between a life office and other financial trading companies arises from the separation of shareholder and policyholder interests in the balance sheet and the special role of the company's actuary or "valuator". The valuator acts in an independent role, his first responsibility being to protect the policyholders' interests. The Financial Institutions Office in Pretoria is the regulatory body which controls the activities of life assurance companies and the Registrar of Insurance together with his staff will interpret the Insurance Act with wide discretionary powers. (See Chapter VI below) This

body lays down the minimum basis on which policyholder liabilities may be valued, but a life company's valuator has the discretion to place higher values on such liabilities.

The balance sheet of a typical proprietary life company is shown below and has on the liability side the separation of shareholders' funds and policyholders' interests, the latter commonly believed to be represented by the 'Life Fund'. The 'Life Fund', however, has been referred to as an 'accounting artifice' and merely represents the accumulated balance of all previous revenue accounts. It is the balance of all premiums received and investment income minus all claims, expenses and other items transferred to or from it. Indeed, it is merely the 'balancing item' on the liability side of a life office Balance Sheet and should not be seen as anything more than that.

LIFE OFFICE BALANCE SHEET

<u>LIABILITIES</u>	<u>ASSETS</u>
<u>Shareholders' Funds</u>	<u>All Assets</u>
<u>CAPITAL</u>	
Initial Capital	Investments
Additional Capital	Prescribed Assets
Distributable Reserves	Current Assets
	<u>Less</u> Current Liabilities
<u>"Policyholders' Interests"</u>	
<u>LIFE FUND</u>	
Gross Balance on Revenue Account	
<u>Less</u>	
Transfers to Shareholders' Funds	
TOTAL NET LIABILITIES	TOTAL NET ASSETS

Theoretically, the Life Fund is held in trust for the benefit of the policyholders when policies become claims either through death, disability, surrender or maturity. However, in practice it may not always be exactly equal to the actual value of benefits due to policyholders. It can be either greater or less than this amount.

The company's valuator will, from time to time, place a value on the actuarial liabilities of the life office with respect to the payment of future policyholder benefits. If for any reason the fund is less than the actuarial liabilities to its policyholders, the deficiency has to be held covered by shareholders' funds. Conversely, if the valuator determines that there is an excess in the value of the Life Fund over the actuarial liabilities, then a Life Fund surplus arises which may or may not be transferred (in whole or in part) to shareholders' funds. The amount of this surplus is decided by the actuary after he has made a valuation, whereas any transfer to shareholders' funds and any amount paid out as dividends is decided by the directors. Dividends paid can consume all or part of the surplus of total net assets over actuarial liabilities but should not exceed it, and prudently should not exceed the surplus of total net assets over the total of actuarial liabilities and paid up shareholder capital.

The practice of South African proprietary offices in recent times, particularly those listed on the Johannesburg Stock Exchange, has differed though. Some have transferred all emerging Life Fund surplus to 'Distributable Reserves' or 'Provision for Dividends', or some similar shareholders' fund, and have thereafter transferred to Shareholder Dividends all or portion thereof. This has served the dual purposes of allowing the analysts to establish earnings and dividend yield ratios, and more clearly to identifying the interests in the company of the shareholders and policyholders respectively. However, it is not strictly correct to see the Life Fund as representing policyholders' interests only. It also contains reserves which may conceivably be transferred to shareholders in the fullness of time as explained above.

(b) The Operation of a Life Office

The other fundamental difference between a life office and other commercial enterprises is found in the method of operation of a life office. When an ordinary trading company has made a sale it receives cash, perhaps with a little time delay, but fairly shortly after the transaction is completed it is able to use this cash to

pay its expenses, reduce its overdrafts and contribute towards profits. When a life office has made a sale, a different position arises. Instead of a contribution to profits, an immediate deficiency (shortfall) is created and more of the shareholders' capital has to be used to cover liabilities to policyholders. Additionally, there will often be a cash deficiency (negative cash flow) during the first year or two of the life of a particular policy, and shareholders are unlikely actually to earn a realisable profit on any individual transaction for many years into the future. (See Section 2 (a) below) Such profit will be small at first and will emerge slowly over the future life-time of the policy which could be ten, twenty or even fifty years. It is this second fundamental difference which makes life offices completely different from almost all other types of enterprise and which has been the cause of great difficulty for and misunderstanding by shareholders unaccustomed to the life business. Usually such shareholders also have interests in other trading companies and find it beyond comprehension that their life assurance company, perhaps publicly recognised as a highly successful and growing operation, far from being in a position to pay dividends, is demanding of more and more shareholder capital.

This feature, which involves an immediate deficiency on the sale of a policy, slow recovery of capital, and a long delay in profits, means that any new or developing life office is very capital hungry. Since profits are so long delayed, it is also extremely difficult to gauge whether the life office is trading successfully or slowly working towards insolvency.

The launching of a new life office has been likened to the launching of a spacecraft. If it is given too much acceleration it will burn up capital and reserves very quickly, over-shoot its flightpath and then burn up spectacularly. Give it too little acceleration and the expense drag will pull the office down to earth, burning a trail of money in the process. There is a very narrow corridor through which the managers and directors must steer the office and very careful aim is required. An error in direction in the early years

could lead to the office automatically veering outside the limits many years later.¹

A developing life office must therefore ensure that it keeps its level of new business production under control in order that the finance which the shareholders are prepared to provide is not exhausted, and secondly, it must ensure an economical operation which will provide the shareholders' expectations in the long run.

2. CRUCIAL VARIABLES

The progress of a life office will be affected by a wide range of forces over both the short and long term. Many of these will be the same as or similar to those affecting other commercial enterprises. However, there are those which will have quite different and critical effects. These are capital constraints, growth rates, profit sources, premium formulations and inflation.

Throughout this chapter realistic arithmetical models are used as more generalised mathematical models would not serve to emphasise the essentials considered important in the analysis.

(a) Capital Requirements: Model I

The first and most crucial of all life office variables is the extent of the availability of shareholder capital. In order better to illustrate the really significant differences between life companies and other commercial enterprises, it is useful to explore first the reasons for the cash deficiencies or strains referred to in section 1 above and which are experienced by all life offices when a sale is made.

The demands on shareholders' funds will last longer than those experienced during the formative stage of any new company when capital is needed for the creation of an administration system, the establishment of a sales force, and while the office is building up new business to a level where expenses will be fully supported by generated premium flow.

TABLE 4.1

MODEL I: 'SAVINGS PLAN' SURPLUS PROJECTION

ITEM	YEAR 1		YEAR 2	YEAR 3
	MONTH 1	MONTHS 2 to 12	MONTHS 13 to 24	MONTHS 25 to 36
	R	R	R	R
Premium	20,00	20,00	20,00	20,00
<u>Less</u>				
Commission	10,00	10,00	0,50	0,50
Expenses	130,00	1,50	1,50	0,50
Mortality Costs	0,20	0,20	0,40	0,40
<u>Plus</u>				
Investment Income	0,20	0,20	1,40	2,80
Cash Flow	-120,00	8,50	19,00	21,40
Actuarial Reserves	10,00	10,00	10,00	20,40
Increase in Shortfall or Surplus (Monthly)	-130,00	-1,50	9,00	1,00

Table 4.1 shows a simplified version of a 'savings policy' endowment and its effect on the revenue account over the first three years of its life. Assumed in this example is a monthly premium of R20; commission of R10 per month for the first twelve months and fifty cents per month thereafter; expenses of R130 in month one, R1,50 per month for the next twenty-three months; and fifty cents per month thereafter; mortality costs of twenty cents per month for the first twelve months and forty cents per month every month thereafter; investment income of twenty cents per month for the first twelve months; R1,40 per month for the following twelve months and R2,80 per month every month thereafter. Cash flows can then be calculated as in Table 4.1 which shows the position for the first three years only as this is sufficient to illustrate trends.

As is evident, in the first month a cash deficiency (strain) of R120 and negative actuarial surplus or shortfall of R130 is experienced. In the first month the life office has to pay out the heavy expenses of acquiring the new business, including the initial commission paid to the intermediary, who is frequently paid in advance for a full year, whilst it has received only a single monthly premium. The life office will usually also acquire a liability to set up actuarial reserves and this will increase the overall shortfall during the first year to more than the amount of the net cash strain.

In the second year the example shows a positive cash flow of R19 a month and therefore some recovery of the capital consumed in the first year. Depending on the type of policy sold, a liability to increase the actuarial reserves will probably be incurred but sometimes, particularly with 'front-end-loaded' policies under which all initial expenses are recovered against premium income in the first year, a surplus may arise which may be adequate to cover the shortfall which had been generated in the first year.

In the subsequent years the example shows a small but growing surplus of profits. The cash flow is positive and the bulk of the premium now has to be allocated to the reserves and

invested sufficiently well so that the long term commitments to the policyholder can be met. A small balance of the premium will be left and then, subject to the office being able to control expenses, and to the effects of the other factors discussed in Chapter III, Section 2, a small surplus can be anticipated. This forecast surplus would be expected to grow over the term of the policy and Figure 4.1 shows the monthly cash strains and surpluses (shortfalls) to which this 'savings policy' gives rise during the first few years of its currency. Starting with a shortfall of R130 in month one, this improves to a monthly shortfall of R1,50 until month thirteen when a monthly surplus of R9 is shown for the following twelve months. Thereafter a monthly surplus of R1,00 improves over time.

It should be remembered that a life office will not just write a block of business in year one and then close down and let the profit emerge slowly over the future years. A further block of business will be written in every subsequent year and this will impose additional strains. In the case of a growing life office the recovery of surplus from the block of business written in year one will not be sufficient to cover the total strain of the business written in year two, and so further funds will be required from shareholders in year two. Similarly, in year three a further strain will be recorded together with a further need for shareholders' funds, and the time when profits actually emerge from the Life Fund continually being pushed further back.

Extrapolating from the example in Table 4.1, Figure 4.2 shows what happens to the accumulated strain of a life office which writes not one, as in Table 4.1 above, but one thousand 'savings policies' at the beginning of year one and increases its new business by 10 per cent per annum every year thereafter. An amount of R138 000 is required from shareholders in year one and the total of this amount increases each year until the surpluses emerging on all the blocks of business written in the past are adequate in total to cover the strain on the current year's new business. In the example used this starts appearing in year twelve and grows rapidly thereafter. Only the results of the extrapolation undertaken in this example have been

given here as the considerable amount of calculation which was required to produce Figure 4.2 need not be repeated here for the illustration of the principle under discussion.

(b) Growth Rate

When a life office is growing at a compound rate, the strain of each successive year's new business will grow correspondingly. The recoveries from past years' business will finance a lower and lower percentage of each year's new business, and the office will require the commitment of increasing amounts of shareholders' capital. Essentially the office will be trading profitably and indeed may well be achieving increased profitability, since a larger than budgeted volume of business will lead to a lower expense cost per policy than those assumed in the premium rate calculation.

Conversely, if new business fails to grow at a rate equal or close to the office's predetermined targets, demands on shareholders' capital will be less in the early years, and whilst the office may appear to be doing well, in reality the situation could be serious since the office could in fact be suffering losses as actual expenses could be exceeding the expense allowance assumed in the policy premium calculation. These real losses could be masked for a considerable period because the demands on shareholders' funds are apparently less than forecast. Extrapolating further from the example in Table 4.1, Figure 4.3 demonstrates the levels of capital demanded by three separate offices, P, Q and R, each writing the 'savings policy' used in the previous examples.²

Assume office P achieves a new business level exactly on a predetermined target of one thousand policies in year 1 with 10 per cent per annum growth thereafter and it is able to maintain actual expenses exactly equal to those budgeted for. Assume office Q grows faster than forecast, writing one thousand five hundred policies in year one and achieving a 20 per cent per annum growth thereafter. Actual expenses per policy therefore become progressively lower than those budgeted for. Assume office R experiences slower growth than forecast, writing only five hundred

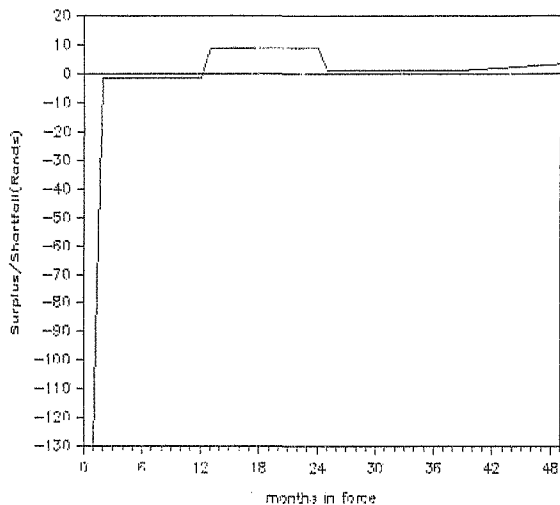


FIGURE 4.1

"SAVINGS PLAN"
MONTHLY SHORTFALL OR SURPLUS

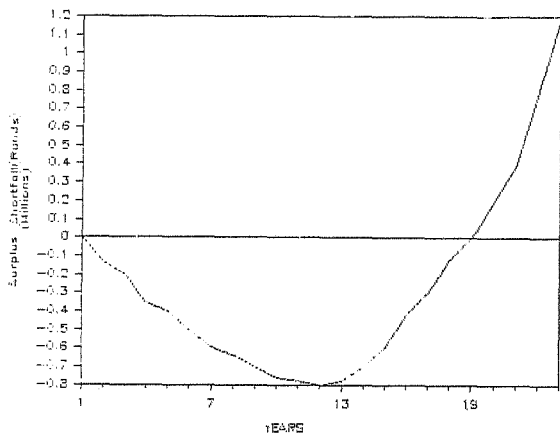


FIGURE 3.2

PROJECTED SHORTFALL OR SURPLUS

policies in year 1 and achieving only 5 per cent per annum growth thereafter. Actual expenses per policy therefore become progressively higher than those budgeted for. As above, in view of the considerable amount of calculations required here, only the results of these have been given and are shown in Figure 4.3.

The shareholders of life office P can expect to be financing the Life Fund for approximately twelve years up to an amount of R800 000. The demand for this capital is relatively great in the early years, declining thereafter until year twelve, whereafter capital is recovered relatively quickly but a total recovery of all capital cannot be expected until approximately year eighteen. Thereafter profits will grow strongly.

In the case of office Q, considerably more capital will be required (R1 800 000) and financing will be for a longer period (thirteen years). As the office is trading more profitably the recovery, when it does occur, will be much more rapid and profits will accelerate faster than in the case of office P.

Office R, although requiring less capital initially, is suffering real losses. Unless the performance of this office is improved, shareholders will be financing it indefinitely.

Limited Capital: Most life offices have a given amount of shareholder capital available during any one period. If this is assumed to be R1 200 000 then, using the above examples, with the results of the calculations shown in Figure 4.3, it is clear that office Q would run out of capital at around year eight. By interpolating from the results of office P and office Q, the maximum upper limit for new business production could roughly be calculated as being equivalent to one thousand two hundred policies in the first year and 14 per cent per annum growth thereafter. The results of this calculation are shown in Figure 4.4, indicating that at 14 per cent per annum new business growth, shareholders will be financing the company for thirteen years.

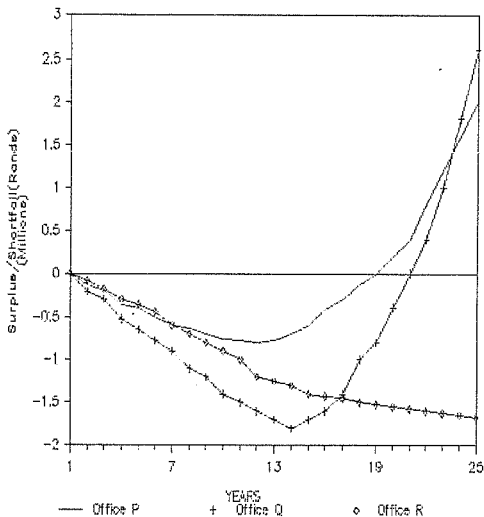


FIGURE 4.3

"SAVINGS PLAN"

LONG TERM ACCUMULATED SHORTFALL OR SURPLUS

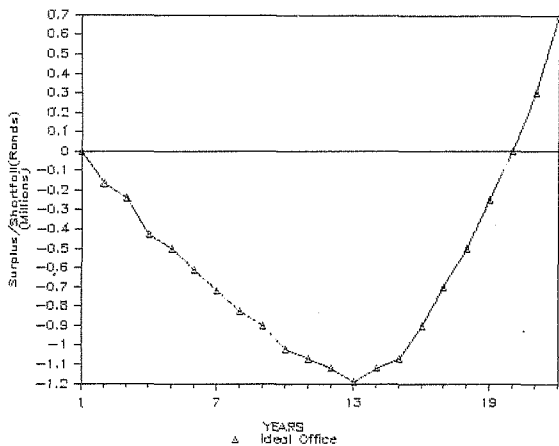


FIGURE 4.4

"SAVINGS PLAN"

IDEAL OFFICE SHORTFALL OR SURPLUS

If on the other hand the office is to balance actual expenses with those allowed for in the premium, and thereby limit the drain on shareholders' funds, the office will need to write a minimum of approximately eight hundred policies in the first year with 7 per cent per annum growth thereafter.

Although these examples are fairly elementary in nature, they do illustrate the importance which directors and managers of a life office must place on keeping the office within the 'corridor for development' found between these two limits. Obviously, it is preferable for managers to try to steer towards the maximum production limit rather than the minimum, providing the quality of the business does not deteriorate. In this case the office is trading profitably and profit expectation is being reached or improved upon for each policy. As the company is trading profitably it would be much easier to attract additional capital or obtain assistance from a reinsurance company. It is not appropriate to deal with the matter of financial assistance from reassurers here as this is done in the g chapter. It would suffice to say that the use of reinsurance finance could be useful to cover an interim period of years while the capital of the life office is being expanded, or to give the life office time during which to readjust marketing strategy.

(c) Surplus and Profit Sources

When the Life Fund exceeds the value of policyholder liabilities, the surplus generated may have arisen from several different sources:

(i) 'Underwriting' or 'mortality' profits are said to have been made when actual death and disability claims experienced are lower than those anticipated in the premium calculation basis. Mortality profits normally emerge steadily without wide fluctuation, provided the life office has taken care to reinsurance the sum at risk of each policy in excess of a certain pre-established level.

This is referred to as the company's 'retention', and in this way companies can ensure that they are not exposed to losses from a few

If on the other hand the office is to balance actual expenses with those allowed for in the premium, and thereby limit the drain on shareholders' funds, the office will need to write a minimum of approximately eight hundred policies in the first year with 7 per cent per annum growth thereafter.

Although these examples are fairly elementary in nature, they do illustrate the importance which directors and managers of a life office must place on keeping the office within the 'corridor for development' found between these two limits. Obviously, it is preferable for managers to try to steer towards the maximum production limit rather than the minimum, providing the quality of the business does not deteriorate. In this case the office is trading profitably and profit expectation is being reached or improved upon for each policy. As the company is trading profitably it would be much easier to attract additional capital or obtain assistance from a reinsurance company. It is not appropriate to deal with the matter of financial assistance from reinsurers here as this is done in the following chapter. It would suffice to say that the use of reinsurance finance could be useful to cover an interim period of years while the capital of the life office is being expanded, or to give the life office time during which to readjust marketing strategy.

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(i) 'Underwriting' or 'mortality' profits are said to have been made when actual death and disability claims experienced are lower than those anticipated in the premium calculation basis. Mortality profits normally emerge readily without wide fluctuation, provided the life office has taken care to reinsurance the sum at risk of each policy in excess of a certain pre-established level.

This is referred to as the company's 'retention', and in this way companies can ensure that they are not exposed to losses from a few

abnormally large claims. (See Chapter V for a discussion of the role of reinsurance in the profitability of a life office.) Newly established and small life offices will usually only hold a low retention in order to stabilise the emergence of profits and to protect their solvency. The payment of reinsurance premiums will naturally reduce the profitability of the office, but a significant portion of this extra expenditure can be recovered by the life office through the medium of commission paid to it by the reinsurer, and through an arrangement which allows the life office to participate in any profits experienced by the reinsurer. (A study of reinsurance treaty arrangements is a necessary prerequisite for the chief executive wishing to maximise the profitability of his life office - See Chapter V.)

(ii) In the calculation of premium rates, an allowance is made for the heavy initial expenses expected, and a major factor determining whether a surplus arises for the life office in this area is whether the office can keep within these limits. In the long term, the office would budget for a small surplus to arise regularly by charging in the premiums for more than the anticipated expenses. In an inflationary period however, this margin is difficult to realise, and in practice actual costs may exceed the margins provided. The effect of inflation on profitability is examined in Section 2 (e) of this Chapter.

(iii) As is evident from Table 4.1, a life office is liable to large losses if a significantly large number of policies lapse in the early years before the initial expenses and commissions have been recovered. It is therefore essential that a life office should monitor its premium 'persistence', particularly in the early years in order to ensure that it is not losing only the potential for the emergence of future profits, but also the money consumed in the acquisition of the new business when it was first written.

(iv) A major source of profit or surplus for a life office is the earnings obtained directly or indirectly from investments. In traditional policies, like whole life and endowment assurances, the

office, when fixing its policy terms and conditions, gives a long term interest rate guarantee to the policyholder. The office will record a profit or a loss if it can achieve, over the life time of the policy, an investment earning above or below the guaranteed rate. Surpluses from investments relate to the size of assets and reserves and hence the bulk of the surpluses are earned towards the end of the policy contract when reserves have been built up.

(v) In the case of 'linked' business (See Chapter III for a description of 'linked' business) policyholders benefit directly from the investment performance of the life office which normally receives a 'management fee' related to the size and growth of the fund. The management fee is often the principal source of surplus in these contracts, and therefore better investment performance means directly better office profits.

(d) Premium Formulations and Profit Projections: Model II

The traditional method of fixing premium rates is to calculate the discounted value of the total outgo (i.e. benefits, commissions and expenses) of the policy, including an allowance for mortality (i.e. expected death and disability claims - See Chapter III above) and interest, and assuming that it is not lapsed or surrendered, this value is then divided by the discounted value to the office of a premium of one rand per annum over the term of the policy. A specific margin for profit can be built into the calculation but generally the allowance for a profit margin is made by using assumptions that are more conservative than those the office anticipates for the future.³

Though this method of premium calculation may be suitable for an established office with no financing strain problems, it is quite unsuitable for a developing life office as there is no measure of the expected profit on a contract in absolute terms such as return on shareholder capital. In addition there is no indication of the amount of financing strain incurred when a policy is written, and there is no measure of the loss or extra profit that could arise if the actual experience differs from that anticipated by the office.

TABLE 4.2

MODEL II: 'SAVINGS PLAN'

Year	Premium in force	Commission	Expenses	Claims	Surrenders	Investment Income	Growth of Life Fund	Total Liabilities	Surplus for year	Surplus to date
1	589272	294636	437000	7235	0	8388	-134212	232186	222186	-558398
2	515595	12599	38670	8256	14828	24695	324434	334376	556382	131255
3	472432	11736	35857	9839	25323	48222	589469	663952	1028564	-4467
4	457942	11449	34347	10898	38458	94438	1281579	946402	1467254	16189
5	438254	10981	32744	12542	51613	152758	1715734	1267728	1894144	26989
6	421234	10532	31578	11052	67236	165572	2188178	167840	2381983	56620
7	404516	10100	30351	11616	82428	184916	2644662	389372	2691255	75115
8	387413	9685	29155	12432	97296	214324	3108432	371461	3342816	92208
9	371441	9236	27959	13274	111828	233326	3570874	354855	3416901	108329
10	356281	8892	26726	14212	126824	288239	4035845	365213	3754115	123456
11	341227	8532	25597	15142	139956	334462	4499774	328213	4074948	137344
12	327145	8171	24523	15734	155456	347789	4866222	384873	4379821	146901
13	313335	7824	23532	16109	166749	325774	5173640	394383	4669154	15873
14	299143	7534	22511	16672	178772	334546	5494902	374182	4943227	21577
15	285406	7185	21515	17155	192397	347623	5776793	354417	5202754	32291
16	272124	6878	20634	22894	204793	359988	6056622	244781	5447735	34732
17	259368	6534	19745	24798	219057	371637	6323382	228973	5678628	38389
18	246928	6176	18897	26574	238781	382617	6577239	217111	5895729	36825
19	234768	5819	17923	28132	248325	392723	6813178	192523	6099132	37091
20	222932	5472	17226	28762	261622	392279	7045466	189271	6289993	36877

INVESTMENT RETURN = 15.4% p.a.

An adequate premium would be that which, allowing for expected lapses, commissions, claims, expenses, frequency of premium, and all other variables discussed in this Chapter, is likely to leave the life office with an adequate return on shareholder capital. Though there are many methods of calculating the adequacy of a premium, the return on shareholder capital seems today to be one of the more important factors (See Chapter XI below). Another important consideration in fixing policy premiums and conditions is whether an adequate amount of profit is likely to be obtained on each sale. For example, the return on capital of a certain type of term assurance may be high but the amount of profit per sale may be so low that it is not worth tying up a salesman's time, making a marketing effort, or setting up an administration system for such a poor return on effort. In such a case it would be better to direct efforts towards a product which has a lower return on capital but a larger potential profit per sale.

Calculating the amount of profit per policy can be obtained from a projection of the type shown in Table 4.2 using the following assumptions. The policy type is a "savings plan" endowment with a term of twenty years; the average premium is assumed at R50,00 per month per policy; commission has been calculated at 50 per cent of annual premium in the first year and 2,5 per cent renewal each year thereafter; expenses are at 60 per cent of annual premium in the first year and 7,5 per cent every year thereafter; claims and surrenders have been allowed for at appropriately realistic rates and investment income has been calculated on net premium income during the period it is assumed to have been held; mortality has been calculated on the CA 56-62 Select table and lapses have been assumed at 25 per cent in the first year, 10 per cent in the second year and 4 per cent every year thereafter; liabilities are calculated as typical for the policy type and it is assumed that 1 200 policies are sold at the beginning of the first year with a total initial annual premium of R720 000.

The results of these assumptions are set out in Table 4.2. It will be observed that at the end of year one premiums in force have been

assumed to total R589 272. At 50 per cent commission this means that a total of R294 636 would have been expended in commissions and, bases on 60 per cent of the full initial premium of R720 000, expenses are calculated at R432 000. Using the SA 56-62 Select Mortality Table, claims are assumed at R7 236, and no surrender values are assumed available in the first year. Investment income of R8 388 is assumed to have been earned on net premiums in hand. The 'Life Fund' is therefore equal to the net result of premiums received plus investment income less commissions, expenses and claims paid. In year one this amounts to minus R136 212. To this amount must be added the actuarial liability reserve created in the year of R222 186, creating a total shortfall at the end of year one of minus R358 398. The cumulative shortfall to date will therefore be the same amount.

At the end of year two, it will be noted that a surplus of R131 250 has been generated for the year and this, added to the previous years accumulated shortfall, reduces the accumulated shortfall to minus R227 148. At the end of year three, due to increased claims, surrenders and liabilities, the shortfall has been increased by R4 467 but every year thereafter the shortfall is reduced until it becomes a surplus of R45 615 at the end of year eight. Every year thereafter the accumulated surplus improves until at the end of year twenty after all policies have been matured, a surplus of R755 873 has been accumulated by the life office. This represents an investment return of 15.4 per cent per annum on the capital invested in the early part of the life of this plan.

The assumptions in the projection can be subsequently varied in order to show the effect on the office if the assumptions in the premium calculation do not materialise. In this way the maximum and minimum likely returns that the office can anticipate may be determined.

(e) Inflation: Profitability and Policy Construction

Inflation has a highly degenerative effect on a life office. In countries where high inflation is prevalent, people are disinclined

to effect long term savings plans and the only plans which tend to be sold are term assurances, often with a provision to increase both sum assured and premium automatically in line with inflation each year. This effect of inflation on policyholder attitudes can considerably shrink the market for savings type plans and therefore a decline in average premiums and gross premium receipts is often inevitable.

Inflation can also have the effect of making once profitable business highly unprofitable. An example of this may be found in the old Industrial Life policies sold by companies like the African Life Assurance Company in the early nineteen hundreds, during both world wars and the late nineteen forties, when inflation was not at the levels experienced during the nineteen fifties and later. A policy, the premium for which was two shillings per week in 1949, and which provided for the manual collection of premiums by a salaried member of the life office each week, will today prove to be highly unprofitable. The mere cost of premium collection, let alone other office administrative expenses, would far exceed the premiums collected. In such a case, it is often wisest for the life office to offer the policy owner a generous surrender value and to thereafter terminate the policy.

Unless a life office can face the marketing challenge posed by inflation, losses can be sustained on all existing policies in due course. To prevent this an office would have to become increasingly more efficient so as to maintain the cost per policy at a constant value. Alternatively, it must receive accelerated investment earnings and other management charges that can compensate for the effects of inflation.

The inflation-linked plans which have been promoted by the life offices in recent years can be seen as another attempt to overcome the challenge of inflation. The automatic annual increases in premium and sum assured not only have the effect of protecting the policy owner against the ravages of inflation on his life assurance provisions, but also have the effect of maintaining the life offices' real average premium size and management charges.

Another possible effect of inflation is that monetary growth can be faster than budgeted expansion and therefore increase financing strains. This will further aggravate the problems discussed in Sections 2 (a) to 2 (d) above. Inflation demands that the office must expand in order to keep its expense ratios under control. This growth creates greater demands for capital and this expansion leads to a further delay in the emergence of profits. This fact makes it less attractive for shareholders to put up more capital and the office is put in the unenviable position of having to keep on expanding in order to contain expense ratios, and at the same time attempt to persuade shareholders of the attractiveness of providing extra capital and further deferring profits. This is often an impossible task.

3. ASSESSING THE DEVELOPMENT OF LIFE OFFICES

Probably the most important single piece of information on the progress of any Life Office is the valuator's (actuary's) valuation report. This report will show the size of the present value of the liabilities which have been assumed by the Life Office in the course of writing and maintaining its assurance policies. After considering the actuarial probabilities of having to pay death, disability and maturity claims in the future, the valuator makes an assessment of the present value of such future benefits and, after deducting the present value of future premiums net of expenses and an allowance for future bonuses, these are then referred to as the 'actuarial liabilities' of the Life Office.

The present value of these liabilities is compared with the current value of the total net assets of the office and comment can then be passed on the solvency of the office. If the total value of all assets exceeds total actuarial and current liabilities, then the office can be said to have a 'surplus' from which transfers may be made to shareholders in the case of proprietary offices, or which may be used for other purposes, often further reserves, by mutual offices. For mutual offices, which have no shareholders from whom to call for additional capital in time of need, these additional reserves are of particular importance.

In analysing his valuation report, the company valuator will wish to have regard not only to the solvency of the life office at the valuation date, but also to current investments and matching requirements, the nature of the policies sold, their guarantees, their expense levels and their mortality experience. He would also wish to prepare an analysis of the causes of surplus or shortfall that have arisen in order to evaluate whether performance has been better or worse than that previously predicted and anticipated in the premium rates and liability valuation bases.

If a Life Office is experiencing a reducing surplus or calling for more shareholders' funds it is important for shareholders to know whether this is because of new business strain, poor trading results or unfavourable investment experience.

In addition, shareholders would want to know of changes in the valuation basis arising from the valuator's changing assumptions arising from such things as changing mortality experience and interest expectations, etc., and the provision for any additional contingencies.

(a) Day to Day Evaluation

The performance of an office can be analysed in great depth at frequent intervals. However, the danger of this approach is that too many statistics may be produced and underlying trends may not be distinguished. Conversely, to await the final year-end or triennium results would be equally unsatisfactory because of the long delay before identification of deteriorating results and the taking of corrective action. It is therefore important to generate statistics regularly (usually monthly) which monitor those main influences on the results of the office which were discussed above.

There are several measurements which a Life Office may wish to implement for the regular monitoring of its emerging results but these will undoubtedly cover the following main areas:

(i) Production of New Business. This can be measured daily in terms of both submitted and accepted new business and by individual intermediary, branch, region and the company as a whole. (Analysing by individual and by geographic location can be an extremely useful day to day management tool.)

Another important measurement to be applied to new business is an analysis of what percentage of the new business is coming from brokers, from company agents and directly from the public. In order to illustrate this point, Table 4.3 shows an example of how broker support may be analysed. Within the broker statistics, an analysis of which brokers are supporting the company, an estimate of the percentage of their total business which is coming to the office and whether these brokers are independent or members of institutional brokerages, will be of great significance to the sales and marketing arms of the office. Too much dependence on support from any particular source is not considered healthy for any life office, and offices will draw their own conclusions regarding the appropriate management steps to be taken in each case. Table 4.3 illustrates a hypothetical example of the nature of analysis required under this heading by the broker division of a life office. It will be observed that in this example, the office concerned has written R500 000 in first year annualised new business premium during the month. This has been provided as to 45 per cent by broking institutions A, B, C, D and E. Thirty per cent was received from broking houses F, G, H and I, and a total of 25 per cent was received from independent brokers J, K and L and others. Some offices may be satisfied with this mix of support, whilst others may wish to be more widely represented by small independent brokers country-wide.

(ii) Quality of New Business. Concurrently with measuring the volume of new business written, life offices are obliged frequently to measure the quality of such new business, not only in terms of mortality experience but also in terms of premium persistency experience. Early lapses invariably lead to losses and it is therefore important that offices only accept new business which has

TABLE 4.3

BROKER SUPPORT ANALYSIS

<u>BROKER</u>	<u>ANNUALISED NEW BUSINESS PREMIUM (API)</u>			
	<u>API CURRENT MONTH</u>	<u>NUMBER OF CASES</u>	<u>API YEAR TO DATE</u>	<u>% SUPPORT</u>
<u>Institutions:</u>				
A	R 60 000	30	R 600 000	10
B	58 000	32	600 000	10
C	96 000	46	900 000	15
D	36 000	21	420 000	7
F	20 000	11	180 000	3
				<u>45%</u>
<u>Broking Houses:</u>				
F	R 50 000	21	R 480 000	8
G	34 000	20	420 000	7
H	78 000	40	720 000	12
I	16 000	10	180 000	3
				<u>30%</u>
<u>Independents: (Support ABOVE 5%)</u>				
J	R 18 000	10	R 540 000	9
K	12 000	7	360 000	6
L	8 000	5	300 000	5
				<u>20%</u>
<u>Independents: (Support UNDER 5%)</u>				
OTHER	R 14 000	6	R 300 000	5
				<u>5%</u>
TOTALS	R500 000	259	R6 000 000	100%

a high expectation of premium persistency. There are several measures which may indicate the persistency expectation of a particular policy and it is important that these measurements are applied at the very initial new business levels within the life office. Intermediaries, their consultants and managers should apply strict controls on the quality of business which they are prepared to accept. Indications of this quality lie in very many areas but include such things as the age of the life to be assured, his occupation, marital status, size of premium on the policy applied for and the method by which he intends to make his premium payments. For example general industry experience is that monthly cash over the counter cases have an extremely poor persistency expectation whilst debit orders electronically processed on current accounts and credit cards have the best.

The ultimate measurement of the quality of new business written is of course the actual premium persistency experienced. In order to measure FIRST YEAR premium persistency experience on any one policy, one must wait to see whether the second annual premium or the thirteenth monthly premium will be received. (If not received, the policy becomes a first year lapse.) In order to measure the AVERAGE first year premium persistency of an entire financial year's new business therefore, one has to wait until the thirteenth premium on the last policy sold in that year has been paid, i.e. at least twenty-five months after the commencement of the financial year. This is an unacceptably long period of time between the measurement of results and the taking of any necessary corrective action. Many offices have therefore developed their own formulae for the projection of expected first year premium persistency experience, based on actual experience in the early months of the life of policies currently in force. Whatever measurements offices choose to apply to the quality of the new business that is written, it is important that these measurements are applied consistently and at the earliest stages of the new business process. The emerging TREND will then quickly indicate current new business quality. Table 4.4 illustrates the essential information necessary to identify such trends on a monthly basis. It shows the percentage

TABLE 4.4 PROJECTED AND FULLY EXPOSED FIRST YEAR PREMIUM PERSISTENCY
AS AT JULY 31, 1986

PROJECTED:

<u>MONTH</u>	<u>OVERALL COMPANY</u>	<u>BROKER DIVISION</u>	<u>FIELD DIVISION</u>
4/86	84,8	86,1	83,2
3/86	82,7	84,3	80,1
2/86	81,5	82,1	79,9
1/86	82,9	84,8	81,3
12/85	85,4	86,3	83,7
12/84	79,9	80,4	78,4

ACTUAL FULLY EXPOSED:

12/83	76,3	78,2	74,6
12/82	61,3	63,4	60,5

of new business premium projected to remain in force after it was written in 1984, 1985 and 1986. The 1982 and 1983 figures represent the actual (fully exposed) average persistency of first year premium written in those years.

When reviewing the quality of new business written, reference to morbidity and mortality experience is also necessary. Hence these factors also need regular measurement as they will not only indicate the underwriting standards being applied, but will show how adequate are the provisions which have been made for these factors in the premium rates.

(iii) Management and Staffing. A monthly measurement of the number of people employed in both administrative and sales capacities throughout the organisation and its branch network is an important indicator of the long term success potential. Lack of depth in management, unfilled vacancies or declining sales force numbers are warning lights which are ignored at the peril of a developing life office. Indeed, even for established life offices, these are important indicators. Again, analysis by branch, region, and company will assist management in deciding on what steps should be taken and where.

(iv) Quality of Management and Staffing. There are several measurements which may be employed to measure the quality of the human resources employed by a life office and as the company grows larger, these measurements should become less subjective and much more objective in nature.

The office may for example obtain an indication of the quality of a branch manager by measuring the number of men in his employ, the length of their employment with the office, their personal production and persistency levels and, most important of all, the state of their commission accounts. A monthly measurement of the amount of money spent by each branch and regional manager by way of commission advances during the development of new salesmen is essential to a sound management of the branch network. A comparison must be made between the amount of commission due and the

amount of financial support given in each case. Unsuccessful management of the development financing of the broker and agency divisions of the office can lead to serious financial embarrassment within a very short period indeed.

The development of the necessary management expertise is therefore a further important day to day indicator for management to watch and the heads of the relevant divisions should have as one of their monthly priorities the monitoring of the formal and on the job training received by the staff under their control. In addition, accountability systems must be developed for the penalisation of unsuccessful development financing and the reward of its success, preferably on a monthly basis.

(v) Expense Control. It is important that all divisions and branches of the life office have a clear understanding of the expense budget to which they are expected to adhere and that these are monitored frequently, preferably every month. When the expense budget is agreed at the beginning of each financial year, a comparison of the proposed expenses to the expected contribution of the various divisions and branches must obviously be made. It has been found that within the branch network, a good guide to branch profitability is a comparison of expenses to new business annualised commission income net of first year lapses, surrenders and claims. Likewise, in the administrative divisions of the company, expense ratios may be linked to such things as number of cases processed, entries made or transactions recorded. Other measures of administrative and management productivity have been developed and used with some success, but the overriding consideration is that these measurements should be applied regularly and consistently so that trends can be identified, and that all members of staff should be aware of the significance of each item measured.

(vi) Administrative Efficiency. Offices need to develop measures to indicate progress in administrative efficiency. These will vary from office to office and from one administrative department to another. However, each department should have standardised targets

in those areas which are measurable. Administrative efficiency is one of the more difficult areas to measure but many offices have successfully implemented such measures, however imperfect, to the everlasting benefit of the organisation. The meeting of deadlines for the installation of new computer programmes is, for example, one means of measurement. Measurements of the number and daily distribution of policies processed in the new business, policy alterations and claims departments is another measure. The number of entries made or transactions dealt with in the billing, commissions and accounting departments can also be used. All of these measurements can be related to the staffing, floor space and overheads of each department and the company norms should be made known to all within each department.

(vii) Monitoring of Investment Activity. Projections of cash flows for investment purposes should be made at the beginning of each year and these compared with the actual flows experienced. Office policy with regard to the manner in which the monies are dealt with, the speed with which they are dealt with and the avenues in which they are invested must be established and means for monitoring actual results in each of these areas should be developed. Investment performance is a major determinant of office profitability. (See Section 2 (c) above).

A regular (preferably monthly) report on what investments were traded, what profits and losses were realised and what results have been attained should be produced for scrutiny by the actuary, investment manager and others within the organisation who are concerned with investment results. Actual individual portfolio performances compared with previous years, projections and recognised market indices should be produced for each of the major investment avenues as discussed in Chapter VIII, and criteria for new investments set in the light of changing economic, political and investment circumstances as experienced from time to time. These measurements and reports should be so designed as to make it possible for management to make competent decisions in regard to company policy and the fundamental principles as discussed in Chapters VIII, IX and X.

(viii) Financial Results. The balance sheet and revenue account, an example of which is shown in Table 4.7, are among the most important measurements of company results which may be taken at regular intervals during the financial year. Table 4.7 is more fully discussed in the 'Explanatory Notes' at the end of this Chapter. The Table summarises the net results achieved in each and every year within the life office and show progress against the budgeted and the previous year's experience. However, when read in isolation of the seven above mentioned reports, this report may be quite misleading. Like all commercial trading company revenue and balance sheets, a thousand sins may be hidden from sight and thus the importance of the further illumination provided by the reports emanating from areas (i) - (vii) above.

(ix) Analysis of Product Profitability. In order to analyse whether one's products are generating the amount of profit initially envisaged in the time expected (See Section 2 above), one should analyse trends and the period it has taken for new products to break even. Usually, an actuary will be required for this purpose and will check the size of the initial investment for each product to determine if one is actually spending less or more money for each policy than expected and compare the profitability of one's own product lines with industry norms where possible. In addition, an analysis of the quality of one's earnings will establish not only how much profit (or loss) each product is generating but also where it is coming from. In each product one should determine the relative sensitivity of profits to persistency, surrender and paid-up values, actual expenses, interest rates and mortality experience. This, taken together with an analysis of the mix of products sold, will give every office an indication of the source of its profits and losses.

The above nine categories of measurement cover the main areas which will have the most impact on the final results emerging from any life office, but they are not exhaustive and each life office will have its own measurements both within and without these categories. (See Chapter XI).

(b) Strategic Planning and Management Policy

The long term nature of the Life Industry tends to cause the assumption to be made that every life office will be open for new business indefinitely and perhaps, that every life office should write as much new business as possible.

Although the primary responsibility of the directors and managers of a life office is to ensure that obligations to both policyholders and shareholders are met in full, this does not necessarily mean that the life office must be kept open indefinitely or that there is an obligation to write ever increasing levels of new business. After having provided for the satisfaction of policyholder expectations, shareholders need regularly to review their position and to establish which course of action would best serve their interests. Various courses could be followed. For example, the life office can be kept open, new business can be financed and enhanced profits can be received some date in the distant future. Alternatively, the life office can be kept open but with restricted levels of new business being written so that new business strain is limited and smaller profits emerge at an earlier date. Yet again, the office can be closed to new business, existing business administered at relatively low cost, and further reduced surpluses taken in the shortest possible time.

The decision which course to follow is important as it will serve to give direction to management in the development and execution of policy. There are, however, inherent dangers awaiting the unsuspecting in the quest to choose the correct course.

In adopting a long term view, the danger is that although new business growth and profits can be projected to emerge in the future, the immediate requirement for financing is great. Each year sees a greater demand for capital and, whilst new business growth appears good, the date on which profits begin to emerge is put further and further out into the future. The short term view may be just as dangerous in that the temporary concerns for additional capital and the lack of immediate emergence of profits may

be over-emphasised and lead to decisions being made that disregard the benefits of a healthy long term future.

Clearly, if the office is able to produce and abide by a plan which will satisfy prevailing shareholder expectations in the longer term, shareholders will best be served by keeping the office open. It is unlikely that a life office will be unable to devise a plan which will improve profit expectations but, in such event, consideration should be given to the possibility of closing the office and to running off existing business. The plan required is commonly known as a 'Surplus Projection Plan'.

(c) Surplus Projection Plan: Model III

Most modern commercial enterprises tend to develop three to five year business plans. These do not appear, however, to be as important as the one year "budgets" demanded by most boards of directors. Indeed, many ordinary commercial undertakings seem able to operate very successfully without longer term projection plans. Life offices are very different in this regard due to the long-term nature of their business. As explained in Section 2 above, it is almost impossible for life offices to decide on management policy without having made a careful assessment of the long-term implications of these decisions. For this reason a surplus projection plan based on the actual results of the recent past and on numerous assumptions about the future, is a most essential ingredient to the successful management of any life office. In order to demonstrate the nature of a surplus projection plan, a particular example was developed for the specific purpose of this work and was extensively tested in a real life office over several years.

Tables 4.5, 4.6 and 4.7 follow consequentially upon each other and represent Model III. They show how a life office may develop a corporate surplus projection plan to account for the future expectations of policyholders and shareholders alike. The programs and configurations shown were developed on an IBM 512kb personal computer and research has not revealed any similar work published in

South Africa to date. The assumptions made and a more complete analysis of the examples shown appear in the Explanatory Notes at Appendix 1 to this Chapter. Because of the complex and detailed nature of a surplus projection plan, and as it is only the essential purpose of this plan which need be highlighted at this point, only cursory reference is made to it here. The serious student of life assurance should, however, make a careful study of the appendix as the surplus projection plan constitutes an important element in the management of a life office. Indeed, its preparation, testing and refinement absorbed a considerable portion of the time taken on this thesis.

Table 4.5 shows one year's analysis of expected trading and investment results by company new business division. The general management of each company division will, with the assistance of their staff, develop such an analysis for submission to the chief executive. He will then combine the divisional totals into company total and go on to develop a surplus projection report similar to that shown in the example of Table 4.6. In such a projection he should ideally show several years of actual results in order to validate the reasonableness of his projections over the next five to ten years. Naturally, his projections will be subject to an 'expanding funnel of doubt' the further into the future his projection attempts to go. However, with experience, and provided management is able to adhere to targets set each year, a fairly high level of confidence can be obtained from such projections for at least the ensuing year or two. Having established the details required for the generation of the surplus projection report as shown in Table 4.6, the balance sheet and revenue account for any particular year can be generated and shown as in the example of Table 4.7. This last report then becomes the primary reporting tool for consideration at Board meetings during the course of a financial year as it contains the summation of all that has gone before in each area and division of the company.

These three reports, taken in conjunction with each other, ultimately provide a basic means for measuring whether a life office

TABLE 4.5

MODEL III - DIVISIONAL ANALYSIS

-SEC. PRIORITIES/ LIFE

1983 / 1984 PRODUCTION AND EXPENSE BUDGET ANALYSIS

UNIT	Broker Division	Field Division	Group Life	Pension	Total
	95-5869 84-5861 84-5860	95-5869 84-5861 84-5860	95-5869 84-5861 84-5860	95-5869 84-5861 84-5860	95-5869 84-5861 84-5860
New Bus.(Gross)	14.75 13.48 14.50	11.50 8.87 7.70	0.59 0.40 0.86		22.85 22.95 23.00
U.S. (SINK) of Reate.)	12.11 11.92 12.60	9.44 7.84 6.80	0.70 0.53 0.76		22.51 20.29 20.30
Net Premium Income	21.98 19.68 11.53	9.67 6.13 2.99	2.33 2.26 2.46	7.50 4.91 2.26	41.48 34.95 34.25
Investment Income	9.51 7.81 5.45	4.25 2.93 2.64	0.12 0.10 0.10	2.70 2.35 2.80	17.68 13.24 10.59
Realized Gains	1.14 2.03	0.78 1.00			0.80 1.84 3.00
Linked Equity Write up	(3.20) 2.00	(1.34) 1.00			0.00 (4.50) 3.00
Property Revaluation	1.85	0.73			8.68 2.78 0.00
					0.80 0.00 0.00
TOTAL INCOME	31.50 27.30 31.15	14.42 9.42 7.83	2.45 2.38 2.70	10.20 9.29 9.26	58.54 48.37 50.94
Death Claims	4.00 3.00 3.40	1.95 1.54 1.70			7.75 4.84 7.10
Activities	2.65 1.97 1.40	1.20 0.74 0.80	1.00 1.52 2.10		3.45 2.21 2.20
Annuities	1.00 0.88 0.50	0.40 0.30 0.25			1.40 1.18 0.75
Surrenders	0.99 0.42 0.80	0.70 0.54 0.40			1.50 0.94 1.40
Total Pol.Hol. Payments	8.45 6.27 6.10	4.35 3.12 3.35	1.80 1.52 2.00		14.48 10.91 11.45
Commission	9.55 7.87 7.10	5.52 3.45 4.80	0.20 0.15 0.30		14.28 11.42 11.40
Expenses	7.19 4.13 4.35	1.50 1.20 1.30	0.20 0.14 0.23	0.11 0.07 0.07	9.08 7.54 7.85
Taxation	1.53 1.28 0.90	0.77 0.44 0.45	0.82 0.62 0.92		2.32 1.84 1.37
TOTAL DUTY	25.72 21.50 20.45	12.14 8.41 9.10	2.72 1.93 2.55	6.11 0.07 0.07	40.21 31.81 32.17
Life Fund Increase	5.76 5.80 10.70	2.27 1.87 (1.27)	0.23 0.47 0.15	10.67 9.22 9.19	16.36 16.54 10.77
Life Fund at year end	74.20 70.47 76.24	6.15 1.87 (0.47)	1.08 0.85 0.53	43.27 33.18 33.15	124.73 104.37 111.45
Actuarial Liabilities	72.74 68.49 74.04	6.77 2.45 1.40	0.48 0.51 0.70	43.27 33.18 32.49	123.45 104.83 110.15
Surplus for Year	1.71 0.98 1.38	(2.02) 1.45 0.15	0.64 0.28 0.27	0.06 (0.44) 0.00	(0.27) * 5 1.80
Surplus on Fund	3.49 1.78 2.18	(2.42) (0.58) (1.87)	0.40 0.34 0.33	0.00 0.00 0.46	1.28 1.54 1.30
Pol.Hol. Bonus	1.20 1.21 1.20	0.42 0.35 0.32			1.72 1.56 1.42
PRELIMINARY SURPLUS(SHORTFALL)	2.19 0.57 0.88	(3.04) (0.93) (2.19)	0.40 0.34 0.33	0.00 0.00 0.46	(0.44) (0.82) (0.32)
(Excl. Previous Bonus)					

TABLE 4.6

MODEL III: SURPLUS PROJECTION

ABC PROPRIETARY LIFE

ITEM	Actual 1981/82	Actual 1982/83	Actual 1983/84	Actual 1984/85	Project. 1985/86	Project. 1986/87	Project. 1987/88	Project. 1988/89	Project. 1989/90	Project. 1990/91	Project. 1991/92	Project. 1992/93	Project. 1993/94	Project. 1994/95	Project. 1995/96
NEW BUSINESS (Gross)	2,826	3,670	14,162	22,755	27,350	34,310	49,239	64,553	89,847	121,293	163,744	223,357	298,427	482,374	543,892
NEW BUS. Cmt of Reass.)	1,418	3,219	10,300	20,284	22,254	27,388	34,274	49,915	67,385	90,978	122,589	165,772	223,826	382,157	407,912
NET PRSH. INCOME	18,202	12,452	16,451	28,012	33,781	46,825	64,142	87,496	119,301	161,511	218,577	294,282	409,804	541,846	732,272
PENSION PRSH. INCOME	0	15,559	4,300	4,948	7,500	8,258	9,075	9,782	10,781	12,579	15,287	14,615	16,677	17,685	19,453
INVESTMENT INCOME	4,323	4,643	8,376	13,237	17,083	18,512	19,329	23,345	26,981	35,949	44,994	54,944	79,931	94,746	122,383
CAPITAL GAINS (Realized)	1,423	1,435	3,229	1,948	0	2,008	2,240	2,589	3,810	3,147	3,535	3,748	4,421	4,952	5,544
EQUITY WRITE-UP	(1,588)	3,745	(1,541)	(4,240)	0	2,500	2,230	2,420	2,462	2,728	2,221	3,243	3,877	4,287	4,716
SAVING (Revolves, Etc.)	0	0	(42)	2,782	0										
TOTAL INCOME	14,283	42,234	32,772	48,071	58,644	77,587	97,825	125,911	164,254	215,517	283,864	375,272	498,121	663,232	884,870
DEATH CLAIMS	1,830	2,310	3,710	4,360	7,710	10,415	13,691	18,362	24,768	33,464	45,177	60,968	82,324	111,151	150,254
MATURITIES	753	839	1,572	2,710	3,955	5,115	6,476	8,945	11,720	15,529	20,525	27,582	36,123	47,862	63,418
REDEMPTIONS	233	285	405	1,180	1,400	1,808	2,429	3,282	4,445	6,006	8,150	10,936	14,763	19,928	26,966
SURRENDERS	659	653	463	960	1,530	1,748	2,036	2,372	2,763	3,219	3,750	4,569	5,678	6,930	8,598
TOTAL P/HOLDER PAYMENTS	3,253	3,897	5,773	10,910	14,400	18,778	24,751	32,871	43,714	58,212	77,693	102,555	138,310	184,874	247,284
COMMISSION	1,847	2,341	3,205	11,420	14,284	14,432	12,184	29,549	40,421	54,582	73,686	99,476	134,292	181,294	241,747
EXPENSES	1,494	3,772	5,898	7,544	9,108	10,800	12,618	15,252	18,462	22,395	28,674	32,249	38,498	44,438	55,726
TAXATION	244	562	728	1,940	2,324	2,314	2,422	2,543	3,613	4,488	5,619	7,121	9,115	11,781	15,260
TOTAL OUT GO	7,065	11,372	17,764	31,814	40,208	48,324	62,316	81,315	106,422	139,476	185,781	242,490	326,615	424,387	563,119
LIFE FUND INCREASE	7,195	31,221	15,568	16,557	18,256	29,262	34,717	44,637	57,732	75,847	100,580	132,972	177,764	238,445	321,751
TOTAL LIFE FUND	45,013	74,244	89,812	106,387	124,725	152,988	188,705	233,241	301,274	367,121	467,204	601,174	777,082	1,016,527	1,338,238
NET ACT. LIABILITIES	41,458	74,311	85,081	105,929	125,618	152,749	185,177	225,002	276,278	341,440	424,277	531,256	670,876	853,227	1,095,509
SURPLUS ON LIFE FUND	3,255	2,232	4,731	441	(285)	1,239	3,526	7,546	14,995	25,481	42,927	68,926	107,005	162,590	242,709
P/HOLDER BONUSES	1,144	1,143	1,396	1,558	1,723	1,864	1,876	1,991	2,091	2,193	2,265	2,406	2,541	2,648	2,802
SURPLUS/SHORTFALL TO DATE	2,387	1,090	3,423	(1,117)	(2,865)	(5,673)	1,438	5,548	12,405	27,494	48,422	84,406	104,404	159,922	232,907
FIXED INTEREST ADJ. (Book losses)	0	(748)	(3,215)	(2,789)	(1,500)	(1,125)	(844)	(623)	(473)	(356)	(267)	(200)	(150)	(112)	(84)
ADJUST. SURPLUS TO DATE	2,387	242	418	(2,763)	(3,289)	(1,493)	784	4,914	11,930	27,138	48,255	84,206	104,214	159,810	232,822
SHARE HOLDER CAPITAL	7,580	7,584	7,588	7,588	7,588	7,588	7,588	7,588	7,588	7,588	7,588	7,588	7,588	7,588	7,588
GEN. & NON-DISTRIB. RESV.	2,780	2,781	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780
TOTAL NET ASSETS	12,667	19,622	10,498	6,374	4,775	9,588	11,566	15,156	22,218	32,419	59,325	74,696	114,514	170,659	250,102

NOTES:

EXPENSE/NEW BUS.	85.41%	74.79%	41.63%	32.87%	33.27%	29.57%	26.29%	23.37%	20.77%	19.46%	16.41%	14.59%	12.97%	11.52%	10.25%
COMMISSION/NEW BUS.	91.16%	56.84%	37.46%	49.76%	52.81%	45.90%	45.06%	45.06%	45.06%	45.06%	45.06%	45.06%	45.06%	45.06%	45.06%
EXPENSES/NET PRSH. INC.	14.40%	28.19%	35.85%	26.72%	26.89%	23.84%	20.21%	17.77%	15.48%	13.87%	12.78%	10.88%	9.64%	8.57%	7.41%
EXPENSES/TOTAL INCOME	11.84%	8.56%	19.17%	15.40%	15.37%	13.72%	12.36%	12.35%	11.35%	10.39%	9.47%	8.59%	7.77%	7.08%	6.26%

TABLE 4.7

MODEL III: PROJECTED BALANCE SHEET AND REVENUE ACCOUNT
FOR THE 12 MONTHS ENDED 30 JUNE 1986

BALANCE SHEET: (Thousands of Rands)	THIS YEAR TO DATE			LAST YEAR TO	
	act-a	bgt-b	% a/b	DATE-c	% a/c
SHARE CAPITAL	7500	7500	100.00	7500	100.0
LIFE FUND:	106369	106369	100.00	89212	118.4
Unrealised P/L on equities held since 30/4/85	0	0	-1750	0.0	
	106369	106369	100.00	88054	120.8
TRANSFER FROM REVENUE ACCOUNT:	16356	124725	124725	10315	106369
NON-DISTRIBUTABLE RESERVES	2380	2380	100.00	2380	100.0
CURRENT LIABILITIES/PROVISIONS	5704	5704	100.00	7385	77.2
GENERAL RESERVES	400	400	100.00	400	100.0
TOTAL FUNDS	140709	140709	100.00	124034	113.4
INVESTMENTS	126433	126433	100.00	119401	114.5
FIXED ASSETS	4670	4670	100.00	4350	107.4
CURRENT ASSETS	9606	9606	100.00	9283	103.5
TOTAL ASSETS	140709	140709	100.00	124034	113.4
REVENUE ACCOUNT: (Thousands of Rands)					
GROSS PREMIUMS: Single	800	800	100.0	1145	69.9
Recurring	41291	41291	100.0	32773	126.0
Pensions	7500	7500	100.0	6940	108.1
GROSS PREMIUM INCOME	49591	49591	100.0	40858	121.4
LESS: REASSURANCE PREMIUMS	-8110	-8110	100.0	-5906	137.3
TOTAL INCOME	41481	41481	100.0	34952	118.7
OUTGO: PAYMENTS TO POLICYHOLDERS:	14600	14600	100.0	10910	133.8
COMMISSIONS	14284	14284	100.0	11420	125.1
OVERHEADS	9000	9000	100.0	7544	119.3
TOTAL OUTGO	37884	37884	100.0	29874	126.8
NET INCOME FROM OPERATIONS	3597	3597	100.0	5078	70.8
Investment Income:	17083	17083	100.0	13237	129.1
Realised P/L on linked portfolio's:	0	0	1752	0.0	
Realised P/L non-linked portfolio's:	0	0	188	0.0	
NET INCOME FROM INVESTMENTS	17083	17083	100.0	15177	112.6
TOTAL NET INCOME BEFORE TAX	20680	20680	100.0	20255	102.1
DEDUCT: TAX	-2324	-2324	100.0	-1940	119.8
TRANSFER TO LIFE FUND:	18356	18356	100.0	16315	100.2
EXPENSE RATIO ((B+C)/(A1+A4))	34.7	34.9	33.8		

should be kept open and if so with what expected results. They are instruments which tie together the marketing, administration, staffing and financial management of a life office in one comprehensive plan and provide a basis for measuring the degree of financial success of current policy and management decisions, and for planning future development.

(d) Conclusion

The format, style and interpretation of the reports discussed in Sections 3 (a), (b) and (c) above for any particular life office will undoubtedly be unique and will reflect the structure, style and culture of the office concerned. Of course they can never be interpreted with one hundred per cent confidence but they do provide the answers to the fundamental questions that life offices must ask: when profits are expected to emerge; what financing may be required; whether it is prudent to close the office or to continue writing business and, if so, at what level; how profitability improvements can be made, and whether it is worthwhile delaying the emergence of future profits.

Forecasts of the kind shown in Table 4.6 are seldom entirely accurate and to attempt to predict the experience until the last policy has run off would be complete folly. Life offices can hope only to make intelligent estimates of the long term future and it would therefore be rash for conclusions about the long term viability of an office to be made at one point only. The result of any particular year may have little significance in the long term, but a consistent trend over a series of years would begin to take on a positive meaning and provide the directors and management of the office with the means by which to make competent policy and management decisions. The significance of the surplus projection plan can therefore not be overestimated as without it, cogent decisions about the long term future would be well nigh impossible.

CHAPTER IV: SOURCE REFERENCES

1. Le Grys, D J (1979). The Financial Management of a Developing Life Office. London: Private Publication.
2. The examples used are adapted from those used by Le Grys in the work referred to.
3. Le Grys, op. cit., p.24.

APPENDIX: EXPLANATORY NOTES

The hypothetical example of Model III shows a relatively small life office active in most areas of the South African life assurance market. It includes a small Group Life and Pensions department with the Field Force and Broker Divisions significantly larger.

If not otherwise noted below, the following assumptions have been made in these examples. Lapses by premium have been assumed at 25 per cent in the first year, 10 per cent in the second year and 4 per cent per annum every year thereafter. An even mix of basic linked endowments, conventional with-profit whole life and term assurance plans has been assumed, together with a further 15 percent by premium of supplementary benefits for the Field and Broker Divisions. In all cases, mortality has been assumed at the SA 56 - 62 select lives level. Actuarial liabilities have been calculated as typical for the policy classes concerned and have taken account of expected future management fees on linked business.

Table 4.5 divides the imaginary company into its four main areas of new business activity with total income and outgo items apportioned between them. This apportionment is based as far as possible on the actual measured experience in each of the divisions. (Naturally, due to the vicissitudes of accounting, this apportionment cannot always be absolutely accurate in practice and often assumptions will need to be made.)

From Table 4.5 one can deduce that the company's Field Division has in recent times been showing considerable growth (the 1984/5 actual of R8,87-million Gross New Business being 15 per cent higher than the R7,7-million budget) and has thus been producing a shortfall rather than a surplus. The budget for the forthcoming year shows that a considerable shortfall is expected to arise, attributable largely to the continuing growth in new business (up 29 per cent from R8,87-million to R11,5-million) and to a relatively small portion of the existing Life Fund being attributable to this division. The actuarial liabilities attributable to each division are calculated by the actuary each year, and projections made of future liabilities based on the expected net premium income and mix of policy types to be sold during the forthcoming period. In his assumptions, the actuary will also make reference to such factors as expected investment performance and surpluses arising after payments to policyholders of claim benefits.

Also evident from the right hand total column in Table 4.5 is that imaginary company "ABC Proprietary Life" expects, largely as a result of the growth in its Field Division, to produce an overall shortfall of R0,44-million for the 1985/6 year.

The values derived in the Total column of Table 4.5 are now used in the generation of the values shown in Table 4.6. This Table underscores the statements made in Chapter IV regarding the inappropriateness of attempting to make policy decisions based on the results for one particular year. The results of the particular years shown in this example have little significance in the long term but contribute to a trend over a period of years which begins to take on a positive meaning when viewed in the context of the surplus projection plan over a number of years. Here, arising largely because of the additional expenditure required for the development of the office in the earlier years and the large percentage growth in gross new business, three years of shortfall are expected to arise between 1984 and 1987. (1984/5 - R3,906-million; 1985/6 - R3,505-million; 1986/7 - R1,692-million.) Thereafter, very significant and rapidly rising surpluses are expected to emerge. These rapidly rising surpluses are of course largely attributable to that expansion of the office which initially resulted in three years of shortfalls. The figures in Table 4.6 show that gross new business in the 1982/83 financial year increased by over 150 per cent on the previous year (R2,026-million to R5,0790-million) and that the following financial year the increase was over 179 per cent (R5,070-million to R14,162-million). The 1984/85 financial year shows an actual increase of 62 per cent over the previous year's gross new business (R14,162-million to R22,95-million) but gross new business for the 1985/86 financial year is projected as increasing by only 17,8 per cent. Thereafter, gross new business is projected to grow at only 35 per cent per annum compound.

It is observed from the "Adjusted Surplus to Date" row that the vast increase in new business during the three year period from 1982 to 1985 led to shortfalls arising during the three years between 1984 and 1987. This lag effect on surplus generation is very common and arises because surplus generated by the business written before the 1982/85 increase in new business is being consumed by that new business in the earlier part of the growth phase, whilst the surplus which is generated by the increased new business does not emerge immediately but takes a year or two to emerge and thus to expunge the shortfall it has brought about in earlier years. This is yet further evidence of the fact that the results of a particular year cannot be used as the basis for making fundamental decisions about the future course of the life office.

From the Pensions Premium Income row shown in Table 4.6, it is evident that the particular life office in this example had no Pensions Division at the start of the period shown but that in the 1982/83 financial year commenced operations with a lump sum being taken over from some existing pension fund (R15,589-million). In the years thereafter, there is no apparent lump sum takeover but actual premium growth to the end of the 1984/85 financial year looks reasonably successful at approximately 60 per cent per annum. The

TABLE 4.5

MODEL III: DIVISIONAL ANALYSIS

SISKIYOU COUNTY OFFICIALS / 585
3117 AVALON DRIVE
JANUARY 1981

net PROPRIETARY LIFE

TTB#	Broker Division	Field Division	Group Life	Pensions	Total
	85/4849 84/5cct 84/59dp	85/4849 84/5cct 84/59dp	85/4849 84/5cct 84/59dp	85/4849 84/5cct 84/59dp	85/4849 84/5cct 84/59dp
	14.75 13.48 14.30	11.30 8.87 7.70	0.80 0.60 0.80		72.85 22.85 23.00
	12.11 11.92 12.63	9.44 7.84 6.89	0.70 0.53 0.70		22.26 20.29 20.30
	21 19 19 21.29	9.57 9.13 2.89	2.33 2.20 2.60	7.50 6.94 7.25	41.48 34.94 34.35
	Investment Income	4.75 2.68 1.04	0.12 0.16 0.10	2.70 2.35 2.00	12.09 13.24 16.59
	Realized Cap. Gain	9.51 1.16 2.00			0.60 1.94 3.60
	Unrealized Cap. Gain	(3.29) 2.00	(1.34) 1.00		8.49 (4.50) 3.46
	Property Evaluation	1.85	0.93		0.69 0.28 0.06
					0.69 0.00 0.00
	TOTAL INCOME	31.50 27.35 31.15	2.45 2.30 2.70	10.20 9.29 9.26	58.54 48.37 50.94
	Bath Claims	4.00 3.00 3.40			7.75 4.64 7.10
	Maturities	2.45 1.97 1.40	1.89 1.52 2.80		3.95 2.71 2.20
	Amortizations	0.96 0.89 0.39	0.46 0.30 0.25		1.40 1.18 0.75
	Surrenders	0.90 6.42 0.80	0.70 0.54 0.60		1.59 6.94 1.48
	Total Pol. Adv. Payments	8.45 6.27 6.10	1.80 1.32 2.60		14.40 10.91 11.45
	Consolidation	8.56 7.82 7.10	5.52 3.45 4.69		14.28 11.42 11.48
	Express	7.19 6.13 6.35	1.90 1.26 1.30	0.11 0.07 0.07	9.00 7.54 7.95
	Taxation	1.53 1.28 0.99	0.02 0.62 0.82		2.32 1.94 1.37
	TOTAL OUT GO	25.73 21.50 20.45	7.22 1.83 2.55	0.11 0.07 0.07	40.21 31.61 32.17
	Life Fund Increase	5.76 5.80 10.70	0.73 0.47 0.15	10.89 9.22 9.19	18.34 16.56 18.77
	Life Fund at Year end	74.23 74.07 78.24	1.68 0.85 0.53	43.27 32.18 33.15	124.73 104.37 111.45
	Actuarial Liabilities	72.74 48.49 76.64	0.48 0.51 0.28	43.27 32.18 32.49	123.45 104.83 110.15
	Surplus for Year	(2.04) 1.45 1.51	0.04 0.29 0.27	0.00 (0.64) 0.00	(0.27) 2.85 1.96
	Surplus on Fund	3.49 1.78 2.18	0.46 0.34 0.33	0.06 0.00 0.64	1.28 1.54 1.30
	Pol. Adv. Surrenders	1.30 1.21 1.30	0.45 0.35 0.32		1.71 1.56 1.42
	PRI. MUTUAL SURPLUS(SHAREHOLD)	2.19 0.57 0.83	0.40 0.34 0.33	0.00 0.00 0.64	(0.44) (0.02) (0.32)
	PREL. PREVIOUS SURPLUS				

TABLE 4.6

MODEL III: SURPLUS PROJECTION

ABC PROPRIETARY LIFE

ITEM	Actual 1961/62	Actual 1962/63	Actual 1963/64	Actual 1964/65	Project 1965/66	Project 1966/67	Project 1967/68	Project 1968/69	Project 1969/70	Project 1970/71	Project 1971/72	Project 1972/73	Project 1973/74	Project 1974/75	Project 1975/76
NEW BUSINESS (Gross)	2,026	5,379	14,142	22,726	37,050	36,510	49,299	66,553	89,847	121,293	162,744	221,357	279,427	402,874	543,082
NEW BUS. Cost of Reass.)	1,418	3,219	10,200	20,284	22,256	27,288	36,774	49,915	67,205	90,778	122,869	165,793	222,839	302,157	407,912
NET PRON. INCOME	18,202	12,452	14,451	20,812	23,981	46,825	44,142	87,494	119,401	141,511	218,077	294,382	409,594	541,842	732,772
PENSION PRON. INCOME	0	15,589	4,200	4,948	7,208	8,250	9,875	9,983	10,981	12,679	13,287	14,415	16,377	17,405	19,453
INVESTMENT INCOME	4,223	5,643	8,276	12,233	17,063	19,512	19,399	23,545	28,761	35,953	44,354	54,944	72,721	94,244	122,383
CAPITAL GAINS (Realized)	1,421	1,455	3,229	1,940	0	2,008	2,240	2,587	2,810	3,147	3,235	3,748	4,421	4,952	5,544
EQUITY WRITE-UP	(1,540)	3,745	(1,541)	(4,548)	0	2,900	2,280	2,420	2,642	2,928	3,221	3,543	3,897	4,287	4,714
SURPLY (Revolow, Etc.)	0	0	(42)	2,782	0										
TOTAL INCOME	14,288	42,294	20,772	40,371	56,564	77,587	97,433	125,951	164,354	219,517	285,844	375,372	498,121	643,632	804,870
DEATH CLAIMS	1,609	2,628	3,700	6,840	7,759	15,475	12,401	18,342	24,708	33,444	45,177	60,980	82,204	111,751	150,954
MAINTENANCE	700	429	1,072	2,710	3,750	5,135	4,474	8,045	11,720	15,529	20,375	27,262	36,123	47,842	63,418
ANNUITIES	294	200	401	1,180	1,820	2,430	3,272	4,443	6,083	8,180	10,724	14,743	19,920	26,964	36,864
SURRENDERS	650	430	600	940	1,500	1,740	2,054	2,272	2,743	3,217	3,750	4,349	5,090	5,930	6,968
TOTAL POLICYER PAYMENTS	2,223	3,677	5,772	10,918	14,400	18,770	24,751	32,871	43,716	58,212	77,063	102,355	138,310	184,474	247,264
COMMISSION	1,647	3,841	5,305	11,420	14,284	16,432	22,184	29,749	40,431	54,582	73,484	99,474	134,292	181,294	244,747
EXPENSES	1,494	2,792	3,878	7,544	9,100	15,601	12,940	15,552	18,442	22,295	26,874	32,249	38,498	46,438	55,726
TAXATION	244	345	728	1,940	2,224	2,214	2,422	2,943	3,412	4,482	5,171	7,121	9,115	11,701	15,340
TOTAL OUT GO	7,085	11,073	17,294	31,814	40,209	48,224	62,318	81,215	104,422	137,470	182,781	242,400	328,413	424,267	543,119
LIFE FUND INCREASE	7,193	31,226	13,568	16,537	16,256	27,262	34,717	44,637	57,972	75,847	100,083	132,372	177,704	230,443	321,751
TOTAL LIFE FUND	45,212	76,244	89,812	106,347	124,725	152,986	188,705	233,341	291,274	367,121	467,234	608,174	777,802	1,014,527	1,323,278
NET ACT. LIABILITIES	41,459	74,911	85,081	105,729	125,016	152,749	185,179	225,002	274,776	341,440	424,277	531,256	679,576	893,927	1,195,549
SURPLUS OF LIFE FUND	2,555	1,233	4,731	441	(205)	1,239	3,526	7,540	14,495	25,681	42,927	66,928	107,882	142,590	242,769
POLICYER BONUSES	1,148	1,143	1,099	1,359	1,720	1,884	1,894	1,991	2,091	2,193	2,305	2,420	2,541	2,668	2,802
SURPLUS(SHORTFALL) TO DATE	2,387	1,090	3,632	(1,117)	(2,035)	(567)	1,630	5,548	12,495	25,484	49,422	66,469	104,444	159,722	239,767
FIXED INTEREST AD. (Good losses)	0	(740)	(2,153)	(2,789)	(1,580)	(1,125)	(844)	(423)	(495)	(356)	(267)	(200)	(150)	(113)	(84)
ADJUST. SURPLUS TO DATE	2,387	342	418	(1,764)	(2,005)	(1,692)	784	4,714	11,998	25,130	49,165	66,269	104,214	159,609	239,682
SHARE HOLDER CAPITAL	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
GEN. & NON-INSURABLE RESV.	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700
TOTAL NET ASSETS	12,467	10,422	15,498	4,274	4,773	8,508	11,864	15,174	27,210	33,410	50,435	74,480	114,394	170,489	259,192
RATIOS															
EXPENSE/NEW BUS.	83.41%	74.79%	41.45%	32.67%	33.27%	29.57%	24.29%	23.37%	20.77%	18.46%	16.41%	14.39%	12.97%	11.53%	10.25%
COMMISSION/NEW BUS.	91.14%	84.60%	37.46%	49.76%	52.01%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%
EXPENSES/NET PRON. INC.	16.48%	29.19%	26.85%	24.92%	24.49%	23.94%	20.21%	17.77%	15.48%	13.87%	12.28%	10.80%	9.46%	8.57%	7.61%
EXPENSES/TOTAL INCOME	11.62%	8.76%	17.17%	18.68%	15.27%	13.92%	13.24%	12.55%	11.30%	10.39%	9.47%	8.95%	7.77%	7.06%	6.20%

projections from 1985 onwards are based on a 10 per cent per annum compound growth rate and would seem conservative at this rate. Normal salary increases of members of those pension funds with which the life office already deals should account for at least a 10 per cent per annum growth. At 10 per cent per annum growth in pension premium income, this projection obviously does not take account of the natural growth in the number of contributors to the funds being dealt with by the life office and obviously is not predicting the absorption of completely new pension funds. The Board of Directors of this company would probably wish to know why such assumptions have been made. Similarly, the assumptions made regarding the growth in investment income, capital gains, and write up of equity values might be questioned in the light of actual experience to date and expected future developments.

Assumptions with regard to Death Claims, Maturities, Annuities and Surrenders will have to be made in conjunction with the company actuary and will be affected by numerous factors including the existing mixture of policy types on the books of the company, the average number of years each category of policy has been in force, the size of the premiums in each category, the growth of new business in each category and the history of each category to date. Assumptions regarding surrenders will not only be affected by the company's history of such claims to date but also by the economic climate which is expected to prevail in the future. It is usually understood that an economic decline in the sector or sectors in which the life office operates, will lead to a greater surrender experience than during times of economic upswing.

Assumptions regarding Commission are directly related to assumptions regarding new business (approximately 45 per cent of Gross New Business from 1986 onwards) but will vary according to the expected product mix, policies of a longer term attracting higher commission as a percentage of premium than those of a shorter term. Projections regarding the growth of Expenses are of course affected by a wide range of factors including assumptions regarding the rate of increase in the cost of staff, computer hardware (imports) and software requirements, printing, communications, promotional activities and the like.

One of the more difficult areas on which to make assumptions is that of taxation. Whilst this is currently a direct function of investment income, the erratic changes to the taxation formula for life offices in recent years has rendered these projections highly suspect and accounts for the very erratic changes in taxation evident in Table 4.6. In addition, any major shift in product mix between Pensions, Retirement Annuity and Endowment business will also affect these assumptions due to the fact that investment income from pension and annuity business is not taxed.

Probably the most difficult of all factors on which to make projections are the life office's net Actuarial Liabilities. These arise from highly interdependent factors which are extremely numerous. Indeed, the formula for this row of values included in the computer programme designed to generate the Table 4.6 example, runs to several full screen lines and is by far the most complex of

all the formulae used. Inter alia, the formula for this row of values takes into account past and present levels of new business and persistency, the resultant increase in premium flow, income from all other sources other than premium, and all payments to policyholders with their respective weights, dependent on known and anticipated product mix. All the assumptions contained in this row are highly volatile and require the input of not only the company valuator but also those members of senior management aware of the office's past, present and expected future trends.

The Policyholder bonuses projections are somewhat less complex to calculate at given bonus rates and in the example in Table 4.6 it is clear from the slow rate of increase in total bonuses payable that the office has not and is not planning to write large volumes of conventional with-profit business in the future and indeed, will very likely be reducing the value of this class of policy.

The row referring to an adjustment in the value of Fixed Interest investments shows that this office is assuming that the book losses suffered as a result of rising interest rates are expected to decline in the future. This could mean that the office is assuming either a fall in future interest rates or a reduction in the relative size and/or term to maturity of their fixed interest portfolio, or both. Such assumptions are of course affected by the assumed Part I asset requirements which will alter by changes in expected product mix between the retirement annuity and pension business, and ordinary assurance business.

The "Adjusted Surplus To Date" row shown in Table 4.6 is underlined because of its pertinent nature. This is the line which shows the surplus from which transfers to shareholder funds may be made. Some would argue that such transfers might be made from the row which shows "Surplus To Date", but prudent management would wish first to take account of all contingent liabilities including potential Fixed Interest Investment losses, and not to undermine the capital or reserves of the office by ignoring these. Nevertheless, as far as legislation and the Registrar of Insurance is concerned, the "Total Net Assets" is of significance and may not be permitted to become negative at any time. Indeed, in 1985, changes to the Insurance Act made it a criminal offence for life offices to declare dividends under such circumstances or which would lead to such circumstances.

The ratios shown at the bottom of Table 4.6 are valuable indicators which may be used by the life office's directors and management in determining their future policy and strategies and in comparing their office results with Industry Norms. Whilst Expenses to New Business is an excellent guide to Office progress, (reducing from 83.61 per cent in 1981/2 to 33.27 per cent in 1985/86 and to under 20 per cent five years later) the Industry in South Africa is accustomed to publishing and drawing conclusions from the Expenses to Total Income ratio. From Table 7, in Chapter VII we note that in 1985 this figure was 12.5 per cent for the Industry as a whole but, as this ratio includes all income from Pensions premium and investment income merely under administration, it can be misleading.

Table 4.7 shows the projected Balance Sheet and Revenue Account for the "ABC Proprietary Life Assurance Association" as at the end of their forthcoming financial year. Naturally, using the same bases as were established in Tables 4.5 and 4.6, a balance sheet and revenue account can be produced for any financial year. As Table 4.7 is the culmination and summation of all the life office's activities, it is possibly the most important of all documents to be placed before management, directors and shareholders alike. With some knowledge of the operations of the office concerned, one can deduce from this report much about what is happening within the organisation.

By showing both the agreed annual budget and last year's equivalent figures as at the same date, much light is thrown on current operating results and excellent indicators become available of current management success in executing company policy. Without Budget and Last Year To Date figures, such a report is infinitely reduced in value.

If, as in this example, Reassurance Premiums are seen to be growing faster than gross Recurring Premiums, (137,3 per cent as compared to 126,0 per cent) the indication may be that average sums assured per life assured are growing and consideration may need to be given to an increase in risk retention limits (See Chapter V). All other deviations from budget should be observed, noted and understood and the differences between this year to date and last year to date figures should be monitored.

The percentage change in premium income should be monitored. As most premiums these days are paid monthly, the full effect of an increase in new business levels is not fully appreciated until the following financial year. This means that an office may still experience an increase in premium flow in the current year, even in the absence of a current year increase in new business. Conversely, a current large increase in new business will not immediately be fully reflected in current gross premium receipts.

Similarly, Payments to Policyholders, (here rising 33,8 per cent from R10,91-million to R14,6-million) include death, maturity and surrender claims, and will reflect an increase over previous years' figures not only arising from an increase in previous years' new business but also from a natural ageing of the policies on the books of the office. (Older policy groups having a higher claims expectation.)

Here again, an undue growth in these figures may arise from higher than anticipated surrender claims or inadequate reassurance provisions. They may also indicate poor underwriting standards if an increase in these figures is brought about by higher than expected death and disability claims.

Commissions payments will usually bear an immediate relationship to current new business levels and will give a fairly accurate picture of the current product mix which is being sold by intermediaries. Also, as the financing of new agents is often included under this category, it will indicate the success or otherwise of sales management in the control of intermediary financing debts.

In almost all cases, "Overheads" represents among the most immediately controllable areas of "outgo" of any life office and therefore often attract the most management attention. However,

TABLE 4.7 MODEL III: PROJECTED BALANCE SHEET AND REVENUE ACCOUNT
FOR THE 12 MONTHS ENDED 30 JUNE 1986

BALANCE SHEET: (Thousands of Rands)	THIS YEAR TO DATE			LAST YEAR TO	
	act-a	bgt-b	% a/b	DATE-c	% a/c
SHARE CAPITAL	7500	7500	100.00	7500	100.0
LIFE FUND:	106369	106369	100.00	89812	118.4
Unrealised P/L on equities held since 30/4/85	0	0		-1758	0.0
	106369	106369	100.00	88054	120.8
TRANSFER FROM REVENUE ACCOUNT:	18356	124725	124725	18315	106369
NON DISTRIBUTABLE RESERVES	2380	2380	100.00	2380	100.0
CURRENT LIABILITIES/PROVISIONS	5704	5704	100.00	7285	77.2
GENERAL RESERVES	400	400	100.00	400	100.0
TOTAL FUNDS	140709	140709	100.00	124034	113.4
INVESTMENTS	124433	124433	100.00	110401	114.5
FIXED ASSETS	4670	4670	100.00	4350	107.4
CURRENT ASSETS	9606	9606	100.00	7283	133.5
TOTAL ASSETS	140709	140709	100.00	124034	113.4
REVENUE ACCOUNT: (Thousands of Rands)					
GROSS PREMIUMS: Single	800	800	100.0	1145	69.9
Recurring	41291	41291	100.0	32773	126.0
Pensions	7500	7500	100.0	6940	108.1
GROSS PREMIUM INCOME "A1"	49591	49591	100.0	40558	121.4
LESS: REASSURANCE PREMIUMS	-8110	-8110	100.0	-5906	137.3
TOTAL INCOME	41481	41481	100.0	34952	118.7
OUTGO: PAYMENTS TO POLICYHOLDERS:	14600	14600	100.0	10910	133.8
COMMISSIONS "B":	14284	14284	100.0	11420	125.1
OVERHEADS "C":	9900	9900	100.0	7544	119.3
TOTAL OUTGO	37804	37804	100.0	29874	126.8
NET INCOME FROM OPERATIONS "A3"	3597	3597	100.0	5078	70.8
Investment Income: "A2"	17083	17083	100.0	13237	129.1
Realised P/L on linked portfolios:	0	0		1752	0.0
Realised P/L non-linked portfolios:	0	0		188	0.0
NET INCOME FROM INVESTMENTS "A4"	17083	17083	100.0	15177	112.6
TOTAL NET INCOME BEFORE TAX: (A3+A4)	20680	20680	100.0	20255	102.1
DEDUCT: TAX	-2324	-2324	100.0	-1940	119.8
TRANSFER TO LIFE FUND:	18356	18356	100.0	18315	100.2
EXPENSE RATIO ((B+C)/(A1+A4))	34.9	34.9		33.8	

because a large portion of company overheads are for "fixed" items such as branch networks, computer hardware, etc., it is not always easy to make immediate cuts in this area without significant impact on operations.

The Revenue Account shown in Table 4.7 shows "Net Income from Operations" separated from "Net Income from Investments" and this provides additional insight into these two important operating divisions within the organisation. By separately identifying the income arising from current operations, one can readily establish this area's contribution to the "Transfer To Life Fund" occurring each month. As a major portion of investment income is usually attributable to policyholders (initially in the form of additional actuarial liabilities), it could be unsound in certain circumstances for income from Operations to be negative or falling in value for any length of time, but not necessarily so. If this is caused by a large increase in surrenders and maturities under Payments to Policyholders, earlier than anticipated profits may be being realised, as appear to be the case here, (Maturities up 45 per cent to R3,95-million and Surrenders up 56 per cent to R1,5-million) as the payment of these usually releases more liability reserve than the amount actually paid out.

Separating realised profit or loss from total investment income is also a significant measure for the control of a life office and its investment team. Naturally, the usual investment reports emanating from this department will throw more light on these figures, but in the format shown in Table 4.6, the contribution of the respective elements of the investment operation is brought into sharp relief.

This example is made more interesting by the fact that in the previous financial year, (1984/5) realised capital gains totalled R1 940 000 (R1,752-million + R0,188-million) whilst a write down of equity values of R4 540 000 was executed. In addition, properties were revalued by R2 782 000. (See Table 4.6.) As the 1985/86 projected year shows no budget for each of these three items, the projections, especially as shown in Table 4.7 for "Net Income from Investments", become more acceptable whilst, without this background information, the uninformed observer may have questioned these figures.

Finally, it will be noted that the "Expense Ratio" is a simple ratio of total commissions and overheads paid to total gross premium and investment income. As mentioned above, this simple formula is often used by the Life Office Association and financial journalists in establishing the offices' average expense ratio and helps management in a comparative sense. However, it is of limited significance and may be criticised from many points of view, not least of which is the fact that sudden great success in attracting pensions premium income for example, or a sudden realisation of large capital gains, due largely to 'linked' policyholders, appears to lead to an apparent, but not necessarily real, improvement in expenses. This ratio is thus not a true indicator of the viability or efficiency of an office and can be misleading if not fully understood.

Tables 4.5, 4.6 and 4.7 may be significantly enhanced in management value by the addition of more detail and statistical data. However, they highlight the significant features within the operation of a life office and are quite adequate to facilitate effective management by an experienced team.

It will be noticed that, in the interests of simplicity, this example has not included transfers from the Life Fund to Shareholders' Funds, nor have dividend payments from such funds been shown.

CHAPTER V

THE FUNDAMENTALS OF LIFE REASSURANCE

Of necessity, the examples of a developing Life Office in Chapter IV made little reference to the question of Reassurance. This necessity having arisen from the need to keep the examples simple in order that the fundamental features of a life office could be more clearly conveyed. The introduction of the element of reassurance makes the matter considerably more interesting and significantly expands the area of manoeuvrability for life offices.

The models in Chapter IV assumed that the life office would carry the full risk associated with the mortality and morbidity (disability) expectations of the portfolio of lives (risks) on its books. The models further assumed that the life office's portfolio of risks did not include any particularly impaired or sub-standard lives, that the office was equipped with adequate expertise for the underwriting and assessment of such risks, and that it would carry the full burden of its own new business financing strain. The professional reassurance companies are in a position to lighten the burden of the life office in each of these areas and thereby to considerably alter the results which might otherwise have emerged.

Life reassurance, in its simplest form, provides the means whereby an insurer may entertain an application for an amount of insurance which it could not prudently carry entirely at its own risk. From the elementary need of life offices, particularly smaller offices, to "lay-off" a portion of their larger risks, has grown the complex system of risk transfers characteristic of reassurance today. In fact, the reassurance transaction may be described as the exchange of one payment or series of payments involving contingencies, for another payment or series of payments involving contingencies.

A fundamental principle, necessary to the working of the institution of reinsurance, is that the reinsurer follows the fortunes of the original life office. If the original life office (ceding company) is forced to pay a claim which lies outside the contemplated cover originally provided or which is in fact fraudulent, the reinsurer pays his share. The reinsurer also expects to profit if the fortunes turn out better than originally anticipated. In other words, the contingencies must present the same aspect to both parties to the reinsurance transaction. From this fundamental principle has grown a wide and significant role for the life reinsurer throughout the world.

1. THE HISTORY OF LIFE REINSURANCE

Reinsurance is perhaps one of the most neglected areas of life insurance thought. Research has not revealed it to have been the subject of any South African paper and, apart from a number of short notes in various actuarial publications, it appears to have been ignored for long stretches of time. The classic full paper was presented to the Institute of Actuaries by Foster in 1946.¹

This dearth of information has made it difficult to trace the history of life reinsurance but it would appear from Foster's work that reinsurance has been transacted for at least 150 years. In 1849 a Reinsurance Agreement was concluded between certain Scottish offices, which was followed in 1873 by a supplementary Agreement. A further Agreement between Scottish offices was made in 1887 and was in operation until 1900.

In the earliest times it would appear that a proposition from one company to effect an assurance with another company was looked upon with coldness, if not suspicion, and this seems to have been due in part to the frequency with which companies offered reinsurances to others without any intention of retaining any amount for their own account. In view of the increase in number of proposals for large sums assured the managers and actuaries of several offices drew up "regulations" to be observed in the transaction of reinsurance business, but there is no evidence that they were formally

adopted.² These "regulations" included a provision that a copy of the original policy should be endorsed with a guarantee, fully indemnifying the principal office to the extent of the sum reassured against all contingencies for which it might be liable, but there was a proviso that the reinsurer would not be liable for any bonus additions to the sum assured, other than these, if any, to be allotted in accordance with the rules of the reinsurer. It was provided that reassurances could not be surrendered unless the principal policy had been surrendered.

Between 1849 and 1899, various new sets of "regulations" were introduced to take account of changing experience, practice and legislation until in 1900 an agreement known as the Reassurance Agreement 1900, which is still in operation today, was made between forty-five British life offices, setting out the rules governing reassurance transactions. It was understood that variations in the Agreements applicable either to individual reassurances or to the business exchanged by any two offices could be made by mutual agreement. The Agreement provided that full information be given by the principal office regarding the risk. Existing previous papers are required, as well as new reports, details of its retention as regards old and new assurances, and terms of acceptance of the new as well as previous assurances on the same life. It provided that no sub-reassurance should be effected without the previous consent in writing of the principal office. The other main provisions of the 1900 Agreement are set out in Appendix: Main Provisions of the Reassurance Agreement - 1900 to this Chapter. It will be noted that they generally regulate the code of conduct and method of administration of reassurances. The 1900 Agreement also introduced an alternative to original premium reinsurance on the ceding company's rates. At this stage there were no professional reinsurers in today's sense of offices which transact reassurance only and do no direct business whatsoever.³

In 1918 the first professional reinsurer established himself in the United Kingdom and subsequently other markets but rapid progress began only after the second World War. In 1928 a second professional reinsurer entered the market and subsequently there

have been numerous new entrants based primarily in Western Europe, the United Kingdom and the USA. As a whole, professional reassurers are expanding faster than the direct writing companies, which reflects the world-wide nature of their operations. In 1980 more than 50 per cent of UK based reassurers' business was being transacted overseas.⁴

In South Africa, the Swiss Reassurance Company, originally based in Zurich, established itself as a reassurance company in 1950, previously having operated in South Africa through its Zurich office only. Nine years later the Mercantile and General Reassurance Company came to South Africa as a branch of its London office and registered as a South African company in 1975. As will be noted from Table 2.5 in Chapter II, there are today six reassurance companies operating in South Africa, all now registered as local companies, but all of which maintain ties with their original parent offices overseas.

The early reassurances were largely arranged on a facultative (i.e. individual, case for case) basis with freedom for the ceding office to offer, and freedom for the reassurance company to accept, decline or rate up these risks. Nowadays, a very substantial volume of reassurances written tend to be treaty or non-facultative in the sense that the reinsurer binds himself to accept business offered by the ceding office under certain terms and conditions.

First used in 1927, a major development has been a continuing trend towards 'risk premium' reassurance. Under this arrangement the reinsurer covers the mortality risk only, on his own terms, as opposed to the early reassurances which were on the basis of the original premium charged by the ceding office, with the reinsurer participating in all risks and profits, not only mortality but also interest, lapse, surrender and paid-up experiences.

A third development has been in the philosophy of reassurance. No longer is the reinsurer solely the provider of a means through which ceding offices can spread their risks (i.e. Reassurance capacity). The reinsurer is today in a strong position to provide

information on technical and administrative systems and advice on a wide range of topics as a result of his extensive experience of impaired lives, different classes of business and different markets throughout the world. A yet further development, has been the willingness of reassurers to become involved in the new business financing arrangements of ceding offices.

2. THE NEED FOR REASSURANCE

A small or new life office, and to a lesser extent established offices, have to face, among their other many problems, those of: How to protect their account against adverse mortality fluctuations; how to deal with impaired lives; how to mitigate the financing strain involved in the issue of new business; and how to train their own staff in the underwriting and administration of the office.

These four aspects will now be discussed seriatim.

(a) Fluctuations in Mortality Experience

Protection is required against the possibility that actual mortality experience departs significantly from that provided for in the premiums and valuation reserves. It is obvious that complete certainty can only be achieved by removing all sources of profit as well as risk but, a certain fluctuation about the expected mortality result will be acceptable, as indeed will be a possible but low probability of insolvency. Management, having taken the necessary decisions as to the acceptable fluctuation of possible actual claims exceeding those expected, and the acceptable possibility of ultimate ruin, must then obtain the necessary reassurances as efficiently as possible.⁵

Under the broad heading of efficiency, management would consider the following aspects:

(i) The profit margin which will be lost in the cession of premiums to the reinsurer.

(ii) The extent of the additional expenditure to be incurred as a result of the reinsurance agreement.

(iii) The extent of expenditure of management resources on the agreement.

(iv) The extent of the security and continuity of cover provided by the agreement.

(v) The extent of the flexibility of the agreement to take account of such things as changing products, reinsurance needs and growth in the transactions of the office.

(vi) The extent to which the reinsurer is able to offer additional services such as advice on the basis of experience gained internationally, and a second underwriting opinion on difficult sub-standard cases.

(b) Impaired Lives

Since the second World War professional reinsurers pioneered the way to rate a wide range of impairments and have gathered together the experience of many companies to enable them to accept risks which the companies had initially felt it prudent not to do. This information and knowledge is now being imparted to the companies by the reinsurers and companies are now feeling able to rate and accept far greater impairments as a result.

Extensive research has been undertaken into the experiences of large groups of diabetics, people suffering from high blood pressure and coronary conditions, forms of cancer, obesity and the like. Today, offices feel able to rate and retain these risks themselves. An example of the progress achieved is for stabilised diabetics who were declined life assurance prior to the second World War, but for whom normal rates are now available for endowments on middle-aged proposers on a small insulin dosage. Had the professional reinsurers not involved themselves in research in this way, it would be interesting to speculate on the likely chance of acceptance, let alone loading, for some forms of impaired lives today. Indeed, the work of the reinsurers in this area has been of inestimable value to the industry and its clients alike.

(c) Office Solvency and New Business Financing

As demonstrated in Chapter IV, one of the major problems faced by a new life office or one which is embarking on a programme of rapid expansion, is that of cash and valuation strain. In addition, smaller offices would not wish to accept sums at risk on any one life which would be so high as to endanger the short term solvency of its fund.

Naturally, the amount of risk on any one life should not be so high as - while not actually endangering the solvency of the office - to lead to an unacceptably high probability of an embarrassingly large fluctuation in surplus. In addition, reinsurers can be used to bear part or all of the investment risk of the ceding office for all but the linked or market related classes of business.

Unless the life office has adequate capital and free reserves to support the strain arising from their established level of new business, financing assistance will be required. To go to the market for additional capital may be neither convenient nor acceptable to shareholders and hence the possibility of reinsurance arrangements. The forms that this may take are as numerous as there are minds which have been applied to the matter. The essential nature of these transactions however, is to transfer all or part of the strain to the reinsurer. Modifying the commission terms between the company and the reinsurer is often the method used in such transactions. An example of this method based on a fifteen year term policy for R10 000 sum assured on a 50 per cent quota share basis is shown in Table 5.1 below:

TABLE 5.1. MODIFIED TERMS REASSURANCE

Item	100 per cent	To Reassurer	Net Office A/c
Annual Premium	R 30	R 15	R 15
1st Year Commission	- 9	-18	+ 9
1st Year Expenses	-10	-	-10
Actuarial Reserve	-30	-15	-15
Strain	-19	-18	- 1

In this manner, if R100 000 000 of sums assured is written, instead of a valuation strain of R190 000, we obtain a valuation strain of only R10 000. However, it should be noted that this method of financing costs money, like all other methods of financing through borrowed funds. Under the arrangement modified commission terms demonstrated in the above example, the ceding office has in effect mortgaged 50 per cent of all mortality and other profits which can be expected to emerge from this policy in future years. Hence, the future expanded profitability of the ceding office is affected accordingly.

It is interesting to note that the technique of co-insurance of term plans is very highly developed in the North American market but that since the initial reinsurance commission is obtained by the ceding office at the expense of under-recovery of renewal premiums, some direct-writing life offices operating such arrangements have been compelled by their insurance authorities to set up reserves against these future under-recoveries.⁶

(d) Underwriting and Administrative Assistance

Many valuable but sometimes unquantifiable benefits accrue to the ceding office under this heading. Indeed, many very large offices

which have no theoretical need to reassure due to their vast free reserves and capital, will still tend to reassure parts of their portfolio in order to ensure that they obtain the benefits arising under this heading.

As previously mentioned, the reassurers' access to statistical information including that of lives suffering impairments, their ability to keep the office advised of new product development internationally and their willingness to provide a second opinion in difficult underwriting matters, make their service of continued attraction to even the most established of offices.

For new or small life offices, reassurers are often indispensable as a result of their willingness and ability to provide underwriting facilities at various centres throughout the area in which the office is operating, in providing training facilities for under-writing and administrative staff and, in some instances, in the provision of large computer capacity for administrative purposes.

Because reinsurance always costs money, it may be thought that there are cases where reinsurance is to the disadvantage of the office which might do better to decline the proposal instead. One such case which is often mentioned is the acceptance and then reinsurance in full of a new policy. In the short term, especially if the margin in the product or extra premium is inadequate, it may be true that to decline the proposal would be more profitable, but there are sound long term reasons for taking this action. The first is the ability selectively to reinsure certain risks only. For example, under the risk premium method (See Section 3 (b)) all the mortality risk is reinsured with the ceding office retaining all other risks. In England, America, South Africa and parts of Europe, a specific recapture provision is sometimes included in reinsurance agreements. This gives the ceding office the right to reclaim reinsurance already in force following a change in its retention limits (See Section 6 below) and is a further strong point in favour of reassuring rather than declining.

Secondly, if an office has followed a practice of reassuring rather than declining sub-standard cases, it will be in a position to examine the experience of its reassured portfolio. In this way it can obtain a substantial body of data at minimal cost to itself, from which it can accurately assess the probable consequences of a change in underwriting standards or retention limits.

Finally, the ability of life offices to reassure risks is the great leveller of all life assurance intermediaries. Reassurance affords the intermediaries representing all life offices the opportunity to earn commission on business which would otherwise be beyond the capacity of the office concerned or which would otherwise have been uninsurable. In particular, the ability to insure sub-standard lives, increasing the range of lives to whom insurance can be offered, does much to promote goodwill between policyholder, life office and intermediary alike.

At this point one may note that there still exists a number of areas where statistics are either absent altogether or, if available, are sketchy.⁷ The main areas involved here are:

- (i) Lives suffering from the less common impairments
- (ii) Hazardous occupations
- (iii) Guaranteed issue policies
- (iv) Credit life assurance
- (v) Permanent health insurance
- (vi) Guaranteed insurability options
- (vii) Continuation options
- (viii) Renewable and convertible term assurance
- (ix) Affinity group schemes
- (x) 'Dread Disease' insurance (e.g. Special Drawing Rights)

These are some of the areas where the professional reassurers will undoubtedly become actors in future years. Indeed, there exists such vast marketing potential in these areas that innovative reassurers are bound to exploit them in due course. (No mention has been made here of the important assistance reassurers can offer in

respect of group life business, particularly with regard to medical free-cover limits, rating of risks and protection against accumulation of risk on individual lives.)

3. FORMS OF REASSURANCE

Before considering the various types of reinsurance available, an examination should be made of the two ways in which reinsurance is most commonly arranged:

(a) Frequent Reinsurance Arrangements

(i) Facultative Agreement. Under a facultative reinsurance agreement each risk is individually assessed by the reinsurer, who has the option of either accepting or declining each reinsurance.

(ii) Automatic Treaty Agreement. Under an automatic reinsurance treaty, the ceding office contracts to cede, and the reinsurer to accept, all amounts of reinsurance above certain well defined limits for the classes of business specified in the treaty. Reinsurance therefore occurs automatically when the ceding office accepts a proposal requiring reinsurance. An example of a modern automatic reinsurance treaty actually in force in the South African Life Assurance Industry is included at Appendix: Specimen - Life Reinsurance Agreement.

The treaty will set out the classes of business to which it applies and the way in which the amount and type of reinsurance is to be determined. It will also specify the basis of reinsurance, the commission table and contain provisions for the treatment of alterations, surrenders, lapses and paid-up policies. It will usually contain an arbitration clause in case of dispute between the ceding office and the reinsurer. A typical arbitration clause would provide for disputes to be heard by a panel of three arbitrators, one appointed by each of the parties and the third by some independent body. In South Africa, this is often the Chairman of the Management Committee of the Life Offices Association. Invariably there will be an upper limit on the amount of reinsurance which can be placed on any one life, or from any class, as well as

an upper bound on the degree of sub-standard mortality which can be included under the treaty, lives suffering higher mortality than this requiring facultative treatment. In addition, there will usually be an "Errors and omissions" clause protecting the ceding office should a case be forgotten or inadvertently left off the schedule of treaty reassured policies.

Under most reinsurance agreements, each reinsurance is evidenced only by a simple statement giving details of the policy and the reinsurance. The reinsurer may also receive copies of the application forms and claim papers, although for small reinsurances this division may be waived. The treaty may also be cancelled by either party by giving appropriate notice in writing. Cancellation could not, of course, affect reinsurances already placed.

There is a third type of arrangement which is sometimes used, called "Fac-ob" or "facultative obligatory". Under this arrangement reinsurance is facultative on the part of the ceding office but obligatory on the part of the reinsurer. That is, the ceding office decides facultatively which policies it will reinsure, and immediately on notifying the reinsurer it is automatically held covered. This arrangement has some of the advantages and disadvantages of both the other methods with the additional disadvantage that policies omitted from reinsurance by error are not automatically held covered as under the treaty method, but naturally can still be submitted facultatively to the reinsurer.

Each of these methods has its own advantages and disadvantages. The facultative method has the advantage that both the ceding office and the reinsurer retain freedom of action. A disadvantage is that each offer must be assessed separately resulting in delays, extra work and extra expense. The treaty method eliminates much of the delay and expense and in addition, where co-insurance is used, the commission payable under the treaty would usually be higher than that under a facultative arrangement.

In practice, one finds that most South African Life Offices have treaty reinsurance arrangements which cover their standard risk

business. Sub-standard lives or the excess on very large sums assured, are most frequently reassured facultatively.

(b) Two Types of Reassurance

There are two main categories of reassurance, namely proportional reassurance and non-proportional reassurance. With proportional reassurance, the relative proportions of a claim to be paid by the ceding office and reinsurer are fixed, but not necessarily constant, at the time the risk is reassured. In non-proportional reassurance, the respective shares depend upon the amount of the claim.⁸

(i) Proportional Reassurance. Commonly there are four types of Proportional Reassurance:

Co-insurance: This form of reassurance is often called "Original Terms" or "Original Premium Reassurance". Under this arrangement, the reinsurer receives the office premium rate of the ceding office on the portion reassured. In turn, the reinsurer must pay, in respect of the reassured portion, all claims, bonuses, surrender and paid-up policy values and any other benefits to which the policyholder is entitled, at the rates declared by the ceding office. A slight modification of this involves reassurance on the same basis as the original policy, but at premium rates, bonuses and surrender values determined by the reinsurer rather than the ceding office.

Co-insurance is one of the earliest forms of reassurance having developed long before the arrival of the professional reinsurers. Its unique effect is to transfer not only portion of the mortality risk to the reinsurer, but also a portion of an investment risk, new business strain and cost of options. This is extremely valuable in reducing new business strain, mortality and early lapse risk.

Risk Premium Reassurance: This form of proportional reinsurance is also known as "Yearly Renewable Term Reassurance". In essence, under this method the ceding office effects a one year term policy for the amount of the reassurance on the life whose policy is to be

reassured. This term policy is renewable while the original policy remains in force and the annual amount of reinsurance is usually determined by reference to the death strain at risk on some agreed basis under the original policy. Initially, the office will reinsure all the death strain at risk in excess of its chosen retention (See Section 6 below). Thereafter, the reinsurance may decrease annually by the increase in the reserves relative to the initial sum reassured, or by the increase in the reserves relating to the total sum assured. The former method is called the Reducing Retention Method and the latter the Constant Retention Method.

Risk premium reinsurance is replacing co-insurance as the most commonly used form of reinsurance throughout the world and is virtually the exclusive domain of the professional reassurers, representing almost half their total sums in force.

The central advantage of risk premium reinsurance is that only the mortality risk is reassured. The ceding office retains the whole of the office premium and the policy reserves and pays the reinsurer a premium sufficient to cover the expected reassured mortality risk for one year only. In times of high interest rates and where interest surplus is one of the major sources of surplus, this form of reinsurance is of particular advantage to the ceding office. In addition, this method has the advantage that it is administratively more simple and more flexible than co-insurance. The awkward problem of different bonus scales and similar administrative difficulties are practically eliminated and the system works equally well using either the constant or reducing retention method.⁹

This method also ensure that the reinsurer will receive a share of the mortality surplus without any corresponding increase in his liabilities arising from a concomitant increase in bonus rates by the ceding office. With-profit or profit sharing arrangements are quite common in these circumstances to compensate the ceding office with this profit, it being possible to negotiate arrangements under which the ceding office may receive very high proportions of the emerging mortality profit. Losses are carried forward until

extinction and for this reason, there is usually a participating limit specifying the maximum amount to count on any one life. This prevents one very large claim from deferring profit commission for many years.¹⁰

Substandard lives may also be reassured in the same manner as standard lives, the premium being a simple multiple of the standard premium. Where an extra premium is received by the ceding office for some occupational or recreational risk, the reinsurer generally receives a share in proportion to the initial amount reassured.

This has a bearing on nations as a whole where risk premium is traditionally used for reassurances placed internationally, in that the outflow of premiums from a country is reduced to the bare minimum required to protect local life assurers against their mortality risk. Most Governments are anxious to safeguard their balance of payments from capital outflows and to retain funds for investment in local capital markets. The risk premium method achieves such objectives by leaving the policy reserves in the hands of the ceding companies.⁷

A possible disadvantage of the risk premium method is that the sum reassured and reinsurance premium must be recalculated every year to reflect the reduction in the risk reassured. However, with the use of computers, these calculations are undertaken very speedily and at relatively little cost.

Modified Co-insurance: This method has some of the features of both risk premium and co-insurance. It can most simply be described as co-insurance in which the reserves relating to the entire policy (not just the retained portion) are held by the ceding office. The annual reinsurance premium will be normal co-insurance premium less a reserve adjustment. This reserve adjustment is the increase in actuarial reserves over the past year on the reassured portion after allowing for interest earnings at an agreed rate and may be positive or negative. In general, it will be largest in the early years, decreasing to zero and becoming negative as duration increases.

This has the advantage that, as well as the mortality risk, part of the new business strain and lapse risk is transferred to the reinsurer, while the investment risk can to an extent be retained. The amount of investment risk which is retained is determined by the agreed reserve adjustment interest rate used. The setting of this rate is a very complex part of a negotiation. Usually it takes the form of a formula, rather than a single figure, taking account of the rates assumed in premium calculations and valuations, the earnings rate in recent years, the bonus rate and the effects of taxation.

As can be imagined, the administration of modified co-insurance arrangements is considerably complex and the system runs the risk of the local insurance authority deciding that the negative reinsurance payments in the early years constitute a loan from the reinsurer which would require corresponding reserves to be set up, thus nullifying its principle advantage.

Quota Share and Surplus Reinsurance: Any of the above methods can be used in conjunction with either of these arrangements. Under quota share, a fixed proportion of every policy is reinsured. It is more common for surplus reinsurance to be used, under which only that portion of any new policy which exceeds the retention limit set by the office is reinsured.

Quota share has the advantage that it is simple and cheap to administer and, since it is not possible to exercise selection against the reinsurer, higher commission rates are often available. A disadvantage is that there will be a larger number of reinsurances for very small amounts unless a minimum reinsurance limit has been set. For very large policies, the amount retained may still exceed the retention limit and thus separate reinsurance arrangements have to be made for this excess.

Surplus reinsurance eliminates this last problem, but at the cost of slightly reduced commission rates. Surplus reinsurance also has the advantage that the office retains all amounts below its

retention limit while under quota share arrangements, it is obliged to reassume a portion of even those policies which it could prudently retain in full.

(ii) Non-Proportional Reassurance.

Catastrophe Reassurance Arrangements: It can happen that a single accident or catastrophe will give rise to a large number of claims on the same office. This is a natural result of the tendency for offices and sales forces to concentrate their sales efforts in particular geographic areas or amongst particular socio-economic groups. This risk has been greatly enlarged by the rapid growth of group-life business. Lives assured under group life contracts cannot be assumed to be independent and so give rise to an accumulation risk. Some protection from this risk can be arranged through catastrophe reassurance.

Under this arrangement, if as a result of a single catastrophe more than a specified number of claims are lodged exceeding in aggregate the agreed catastrophe limit of the ceding office, the reinsurer will be liable for a specified proportion of the excess loss, there usually being an upper limit on the reinsurer's liability.

It is possible to control the accumulation risk to some extent through careful underwriting and agency control. However, in a country like South Africa where half of the population is concentrated in one geographic area, practical considerations limit the effectiveness of attempting to avoid excessive concentration by stimulating sales in regions where the office is not already over concentrated. Thus, given that the catastrophe hazard exists and cannot be removed through practical considerations, the office concerned must assess the size of its risk and determine whether it can safely be carried or whether it requires partial or total reassurance.

Stop-Loss Reassurance: It has been argued that stop-loss is the most effective means of limiting the adverse effects of random fluctuations in mortality.² Under this scheme, the reinsurer's

liability commences when the aggregate claims experienced on the entire reassured portfolio exceed a pre-determined level. Thus it is that the ceding office can make itself completely immune from total claims in excess of its stop-loss limit. Often, however, the reinsurer pays only an agreed percentage of the excess loss, usually up to an upper limit.

Supporters of this method argue that this provides the only complete protection against adverse fluctuations in mortality. Traditional surplus reinsurance offers protection against adverse swings only if they result from the larger policies. If the excess claims result from a large number of small policies, this reinsurance will be ineffective. Similarly, under quota share reinsurance, since the reinsurer meets only a constant percentage of all claims, it is always possible for the liability of the ceding office to exceed any level if total claims are sufficiently high. Catastrophe reinsurance offers reinsurance protection from a large loss resulting from a single event, but offers no protection against overall adverse swings. Only under the "complete non-proportional" arrangements such as stop-loss reinsurance, can the ceding office decide in advance the maximum amount for which it can be liable. Under this arrangement, the reinsurer contracts, in return for a fixed premium, to meet the excess over an agreed retention of aggregate claims occurring during the period of cover in the categories of policies specified in the contract.

The period of cover is usually one year, but may be three years. In addition there is often a provision that if the reinsurer declines to renew the contract when it expires he must accept risk-premium reinsurance on risks above a certain size, but the premium rate may not be guaranteed. The stop-loss retention is almost always expressed as a percentage of the expected claims and the reinsurance premium as a percentage of the gross or net premiums of the ceding office under the reassured portfolio. In this case, expected claims refer to the total claims expected on a realistic basis, and need bear no relationship to the expected claims on the valuation basis.

There is also usually a limit on the amount of risk which can be included on any one life and conventional reinsurance methods are generally used to limit the amount at risk on a single life. In general, the reinsurer limits his liability to some percentage of the excess loss, commonly 90 per cent, with an overriding limit on his total liability. This method is common for non-life reinsurance but is fairly rare in life reinsurance.

Because of the wide fluctuations in claims under stop-loss arrangements and the difficulties reinsurers have in obtaining a sufficient spread of risks, it is usual for the gross reinsurance premium to include a very substantial contingency loading. Often this loading takes the form of a percentage of the variance or standard deviation of expected claims. The gross premium may be of the order of 300 per cent to 500 per cent of the net premium, but this could be increased if the treaty includes a substantial proportion of sub-standard lives or very large policies.

The main advantage of stop-loss reinsurance is its flexibility. It can be tailored to suit the requirements of the ceding office almost exactly. It offers almost complete immunity from adverse mortality fluctuations, although at quite a high price, allows the ceding office to increase considerably its individual retention limits and can be arranged to permit a reduction in both the administration and expense of reinsurance. On the other hand, it must be remembered that stop-loss is essentially a short term arrangement. It can be cancelled by either party and the unexpected termination of the cover by the reinsurer could leave the ceding office in an awkward position. Even though there is often a provision for the ceding office to effect risk premium reinsurance on selected risks in the event of cancellation, this may involve some delay and considerable administrative difficulties. Secondly, it is very rare for complete stop-loss protection to be offered. The war risk and nuclear hazard are almost always excluded and there is commonly a limit on the amount of risk which can be included on any one life. In addition, there is usually an overriding limit to the reinsurer's liability. Therefore, the stop-loss contract rarely provides the

"complete" protection which is claimed for it, although the cover may be complete for most practical purposes.

In addition to all of the above, and because under stop-loss the reinsurer does not follow the fortunes of the ceding-office, the reinsurer would usually require much stricter control of the portfolio of the ceding office than is usual because of the nature of the cover. Often, contractual obligation on the part of the ceding office not to vary its underwriting standards without the consent of the reinsurer is included.

The reinsurer reserves the right to reassess the premium chargeable if there is any significant change in the composition of the portfolio of risks of the ceding office and, because of the uncertainties inherent in his calculations and the higher expenses involved in administration, the reinsurer is forced to include large expense and contingency loadings in the premium, often resulting in gross premium which may be three or four times the pure risk premium.

Excess of Loss: This method is not usually applicable to life reinsurance, although it is sometimes used in connection with disability insurance. Excess of loss is a type of individual policy stop-loss agreement. The amount of claim of an individual policy above the excess of loss limit is paid, in part or in full, by the reinsurer. This arrangement is very useful in general insurance fields such as fire and third party liability insurance, where the amount of the claim on any policy is a random variable and can be 100 or more times the expected claim.

The number of different types of reinsurance arrangements which can be devised are obviously limitless. The difficulty arises in finding a secure reinsurer who is prepared to accept unconventional arrangements as they have developed a reputation for being extremely conservative, perhaps to the everlasting credit of their industry.

4. THE PLACING OF REASSURANCE

The life office, having decided which of those needs mentioned in Section 2 above are most important to it, and which of the local

reassurers is able to match these requirements most closely, will then consider the reinsurer with which it wishes to deal. Naturally, life offices are not limited in their dealings with reinsurers and may deal with several reinsurers simultaneously. Treaty reinsurance may be in operation for various classes of business with more than one reinsurer, whilst facultative reinsurance, particularly of sub-standard lives, may be transacted with all reinsurers both locally and internationally.

The willingness of the reinsurer to provide the various information, underwriting, training and administration facilities desired by the ceding office will be of importance, but so too will be the reinsurer's willingness to negotiate the particular type of treaty desired by the ceding office and the levels of profit sharing which the life office expects.

The majority of reinsurance treaties contain a series of sections or articles, generally in similar order, covering the main provisions and limitations of the reinsurance arrangements. A specimen of a modern treaty is included in Appendix: Main Provisions of the Reinsurance Agreement - 1900 to this Chapter. Of particular note should be those sections dealing with the payment of dubious or disputed claims, the calculation and distribution of profit sharing commissions and sections dealing with errors and omissions, arbitration and inspection and audit.

Many reinsurance treaties will confirm that reinsurers will follow the decision of the ceding office with regard to the payment or repudiation of claims. If the ceding office decides that it wishes to pay a claim, however dubious, the reinsurer will usually follow and meet its share of the liabilities accordingly. However, if the ceding office decides to contest the case in a Court of Law, most often reinsurers will bear their proportionate share of legal costs involved and share proportionately in any reduction of claim value.

The generous extent to which South African reinsurers are prepared to return profits enjoyed on the reinsurance treaty is clear from the Appendix specimen, and the gentlemanly nature of the contract

becomes evident from the tone of the agreement in general and the clauses referring to errors and omissions and arbitration in particular. Life assurance is a long term business and therefore reassurers and ceding offices alike tend to go to great length to ensure the maintenance of harmonious relationships under even the most trying office circumstances.

A question which is often asked is "What is the best, or cheapest, or the most efficient form of reinsurance?" This is a question with no single answer. The answer will depend on the circumstances of the office and the objectives of the management, hence the criteria by which one judges "best". A number of possible optimisation criteria have been investigated. The most obvious is the variance of retained claims. This is quite commonly used and has been extensively investigated. An alternative is the expected gain in utility to the office in undertaking the reinsurance arrangement. This utility function is a familiar concept to economists and Bayesian statisticians, but has only recently been applied to life assurance. A third common criterion is the ruin probability. If an office has a risk reserve of size u , then the probability that the risk reserve will ever become negative is called the ruin probability.¹¹

It is not possible to designate any one of these criteria as better than the other. They each have weaknesses and strengths and the selection of the appropriate criterion is a highly complex decision.

5. SUB-STANDARD REASSURANCE

The underwriting of assurances on sub-standard lives poses a number of problems, particularly for small companies that may not possess much experience of such business. Although the life underwriters have the advantage of reliable mortality tables, care must be exercised in the selection of individual lives and in particular in identifying those suffering from any impairment which necessitates refusal or the quotation of special terms. Where an office wishes to reassure a sub-standard life, arrangements may be made for a treaty reinsurer to examine proposals and medical evidence and to decide on the terms to be quoted.

Today it is common practice to include all of a company's business within one treaty whether on original term or the risk premium basis, although retentions and automatic treaty cover may be altered for sub-standard lives.

There are two essential ways of dealing with assurance for impaired lives. An additional premium may be charged or a debt on the policy may be imposed. This extra premium or debt (often referred to as a lien, and rarely imposed today) may be dealt with in various different ways and may reduce over the life of the policy.

Underwriting is a very imprecise science and it is quite common to find two experienced underwriters in disagreement about the appropriate level of extra premium for a particular risk. It is not surprising therefore, that increasing competition in both the direct market and the reinsurance market has led to the practice whereby a number of direct offices will offer their substandard cases to several reinsurers. The cases will eventually be placed with those reinsurers who offer the most competitive terms. This practice has become known as the "shopping of risks".¹² Because of the extra work involving senior people on the reinsurer staff and the reduced completion ratio, the expenses per completed case are correspondingly higher. In simple financial terms it is unlikely that this business is highly profitable to the reinsurer except in the context of protecting a valuable treaty connection or in the hope of developing a new treaty connection with the ceding office concerned, which in turn would be pleased to be able to accommodate its sales intermediary and his client.

6. FIXING RETENTIONS

Actuarial techniques are more highly developed in life assurance than in other classes of insurance business and various mathematical models have been devised to arrive at appropriate retention limits for a life fund. One example is Rosenthal's formula for calculating "chance fluctuations funds", i.e. an amount sufficient within a certain limit of probability to cover any variation in the mortality experience in any year from expected losses due solely to

change fluctuation.¹³ Nevertheless, in practice retentions are generally still fixed in a more or less ad hoc fashion.

The weakness of all the models developed to date is the assumption of an independence of risk, which is not true of most life portfolios. Even if in some cases the degree of inter-relationship between the insured lives of a portfolio may be very small, it cannot be ignored.

Consequently, companies (after obtaining actuarial advice) still fix their retentions in the light of those factors which are common to other classes of business and in essence are the capital and free reserves of the company, and the size of the risk portfolio. Other factors which may be taken into account are the types and mix of business transacted, the margin that can be built into premiums to provide for mortality risk, the price the company is prepared to pay for reinsurance, the probability of ruin, the claims distribution function as modified by the purchase of reinsurance, the reserves at the beginning of the period, the total number of expected claims, the expected value of each claim and the general contingency loading in the premium. Past mortality experience, cash flow and cost of bonus are also considerations, together with the pragmatic consideration of the retention maintained by other direct offices of a similar size, product mix and maturity.

In assessing levels of retention, direct offices will be concerned with maximising the retained profit from their business, whilst preserving the solvency of their companies and some degree of stability in their bonus declarations and dividend payments to policyholders. The risk theory techniques which exist and which have been referred to, offer some guidance in setting these levels but, as is so often the case with such methods, very sweeping and questionable assumptions have to be made and therefore the final establishment of levels of retention must be made by senior management on the basis of all these factors combined with their years of experience and "feel" for the business.

7. THE ROLE OF PROFESSIONAL LIFE REASSURERS IN SOUTH AFRICA

Throughout this chapter reference has been made to the important role played by reassurers in transferring their expertise in underwriting, administration and product development to the direct life offices. Much of this expertise is obtained by the reinsurer's contact with the rest of the local and international life assurance community. The reinsurer's willingness to finance local developing life offices has been of considerable economic value to the industry and country as a whole and, as most of these arrangements are highly confidential, the full extent of these benefits to our country will probably never be known.

In addition, for the same reason a life office finds it necessary to reassure part of its business, a reinsurer with similar constraints will find it necessary to reassure part of its own business. This is known as retrocession. This retrocession may be placed with other professional reinsurers or alternatively offered to life offices as reciprocity for business and by them.

Where this is not possible or desirable, the reinsurer may endeavour to place this business on a simple and cheap basis often within the world-wide professional reinsurance market. As this is most frequently done on a further risk premium basis, benefits to the nation as a whole are further optimised by this spreading of risks across many offices and international boundaries.

The investment practice of a reinsurer will tend to be more cautious than that of a direct life office as the average duration of liabilities is shorter, and the potential variation in results is greater and therefore there exists a much greater need for liquidity to deal with large claims.

This leads to an investment philosophy of closely matching the liabilities with a high degree of liquidity, involving a very high proportion of fixed interest and part-one asset securities.

Apart from the very positive capital and employment formation effects of this investment, the nature of the investments held by reassurers means that the benefit accrues more largely to the State and its beneficiaries than in the case of ordinary life office investments.

In order to better appreciate the position of life reassurers in South Africa, available statistical information has been collated in Table 5.2. Figure 5.1 is extracted from the data in Table 5.2 below and illustrates the success with which professional life reassurers have grown in South Africa since the late 1960's, indicating the level of development and significance of this important segment of the Industry. From sums reassured of only R850-million in 1970, this industry had grown nearly four fold to R3,050-million sums reassured only five years later. Ten years later in 1984, the industry had grown a further ten fold to R24,632-million sums reassured.

Similarly, by net premium income, the reinsurance industry in South Africa grew ten fold in the years 1970 to 1981, and more than doubled again between 1981 and 1984 from R57,3-million to R120,7-million. (The fall to R114,9-million in 1985 was the result of certain reassurers reducing their group life exposure after experiencing persistent losses between 1980 and 1984).

In 1986 the Life Offices' Association started keeping statistics on the life reassurers in South Africa. These showed that at the end of December 1986 benefits paid totalled R91 127 000. (These being almost entirely for reassured death and disability claims). Assets held totalled R407 452 000 of which over 55 per cent were invested in prescribed securities and under 17 per cent in listed equities.²⁴

These statistics demonstrate the growing influence of the South African reassurers and the increasingly high regard in which they are held in this country. Should the concentration taking place within the industry (See Chapter II above) one day cease and new

life offices once again come into being, life reinsurance can be expected to play an even more significant and important role in South Africa.

TABLE 5.2 THE GROWTH OF LIFE REASSURANCE IN SOUTH AFRICA

SOUTH AFRICAN LIFE REASSURERS

TOTAL SUMS REASSURED
AND NET PREMIUM INCOME

<u>Year</u>	<u>Net Premiums</u>	<u>Gross Sums Reassured</u>	<u>Net Premiums</u>	<u>Gross Sums Reassured</u>
	<u>R-Million</u>	<u>R-Million</u>	<u>% Growth</u>	<u>% Growth</u>
1986	146,5	32 150	27,5	20,0 *
1985	114,9	26 793	-4,8	8,8
1984	120,7	24 632	31,9	24,7
1983	91,5	19 748	19,3	36,2
1982	76,7	14 497	33,9	34,8
1981	57,3	10 755	35,5	31,5
1980	42,3	8 176	19,5	19,8
1979	35,4	6 825	22,9	16,2
1978	28,8	5 375	22,6	24,9
1977	23,5	4 704	25,7	25,4
1976	18,7	3 750	12,7	23,0
1975	16,6	3 050	22,1	24,0
1974	13,6	2 460	15,3	29,5
1973	11,6	1 900	26,9	30,1
1972	9,3	1 460	43,1	26,9
1971	6,5	1 150	22,6	35,3
1970	5,3	850		

SOURCE: Swiss-South African Reinsurance Company Limited
Mercantile & General Reinsurance Company of SA Limited
Annual Reports of the Registrar of Insurance

* Estimates

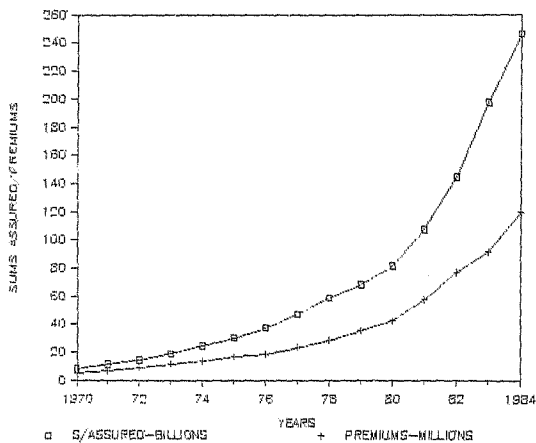


FIGURE 5.1

SOUTH AFRICAN LIFE REASSURANCE
INDUSTRY GROWTH PATTERN

CHAPTER V: SOURCE REFERENCES

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APPENDIX:

MAIN PROVISIONS OF THE REASSURANCE AGREEMENT - 1900

A 'watershed' in the development of life reinsurance took place in 1900 when forty-six British Life offices signed the 'Reinsurance Agreement - 1900', laying out the basic rules under which reinsurance was to be transacted in future. This agreement remains in operation today and is reproduced here because of the important concepts it contains and which are still valid today:

1. The office placing the reinsurance is known as the "Principal Office". The office to which the reinsurance is offered is known as the "Guaranteeing Office".

2. The Principal Office must disclose:

- (a) The amount of assurance it already holds on the life;
- (b) Its proposed retention of the new assurance;
- (c) The terms applying to the new assurance;
- (d) The terms of any existing assurance;
- (e) All material facts at the time the reinsurance offer is made, and also facts which emerge in the interval before completion. It must also:

(i) Furnish copies of all papers containing such information;

(ii) Give particulars of previous proposals and exhibit papers if required, and allow copies to be taken.

3. The Guaranteeing Office may not retrocede any part of the risk without the consent of the Principal Office.

4. The Guaranteeing Office is not on risk until it has intimated acceptance, nor until the Principal Office is on risk. After acceptance by the Guaranteeing Office it goes on risk at the same time as the Principal Office receives the first premium.

The Principal Office must not complete the risk after the expiry of one month from the date of the Guaranteeing Office's acceptance, unless the Guaranteeing Office is provided with satisfactory evidence that the life to be assured remains eligible for assurance.

5. If before commencement of the risk the Guaranteeing Office receives information making it desirable to withdraw its acceptance, and accordingly informs the Principal Office in writing, the Guaranteeing Office's acceptance shall be void after the expiry of one week from the time of such intimation, or immediately the Principal Office withdraws its own acceptance or obtains an acceptance of the reinsurance elsewhere, whichever happens first, unless in the meantime the risk of the Guaranteeing Office has commenced by reason of the Principal Office's risk having commenced.

6. Upon becoming aware of the commencement of the risk, the Principal Office shall pay the first reinsurance premium immediately or issue a notice to the Guaranteeing Office stating the amount and date of the risk.

7. The reinsurance contract shall be evidenced:

- (a) By a Guarantee endorsed on a copy of the Principal Office's policy; or
- (b) By a policy of the Guaranteeing Office endorsed to the effect that it is issued as a reinsurance of the Principal Office's policy.

8. The Guaranteeing Office shall pay the Principal Office a proportion of the stamp duty on the original policy.

9. Where the Guaranteeing Office receives a premium for the reinsurance at the Principal Office's rate, the Guaranteeing Office shall follow the Principal Office in:

- (a) Extra premiums charged and licences allowed, but the Guaranteeing Office shall be first consulted;
- (b) Commutations or alterations of premium or adjustments of the sum assured or premium on account of misstatement of age, but the Guaranteeing Office must first consent to any alteration involving the remission or reduction of any premium or modification of special terms imposed in lieu of extra premium;
- (c) Bonuses and their current cash values;
- (d) Surrender values, paid-up policy values.

10. When the reinsurance is at the Guaranteeing Office's own rate of premium, the Guaranteeing Office's conditions shall prevail for bonuses, surrender values, paid-up policy values, and alterations or commutations of premiums.

The Principal Office's conditions shall prevail for extra premiums charged, and licences allowed, and for adjustments on account of errors in statement of age.

11. Where the rates are the same, the rates and conditions of the Principal Office shall be held to govern the reinsurance.

12. The premiums in respect of the reinsurance shall be payable on the same dates as the premiums on the original assurance.

13. The Principal Office may surrender the whole or any part of any reinsurance.

14. The rates of commission in default of special arrangements shall be:

(a) 10 per cent of the first premium and 5 per cent of the renewal premiums; or

(b) One per cent of the sum assured and 2,5 per cent of renewal premiums.

APPENDIX: SPECIMEN -1
LIFE REASSURANCE AGREEMENT

Between

ABC LIFE ASSURANCE ASSOCIATION LIMITED
1 Commissioner Street, Johannesburg
(hereinafter called the "Ceding Office")

and

XYZ REINSURANCE COMPANY OF SOUTH AFRICA LIMITED
1 Adderley Street, Cape Town
(hereinafter called the "Reassurer")

THE FOLLOWING ARTICLES QUALIFIED BY THE ATTACHED APPENDICES
WILL FORM THE BASIS OF THIS AGREEMENT

1. See Section 3 (a) of this Chapter

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SCHEDULE 1	Conditions relating to Articles
SCHEDULE 2	Risk Premium Rates
SCHEDULE 3	Advice of Claim

ARTICLE 1

SCOPE:

This Agreement refers to all individual life assurance business and supplementary benefits set out in the First Schedule which the Ceding Office accepts in the Republic of South Africa, Transkei, Ciskei, Venda, Bophuthatswana, and any other countries granted independence by the Government of South Africa, at the general conditions and rates of premium in force at the date of the Agreement, or at such general conditions and rates of premium subsequently adopted by the Ceding Office and, where to be reassured on original terms, approved by the Reassurer.

Life assurance business written in other territories may be included in this Agreement by arrangement between the Ceding Office and the Reassurer.

Reassurances accepted by the Ceding Office will not be included hereunder unless the parties hereto mutually agree otherwise.

ARTICLE 2

RETENTION AND AUTOMATIC COVER

The Ceding Office agrees to cede and the Reassurer agrees to accept all business included in the Agreement up to the limits specified in Schedule 1.

In determining the retention of the Ceding Office the actual amount at risk under previous policies on the same life will be taken into account.

If the Ceding Office reduces its retention on any life below the amount stated in Schedule 1 the automatic cover granted by the Reassurer will be reduced proportionately.

The Ceding Office will notify the Reassurer immediately of any increase in retention and such increases will apply to policies where risk is assumed on or after the date from which the increase takes effect. No cession previously made hereunder will be affected.

Should the Ceding Office receive a proposal for an amount in excess of its retention and the automatic cover granted by the Reassurer the excess may be offered facultatively to the Reassurer and if accepted the routine procedures set out in this Agreement will apply unless agreed otherwise.

ARTICLE 3

CURRENCY:

All cessions under this Agreement will be effected in the same currency as the original policy.

LIABILITY:

The liability of the Reassurer will commence simultaneously with that of the Ceding Office and, subject to any special provisions that may be made regarding the method of calculation of the amounts at risk for risk premium cessions, will cease at the same time as the liability of the Ceding Office ceases.

All policies, other than policies of a temporary assurance nature and supplementary accident and disability benefits, will be reassured on the risk premium basis, and the amount at risk reassured in any policy year will be the difference between the original sum assured and the reserve thereon at the beginning of the policy year less the Ceding Office's retention which shall be a constant amount in each year. The amount of reserve shall be calculated on the basis set out in Schedule 1.

All policies of a temporary assurance nature and supplementary accident or disability benefits will be reassured on the original terms basis and the Reassurer agrees to follow to the extent of its liability the general conditions of the Ceding Office.

Notwithstanding the foregoing the minimum initial sum reassured will be the amount specified in Schedule 1.

ARTICLE 4

REASSURANCE PREMIUMS:

The basic rates of premium applicable to cessions reassured on the risk premium basis hereunder are set out in Schedule 2. The premium for each policy year will be the product of the rate according to the age next birthday at the commencement of the policy year and the amount at risk for that year. If a policy is issued by the Ceding Office at a rate of premium for a higher or lower age than the actual age at entry, that higher age will be used to calculate the risk premiums. If a cession covers the mortality risk on more than one life the rate of premium will be the total of the respective rates for the individual lives.

For all cessions reassured on the original terms basis hereunder the Ceding Office will pay to the Reassurer the annual rate of premium applicable to the original policy.

On all cessions the due proportion of any extra premiums payable under the original policy for any reason whatsoever will be payable to the Reassurer.

Where a debt or lien has been imposed on the original policy, reinsurance premiums will be calculated on the full amount at risk without deducting the amount of any such debt or lien.

All premiums will be payable to the Reassurer annually in advance whatever the mode of payment of the premiums under the original policy.

COMMISSION AND EXPENSES:

The Reassurer will pay to the Ceding Office commission at the rates shown in Schedule 1. The Reassurer will also pay its share of stamp duty in respect of policies reassured on the Original Terms basis.

Apart from this no commission, taxes or proportion of any expenses will be paid by the Reassurer except as provided in Article 5 and Article 8.

ARTICLE 5

PROFIT COMMISSION:

At the end of each year the Reassurer shall prepare a statement in the form of the schedule set out hereunder in respect of risk premium business reassured under this Agreement in the preceding calendar year.

SCHEDULE

Income under the Agreement

1. Premium Income for the current year.
2. Unexpired risk reserve brought forward being 50 per cent of the Premium Income for the preceding year.
3. Loss carried forward (if any).

Outgo under the Agreement

2. Claims by death occurring during the current year (including the Reassurer's share of legal expenses).
2. Commission for the current year.
3. Allowance for expenses, being 12,5 per cent of the Premium Income for the current year.

4. Unexpired risk reserve being 50 per cent of the Premium Income for the current year.
5. Loss brought forward (if any).
6. Profit (if any).

In the event of the above-mentioned schedule showing a profit for the year, fifty per cent (50%) of such profit shall be payable to the Ceding Office by the Reassurer. In the event of a loss being shown such loss shall be carried forward together with any other losses to subsequent years until extinguished and no profit commission shall be payable during that period.

Items applicable to amounts in excess of Two Hundred Thousand Rand (R200 000) initial sum reassured under any one reinsurance shall be excluded from the above Schedule.

It is understood that if after the statement has been approved and the Profit Commission paid further claims are notified or reversed relating to deaths or disablements occurring in the year to which the statement relates, the statement shall be recalculated and the necessary refund made.

If the Agreement is cancelled for new business profit commission shall continue to be paid in terms of this Article only for as long as one thousand risk premium cessions remain in force in terms of this Agreement.

ARTICLE 6

DOCUMENTATION:

Subsequent to assuming risk, the Ceding Office will supply the Reassurer with sufficient information to enable the Reassurer to complete its records in respect of all business ceded under this Agreement.

Notwithstanding the foregoing for all policies with a Valugard Option the Ceding Office will provide the Reassurer with new business and renewal bordereaux at monthly intervals in a format agreed between the Ceding Office and the Reassurer.

For all cessions a copy of the proposal and medical papers will be sent to the Reassurer on request.

ARTICLE 7

ALTERATIONS:

The Ceding Office will notify the Reassurer of any alteration to the original policy which affects the Reassurer's liability. In the event of a policy reassured under this Agreement being reduced in amount, the cession will be reduced proportionately from the same date but a reduction of the sum assured under one of the Ceding Office's policies not reassured hereunder will not affect any cession on the same life. The Reassurer will refund to the Ceding Office any unearned reinsurance premiums less commissions arising as a result of the alteration.

Notwithstanding the foregoing if an alteration to the original policy results in the amount at risk on a risk premium cession being reduced below the amount specified in Schedule 1 the cession shall automatically be cancelled.

CANCELLATIONS:

In the event of the cancellation of the original policy for any reason other than the death of the life assured, the Reassurer will refund to the Ceding Office any unearned reinsurance premiums less commissions arising as a result of the cancellation.

REINSTATEMENTS:

Should a policy which has lapsed be reinstated in accordance with the policy conditions, the cession hereunder will be automatically reinstated and the appropriate arrears of premium, and interest if received by the Ceding Office, will be payable to the Reassurer.

ARTICLE 8

CLAIMS:

In the event of a claim on a policy reassured hereunder the Ceding Office will notify the Reassurer immediately. All payments made by the Ceding Office within its policy conditions in respect of death or supplementary accident or disability benefit claims will be binding on the Reassurer to the extent of its liability. If more than 90% of the risk is reassured the Ceding Office undertakes to consult with the Reassurer before admitting liability. If a claim is settled for less than the full sum assured under the policy at the date of the claim the Reassurer will pay to the Ceding Office its proportion of the cost of the claim after deduction of the reserve applicable to the cession. In addition the Reassurer will be liable for its proportion of any legal costs and expenses incurred in the investigation of claims but excluding any expenses incurred by the Ceding Office's employees.

Where a debt or lien has been imposed on the original policy the Reassurer's liability will be determined by deducting from the current amount at risk a due proportion of the debt or lien.

The Ceding Office will provide the Reassurer with details of the claim as set out on Schedule 3. The Reassurer will credit the Ceding Office with its share of the claim after production of proof of claim and notification of payment by the Ceding Office. Copies of the full claim documents need only be sent on request. All claims will be settled in the account unless the liability of the Reassurer exceeds the amount stated in Schedule 1 in which event a separate remittance will be made. Any settlement by separate remittance may be subject to the amount of the claim being set against any balances outstanding and due to the Reassurer.

ARTICLE 9

ACCOUNTS:

Statements of account setting out all premiums, commissions, claims not paid by separate remittance and other items applicable to cessions effected, renewed, altered or cancelled during the period covered by the account will be prepared in accordance with the details set out in Schedule 1.

Settlement of the balance due as shown in the statements of account will be made in accordance with the details set out in Schedule 1. Alternatively the balance may be set against any other balances outstanding between the Ceding Office and the Reassurer.

If for any reason for which the creditor party is not responsible, amounts remain unpaid for more than three months after the due dates specified in this Agreement, interest shall be allowed on the sums unpaid, interest being calculated at an effective rate equal to 5% (one half per centum) below the yield on Ten Year Government Stock as at the 31st March in the relevant calendar year in which the sums unpaid were actually due.

ARTICLE 10

ERRORS AND OMISSIONS:

Any error or omission which occurs will not affect the validity of this Agreement and the mistake will be rectified upon discovery.

INSPECTION RECORDS:

The Reassurer may inspect at the office of the Ceding Office all records and documents relevant to the business under this Agreement.

ARTICLE 11

ALTERATIONS TO AGREEMENT:

Any alterations in the terms and conditions of this Agreement will be effected by means of replacement or addition of pages to the Agreement which will embody such alterations as may be agreed upon and will be taken as being part of this Agreement and equally binding. Such replaced or added pages will be recorded in an Addendum mentioning the effective date of change and duly signed by the parties to this Agreement.

DURATION OF AGREEMENT:

This Agreement will take effect from the date stated in Schedule 1 and is unlimited as to its duration but may be made inapplicable to future policies in whole or in part by either party giving three months notice to that effect by letter, receipt of which will be immediately acknowledged by the other party. During the period of notice the Reassurer will continue to participate in all policies falling within the terms of this Agreement. The Reassurer will remain liable for all losses existing at the date of expiry of the notice until their natural expiry unless the parties mutually decide otherwise.

ARTICLE 12

ARBITRATION:

All disputes arising out of the above Agreement or concerning its interpretation or validity shall be referred before or after its termination, will be referred to as two arbitrators, one to be chosen by each party.

If one party has appointed an Arbitrator he may then serve notice upon the other party requiring that party to appoint another Arbitrator. If such notice is not received within two calendar months after the date of serving such notice another Arbitrator has been appointed, the Arbitrator who has been appointed will at the request of the party appointing him proceed to hear and determine the matters in difference as sole Arbitrator.

If both parties have duly appointed Arbitrators, the Arbitrators shall before proceeding to hear the matters in difference appoint an Umpire. If no Umpire has been appointed within one calendar month after the date of appointment of the last Arbitrator to be appointed, then the Umpire will be appointed by the authority stipulated in Schedule 1 upon the request of either party to this Agreement.

The Arbitration will be held at the place stated in Schedule 1 and the award will be delivered in writing. The award will be final and binding on both parties.

The cost of the reference and award will be decided in the same manner as the matters in difference. The Arbitrators and Umpire may direct to and by whom and in what manner the cost or any part thereof will be paid with power to tax or settle the amounts to be so paid.

The Arbitrators and Umpire will éach be an official in a life assurance office or be a partner in a firm of consulting actuaries.

Any Arbitration under this Article shall be subject to the provisions of the Arbitration Act 1965 of the Republic of South Africa or any subsisting statutory modifications thereof and shall be deemed to be a reference to arbitration thereunder.

This Arbitration Agreement will be construed as a separate and independent contract between the Ceding Office and the Reassurer and Arbitration hereunder will be a condition precedent to the commencement of any action at law.

SCHEDULE 1
CONDITIONS RELATING TO ARTICLES

ARTICLE 1

BUSINESS COVERED BY THIS AGREEMENT:

All individual life assurance business and supplementary accident and disability benefits accepted on standard underwriting requirements and at Standard Rates of premium.

ARTICLE 2

RETENTION OF CEDING OFFICE:

One Hundred Thousand Rand (R100 000).

AUTOMATIC COVER GRANTED BY REASSURER:

Five Thousand Rand (R 5 000)

ARTICLE 3

BASIS OF CALCULATION OF AMOUNTS AT RISK FOR RISK PREMIUM CESSIONS:

Mortality : A24/29 Ultimate

Interest : 3,5%

MINIMUM INITIAL SUM REASSURED:

Five Thousand Rand (R 5 000)

ARTICLE 4

COMMISSION PAYABLE BY THE REASSURER:

Percentage of Premium Payable as Reassurance Commission in Year

	<u>Year 1</u>	<u>Year 2</u>	<u>Thereafter</u>
1. Risk Premium cessions:			
Basic Premiums:	50%	Nil	Nil
2. Extra Premiums imposed on account of health residence or occupation	(3,25n+10)% maximum 95%	(1,083n+10)% maximum 38,33%	10%
3. Original Terms Reassurances: Basic and Extra Premiums:	(3,25n+10)% maximum 95%	(1,083n+10)% maximum 38,33%	5%

ARTICLE 7

MINIMUM AMOUNT AT RISK FOLLOWING ALTERATION:

Three Thousand Rand (R 3 000)

ARTICLE 8

AMOUNT ABOVE WHICH CLAIMS WILL BE PAID BY SEPARATE REMITTANCE:

Ten Thousand Rand (R 10 000)

ARTICLE 9

PREPARATION OF RENEWALS:

Monthly by the Reassurer

PREPARATION OF ACCOUNTS:

Monthly by the Reassurer

SETTLEMENT OF ACCOUNTS:

(a) If balance in favour of the Ceding Office:
With the account

(b) If balance in favour of the Reassurer:
Within fifteen days of receipt of the account by the Ceding Office.

ARTICLE 10

DATE OF EFFECT OF AGREEMENT:

1st August 1966

ARTICLE 11

AUTHORITY FOR APPOINTMENT OF UMPIRE:

The Chairman of the Life Offices' Association of South Africa or, if such person is not a disinterested party, the Deputy Chairman or Vice-Chairman.

PLACE OF ARBITRATION:

Johannesburg

SCHEDULE 2

Life Reassurance Risk Premium Rates

(Rate of premium per R1 000 sum at risk)

<u>Age Next Birthday</u>	<u>Premium %</u>	<u>Age Next Birthday</u>	<u>Premium %</u>
Up to Age	<u>R</u>		<u>R</u>
30		65	
31		66	
32		67	
33		68	
34		69	
35		70	
36		71	
37		72	
38		73	
39		74	
40		75	
41		76	
42		77	
43		78	
44		79	
45		80	
46		81	
47		82	
48		83	
49		84	
50		85	
51		86	
52		87	
53		88	
54		89	
55		90	
56		91	
57		92	
58		93	
59		94	
60		95	
61		96	
62		97	
63		98	
64		99	

SCHEDULE 3

FROM:

TO:

OUR REFERENCE:

DATE:

LIFE CLAIM ADVICE

NAME OF LIFE ASSURED:

YOUR NO:

OUR NO:

THE LIFE ASSURED DIED ON

THE POLICY MATURES ON

DATE OF BIRTH

WE REFER TO OUR ADVICE DATED

SUM AT RISK UNDER THE REASSURANCE
(EXCLUDING BONUS)

AMOUNT OF ACCRUED BONUS
FOR CLAIMS BY DEATH

OUR PERIODIC PREMIUMS

HAVE BEEN ON A

TRUE

INSTALMENT

BASIS

CAUSE OF DEATH

REMARKS

THIS CLAIM HAS NOW BEEN SETTLED

WE LOOK FORWARD TO RECEIVING YOUR CHEQUE

WE PROPOSE THAT THE FOLLOWING ENTRIES ARE MADE IN THE

ACCOUNT

TO OUR

DEBIT

CREDIT

CLAIM

REFUND OF PREMIUM

REFUND OF COMMISSION

CHAPTER VI

LEGISLATION AND REGULATION OF THE LIFE ASSURANCE INDUSTRY

This chapter deals with the development of the legal regulation of the activities of life offices and the emergence of voluntary regulation from within the life assurance industry. Attention is also briefly given to the important question of the legislation governing the taxation of life offices in South Africa.

1. THE ESSENTIALS OF LIFE ASSURANCE LEGISLATION

The nature of life assurance legislation has changed much over the past one hundred years. There has been a tendency to increased legal regulation of the activities of the industry and if one compares the various Acts of Parliament on life assurance, it appears that the provisions of these Acts over time have come to cover the following four essential minimum requirements. In all cases, the sole purpose of the legislation has been the protection of the interests of policyholders in one form or another.

a) The most important provision in a life assurance Act reflects the desire on the part of the legislature to protect the interests of policyholders and their beneficiaries. A large number of stipulations are aimed at ensuring that a company is run on sound principles and include matters such as the proper registration of life assurance companies, the maintenance of adequate reserves against expected future claims, the soundness of premium rates, the non-forfeiture of policies in the event of arrear premiums or mis-statement of age, and other legal protections concerning questions such as the cession of policies and insolvency of the assured.

b) In order to ensure that a company is run on sound principles, legislation requires that the company regularly report on its

investment activities. This provision usually calls for disclosure of information in regard to the kinds of investments held, methods of investment, ratios of investments, yields, etc.

c) A third set of provisions in insurance Acts relating to the soundness of life companies deals with the important question of the principles underlying the valuation of assets and actuarial liabilities. Unless both assets and liabilities are valued on standardised bases, it is difficult to assess the true position of each life office and to make inter-company comparisons.

d) Life assurance acts in time have also extended their provisions to cover the disclosure of the financial affairs of companies in reports of a statutory nature and format.

It is important to the life assurance industry in particular and to the economy in general that legislation should not seek to impose grey uniformity on life offices, neither should it seek to "control" the activities of these enterprises. It is in the divergencies of the methods and practices of life offices in a free enterprise system that a policyholder finds his greatest benefit and protection, provided always that life offices are subject to informed public scrutiny.

2. EARLY LEGISLATION IN THE FOUR PROVINCES

Life assurance legislation in South Africa goes back to the previous century when what later became the four Provinces were two British colonies, (Cape and Natal) and two Boer Republics (Orange Free State and Transvaal). "Insurance legislation" must be distinguished from "insurance law": The former refers to Parliamentary statutes containing specific provisions for the running of life assurance companies in the country concerned, whereas "insurance law" is part of the common law as it has developed over the centuries. For example, in the Cape in 1897,¹ and the Orange Free State in 1902,² the Courts were directed to administer English law in every suit, action, and cause having reference to questions of fire, life and marine insurance, the law of insurance being part of the general

mercantile law of the time. Consequently, there being no insurance company legislation per se, prior to the first life assurance statutes life assurance companies were subject to no specific legislation other than the mercantile law applying to other commercial undertakings at the time.³

It is instructive to consider to what extent the four essential provisions of life assurance legislation enumerated above were fulfilled in the early as compared to the later legislation in South Africa:

Cape: Two major Life Assurance Acts were passed in the Cape Province. The first of these was the "Life Assurance Act No. 13 of 1891" passed by the eighth parliament of the Cape of Good Hope. It was to "amend the law relating to life assurance companies with a view to encouraging persons to insure, and to protecting persons Assured," and called for an "investigation into the financial conditions of a company by a duly qualified actuary every five years", an abstract of his report being required to be deposited with the Treasury in the prescribed form. The importance attached to disclosure by this legislation is well indicated by the fact that the Minister to whom the Governor of the Colony assigned the management of the Act was required to lay this report before Parliament, together with the prescribed revenue accounts and balance sheets of life assurers.

The 1891 Act protected policies which had endured for three or more years from execution in the event of insolvency of the assured, allowed women married in community of property to effect assurance on their own lives, allowed husbands to cede their policies to their wives, and allowed the assured to agree with the assurer on the payment of premiums by the application of the profits of the policy to such premiums.

Hansard (May 1891) reports that the Hon. Mr Botha, moving the second reading, said that ... "the aim of the Bill was to compel companies to give proper statements to the Government of their business

and that the Bill principally meant further protection of policyholders".

The other insurance legislation enacted in the Cape was the Insurance and Loan Companies Act, No. 30 of September 1908 to "Amend the Law relating to Stamps and Companies that issue Loans in consideration of Premiums". This Act was brief and provided for a deposit of £5 000 to be made with the Treasury, £10 000 if its head office was not in the Cape Colony, and for a £500 penalty for transacting business if the deposit had not been made. Its only other provision was for the returns to be furnished "in such form and manner as may be required by the Governor".

Life offices in the Cape Colony were therefore subject only to the two requirements of making deposits with the Treasury and of making disclosures through the submission of statutory financial returns. In addition, the legislation had been specifically framed not to inhibit life companies, but rather to encourage the public to purchase and maintain life assurance policies as is evident from the stated purpose of the 1891 Act "to encourage persons to insure".

Natal: Four brief Acts were passed in Natal between 1904 and 1906, all less onerous and less complex than those passed in the other provinces. The only provision of The Lodging of Securities by Assurance and Insurance Companies Act, No. 47 of 1904, was the lodging of a £10 000 deposit by life offices. This Act was amended by Act No. 43 of 1906, which provided that no agent could act for an insurer before the deposit was made. This was followed by the Act to Amend the Law of Insurance, No. 1 of 1907, which stated that "no provision in restraint of military service ...shall be available as a defence of any claim under the policy". The Life Insurance Protection Act, No. 38 of 1908, was "To provide for the better protection of families, by securing to them the provisions made by Life Assurance". It provided for the lodging of investments with the Treasury by life assurance companies, for the protection of policies in the event of insolvency of the assured, and for women married in Community of Property to effect policies which were not subject to the control of their husbands.

Life offices in Natal were therefore subject only to the requirement of lodging deposits with the Treasury, whilst policyholders were encouraged to own life assurance through the fact that their policies would enjoy statutory protection. Unlike in the other provinces, no disclosure of company financial affairs was called for.

Transvaal: Law No. 12 of 1892 was repealed by Law No. 8 of 1898 which introduced "Regulation of the Business of Assurance Companies in the South African Republic". This Act provided that no policy could be issued in "conflict with the provisions of the military or commando law" and that no company could refuse to pay a claim if the person assured died whilst in the military or commando service. Policies were protected in no other way. From each life assurer the Act called for a £10 000 deposit with the Treasurer General, an annual licence fee of £20, and annual financial statements were required to be lodged with the Treasurer General who later presented these to Parliament in summary form each year.

Life offices in the Transvaal were subject therefore only to the making of deposits and financial disclosures, and policyholders enjoyed certain statutory protections of their policies, thereby encouraging them to insure.

Orange Free State: Chapter CIII of the old Law Book ("Wetsboek") provided for the "Regulation and Admission of Insurance Companies", and required a £10 000 deposit with the Treasurer General, and an annual licensing fee of 3 pence per £1 of new premium received in the previous year. In addition, details of policies issued, lapses and paid during the year were to be reported together with any other financial information required by the State President and in the form he required. The proceeds of all policies had to be payable in the Free State and no policy provision was to be in conflict with any military or commando laws.

Law No. 12 of 1894 was "To Regulate Rights under Policies of Life Insurance", and provided primarily for the protection of policyholders' beneficiaries in claims procedures and insolvencies.

In the Free State therefore, Life Offices were subject to making deposits on certain financial disclosures, whilst their policyholders enjoyed statutory protection of their policies as elsewhere in the other provinces, thus encouraging persons to insure.

In all these cases therefore, the legislation in the four South African Provinces sought to obtain deposits, protect policies, or demand financial disclosures. Nowhere were investment activity reports required nor were any attempts made to "control" the activities of life offices. In addition, there were no regulations governing the valuation of assets or liabilities.

3. THE INSURANCE ACT OF 1923

The Insurance Act No. 37 of 1923 was the first insurance legislation passed by the Parliament of the Union of South Africa and was to "Consolidate and Amend the Laws in Force in the several Provinces of the Union relating to Insurance" prior to this date. As this Act was only passed 13 years after Union and fifteen years after the most recent assurance legislation in 1908 in Natal, it must be assumed that no great urgency had been attached to it and that the various provincial laws had proved adequate up to that time.

The 1923 Act called for a "chief office and Principal Officer in the Union" and provided that no company could transact insurance business in the Union unless it had been registered in accordance with the regulations, was licensed as provided by law, had made the deposit required by the Act, and, in the case of life assurance, bond investment and industrial companies, had furnished the Treasury with a certificate by an actuary that the conditions on which business was proposed to be effected were actuarially sound. A deposit with the Treasury of a maximum of £25 000 was required, but the company concerned could expect to be "entitled to receive the income derived from the securities deposited or from the securities in which the money has been invested".⁴

At the end of each financial year, offices were required to lodge with the Treasury various prescribed accounts, all of which were

subject to an annual audit. All new life offices were required to furnish the Treasury annually, for a period of four years, with an actuarial report on the soundness of any alterations or additions to the original conditions on which business was to be transacted. In addition, an actuary was required to investigate the financial condition of every life office at least once every five years and to lodge with the Treasury an actuarial report and statement of the company's business. All documents deposited with the Treasury were available for public inspection and the Treasury was required to publish a summary of these returns. The Act dealt also with the amalgamation and transfer of insurance business, and provided for the winding-up of companies in the case of insolvency, but only on petition by the policyholders.

The 1923 Act was derived from the United Kingdom Assurance Companies Act of 1909 and was based on "freedom with publicity",⁵ the concept of allowing insurers wide discretion in the conduct of their businesses but requiring that all their activities and the results thereof be fully disclosed publicly. The Act therefore concerned itself primarily with registration and the form, method and extent of the disclosures required. It also provided protection of policies, including in the case of insolvency of the assured. There were no regulations governing the investment of funds or the valuation of assets or liabilities. Therefore, two of the four essential requirements set out at the beginning of this chapter had been provided for.

4. THE VIEWS OF ARNDT: CONTROL

Perceived deficiencies in the 1923 Act were set out in publications by Professor E H D Arndt, who stated that ... "an insurance contract is a mere piece of paper unless not only the actuarially determined funds are being held, but also unless such funds have been wisely and safely invested".⁶

Arndt believed that the 1923 Act was deficient in, inter alia, not laying down a desirable distribution of insurance funds between various types of investments, in that the deposit of £10 000

required by the Act for new life offices was inadequate and should be adjusted according to the size of the company, in that sound investment policies were not prescribed, and in that there could be no investigations by the authorities into the affairs of insurance companies nor could further information be required.

Arndt really started the debate surrounding the question of insurance company legislation in South Africa in an article he wrote for the South African Journal of Economics in September, 1934, entitled "Safety for Savings". In this he questioned the adequacy of the "control and supervision" of financial institutions and his subsequent booklet "Insuring our Insurance"⁷ became the basis on which the 1943 Act was drafted.

Professor of Banking at the University of Pretoria, Arndt long harboured a passion for the introduction of "control" legislation on life offices and other financial institutions. This may not be so surprising when it is remembered that at the time of his writing, there was a great and popular movement in Europe and elsewhere in the world towards socialism and state interventionism.

In his 1933 analysis of the investment policies of life insurers⁸, Arndt used statistics gleaned from the 'Summaries of Returns deposited with the Treasury by Insurance Companies during the year ended 31st December 1936'. Simply by comparing such things as the percentage of total assets held by South African and foreign life offices in cash, Government Securities, Railway securities, loans to policyholders, loans to Municipalities, mortgages, property, etc., Arndt detected "phenomenal divergencies" (p.15) which he considered required legislation to regulate. The investment practices of foreign companies appeared to be "out of line" (p.15) with those of South African insurers, although Arndt was prompted to admit that it was remarkable how little the foreign companies had sacrificed on their investment yield for the sake of a considerably higher degree of liquidity than the South African companies.

From these "divergencies" of practice, Arndt concluded that the Union legislation was most superficial and "hopelessly out of date".⁹ He was most critical of the fact that insurers were allowed to make their own decisions about the distribution of assets in their investment portfolios and went on to demonstrate that an assurer such as the African Life Assurance Company had interests and interlocking directorships in no less than one hundred and six Southern African companies, mines, farms and industries.

Through this, Arndt believed he had demonstrated how the savings of policyholders could be abused. Instead, he had inadvertently demonstrated the important role life offices played in mobilising savings for the creation of important infrastructure and employment opportunities in the country (See Chapter VII below). At a time when South Africa as a young country desperately needed these infrastructural developments through innovative financing and entrepreneurial flair, Arndt publicly cast suspicion on Mr I W Schlesinger, founder of African Consolidated Investments. Simply because he suspected that African Life had invested sums of money in the equity and mortgage loans of other of the African Consolidated Investments group, Arndt convinced himself that the practice was bad.¹⁰ Notwithstanding the fact that the yields on the African Life funds as calculated by himself over the period from 1925 to 1935 were better than those of the other life offices with which he compared them (Old Mutual, Southern Life and Sanlam), Arndt was insistent that it was the duty of the legislature to express itself on these points. He believed that it had to provide guidance for those responsible for the administration and investment of life assurance funds and for the protection of those whose funds were being invested, "and above all the policy of relying on publicity only must be abandoned for that of direct Government supervision" (p.50).

Arndt felt that existing legislation revealed a total lack of appreciation on the part of the Government for what he viewed as the vital social and economic importance of insurance, and the tremendous responsibility which rested upon the legislature to

safeguard the savings of the community. He expressed surprise that there was no designated public official devoting his whole time to this matter and openly advocated intervention and control by the State of all life offices.¹¹ He believed that it was the duty of the legislature that the savings of policyholders were conserved to the maximum possible degree by formulating sound investment policies for the guidance of all insurance companies. (The remarks of Adam Smith quoted early in Chapter VII below are of particular note here.)

Arndt was well connected in Government circles and was a personal friend and confidant of the Minister of Finance at the time, Minister J. H. Hofmeyr. He therefore had great influence in the structuring of the 1943 Act. Indeed, from the 1987 draft insurance Bill, it was clear that his ideas still pervaded thinking in some quarters forty-six years later, and for this one could not but admire the forcefulness with which he had made his views known. (See Section 8 below)

In some convoluted way, Arndt saw life offices not merely as business institutions providing a service like all others, but as institutions which were able to persuade unthinking members of the public to sacrifice their hard earned money, forcing them to save stipulated amounts annually in return for some dubious benefit at some ill-defined future date. He did not think that individual policyholders could ever be in a position to make up their own minds about whether to accept the benefits offered or whether to believe that one day benefits would indeed be received. Today, with the benefit of many years of hindsight, the legislature is aware that policyholders of the time ultimately received benefits as promised, or better.

In the free market economy of today, and with the benefit of hindsight, it is perhaps easy to be amazed at some of Arndt's conclusions. There has never been concern about the number or liquidations of legally constituted life offices in South Africa, nor were any apparently imminent at the time when Arndt was writing. Nevertheless, he felt that State intervention and control

was "an imperative necessity"¹¹ when it came to the investment of life assurance funds. Forgetting that the primary reason for the existence of life offices was the provision of immediate death claim benefits, and thinking only of the accumulation of maturity benefits, Arndt believed that too much was at stake to leave the investment of these funds to the discretion of individual entrepreneurs. Today it is well known that it has been the discretionary investments of life offices which have yielded the best real results for policyholders, and not those prescribed by Government. This is discussed further in Chapters VII and VIII below.

It is also a matter for surprise that in his 1941 work Arndt acknowledged that in the case of mutual life assurance companies, policyholders were an "unorganized body, completely ill-equipped to manage the affairs of their company" (p.91). Nevertheless, elsewhere in the same work he recommended that proprietary life offices should be transformed into mutual companies once they had grown large and that the shareholders, the very people who had built them up and who had acquired invaluable expertise, should be "paid off and discharged on reasonable terms".¹² A surprisingly similar view was expressed by Franzsen¹³ thirty years later.

Arndt made the novel suggestion that any new Insurance Act should repeal and replace all Company Acts of Incorporation, Memorandums and Articles of Association and Constitutions, and replace them with "uniform provisions" (p.28). He went so far as to propose that the Government be burdened with such things as the election of directors, the appointment of managing directors and the establishment of their remuneration. He was also of the persuasion that the State should be burdened with the responsibility of eliminating any "undesirable practices, as well as possible unfair privileges that may be enjoyed by some institutions to the detriment of others" (p.89). So forceful were Arndt's views that these very same issues were still being proposed forty-six years later in the 1987 Draft Bill. (See Section 8 below)

Arndt recommended the appointment of a "Superintendent of Insurance" who should have the right to inspect and examine life offices, revoke licences and wind up companies. Similarly, no transfers or amalgamations should be able to take place without his prior approval, and that all life assurance agents should be licensed by him. Current legislation prevents amalgamations or more than 25 percent of the shares in a life office changing ownership without prior approval of the Registrar - obviously in accordance with Arndt's thinking. (See Section 5 below)

In the South African Journal of Economics of September 1941 Professor S H Frankel was also critical of Arndt in a review of his book, 'Insuring our Insurance'. Frankel said: "Professor Arndt has for many years put forward the view that there is insufficient control of the Union's Insurance Companies in order to safeguard the public's savings ... It is of interest to note that a Select Committee is now considering the Insurance Bill and that the Committee has already published the evidence submitted to it by Professor Arndt ... He argues that the investment policy of Insurance Companies requires greater control, and the laying down of regulations concerning the proportion of assets which should be invested in Government securities.

"In the opinion of the reviewer, while the object of the author is laudable, it is necessary to remember that too great rigidity in controlling investment policy may have a boomerang effect. I incline to the view that there is in general no better guarantee for the safety of investment than the tested investment ability of the directors of Insurance Companies. Hard and fast rules are not necessarily the best way of protecting the investor in a time of rapid change such as the twentieth century has witnessed. In times of economic chaos flexibility may be a better safeguard".

One may today muse on what the state of the life assurance industry in South Africa would have been if all of Arndt's recommendations were incorporated into the 1943 Act. One is also dumbfounded by the naivety of Arndt's arguments and the simplistic manner in which,

by comparing the "divergencies" of the investment practices of life offices in South Africa, he attempted to prove the necessity of State intervention in entrepreneurial decision-making.

5. THE INSURANCE ACT NO. 27 OF 1943¹⁵

The Insurance legislation applicable in South Africa today is that of the Insurance Act. No. 27 of 1943, being the first legislation in South Africa which introduced all of the four essential components enumerated in section 1 above.

However, it went further and sought to impose uniformity on life offices, seeking to control the activities of these enterprises and to eliminate "divergencies" in their practices. Dubbed by Beak as "control" legislation,¹⁶ it incorporated many of the recommendations which had been made by Arndt. For example, the 1943 Act provided for the first time for the appointment of a Registrar of Insurance whose responsibility was to exercise all such powers and perform such duties as were assigned to him under the Act. The Registrar of Insurance was placed under the control of the Minister of Finance to whom appeals were to be made as provided under the Act. Actual day to day administration of the Act was to be carried out by the newly created Financial Institutions Office in Pretoria. The Act has seen numerous amendments and the most important provisions of the current legislation are discussed below.

Prescribed Asset Requirements: An important new provision of the 1943 Act was that Life offices were required in terms of Sections 17 and 18 of the Act, to hold fixed proportions of their assets in securities prescribed by Part I of the Third Schedule to the Act, these often being referred to as "Part I Assets". They include various types of deposits as well as bills, bonds or securities issued only by the Government or other specified public bodies. Ostensibly this provision was to provide greater policyholder security.

Today assets held by an insurer have to include Part I Assets with an aggregate book value of not less than 53 per cent of the amount

of the net South African liabilities of an office in respect of its long-term insurance business transacted on pension and retirement annuity funds, and 33 per cent of the amount of its net South African liabilities excluding those for pension and retirement annuity funds. These are arbitrary percentages, not based on a scientific calculation.

Although the objective of introducing Part I Assets in the 1943 Act was to provide security for policyholders, what subsequently transpired was that in times of rising interest rates, existing investments in Part I assets were exposed to capital depreciation. In addition, yields on Government and semi-Government securities have generally always been below free market yields, thereby further penalising life assurers and policyholders alike and defeating the original intention of this provision. (See Chapter X below)

Valuation of Liabilities and Assets: The 1943 Act introduced for the first time a minimum valuation basis for liabilities under unmatured policies.

The object of a legal minimum valuation basis was to ensure that an insurer does not value his liabilities at less than a certain minimum amount. However, life offices are not constrained to use the minimum valuation basis provided the liabilities on the basis chosen are not lower than they would have been had they been calculated on the minimum basis. The minimum valuation basis introduced by the 1943 Act is today considered unduly stringent as it applies unrealistically low interest rates for certain types of business and an extremely conservative initial expense allowance. Naturally, this aggravates the new business strains referred to in Chapter IV, and severely curtails the capacity of a life office to write new business. The Act also lays down the basis of valuation of Part I Assets, equities, properties and other assets. In terms of Section 15 (g) of the Act, the Registrar has the power, with the consent of the Minister of Finance, to authorise or direct insurers to show any asset at such other value as shall in the opinion of the Registrar represent its real value if he considers its valuation to

be unduly low or high on criteria of his own making. These criteria may change from time to time at the discretion of the Registrar.

Public Officer, Auditor and Valuator: In terms of Section 7 of the Act, registered insurers are required to establish and maintain a principal office and appoint a public officer. They must appoint an auditor for all business except that the auditor does not have to certify any statements of liabilities attested to by the Valuator.

Section 11 provides that within a period of six months from the financial year-end, an insurer is obliged to furnish the Registrar with a revenue account, profit and loss account and balance sheet.

Every registered domestic life insurer in South Africa is required to have a valuator resident in the Republic. The valuator must be an actuary, but in special circumstances the Registrar may approve a person who in his opinion, has sufficient actuarial knowledge. The valuator has to satisfy himself as to the accuracy and adequacy of the insurer's statement of liabilities relating to unexpired policies. Section 12 provides that once every three years life insurers are obliged to furnish the Registrar with a statement of liabilities as at the close of the financial year. The Registrar is also entitled to call for such statements at more frequent intervals.

Ownership, Amalgamation and Winding Up: Section 27 of the Act prohibits more than twenty five percent of a life office being purchased by any person without the prior approval of the Registrar, and Sections 25 and 26 void amalgamations or transfers between companies if these occur without similar prior approvals. Section 30 provides that the Registrar may apply for the winding up of a life office if he considers it desirable for any reason, the courts being required to exercise discretion and act in the interests of policyholders.

Soundness of Premium Rates: The 1943 Act also introduced the stipulation that no life insurer was permitted to use any table of

premium rates unless such table had been attested as actuarially sound by the valuator. Before using such rates, the insurer is required to inform the Registrar of its intention to use them and to furnish him with a copy thereof and a certificate from the valuator to the effect that the rates are actuarially sound. (Section 34 of the Act).

Protection of Policies:

Sections 37 to 52 incorporate most of the provisions for the protection of policies found in the previous South African legislation, including those relating to military service, married women and insolvency.

Non-forfeiture Provisions: Section 62 of the Act deals with days of grace during which policyholders need not pay their premiums and still remain fully assured. It also defines non-forfeiture provisions to conserve a policy under which at least three years' premiums have been paid, if premiums fall into arrears. These provisions must be embodied in rules which have to be submitted to the Registrar. They may provide for conversion to a reduced paid-up policy or for the value of the policy to be maintained in force for a period to be determined in accordance with the rules.

Schedules and Regulations: There are three Schedules to the Act that set out the provisions relating to deposits made with the Treasury. They detail the minimum valuation basis for liability calculation and stipulate the kind of assets to be held by insurers in terms of Sections 17 and 18. As these are somewhat technical in nature they have not been repeated here.

The Regulations to the Act contain, *inter alia*, reference to the maximum commission payable to intermediaries and what services intermediaries are required to provide in return for such commissions. They also prescribe the manner in which various statements and accounts must be submitted by the assurer to the Registrar.

From the foregoing we find that the 1943 Act as amended firmly covers all of the four components considered essential to any life assurance Act, viz. the protection of policyholder interests, the reporting of investment activities, the valuation of assets and liabilities, and the disclosure of financial information. In addition it, inter alia, prescribes investment ratios, regulates commission payments, controls ownership and amalgamation and places the State in a position to apply for the winding up of a company, notwithstanding the desires of shareholders or policyholders. Whether the provisions and "controls" of the current Act and the disclosures called for are adequate or unduly onerous, remains the subject of a continuing debate between the industry and the authorities and have often been the subject of enquiries.

6. ENQUIRIES INTO THE INDUSTRY

Directly and indirectly, the South African Life Assurance Industry has been the subject of numerous enquiries and investigations. Two important commissions of enquiry should be referred to here. These were the Franzsen Commission of Enquiry into Fiscal and Monetary Policy in South Africa and the Louw Commission of Enquiry into the Long-Term Insurance Industry.

(a) The Franzsen Commission¹⁷

The three reports of the Franzsen Commission embodied numerous recommendations, some of which were accepted and made law while others were further studied by the Louw Commission¹⁸ two years later.

Some of the more important proposals of the Franzsen Commission that had a bearing on the life assurance industry and which were embodied in subsequent legislation are set out below:

Determination of Taxable Income: The Commission recommended the abolition of what up to that time had been the practice of exempting one-third of dividends received by life offices from taxable investment income, and suggested that management and secretarial fees received from subsidiaries in which an assurer held 10 per cent

or more of the equity should be included in adjusted gross income. It also believed that there were good reasons why the taxable income base of 30 per cent should be increased (See section 10 below), but in view of the above-mentioned increase in taxable income, should be kept in abeyance while the effect of the broadening of the tax base was ascertained in the light of revealed actuarial surpluses one year after the broadening of the tax base and subsequently tested at five-yearly intervals thereafter.¹⁹

Industry Size and Structure: The Commission considered that the number of insurance companies active in South Africa was very large and that a rationalisation was desirable. It recommended that no new registrations of insurers be permitted for the time being, save in those cases where registration was considered to be in the public interest. In addition, it recommended that a short-term insurer should be permitted to extend its business into long-term insurance only by means of a take-over of an existing life insurer.²⁰

The Commission recognised the fact that during the initial years of the growth of a life company shareholder capital was important as cover against unforeseen risks, but that as reserves accumulated the importance of shareholder capital decreased as did the risk run by shareholders. Therefore it recommended that the yield on the capital of proprietary life insurers should be limited to a percentage of the capital or profits of the company and that the matter be investigated by the Technical Committee on Insurance.

This recommendation was fortunately not adopted as it would severely have curtailed the ability of a proprietary office to optimise profits, and the reaction of the Life Offices Association to this was that with free competition, a significant share of such profits would be transferred to policyholders by way of improved benefits, lower premiums and better bonus rates, and that if limitations on profits to shareholders were necessary, they should be applied to the proportion of surplus allocated to shareholders and not to yield on capital.²¹ (See Section 9 below)

Prescribed Assets: The Commission recommended that the required minimum investment by insurers in approved securities should not be regarded as an additional source of funds to the State and that interest rates paid by the State should take account of market conditions. Almost eleven years later the authorities acknowledged this recommendation and for this and other reasons allowed interest rates on approved securities, previously determined by the Treasury, to be determined by the market forces of demand and supply.

Foreign Insurers: Although it generally condoned the operation of foreign enterprises in South Africa, the Commission recommended that only locally incorporated insurers should be permitted to carry on insurance business in the Republic. Branches of foreign insurers should be domesticated and converted into local subsidiaries within three years because of what was seen as the desirability of obtaining local jurisdiction over all insurers and hence to avoid the evasion of exchange control and tax legislation. This recommendation was adopted but today there are many insurers and economists who do not support it, particularly in the light of the "disinvestment" campaigns of the 1980s. The withdrawal of the expertise of foreign insurers and the curtailment of the inflow of their funds to South Africa is today a matter for serious regret.

Banks and Insurers: The Commission objected to associations between banks and insurance companies because competition between financial institutions could be reduced if banks were permitted to control insurers or vice-versa. Apart from fears of "conditional selling", the practice of forcing the sale of insurance in return for approval of an overdraft or loan facility, the Commission felt a bank controlling an insurer gains access to a guaranteed stream of premium receipts and thus enjoys an unjustified advantage in the competition for funds, thereby becoming less sensitive to monetary measures. The recommendation was that a bank and its associates should not be permitted to hold more than an arbitrary 10 per cent of an insurer's shares and vice-versa.²²

Following representations, subsequent legislation has set the

maximum holding of an insurer's shares by a bank (and vice-versa) at 30 per cent. However, in practice some institutions have found ways to circumvent the effects of this and the legislation is therefore of little real value today.

(b) The Louw Commission

In order further to investigate certain of the Franzsen Commission recommendations and to address numerous other matters, a commission of inquiry into the long-term insurance industry was appointed on September 7, 1971 and its one hundred and fifty page report was published over five years later in 1977. The findings of this Commission covered a broad range of subjects such as the control of the industry, financial soundness, investments, the future of the long-term industry, taxation and miscellaneous matters. It also examined the modern linked life assurance concept (See Chapter III above) and made various recommendations in this regard. Apart from the introduction of a 'Standing Committee', which has never met, none of the recommendations of this commission have yet been brought into law. Nonetheless, much of the Commission's work had merit and its principal recommendations were as follows:

(i) The only form of linked policy that should be marketed is a policy under which benefits are linked to the value of specified assets actually held by the insurer and allocated to a special portfolio for this purpose.

(ii) Insurers should only be allowed to include unlisted securities and fixed properties in linked portfolios subject to the rules of valuation being approved by the Registrar.

(iii) The notional units deemed allocated to linked policies should not exceed the number of notional units represented by the assets actually held by the insurer and included in the linked portfolio.

(iv) Under a linked policy insurers should be prohibited from guaranteeing the amount payable on maturity or surrender. (This was one of the most significant and controversial of the recommendations of the Commission.)

(v) No linked policies should be sold under which a conflict of interest could arise between the insurer and the insured because of the way investment proceeds are allocated.

(vi) An anomaly which exists in respect of the differing valuation requirements for new conventional life business and for new linked business should be examined by a proposed "Standing Committee" when considering the details of a prescribed valuation basis for linked business.

In a somewhat technical reaction, the Life Office Association rejected the Commission's definition of linked life assurance as being too narrow and felt that overall, the Commission's recommendations would place a burden on insurers which would outweigh any benefits to policyholders.²¹

(c) Committee on Financial Soundness and Valuation Matters

Several of the recommendations of the Louw Commission were included in the terms of reference for the Committee on Financial Soundness and Valuation Matters appointed by the Actuarial Society of South Africa. In October 1981, this Committee recommended a basis for valuing assets and liabilities of linked policies which could be considered for eventual inclusion in the regulations of the Insurance Act.²³

The Committee's report was complex but in essence it disagreed with the recommendation of the Louw Commission that maturity and other guarantees be disallowed for linked business. It did, however, recognise the dangers of such guarantees and recommended instead that minimum reserves be held to fund such guarantees. This was allowed for in their recommended linked valuation basis. It also recommended a revised public 'Insolvency Test Valuation' and an additional 'Reasonable Benefit Expectation' valuation to be reported to the Registrar only. These valuations being devised to better assess the true solvency position of every office. As yet, these recommendations have not been adopted.

7. THE VIEWS OF BEAK: LAISSEZ-FAIRE

Born in England in 1910, George Beak qualified as a Fellow of the Institute of Actuaries and came to South Africa in 1935. At the outbreak of the second World War he joined the South African Airforce, but in 1943 he was given early release to become the first Registrar of Insurance and to set up the Financial Institutions Office (FIO) in Pretoria. In this role he was, inter alia, to become responsible for drafting the 1952 Pension Funds Act, and it was here that he foresaw that the 1943 Act would require far greater and better quality staffing at the FIO. After nine years as the First Registrar of Insurance, Beak was appointed Secretary and Actuary to the Life Offices' Association in 1952. He retired as Secretary in 1970, but remained on as Actuary until after the work of the Low Commission was completed in 1976. In a paper to the Actuarial Society in 1973,²⁴ Beak presented the views of a man who had had 30 years of experience and intense involvement with the 1943 Act. After discussing the many developments within the insurance industry in South Africa, he said the following:

"Vigour and variety are, however, not easily reconciled with the spirit of restrictive uniformity embodied in the Act, and it therefore seems probable that the Financial Institutions Office finds the administration of the Act more difficult and onerous now than it was in the earlier years.

"It seems therefore, that, under the conditions that now prevail and are likely to continue, the Insurance Act is creating difficulties for the administrators of the Act and for insurers alike.

"Legislation of this kind, which exists in a great many countries, is aimed at improving the security of policyholders, but it inevitably destroys some of the freedom of insurers. It imposes on the industry a certain degree of uniformity which is likely to be disadvantageous to policyholders".²⁵ Beak suggested that this being so, a strong case existed for shifting the emphasis away from the principle of "control" towards the principle of what he called "freedom with a safety net". His idea was that a system should be

constructed that would ensure that the insurer would bear the full responsibility for the conduct of his business, subject only to the requirement that "the insurer must demonstrate to the Registrar that he is in fact acting in a responsible way" (p.63).

Beak's belief was that absolute safety in insurance legislation did not appear attainable or even desirable in view of the prohibitive cost and administrative difficulty that that would certainly entail. His view was that the continuing development of the South African economy was resulting in increased complexity and variety and that these natural developments accorded ill with the present type of "control" legislation which, "on the one hand restricts the ability of insurers to provide the public with the best possible service and, on the other hand, places a heavy responsibility on the administering authority".²⁶ (Again, one is reminded of Adam Smith's quote in Chapter VII below.)

This much respected man, after nine years at the head of the Financial Institutions Office in Pretoria and after over twenty years of experience with the Life Offices' Association, pointed the way back to "freedom with publicity" but with additional safeguards, away from the "control" provisions of the antiquated 1943 Act. He believed it was necessary that a pragmatic attitude to the problem be adopted, giving greater weight to current circumstances than to any general theory, and trying more ways to give policyholders a reasonable measure of protection while still allowing insurers freedom to develop and improve on the services they offered. He believed that "to design good insurance legislation is an art rather than a science".

George Beak died in September, 1984, and it was a curious and concerning oversight that this man's valuable experience and contribution to the development of our insurance legislation had gone unheeded in 1987. It was completely ignored in the draft insurance Bill which appeared that year and which bore the hallmarks of Arndt but none of the wisdom of Beak's experience.

8. THE 1987 DRAFT BILL

Up to the end of 1986, the Life Office Association of South Africa and its members had long been awaiting a draft copy of a completely new 'Long Term Insurance Bill'. It was believed that this Bill would have taken into account the results, recommendations and comments of the various commissions and enquiries referred to above, and other papers written and communications made between the Industry and the authorities which had taken place in the past and which were numerous. It was also believed that it would take into account the central government's philosophy of deregulation and promotion of free enterprise.

The draft had been imminent for nearly four years and it was believed to have been delayed on many occasions due to its complex nature, the wide and far-reaching ramifications of the life industry on the social and economic structure of the country, and the rapidly changing South African life assurance environment. Not the least of the FIO's difficulties in drafting the proposed new legislation had been the inadequate staffing of the Office in Pretoria, the level of turnover of its senior personnel and the lack of availability of funds to attract adequately qualified staff. Indeed, the Registrar felt obliged to make reference to these difficulties in his 37th Annual Report to the Minister of Finance and again in his 38th, 39th and 40th Annual Reports.²⁸ In May 1986, the State Actuary resigned and left his post in what was apparently a final gesture of exasperation with the inadequate staffing and remuneration position prevailing in the Financial Institutions Office.²⁹ His post was not able to be filled again before February 1987.

In addition to the above concerns it seemed in 1986 that the role of the Registrar of Insurance as contemplated by the 1943 Act may effectively have undergone a fundamental change. Whereas the 1943 Act saw the purpose for the appointment of a Registrar as being primarily the protection of policyholder interests, this no longer appeared to be the case. Certain events seemed to imply that the role of the Registrar had become more one of application and

regulation of "controls", than merely one of the protection of policyholder interests.

Examples of this were the fact that the Annual Reports of the Registrar of Insurance did not allude to the soundness or otherwise of insurance operations in South Africa, but recorded that in 1982 only one insurance company was investigated in terms of the Inspection of Financial Institutions Act, 1962. However in 1982, seven companies were investigated with regard to the alleged contravention of Section 23C of the Act, dealing with conditional selling of insurance. This appeared to indicate a pre-occupation with the application of "controls" rather than with concern about financially sound operations or the interests of policyholders. Two further events also seemed to confirm this changed approach.

In May 1986 the first of these occurred. An event of mammoth proportions and ramifications which reverberated throughout South Africa took place. This was the Registrar suing for the liquidation of the short term business of the AA Mutual Insurance Association, at the time the second largest short-term insurer in the country. This action appeared to confirm the changed role of the Registrar as described above, as it could hardly have been construed to be in the best interests of the protection of AA Mutual's policyholders.

When the difficulties of the AA Mutual were brought to his attention in April 1986 and various suggestions made for the Company to be salvaged in the interests of its policyholders, the Registrar made no firm recommendations and appeared unwilling to brook any wavering from the Act. He would provide no period of grace and, without delay brought the case to the Supreme Court in Pretoria, claiming subsequently that the Act required him to do so.³⁰

The other event which seemed to confirm a changed role for the Registrar happened in January, 1987 when the Registrar of Insurance circulated for comment the long awaited draft bill which was "To Consolidate and Amend the Law Relating to Long-Term Insurance; and

To Provide for Matters Incidental Thereto." It was intended that this Bill would repeal and amend almost all of the 1943 Act and contained far-reaching divergencies from the previous legislation, and from the essential components of a life assurance Act as identified at section 1 above. Its proposals were nothing like those which had been expected and included the following:

a) The Registrar may limit the amount for which a life office shall assume an obligation under a life policy. (This was apparently originally meant to provide for "industrial" business but the draft bill was worded in such a way that this would have covered all life business).

b) The Registrar may at any time direct an insurer to effect such alteration to its Memorandum or Articles of Association as he may deem desirable in order to remove anomalies or undesirable divergencies in the activities of different insurers. "Undesirable" in this case was not defined and the life offices perceived this provision as an unhealthy and unwarranted attempt by the Financial Institutions Office to be placed in a position to regulate the distribution of company profits between policyholders and shareholders. (See Arndt 1941 - pp.89 and 90 for the same choice of words.)

c) Whenever the appointment of an actuary or auditor is terminated, that auditor or actuary shall forthwith submit a report to the Registrar in which it is stated whether to his knowledge any irregularity in the affairs of the insurer is contemplated, has taken place or is taking place, particulars of the irregularity, and the reason for the termination of his services. Life offices felt that this requirement would create opportunities for vindictiveness and would cast aspersions on personal and professional integrity.

d) The auditor or actuary may request every director or servant of an insurer to provide him with any book or document or information relating to the business of the insurer which he may deem necessary for the performance of his functions. In addition, he

shall report any irregularity to which he has reason to object to the insurer and shall forthwith report such irregularity to the Registrar if steps are not taken to rectify the irregularity to his satisfaction. These provisions were felt by life offices effectively to put the actuary and auditor in a more powerful position than the company chief executive.

e) The valuation of assets and liabilities undertaken by the actuary may be accepted or rejected by the Registrar. If he rejects such valuation, he may order an insurer to carry out an "improved" valuation or appoint an independent actuary to carry out that valuation and all costs incurred shall be recovered from the insurer. The word "improved" has been placed between inverted commas as it is the word used in the draft bill and surprised many life offices as its meaning in this context was completely uncertain.

f) If the Registrar himself is of the opinion that any account, return or document submitted to him by an insurer does not comply with any provision of the regulations in question, or is incorrect, the registrar may order the insurer to amend the document or, if the insurer fails to comply with such order to his satisfaction, the Registrar may amend the document himself or reject it. If rejected, it shall be deemed not to have been furnished to the Registrar.

The above divergencies from the essential components of a life assurance Act and from previous legislation, certain other difficulties with existing legislation and the absence of the proposed "Regulations" which were to accompany the draft bill, meant that the legislative debate, started in 1934 by Arndt, was once again to the fore.

It was therefore not surprising that the life assurance industry in South Africa in 1987 was pressing for a return to the role of the Registrar as the custodian of the interests of policyholders rather than the policeman of the Insurance Act. The adoption again of the essential principles of "freedom with publicity" first embodied in

the United Kingdom Assurance Companies Act of 1909 and the South African Insurance Act of 1923 was being called for. Less controls but greater disclosures, it was felt, would better serve the public interest as consumers and competitors alike would ensure that no insurer was long permitted practices which conflicted with known sound operational bases.

Indeed, such an arrangement would remove from the Registrar and Financial Institutions Office the onerous and often impossible burden of being the body required to shoulder responsibility for the solvency of all South African insurers.

Whatever the eventual outcome of this debate, it seems certain that the South African life insurance industry would have moved inexorably away from the principle of "freedom with publicity" and away from the essential components of a life assurance Act, if promulgation of the 1987 draft insurance Bill went ahead in its original form. Indeed, the introduction of such legislation would fly in the face of South African and international experience over the past four decades, the direct experiences of Beak and the mood of the country in 1987.

9. REGULATION AND CONTROL FROM WITHIN THE INDUSTRY

Over the past fifty years, life insurers in South Africa, mindful of their responsibilities and averse to a growing tendency of State intervention, have organised themselves in a manner which has established certain norms and codes of conduct within the life industry. These may be seen as self-imposed regulations and controls of the industry, and are most recognisable in the Life Offices' Association of South Africa.

Established in 1935, initially with the prime objective of co-operation on employment practices, the Life Offices' Association of South Africa (LOA) is generally recognised as the spokesman for the life companies both in the private and public sectors. It is a voluntary association of life insurers and its members are responsible for all but a very small percentage of life assurance

business conducted in South Africa, the independent Homelands and South West Africa.³¹

Formed as a voluntary body concerned with the interests of the Industry and its policyholders, it has become important in the defence against undue legislative interference in the affairs of the industry.

The Association is not a law-making body and has no statutory status. Members are entitled to dissent from resolutions adopted by the Association with the exception of certain decisions taken by the Association which are entrenched. These entrenchments, which the LOA feels to be primarily designed to advance and protect the common interests of policyholders and life assurance companies, have also been designed to avert further legislative intervention. Member offices bind themselves to entrenched agreements and thus these agreements may be considered in the same light as statutory regulation of the industry.

These agreements are explained below under the names by which they are known in the LOA.

The Life Registry: This registry, established in the Cape in 1906, was taken over by the LOA shortly after the Association was formed. Member offices provide the information for the registry to which all members have access in order to ensure that there is full disclosure of medical detail in new business application forms. Encoding of information ensures the confidentiality of data contained in the registry.

The Intermediaries' Register: This register was originally established by the LOA to enable member offices to establish the name of the representative's previous employer. This purpose is still maintained but the operation of the register has been extended to ensure that the selling of insurance shall not be undertaken by people who are either on a register or who have been debarred, as a result of unethical conduct, from continuing to sell

life assurance. The registration of intermediaries in this way represents a free enterprise alternative to licensing by the State.

Proposal and Medical Report Forms: This agreement has as its object the assurance that the proponent shall understand clearly with which office he is going to do business and that he does not form the opinion that someone else, for example a broker, is the underwriter. This agreement has avoided State intervention in this matter. Medical report forms have largely been standardised to make for uniformity between life offices and for the convenience of medical examiners.

Replacement of Policies: This agreement seeks to discourage, in the interests of the policyholder, the cancellation of an existing policy, issued by one office in favour of a new policy issued by another office. This agreement on what is commonly called "twisting", aims at stopping the proponent suffering a loss through having to pay twice for the front-end administration and other costs including commission and stamp duty involved in initiating a policy. South Africa is the only country in the world where this arrangement is known to work.

Limitation of Disability Benefits: The principle behind this agreement was to prevent abuse of multiple disability benefit claims and to encourage affected policyholders to return to work, thereby reducing indigence and malingering. A number of offices have expressed doubts about the efficacy of this agreement in the long term, but the agreement has averted legislation on the matter.

Claims Register: To prevent the payment of fraudulent claims, this agreement provides member life offices with access to information which enables them to avoid undue losses through payment of claims which are not genuine.

Reversed Commission Agreement: This agreement provides that in the event of an office being unable to recover a debt on a broker's commission account, the benefit of annualisation of commission shall be withdrawn by fellow-members of the LOA.

Suicide: Offices have adopted a recommendation that they put a condition in their policies providing that death benefits will not be paid in the event of suicide within two years of a policy being issued.

Stop Orders: Member Offices have agreed not to pay more than 2,5 per cent collecting commission to stop order authorities other than the Railways to whom they may pay 3 per cent.

Public Relations Agreement on Statistics: Members have agreed to furnish the LOA with certain statistics on a half-yearly basis. The information they give is then collated and published in the Association's Annual Review.

Benefit Illustrations: Member offices have agreed that for purposes of illustrating future surrender, maturity or death claim benefits, these shall be based on assumptions that are realistic and in the opinion of the member's valuator, have a reasonable expectation of being fulfilled.

As indicated above, the LOA is not a body empowered to force the compliance by its members with its various agreements. However, a view which has long pertained in the LOA, but which has not always been unanimous, is that it is better to undertake self-regulation than to encourage the authorities to introduce legislation. These agreements may therefore be viewed in the same light as legislation, but introduced by the industry itself for its own regulation, frequently in the hope of averting further "control" legislation by government.

Ombudsman for Life Assurance: In 1984 a number of life offices volunteered to fund an office of Ombudsman for Life Assurance and appointed a retired judge to this position. His purpose is to receive complaints from policyholders, communicate with insurers, review the evidence and facts, and impartially to make recommendations to the parties concerned. In most instances the life office concerned will abide by the recommendations of the

Ombudsman. The Office of Ombudsman may therefore be seen as yet further regulation of the Industry by itself.

10. LIFE OFFICE TAXATION

Any discussion concerning legislation which affects South African life offices cannot be considered complete unless it includes reference to taxation. After the Insurance Act, the Income Tax Act is the most important piece of legislation affecting the South African life assurance industry (Chapters VII and X below). Although the complex details of this matter are outside the purview of this work, their elemental aspects are discussed below.

Before 1959 Life Offices in South Africa were taxed on much the same basis as other commercial undertakings. Taxation imposed on the current basis was first introduced by the Income Tax Act No. 78 of 1959.

Life assurers are subject to the normal rate of company taxation on their "taxable income", defined as a prescribed percentage of their investment income. There is no relief for expenses, but investment income from pension and annuity business is not taxed. Mutual and proprietary life offices are taxed in the same manner, and the 1959 Act deemed that the taxable income of a life assurer was an amount equivalent to 30 per cent of the investment income of taxable business.

When the system was first introduced in 1959, dividend income was entirely exempt from taxation. In 1962 this was changed to only one-third being exempt from tax, and in 1971 again altered so that all dividend income was taxable.

In March 1982 the National Budget raised the percentage of life assurance investment income subject to tax from 30 per cent to 42 per cent. At the same time the company taxation rate was increased from 42 per cent to 46,2 per cent, meaning that the effective rate of tax applicable to life offices had changed from 12,6 per cent to 18,5 per cent, a 46,8 per cent increase ($30 \text{ per cent} \times 42 \text{ per cent} = 12,6 \text{ per cent}$; $40 \text{ per cent} \times 46,2 \text{ per cent} = 18,5 \text{ per cent}$). In

1987 it is 20 per cent, being 40 per cent of 50 per cent, the company rate of taxation. As life assurers pay their policyholders benefits based on investment returns net of tax paid, the effect of the taxation of life assurers is to tax the savings of policyholders, particularly in the case of linked life assurance business, rather than the shareholders as in all other commercial undertakings.

It has also frequently been indicated that apart from the provisions of the Income Tax Act, life offices suffer another indirect form of taxation in terms of the Insurance Act under which they are obliged to invest substantial proportions of their investment portfolios in prescribed assets (See Chapter X below). As these investments do not always yield the optimum available investment return, savers, particularly those saving for their retirement, and pensioners, are most affected.

The theoretical basis for the taxation of life offices which was introduced by the Income Tax Act of 1959 is a pragmatic solution to a somewhat complex problem. Because of their very nature life assurers require treatment different to other enterprises. The very long period which arises before benefits are received makes it impractical and probably unacceptable to the fiscus, to tax the benefits ultimately in policyholders' hands. It therefore becomes necessary to tax the insurer, as representative of the policyholder, in an appropriate manner. These factors combine to make the taxation of life assurers and life assurance benefits different from other companies and savings media.

Other compelling reasons why life assurers require special tax treatment refer to their great social importance in the protection of families and their critical importance from the national economic point of view in the stimulation of personal savings and the creation of capital. These are dealt with in Chapter VII below.

(a) Constituents of Taxable Income

The taxable income of life assurers can be divided into two constituents:

(i) Profit earned by the insurer in its own right, equal to:
premium income (P) + investment income (I) - operating expenses (E) -
benefits paid (B) - increase in policyholder liabilities (IL).

This constituent would be taxed in the same way that short-term insurers and banks, etc. are taxed. In the case of a mutual insurer this amount would consist only of profits withheld from policyholders.

(ii) Profits earned by policyholders. In order to maintain consistency with other forms of investment media, the gains attributable to policyholders as a body, should also be taxed in some way. These gains may be expressed as:
benefits received by policyholders (B) - premiums paid by
policyholders (P) + increase in liabilities due to policyholders
(IL).

(b) The Pure Company Approach

Those who advocate taxing life assurers on a basis comparable to other financial institutions, would derive the formula of (a) (i) above. This, however, fails to deal with the question of policyholder taxation. Taxation would therefore still need to be levied on benefits paid to the individual policyholder, as in the case of other savings media, in order to avoid these benefits being totally tax-free. This is most logically done at the time benefits are received by the policyholders, but that means very significant tax deferral, which is probably unacceptable to the fiscus.

Alternatively, each policyholder could be taxed each year on the increase in the surrender value of his policy, less premiums paid in that year. This introduces a cash-flow problem to policyholders because tax becomes payable many years before the benefit is due. It also introduces numerous other practical difficulties such as

laying down a statutory rather than life office basis for calculating surrender values, and the fact that the taxable amount will frequently be negative where values are less than premiums paid.

(c) The Trustee Approach

In order to overcome the difficulties of collecting tax from policyholders, the life assurer is taxed as in (a) (ii) above as representative ("trustee") of the body of policyholders. The tax payable should theoretically be equal to the total amount of tax which would be collected if each policyholder were individually taxed on his share of the $(B - P + IL)$ as his own rate of tax. In practice this may be replaced by taxing the aggregate $(B - P + IL)$ at the estimated average tax rate applicable to policyholders, with an appropriate adjustment to allow for any deliberate encouragement of long-term savings.

It can be shown that the total taxable income of life offices should be $(I - E)$ where I and E represent investment income and expenses attributable to policyholders. In order to confirm this, formulae (a) (i) and (a) (ii) may be added together as follows:

$$P + I - E - B - IL + B - P + IL = I - E$$

The tax payable in respect of the body of policyholders may therefore conveniently be expressed as:

$$(I - E) \times \text{average policyholder tax rate.}$$

This formula may either be used in practice, or else as a criterion against which to measure a pragmatic formula such as is currently used in South Africa (i.e., $I \times$ arbitrary tax rate).

The appropriateness of the " $I - E$ " formula for taxing life offices is easily demonstrated and widely acceptable. However, the elements making up the formula and the rate at which tax should be levied, can be debated and go beyond the scope of this work. Suffice it to say that the constituents of " E " may be divided into

setting up, selling, administering and investing costs. The constituents of "I" could include interest income, dividend income, rents, and possibly, realised capital gains.

Because the practical application of the "I - E" method involves a considerable volume of work for both insurers and revenue authorities, the current "pragmatic" basis, which has been used with much success for nearly thirty years, appears to be the most efficient method of taxing life companies. Indeed this with some improvements was the majority recommendation of the 1987 Margo Commission.³² Naturally, smaller and developing life offices would be pleased to see the introduction of some greater relief for their development expenditure, and life offices and savers alike would be relieved to see a return to the 1959 tax levels, which even today, would be considered excessive when compared with the average personal tax rate of approximately 20 per cent.

(d) Proprietary Offices

The manner in which the trustee approach taxes policyholder interests should bring about theoretical consistency with company taxation, as described in (a) (i) above. In theory, therefore, mutual insurers should be taxed entirely under the "trustee" approach and proprietary insurers under a combined system as shown above.

This, however, would imply a division of the company in a manner which would have to be consistent for all companies, and which would be different from the methods currently adopted by many companies in determining the split between shareholders' and policyholders' funds. It would therefore raise numerous complexities, some of which may not have been foreseen.

(e) Untaxed Business

It should be noted that approved pension fund and retirement annuity business, as well as ordinary annuity business is excluded from the calculation of policyholder tax. This situation pertains as the beneficiary is taxed on the proceeds of these types of business, at his own rate of tax.

11. RECAPITULATION

This chapter has endeavoured to demonstrate how over a period of nearly one hundred years life assurance company legislation and regulation has grown in South Africa, at each step gaining greater control of the activities of life offices and at each step further inhibiting their discretionary decision-making. Early legislation in the provinces of South Africa tended to be concerned with protecting the interests of policyholders and their beneficiaries and the 1923 Act enshrined for twenty years the important principle of "freedom with publicity" for life offices.

However, the 1943 Act, greatly influenced by the thinking of Arndt, laid the foundation for a huge and ever increasing encroachment by the State into the realm of discretionary entrepreneurial decision-making. After several subsequent enquiries, the legislative position had not improved, despite the views and experiences of Beak and the life assurance industry as a whole. This position was confirmed by the 1987 Draft Bill which continued to show strong signs of Arndt's intervening influence. The real cost of this encroaching State control has not been estimated, nor is it ever likely to be known. However, the expensive implications of Part I Asset investment requirements have been discussed in this Chapter and in Chapters VII and X below.

In addition the "defence mechanism" employed by the Life Offices' Association in the form of self-imposed regulation has meant further controls but has nevertheless been seen as preferable to further State encroachment through the medium of the 1943 Act and its regulations and amendments. The voluntary establishment of the office of Ombudsman for Life Assurance was yet another manifestation of the desire on the part of the industry to avert any further State intervention in South Africa.

Considering the impeccable record of the industry always having met or bettered its promises to policyholders, frequently bettering the rate of inflation on net investment yield to policyholders, and its

vitaly important role in mobilising and maximising the saved wealth of the Nation, it seems difficult to justify the apparent drive for ever more taxation, State intervention and restrictive legislation.

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22. Franzsen, op. cit., Third Report, par.877, p.225.
23. Report by the Committee on Financial Soundness and Valuation Matters. Actuarial Society of South Africa, October 1981, Annexure 1.
24. Beak, op. cit., p.62.
25. Ibid., p.63.
26. Ibid., p.63.
27. Ibid., p.106
28. Registrar of Insurance - 39th Annual Report. Year ended December 31, 1982, Government Printer RP41/1985.
29. The Franzsen Commission's recommendation regarding restrictions on new registration of insurers and the encouragement of mergers and take-overs therefore found great acceptance at the Financial Institutions Office, albeit for reasons not envisaged by that Commission. Staff shortages and work volumes seemed to the Financial Institutions Office to make these recommendations doubly attractive.
30. During May 1986, when the Directors of the AA Mutual met the then Registrar for the last time in his office in Pretoria and just prior to the provisional liquidation of the business of the AA Mutual Insurance Association, reportedly his words to them were:

"Gentlemen, I can suggest no alternative but that you should go boldly into liquidation".

At a subsequent meeting in June 1987, it was claimed by an FIO staff member who had been present at the meeting that the registrar at the time had had no option but to exorcise his duties as demanded by the Act. A most severe indictment of this Act.
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PART B

INVESTMENT AND THE LIFE ASSURANCE INDUSTRY

A STUDY OF THE OBJECTIVES, CONSTRAINTS, ALTERNATIVES,
MANAGEMENT AND ROLE IN THE NATIONAL ECONOMY
OF LIFE ASSURANCE INVESTMENT ACTIVITIES

PART B

INVESTMENT AND THE LIFE ASSURANCE INDUSTRY

CHAPTER VII

THE INDUSTRY : FORMATION OF CAPITAL AND EMPLOYMENT

This chapter explains the important role played by the life assurance industry in the economy. The basic concepts of capital and employment formation are dealt with as is the role which the life industry plays in the attraction of savings and how it mobilises these funds to the benefit of the nation as a whole. Key empirical evidence relating to the past fifteen years has been collated and analysed in this chapter, leading to a perspective on the future role of the life assurance industry in the South African national economy.

1. SOME BASIC CONCEPTS

It has been said that the most important invention of the human race was the invention of plant and animal husbandry. When man tamed a few plants and animals, there being some evidence that this was really done by the women folk while the men were out hunting, he assured himself of a steady food supply and was able to set about the work of creating civilizations.

The crucial discovery was that by saving some of the seeds for next year's planting and by saving some of the lambs and calves to breed and sustain the flock, the continuation and expansion of the wealth of the tribe was assured. In subsequent times, a shudder of fear went through any community that was forced by famine to eat its seed corn or to slaughter the yearlings.

The same applies to industrial societies and business firms. Every year, some part of total output has to be saved and reinvested in the replacement, modernisation and expansion of the industrial machine. This is the process of capital formation. It is sometimes also referred to as 'net investment'. Any nation that neglects its capital formation will find itself susceptible to scarcity, inflation, unemployment and declining standards of living.

It is in capital formation that we find the main-spring for the achievement of national objectives such as full employment, greater independence from other nations in regard to energy requirements, expansion of basic industries and their exports, the improvement of productivity, the growth and development of an infrastructure, and economic and political stability.¹

The role and significance of savings, investment and capital formation in the economy of a nation has been dealt with by most writers since Adam Smith's classic discussion of these fundamental economic processes in his "Wealth of Nations". It is interesting to recall what Smith said about them and, although they are well known, these quotations bear repetition because of the essential truths that they express and their relevance to this Chapter.

"Capitals are increased by parsimony and diminished by prodigality and misconduct. Whatever a person saves from his revenue he adds to his capital. ... As the capital of an individual can be increased only by what he saves from his annual revenue or his annual gains, so the capital of society, which is the same with that of all the individuals who compose it, can be increased only in the same manner It is likely to increase the fastest, therefore, when it is employed in the way that affords the greatest revenue to all the inhabitants of the country, as they will thus be enabled to make the greatest savings Every individual necessarily labours to render the annual revenue of society as great as he can He intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention The Statesman, who should attempt to direct

private people in what manner they ought to employ their capitals, would not only load himself with the most unnecessary attention, but assume an authority which could safely be trusted, not only to no single person, but to no Council or Senate whatever, and which would nowhere be so dangerous as in the hands of a man who had the folly and presumption enough to fancy himself fit to exercise it."2

The question of capital formation has been dealt with at length by many economists since Adam Smith but it is outside the purview of this work to discuss their writing further here. Suffice it to say that capital formation is widely recognised by economists as the mainspring to all economic growth and development.

Capital formation, or net investment, arises out of the savings of a nation and raises the capacity of an economy to produce. It is therefore not only income-creating, but also capacity-creating. The process of net positive real investment, over a period of time, increases the level of income and output - a positive real rate of economic growth - and the concomitant capacity of a nation to offer employment and a rising standard of living to all of its inhabitants.

In short, one might say that without savings, a nation can expect no economic growth; it can, however, expect declining employment and standards of living. This puts into perspective the significance of the life assurance industry in the encouragement and mobilisation of a major part of the nation's savings.

2. LIFE ASSURANCE: CAPITAL AND EMPLOYMENT

The role of the life assurance industry is critical to the process of capital formation, not only through its direct investment activities but also through its risk-bearing function. The importance of the industry in providing relief from fear of financial loss, due to a host of contingencies, has led to the insurance product facilitating the flow of savings into physical and human capital by insuring human investment against physical perils and uncertainties. A rational investor, institution or individual, would not think of making a financial commitment if a venture were not properly protected against insurable risks.

In the modern economy the insurance technique - the spreading of economic loss by the pooling of risks - facilitates the conduct of virtually every commercial and industrial activity. For example, even such a common-place transaction as the granting of a home mortgage bond would not take place in the form familiar to us if it were not possible to insure the property against fire and other natural disasters, and the mortgagee against loss of income due to death or disability.

Life assurance companies play an important role as financial intermediaries in all of these matters. Through this function, they provide an efficient mechanism for channelling private savings to the ultimate capital investor. Furthermore, because of the long-term nature of many life assurance and pension obligations, life assurance companies are able to commit the bulk of their investible funds to long-term financing, vital for capital formation.

3. LIFE ASSURANCE AND SAVINGS

The life industry attracts a significant proportion of the personal savings of the nation. A closer examination of life assurance products reveals how they attract savings of a contractual nature and provide an important source of financial capital.

The "Whole Life" and "Endowment" classes of policies with substantial cash values remain the major life assurance product, despite an increased reliance on term assurance both here in South Africa and in every other Western nation. These classes of policy create a reservoir of funds which represent accumulated premiums and investment income and which act as the reserves to meet future obligations. (See Chapter III above). This pool of funds arises because premiums paid during the early years of the contract exceed the amounts immediately needed for benefits and expenses. In later years, when mortality costs exceed periodic payments, the short-fall is made up by earlier premium surpluses and the investment income derived therefrom. In addition to whole life and endowment policies, other basic forms of reserve generating individual contracts, such as retirement annuities, also produce investible

reserves. Even "Term" and "Permanent Health" insurance, held on either an individual or group basis, generate reserves but the savings element in these types of contract is insignificant compared with their protection features.

The other major product which generates large amounts of investible funds is group pension plans. Insured pension plans generate a large reserve of investible funds and represent an important vehicle through which private savings are accumulated.

Man's need for personal financial security for his dependants and himself in the event of death, disablement or retirement, is the fundamental reason for the success of the life assurance industry in the attraction of personal savings. High levels of inflation during the past two decades and the *increasing skill of life offices to invest funds at real rates of return*, have been additional reasons for this success. (See Chapters VIII, IX and X below.)

4. LIFE ASSURANCE AND EMPLOYMENT

Life assurance company investment in its own equipment and office buildings provide the physical capital base that supports the ever increasing work force of the industry. In South Africa in 1987 it directly employed over forty-thousand people. This represented, however, only a fraction of its impact on the employment of physical and human capital.

At least part of its contribution to employment arises out of its risk bearing function, which greatly narrows the degree of uncertainty surrounding most forms of economic activity. However, the pervasive financial security created by the activities of the industry is primarily an INTANGIBLE influence which cannot be measured in the customary terms of Rands, jobs or physical units.

Narrower in scope, but somewhat more susceptible to quantification, is its contribution to employment through its role as a financial intermediary in directing the flow of investible funds into a whole

spectrum of capital projects. Even in this area conceptual problems and data limitations prevent establishing a straight-forward relationship between financial flow, investment and the creation of employment. It is difficult to establish how much of the investible funds in a given year is channelled into new capital projects and how much goes to support or re-finance existing projects. In the latter case the financing activity of the industry tends to support current employment levels, whereas in the former case, such activity tends to generate new employment opportunities. Even if this particular difficulty could somehow be overcome, determining the amount of PERMANENT direct and indirect employment created as the result of financing say the building of a new factory, presents even more formidable difficulties. Although we lack a precise measure of the employment impact of the investment flows of the industry, the general principle that investment is required to create employment still pertains.

5. EMPIRICAL EVIDENCE AND ANALYSIS

Tables 7.1, 7.2 and 7.3 were collated over a period of six years and illustrate a number of interesting facts with regard to the South African economy and its life assurance industry. These facts are highly significant and have regard to life office income and personal savings, net domestic investment, benefits paid to policyholders, the cost efficiency of the industry, the support the industry has lent to government, local authority and public corporation stock debt and the changing distribution of life office assets between various forms of investment. These are discussed in the order in which they appear in the Tables below.

(a) Office Income and Personal Savings

From Table 7.1 (Rows 1, 2, 4) one observes that the total premium and investment income of the life assurance industry in South Africa has exceeded total personal savings at all times since 1981, as has premium income alone. In 1972 premium income represented 35,27 per cent of total personal savings. However, this changed dramatically ten years later when in 1981, premium income represented 121,03 per cent of personal savings, and five years later in 1986, it represented nearly 700 per cent of personal savings.

Figure 7.1 graphically displays the data contained in Table 7.1 for the four important factors of net domestic investment, personal savings, premium income and total income of the life industry over the past 15 years. The importance of the South African life assurance industry in the nation's capital and employment formation process is clear from this graph.

The exceptional stability of the premium and total income of life offices relative to personal savings and net domestic investment is evident. The consistent and non-cyclical nature of these two life assurance statistics provides much evidence not only of the importance of the industry in the capital and employment formation process, but also of its solid and stabilising influence on the whole economy. Whilst personal savings fluctuated widely between R1 153-million in 1974, R4 306-million in 1980 and approximately R1 500-million in 1987 and 1986, the premium and investment income of life offices continued to grow smoothly and consistently. The declining rate of real personal savings since 1980 has therefore been considerably worse than Figure 7.1 would imply. This decline has been partly ameliorated by the growth of premium income, but the extrapolation of both graphs on any reasonable basis serves only to emphasise the future importance of the South African life assurance industry. The falling rate of real personal savings is alarming but is nevertheless a real and measured phenomenon in all economies that experience lengthy periods of double-digit inflation.

Declining personal savings are the result of numerous factors, not least of which must be structural. Negative real rates of salary increments arising from high rates of inflation have led to a decline in discretionary income and therefore savings. This has been further aggravated by the incidence of often high rates of interest on borrowing as well as rising marginal rates of personal income tax on money incomes. Personal direct taxation rose from 7,6 per cent of national current income in 1979 to 11,9 per cent in 1986, a fifteen per cent growth rate.³ Accordingly, discretionary savings must be expected to decline and to be reflected in such areas as declining building society and banking deposits. Personal savings

TABLE 7.1

LIFE OFFICE INCOME AND EXPENDITURE, PERSONAL SAVINGS AND
NET DOMESTIC INVESTMENT
R MILLIONS (At Current Prices)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
1. Personal Savings (A)	1389	1184	1153	1908	1478	2689	2280	3641	4306	2268	1523	2045	1788	3377	1275
2. L. O's Total Income (B)	682	818	985	1138	1395	1617	1927	2496	3100	4104	5246	4495	8240	9889	12926
3. L. O's Premium Income C.	490	594	717	802	981	1110	1314	1705	2124	2745	3451	4284	5424	6240	8659
4. % Premium Income to (C) Personal Savings (A)	35.27	50.17	62.19	42.03	66.37	41.28	59.73	46.83	49.33	121.03	226.59	207.46	303.36	184.78	681.49
5. O's Total Assets	2900	3460	3925	4609	5257	6705	7412	9199	11559	14540	18028	23385	28726	36621	46343
6. Net Domestic Investment	2258	2235	4675	5521	4989	4361	4138	5688	10646	14166	8511	8745	9839	5376	3674
7. L. O's Benefits Paid	224	251	290	337	416	477	551	616	730	935	1208	1569	2273	2848	3997
8. L. O's Operating Expenses (D)	118	150	172	205	232	250	274	340	453	587	716	864	1073	1237	1499
9. L. O's Expense Ratio (D) to Income (B)	17.4	18.3	17.5	18.0	16.7	15.5	14.2	13.4	14.5	14.3	13.6	13.3	13.0	12.5	11.6

Source:

Reserve Bank Quarterly Bulletin
10A Annual Review Reports

NOTE:

A vest and continuing discrepancy in the figures appearing in each successive issue of the Reserve Bank Bulletin has been noted over the past six years. This fact may cast doubt on the reliability of this source and the conclusions drawn from it.

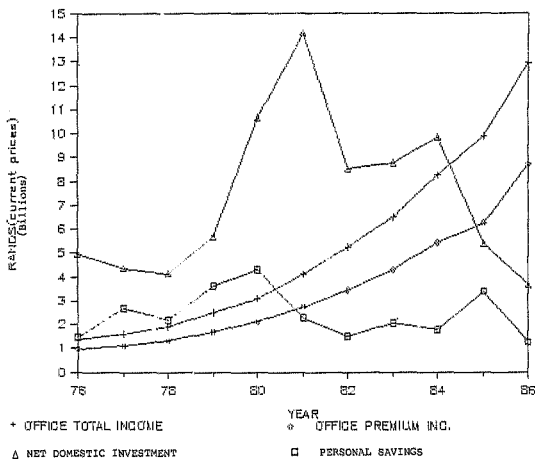


FIGURE 7.1

INCOME, SAVINGS AND INVESTMENT
LIFE INDUSTRY SIGNIFICANCE

and individual wealth accumulation may therefore be expected to be increasingly concentrated in the form of contractual savings, as also in hard assets such as houses.

The perceived efficiency of the life assurance industry in investing personal savings in such a manner as to beat inflation, together with a heightened awareness of the need for life assurance cover and disability benefits, have led to the industry attracting an increased flow of personal savings. The future growth of life assurance premiums in South Africa will therefore depend on the continued ability of the industry to invest funds at real rates of investment yield. It will also depend, however, upon actual and expected salary increases and upon the competitiveness of other forms of selected investments. Until the rest of the "savings sector" in South Africa is able to produce more competitive savings media, it will continue to attract less and less of what remains of discretionary savings.

(b) Net Domestic Investment

A sudden increase in net domestic investment (Row 6) in 1980 and 1981 arose largely from a strong inflow of short term foreign capital and banks were able to extend credit on a large scale by considerably expanding their liquidity base. The withdrawal of foreign funds which followed, led to a dramatic reversal of this upward trend, further emphasising the need for local rather than foreign capital. Were it not for the long term contractual nature of life assurance savings, total real national savings and hence capital formation, would surely have been severely curtailed.

(c) Benefits Paid

As mentioned in Section 1 above (Row 7), the contribution to capital formation by the life industry is not only through its direct investment activities but also through its risk-bearing function. The relief which this provides from fear of financial loss and the peace of mind which it consequently creates, provides the necessary structural stability to facilitate economic and social growth and development. The growing value of benefits paid to policyholders

is shown in Table 7.1 to be of the order of 40 per cent per annum compound in recent years, while the official rate of inflation was less than half this figure. Benefits paid in 1972 totalled R224-million. It took five years until 1977 for this number to little more than double to R477-million. This number had doubled again during the next four years to R935-million in 1981, more than doubled again within the next three years to R2 173-million in 1984, almost doubling yet again to nearly R4 000-million two years later in 1986. This was more than the total South African State Health and Welfare budget for the same year. Of these benefits, by far the majority were paid in the form of death, disability and pension benefits, surely the most important personal financial requirements for national social and economic stability.

(d) Cost Efficiency

Figure 7.2 (Rows 8, 9) graphically represents the improving efficiency of the South African life assurance industry as reflected in Table 7.1. Not only has the expense ratio of the industry fallen from 18,3 per cent in 1973 to 11,6 per cent in 1986, but investment income as a percentage of total assets has improved from 6,5 per cent per annum in 1973 to over 10 per cent since 1986. This has been achieved despite rapid cost inflation and escalating taxation over the same period. This may be seen as further evidence of the important role of the life assurance industry in marshalling and mobilising the nation's savings in the most cost effective manner.

Moving from Table 7.1 to 7.2 and 7.3, we note the significance and changing profile of how life offices invest their funds.

(e) Government and Local Authority Support

Table 7.2 and 7.3 (Rows 10, 11, 12) show the increasing dependence of government and local authorities on the life industry to take up its stock debt. Table 7.3 shows that government, local authority and public corporation stock between them consistently represent between 25 per cent and 35 per cent of total life office investments.

In 1972, the government depended on life offices to take up 7,08 per cent of its total domestic marketable stock debt. By 1984 this dependence had increased to 20,7 per cent, falling back to 16,77 per cent in 1986. In 1972 local authorities were dependent on life offices to take up 17,61 per cent of their stock. By 1982 this has risen to 31,25 per cent falling back to 25,45 per cent in 1986. Since 1981, they have consistently held approximately 15 per cent of public corporation debt.

This high dependence on life offices forced by legislation to hold these types of investments (See Chapters VI above and X below), will be of concern should the Part I asset requirement of life offices one day be abolished. It is fairly certain that such a move will lead to an increase in the cost of such funds to the government and its para-statal bodies, a cost borne by the policyholders of life offices ever since the introduction of the Part I asset requirements recommended by Arndt and incorporated in the 1943 Act, as was mentioned in Chapter VI above.

(f) Asset Distribution

Table 7.3 (Rows 13-21) reflects the changing investment climate and mood of the life offices in South Africa. In some cases it is a startling reflection of the changing South African investment environment as viewed by the life industry.

Holdings of government stock (Row 13) as a percentage of total assets have been fairly consistent at between 12 per cent and 15 per cent of total assets over the fifteen year period shown. The increase to approximately 20 per cent between 1982 and 1984 reflecting the very high rates of fixed interest investments which pertained during the period.

Since 1980, life office investment in local authority stock (Row 14) has declined from an average of about 6 per cent to an average of about 3 per cent of assets. However, investment in public corporation stock (Row 15) has risen from an average of between 6 per cent and 8 per cent to approximately 12 per cent over the same period.

TABLE 7.2
LIFE OFFICES: HOLDING IN MAJOR INVESTMENT AVENUES
(in millions, (current prices))

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Total Gov. Domestic Marketable Stock Debt	5449	5917	6145	7259	8312	9976	11929	12509	14205	16308	20106	23035	26928	32054	37969
Life Offices' Holding	386	439	495	621	821	1024	1246	1446	1688	2287	3724	4554	5575	5820	6568
10. Percentage	7.08	7.42	8.06	8.06	9.88	10.26	10.45	11.49	11.88	14.02	18.52	19.77	20.70	18.16	16.77
Total Local Authority Stock	*1113	1226	1380	1572	1809	2087	2221	2368	2443	2469	2573	3064	3220	3882	4386
Life Offices' Holding	196	217	237	279	359	467	510	591	686	661	804	865	797	1020	1096
11. Percentage	17.61	17.70	17.17	17.75	19.85	22.38	22.96	24.96	24.81	26.77	31.25	28.23	24.75	26.28	25.45
Public Corp. Debt	*2000	*2200	2280	2492	2668	3669	5152	6694	7954	9871	13776	18195	21971	29829	36978
Life Offices' Holding	210	239	239	264	290	431	616	891	1068	1409	2069	2619	3192	4562	5547
12. Percentage	10.50	10.86	10.86	10.59	10.87	11.75	11.96	13.31	13.56	14.37	15.10	14.67	14.53	15.29	15.00

* Estimate

Sources: Reserve Bank Quarterly Bulletin
LOR Statistics

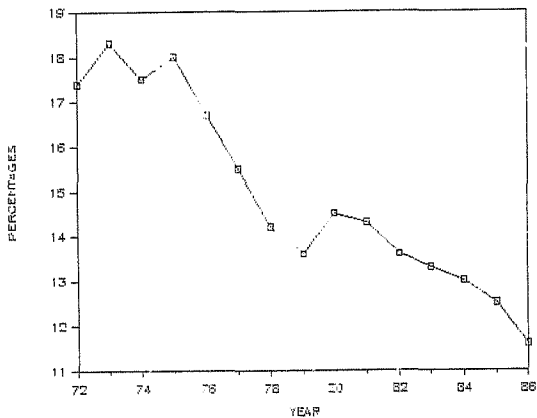


FIGURE 2.2

LIFE OFFICE EXPENSE RATIO
EXPENSES AND COMMISSION TO TOTAL INCOME

The increasing significance of investment in the equities market since 1980 is also evident from Table 7.3 (Row 17). Whereas before 1980, the average investment in the equity market was 22 per cent of assets, this has risen consistently since 1980, reaching the level of 36,4 per cent in 1986. This also reflects the great growth which took place in Johannesburg Stock Exchange values, particularly during the past two years under review.

Traditionally life offices considered property mortgages and policy loans as safe and appropriate vehicles for the investment of their funds. (See Chapter X below) However, Table 7.3 (Row 18) dramatically demonstrates how this perception has changed over the past fifteen years. Whereas investments in mortgages and policy loans represented 26,9 per cent of life office assets in 1972, and remained their single largest investment avenue until 1976, these had fallen to less than 5 per cent in 1986. However, direct investment in properties (Row 19) rather than via mortgages has increased over the period under review from 10,1 per cent to 17 per cent, having risen to nearly 20 per cent in 1985. This is indicative of the growing faith in this medium of investment over the long term.

Reference to the obviously small life office need for cash liquidity demonstrated in Table 7.3 (Row 21) is made in Chapter X below. At no time since 1972 have life offices held more than 9,8 per cent of their assets in cash. Cash holdings were as low as 2,5 per cent in 1973 and seem to have averaged between 5 per cent and 6 per cent since 1982. As explained in Chapter X below, unlike most other financial institutions, life offices consistently commit well over ninety per cent of their assets to investments of a long term nature, thereby contributing to long term capital and employment formation.

6. THE FUTURE

Looking to the future, life assurance companies will no doubt continue to make important contributions to the formation of capital and employment through their risk bearing and financial investment

TABLE 7.3
LIFE OFFICES: ASSET DISTRIBUTION (Percentage)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
13. Gov. Stock	12.1	12.0	12.0	13.0	14.9	15.7	16.4	15.3	14.6	15.7	20.6	19.4	19.4	15.9	13.7
14. Local Authority Stock	6.1	5.9	5.7	5.8	6.5	7.0	6.7	6.3	5.2	4.5	4.4	3.7	2.8	2.8	2.4
15. Public Co Stock	6.6	6.5	5.8	5.5	5.3	6.6	8.1	9.4	9.2	9.6	11.4	11.1	11.1	12.4	12.0
16. Other Part 1 and Fixed Interest Stock	9.0	8.4	9.8	9.7	7.4	7.1	7.7	8.6	9.0	7.9	5.2	4.0	7.1	4.7	3.6
17. Ordinary Shares, Subsidiaries & Unit Trusts	19.9	22.2	20.2	19.4	19.3	19.1	19.6	20.0	22.8	22.5	22.4	26.2	25.1	27.9	36.4
18. Mortgages & Loans	26.9	23.8	23.4	20.8	19.6	17.6	15.1	11.9	10.3	10.0	7.9	6.7	4.1	5.1	4.3
19. Fixed Property & Related	10.1	12.6	13.9	16.5	18.2	18.0	17.3	15.1	15.4	14.3	17.6	18.0	19.1	19.9	17.0
20. Other Assets	6.6	6.1	6.3	5.7	5.5	5.7	5.9	6.6	3.7	5.7	5.6	5.7	5.4	4.9	3.8
21. Cash	2.7	2.5	3.9	3.6	3.3	3.2	3.4	6.8	9.8	9.8	4.9	5.2	5.9	6.4	6.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source:

LMA Statistics

functions. These contributions will, as noted above, presumably occur against a background of continuing innovations in financial security products, marketing techniques and investment practices. Significant within the risk bearing role will be a tendency towards product design and marketing distribution based on a life-cycle concept.

Life sales should also get an extra boost over the next several years from demographic and sociological developments producing a rapid increase in persons in South Africa in the prime insurance buying ages and groups. Moreover, developing pension legislation will ultimately result in the encouragement of vast numbers of previously excluded individuals to save through qualified pension products.

The degree to which the industry contributes to capital formation and the adequacy of the nation's capital formation in total, will obviously depend on important broad economic policy considerations. The South African economy, its financial system and its life assurance industry do not function efficiently in periods of high and accelerating rates of inflation or when competition and innovation are blunted by undue government interference in the market place.

To be consistent with a high rate of capital and employment formation, economic policy must be managed to control inflation and avoid all but absolutely necessary government intervention. Such policy in turn requires wide-spread recognition that encouraging economic growth through private savings and investment is as much a national priority as the more politically popular human concerns of constitutional reform, income security, income redistribution, consumer rights, environmental safeguards and health care and maintenance, which have been the driving forces in the rising share of government in the economy.

Whatever dispensation is ultimately arrived at among these competing priorities, the final determinants of the adequacy of our nation's

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capital creation and employment formation may be expected to show the life assurance industry to have been among the most important of them.

CHAPTER VII: SOURCE REFERENCES

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CHAPTER VIII

INVESTMENT ALTERNATIVES IN THE ASSURANCE INDUSTRY

The purpose of this Chapter is to outline the various instruments available for investment in the money, capital, equity and property markets and the relative significance of these for the life assurance industry.

1. ORGANISED MARKETS

Securities may be traded on a formally organised exchange (market) developed for the purpose of trading specific securities, or in a relatively informal and loosely organised "over-the-counter" market, which deals primarily in those investments not listed or traded on the organised exchanges. The primary purpose of a securities market is to provide for the orderly transfer of both product and information between buyer and seller. Efficient securities markets facilitate continuous modifications and transfer of portfolio holdings, so as to meet the changing needs of investors. Securities markets are classified according to geographical location, nature of claims traded, and time to maturity of claims traded. Their essential components are dealt with below.

2. THE MONEY MARKET

Investments in the money market are debt instruments with maturities of under a year, usually ninety days or less. Because the minimum investment required to purchase money market instruments is generally very large, the market is dominated by commercial banks, the national and local governments, financial institutions, life assurance and pension funds and, more recently, mutual funds. These large investors purchase money market instruments to convert temporary cash surpluses into highly liquid interest-bearing investments.

Although the various money market instruments have individual differences, they are close substitutes for one another in many investment portfolios and the rates of return on these securities tend to fluctuate closely with short term interest rates. The principal money market instruments used in South Africa are Treasury bills, negotiable certificates of deposit, commercial paper and bankers' acceptances.

Treasury bills are the most frequently issued marketable securities of the South African Government. Although these securities do not offer the highest yield among short term debt instruments, they are very liquid because they can be quickly converted into cash without undue risk of capital loss; in fact, they are absolutely safe because they are fully guaranteed by the Government.

A negotiable certificate of deposit is, in essence, a receipt issued by a bank or financial institution in exchange for a deposit of funds and which may be transferred (negotiated) from one owner to another. The bank agrees to pay the amount deposited, plus interest, to the bearer of the receipt on the date specified on the certificate, usually from one month to a year from time of deposit.

When a well known corporation or financial institution with a good credit rating wishes to borrow money for a short period of time, it issues a promissory note. Such notes are usually issued in very large denominations and reach maturity at a date not exceeding nine months from their time of issue.

Drafts which have been drawn on a bank by a customer and which bear the bank's promise to pay them at maturity are called bankers' acceptances. The acceptance reflects the obligation of both the bank and the drawer to pay the face amount. Normally used to finance foreign trade, bankers' acceptances are among the safest of all money market instruments. They have become of increasing importance in South Africa as, inter alia, they set a standard for short term interest rates and serve as a short term haven for funds before they are invested in longer term avenues.

3. THE CAPITAL MARKET

The capital market is the composite of all markets where long term securities originate and are traded. The new issues market, a part of the capital market, acts to transfer savings to those with productive ideas by means of the sale of new issues to the investing public. The investment banker is the backbone of the new issues market, although other specialised financial institutions such as pension funds and insurance companies also supply funds for this purpose.

While money market securities purchased to earn a modest rate of interest on temporary cash balances are of short duration and low risk, capital market investments are of lower liquidity and higher risk and therefore generally give higher returns than those on the money market. Capital market instruments include a variety of paper with either a fixed term to maturity or for perpetuity. Capital market investment alternatives include various kinds of bonds and capital assets. The true nature of a bond is best revealed by defining it as a contract to pay money. Under this contract, the issuer agrees to pay the principal sum and a specified rate of interest for the use of the "borrowed" money. Bonds are issued by Government, municipalities, local authorities, large private and semi-private companies.

The South African Government issues a variety of debt instruments in the capital market, such as the issues sold with maturity terms of one year (or less) and longer. These securities are backed by the full faith and credit of the Government, and therefore they are regarded as the highest grade issues available. Long term Government securities include Treasury notes, Treasury bonds and savings certificates. Although the various Government securities are free from the risk of default, there are fundamental differences between them in regard to not only the period to maturity but also the minimum denomination needed for purchase, methods of payment of interest, procedures for sale by the Government, special tax provisions, etc.

4. MARKETS IN EQUITIES

Equity is the interest of ordinary shareholders in a company, or the market value of a debtor's property in excess of all debts to which it is liable. The word is derived from the Latin aequitas or aequus meaning level or equal.

The equity capital of a company absorbs profits or losses as they arise from the operations of the company. It consists of the issued ordinary share capital and the reserves of the company which may be either distributable or nondistributable to shareholders. Nondistributable reserves will usually include any share premium and other proceeds of a capital nature specified by the Memorandum and Articles of Association of the company. Accumulated retained earnings normally make up the distributable reserves.

A shareholder enjoys beneficial ownership in the shares he owns of a company, and through this he owns a proportionate share of the net asset value, earnings and dividends of that company.

Ordinary shareholders have rights which are specified in the Memorandum and Articles of Association of the company which usually allow them to participate in both the profits and net assets after all creditors and other parties who have special privileges have been given their rights. Shareholders are not protected against loss of their contribution to common stock or equity of a company but, in the case of limited liability companies, any loss to ordinary shareholders is limited to the extent of the nominal value of their contributions.

(a) Fundamentals

If one owns a percentage of the shares of a company, one owns that same percentage of the company's net worth. Shares (or equities) differ considerably: each particular issue of shares carries with it certain rights and restrictions for its shareholders as owners of the company. In a company there may be both preference and ordinary shareholders. Although both are owners in the company, the particular nature of each kind of ownership depends on the type of shares held.

Ordinary shareholders simply have an equity in the company. Perhaps the most important privilege ordinary shareholders enjoy is that in the event of extraordinary business success they are usually the only group to participate in the increased earnings via the increased dividends. They are not personally liable for debts incurred by the company, but in the event of business failure or liquidation, ordinary shareholders are the last to be paid. They do, however, retain residual rights to any assets that may remain after all the creditors have been paid.

An indirect method of acquiring ordinary shares is to purchase non-equity investment which gives the holder the right to convert all or part of his investment into ordinary shares under specified terms and conditions. The convertible investment is usually in the form of a debenture or a preference share. There are usually a number of provisions included in the terms of a convertible security to protect the holders:

(i) On a scrip issue in the capital into which shareholders (or stockholders) have conversion rights, these rights must be adjusted to provide a similar proportion (of the capital) to that preceding the issue.

(ii) On a rights issue in the capital into which stockholders have conversion rights, the stockholders receive a similar offer proportionate to their potential holding assuming conversion at the earliest moment.

(iii) That there is sufficient authorised unissued capital to satisfy the conversion rights of the stockholders.

(iv) That in no financial year until the conversion right is exercisable will the company distribute dividends in excess of its earnings for ordinary shares in that year.

(v) A general protective provision against any dilution or weakening of the rights of the capital into which the right of conversion is held.¹

One of the most attractive features of equity shares is that the investment is marketable in that it can be more easily purchased or sold than many other forms of investment. In a study of the suitability of equity investment for South African Life Assurers, Esterhuizen concludes that this kind of investment is attractive firstly because of the better results that are obtainable from this investment sector than from fixed interest stock, and secondly that equity investment serves as a good hedge against currency depreciation.² (See Chapter X below.)

(b) Three Categories of Equity Investment

(i) Direct Equity Investment. An investor may purchase an equity by making use of the services of a stockbroker who will act as an agent for the buyer or, alternatively, the investor may approach a registered holder of a particular investment with his offer to purchase.

(ii) Securities which are Convertible. Ordinary shares may be acquired in an indirect way through the purchase of non-equity investments which give the owner the right to convert all or part of his investment into ordinary shares under specified terms and conditions. These are usually debentures or preference shares and the provisions which apply to the conversion of these investments were set out earlier in this Chapter.

From an insurer's point of view, the desirability of investment in convertible debentures depends on the attraction of the conversion price and its probability of attainment as well as on the coupon rate. From a taxation point of view, investments can be made in interest bearing assets or dividend paying equities since both forms of income are subject to the same taxation rate. However, where an optimistic assessment of the prospects of an ordinary share into which the debt is convertible at some future date is taken, the higher yield generally available on this class of security prior to conversion can be usefully employed to upgrade the yield on the insurer's overall portfolio while at the same time offering an

option to accumulate an equity participation in the company at the conversion date.

(iii) Warrants or Options. A warrant gives the holder the right or option to subscribe for a given number of ordinary shares at a specific price, over a specified period, or upon a given date. It is a hybrid security in that a right of this nature is neither a debt of the company nor part of its equity capital. It is simply a contract between the company and the registered holders of the warrants, and is often used as "a sweetener" when selling debentures or preference shares in order to lower the cost of raising finance for high risk investments.

Life assurance offices are seldom, if ever, interested in warrants or options as they merely confer a right which does not provide an income return. Also, the trust nature of a Life office's funds eliminates the consideration of such high risk investments.

(c) Characteristics of Equities

(i) Volatility. The examination of any portfolio of quoted ordinary shares will illustrate that the nature of equity investment is that its value fluctuates constantly. The volatility of a share or portfolio may be measured by expressing the deviation from a moving average of the share price over a period of time, as a percentage of the relative moving average value. This series of deviations can be charted along a zero axis to give a volatility pattern which is used by students of share price behaviour, or technical analysts, in order to project buying or selling indicators. The degree of volatility will vary from share to share as well as within the price behaviour of the share itself. From an investor's point of view, volatility is analogous to profit or loss and is one of the more dramatic measures of risk, it being necessary that these very short term trends be correctly anticipated. Long term investors like life assurance offices realise the importance of investment timing when reference is made to volatility. (See Chapter IX below).

(ii) Marketability. Ordinary shares can more easily be purchased or sold than many other forms of investment and this makes them most attractive. Like all other commodities, share prices are subject to the basic laws of supply and demand and the marketability of a share is related to such factors as the issued capital, companies with a larger issued share capital being more marketable than those with less shares in issue; the control of the company, share prices being more volatile when owned largely by many "weak" shareholders rather than a few "strong" owners; the future prospects of the company, investors being more willing to sell those shares of companies which have a poor outlook than those with good future prospects; the absolute value of the share price, the higher priced share being beyond the means of the smaller investor who tends to invest in lower priced shares.

(iii) Growth Prospects. The ability of equity returns to grow provides investors with an incentive to invest in low-yielding securities compared with high-return, fixed interest investments. To maintain the real value of the shareholder's equity, a company's retainer must continue to grow faster than the rate of inflation. Growth companies are usually intent on financing their own expansions from a high level of retained earnings. This generally results in low dividends, but such investments invariably yield substantial capital gains over a period.

(iv) Voting Rights. Certain classes of shareholders may be entitled to vote for or against any proposal put forward by the Board of Directors of the company. However, certain classes of shareholders may not be entitled to vote on issues likely to affect the company, and it is clear that the absence of a voting right attached to any ordinary share will reduce its value.

(v) Taxation. The South African life assurance industry pays tax on gross income, including dividend income from ordinary shares at an effective rate of forty percent of the rate of taxation applicable to companies, (See Chapter VI above), the costs relating to the production of this income not being allowable as an expense

deduction. Capital gains, on the other hand, are not taxable, irrespective of the rate of turnover of investments or the motive for the investment. The life industry has a great incentive to attempt to secure capital gains, particularly in light of the greater demands of holders of linked insurance policies.

(d) Accepted Procedures of Evaluation and Selection

There are essentially three main schools of thought on the matter of security value and the behaviour of security prices. Advocates are normally classified as (1) fundamentalists, (2) technicians, and (3) random-walk theorists (efficient market hypothesis).

Fundamentalists argue that, at any time, the price of a security is equal to the discounted value of the stream of income from the security; that in the main the price is a function of a set of anticipated returns and anticipated capitalisation rates corresponding to future time periods. Prices change as anticipations change and a major source of altered anticipation is new information. Where we have something less than complete dissemination of information, the actual price of a security generally diverges from its theoretical value. Fundamentalists would buy the stock if its market price is below its theoretical value. For the fundamentalists, such matters as earnings, dividends, asset values and management are the basic ingredients in determining underlying security values.

Technical analysts stand on the assumption that the value of the stock is primarily dependent upon supply and demand, having very little to do with such things as earnings and dividends. Underlying supply and demand are influenced by rational and irrational forces. Information, moods, opinions, and guesses (good or bad) as to the future, all these factors intermix. The result is a price movement that follows trends over appreciable lengths of time. However caused, these shifts are detectable sooner or later in the action of the market itself. Technicians assess supply/demand strength through a variety of tools, generally in the form of charts wherein price and volume relationships are compared. Consensus and

reinforcement from various indicators serve as the basis for price predictions.

Random-walk theorists are directly at odds with the technicians and certain strong forms of the random-walk theory challenge fundamental analysts also. The random-walk theorists argue that one cannot forecast future stock prices on the basis of past history alone. They believe that the securities markets are perfect, or at least, not too imperfect. In such a market, security prices should reflect all the information available to market participants and all price changes should be independent of any past history about a company that is generally available to the public. The major complaint is aimed at the technician who tries to predict future price movements solely from the historical record.³

However, traditional methods of equity selection do not adequately recognise risk, and risk has in the past been evaluated by the life assurance industry on an essentially arbitrary basis. The modern techniques of portfolio selection and management, which recognise and qualify risk, seem rather more appropriate for use in the investment of funds. These techniques are discussed in Chapter IX.

(e) Suitability as a Life Office Investment

It has been argued that equity investment is most suitable for the life assurance industry for a number of important reasons.

Firstly, better results are obtainable from this investment sector than from fixed interest stocks in many cases; secondly, equity investment serves as a good hedge against inflation. Considering that a large portion of life assurance today is equity-linked, the reason for the attraction of equity investment to the Industry bears closer attention. This is to be found in the area of capital growth.

Overall return, comprising both capital appreciation and dividend income, is considered from a growth point of view to be superior to the static returns available on fixed interest securities. In

addition, as life assurance companies are not taxed on capital gains, equity investment has proved to be an essential ingredient in the linked insurance market as it is one of the investment avenues which is capable of providing short-term, non-taxable growth.⁴

A careful and successful selection of equities can produce investments that can maintain real capital values over the long-term. Whilst the industry has diversified, largely due to the significant natural increase in assets which has occurred over recent decades, the demand for investment performance and disclosure has placed an increasing burden on the investment function, and equity investments have contributed greatly to the ability to meet the challenge of consistently producing competitive returns.

(f) Equity Investment: Three Problems

Three essential problems concerning equity investment are experienced by the life assurance industry:

In relation to the annual turnover of shares on the Johannesburg Stock Exchange, the industry is a substantial net purchaser of equities, and the availability of sufficient new equity investments has frequently been inadequate to satisfy demand, leading to the "weight of funds" theory being believed by some to be the cause of equity price rises: the large amount of money available for equity investment is said to support the market at unnaturally high levels due to its sheer volume. Furthermore, it is evident that the majority of the individual equity holdings of most life companies and pension funds is too large to be considered marketable. This fact reinforces the evidence which suggests that the industry purchases equity investments for their long-term earning power. This lack of marketability severely constrains those insurers who may wish to take a short-term trading position in the case of an anticipated future fall in values.⁵

The major problem of equity investment is, however, the quantification of the level of risk which the industry can afford to bear on its overall investments. In the South African context, the

problem is magnified by their significantly high proportion of direct mining and other mining related companies quoted on the Johannesburg Stock Exchange. This suggests that a higher level of risk on equity investments held by South African life assurance companies will have to be borne than by similar institutions in other countries because of the dominance of the mining sector on the Johannesburg Stock Exchange. This is because mining includes such additional risk as exposure to international commodity uncertainties, volatility of mining share prices, the fluctuating dividend pattern of mining shares, and the political risk. This factor is manifested through sharply fluctuating share prices during periods of local political unrest, the volatility mainly being caused by substantial overseas shareholders who are price-setters in this sector.

This increased level of risk strongly suggests that a more liberal attitude towards risk acceptance is prevalent among South African insurers than that which is found in other countries like the UK and the USA. The necessity to develop a method to quantify risk and the evolution of a practical method of monitoring its performance is crucial to an industry which is required to specify future investment returns in advance. The matter is examined in some detail in Chapter IX.

5. THE FIXED PROPERTY MARKET

Property has certain specific characteristics which distinguish it from all other investment avenues. These are its tangibility, uniqueness, size of investment, long term nature, long term growth potential and inflationary hedge and the cyclical nature of the market. Illiquidity contains an element of prestige and requires a high level of expertise not only for the initial investment decision but also for the subsequent management process.

Investment in fixed property has its own peculiar problems but Life offices and pension funds have found this medium of investment increasingly attractive over the past two decades. The possibility of high yields and non-taxable capital appreciation are attractive advantages which frequently offset the disadvantage, illiquidity, and

interference by forces other than those of the normal market, such as rent control of residential properties.

(a) Historical Background

After the end of World War Two, financial institutions directly owned less than 10 per cent of the industrial, office and commercial properties of South Africa. The properties in which they had invested included those that they occupied. The market was dominated by few - but some large - local life insurers and by British, Canadian, and Australian companies.

Traditionally, institutions build office blocks in the major central business districts throughout the country. Gradually, however, this trend has changed and in the late 1950's and early 1960's, investment swung to the industrial sector, with institutions entering into industrial lease-backs, primarily in the Pretoria, Witwatersrand and Vereeniging areas. This coincided with the growth of industrialisation in the country, a development in which South African financial institutions played a significant part. The secondary industrial sector obtained their factories and distribution centres largely by way of lease-back finance.⁶

The same period saw the emergence of the chain store, not only in the major cities of South Africa but also in rural areas. Most of this development was likewise financed by financial institutions and this method of financing remains with us today. One major area of investment which has remained relatively small is that of residential development, especially flats. There are, however, good reasons for this, which will emerge later.

Property development in other countries also have their effect on the South African property market. As pioneers of the modern shopping centre, the United States has taught a number of local developers new ideas and concepts.

Statutory constraints have had, and will continue to have, their effect on institutional property investments. The existence of rent

control in the residential market, or the threat thereof, may well serve to keep institutional and private investors out of this market.

(b) Policy Considerations

The long term, relatively illiquid nature of property investment demands that questions of policy are carefully considered before decisions are made on this type of investment.

(i) Geographical Spread. Historically, investors have tended to invest in one of the three major areas of development in South Africa. These are the Pretoria- Witwatersrand- Vereeniging area, the Western Cape and Durban and its environments. More recently, however, because of the spread of retailing in particular and service areas in general, investment in direct property has spread to secondary industrial cities such as Port Elizabeth, East London, Bloemfontein, Pietersburg, Welkom, Potchefstroom, Secunda, Klerksdorp, Evander, Nigel and Upington.

(ii) Spread by Tenant. It is as well not to invest too heavily in one particular trader. In the past, institutional investors have been criticised for supporting one retailer more heavily than others. Whilst it would seem prudent to spread investment by tenant, fund managers who invested substantial portions of their property finance with the large retail chains over the past decade can hardly be described as having been shortsighted. Perhaps the criteria used in acquiring equities should be applied more rigorously to property when investing in shopping centres or retailing operations.

(iii) Spread by Building Type. Ideally, investors should own a spread of investment properties by building type. As with all portfolios, diversification is necessary for risk reduction. Property, however, is slightly different in that certain Life Offices who do not have in-house property divisions, are reluctant to invest in management-intensive buildings and are, therefore, often restricted to lease-backs or investment in property unit trusts.

(c) Investment Criteria

The essential investment criteria for each section of a property portfolio may be set out as follows:

Office Accommodation: In the central business districts, the increasing use of black and coloured clerical labour, who use public transport to get to and from work, will continue to entrench these industries and users in central business districts. However, decentralised office developments have been made use of by those tenants who have smaller numbers of clerical workers and who have been for example, smaller industrial firms, advertising agencies, construction industry professionals, computer companies, etc. Developing computer technology, the home computer terminal and the decentralised branch office linked to a central computer, will undoubtedly lead to further decentralisation. Nevertheless, the adequacy of road systems and parking always continues to constrain this category of property investment.

Residential Accommodation: Rent control or the threat of its reimposition has been the main reason for institutions to remain relatively small investors in this sector. In addition, adverse publicity has to be faced when rents are increased in line with market forces as one can easily be accused of "milking the poor". This is a sector which could be of interest only under very specific conditions favourable to the investor.

Residential Sectional Title: A number of institutions have entered this market with considerable successes in certain instances. However, the decision must be made as to whether a short term capital profit is preferable to an escalating yield from a long term investment.

Commercial Property: Major life insurers and pension funds traditionally concentrated their property investments in this area. Provided that shopping centres are well located, designed, and have the correct tenant mix, with a major food retailer as an anchor tenant, they will prosper. Most leases in shopping centres are of

short duration with high escalations. Leases with the chain stores and food retailers have often had a turn-over clause attached to them.

Shopping has also traditionally formed part of office development as this has normally been a prerequisite of local authority planning departments. However, the ratio of offices to shops should not be so high as to threaten investment yield margins.

Industrial Property: This sector of the property market tends to follow the economic cycle more closely than other sectors of that market. The purpose for which the industrial building is to be used is an important consideration in the investment decision. Buildings created for manufacture are usually purpose-built and fairly inexpensively constructed, frequently in somewhat undesirable locations. This type of industrial building would be attractive than warehousing and distribution centres which afford excellent investment potential. These are usually very flexibly designed so that should the original tenant grow out of the premises, or get into difficulties, re-letting is usually not difficult. The location is normally good, offering access to major road and rail networks. Use is usually limited to storage and packaging, clean operations in the main, and therefore the buildings together with their ancillary offices remain in good condition.

Specialist Buildings: Apart from a few notable exceptions, it would be prudent for institutions to avoid investment in this type of development. They are purpose-built and have a very high risk factor. Those classified as unsuitable would include clinics and nursing homes, bowling allies, entertainment centres, free standing cinemas, multi-storey warehouses, manufacturing buildings, and service stations. There are, however, specialist buildings which are regarded as being sound investments, e.g. hotels and parking-garages in central business districts.

Other Policy Considerations: The decision-making structure of financial institutions is particularly important in the area of

property investment. It is often incomprehensible to developers, brokers and retailers, that some institutions find it impossible to make a decision on property acquisitions in under two to three months. Whilst one may recognise that any investment decision requires scrutiny, and that at Board level invaluable advice is often available, the fact remains that in relative terms laymen in the life office are judging an investment which should be left to a senior member of the investment team, usually the property manager. Whatever the case, all the decision makers should be located under one roof if the institution is serious about successful investment practice. (See Chapter xi below).

Access to high quality property expertise is important when making a property investment decision. Valuations of land value, open market rental valuation, and replacement cost valuation are necessary before the investment decision can be made. The person or persons employed to make these valuations should be thoroughly trained and academically qualified with many years of local property experience.

Other research into the proposed property investment is required in the area of title deeds (in search of potential owner's servitudes), bond documentation (is the purchaser entitled to cancel a bond?), what are the planned future road developments, what are existing leases, and what are local town planning rights for such things as allowable bulk, zoning, parking, and height restrictions? Other in-house research may be carried out with regard to the specific type of property, its suitability, environment, position and design.

Competent property administration is another essential ingredient for the maximisation of yield. This can be carried out either in-house or by employing the services of reputable estate agents. Important issues to consider in this area include the drawing and renewal of leases, enforcement of escalations and turnover, timeous collection of rentals, maintenance and repairs and the letting of vacant areas.

The intelligent use of tax shelter legislation is another important policy consideration. There are various vehicles available for

holding direct investment in fixed property. Pension funds and retirement annuities pay no income tax, whilst a gross investment income applicable to non-pension fund business is taxed at a rate equivalent to 20 per cent. At times it will suit an institution to vary the vehicle in which an investment is held.

As no tax relief is available to life insurers in respect of property expenses, and gross rentals are included in investment income, these institutions often hold their property investments in subsidiary companies. For the life office with a high proportion of "taxable" business, investments held by quoted or unquoted companies become relatively more attractive from the tax point of view. Offices with a high proportion of pension fund and retirement annuity business and therefore with a low overall tax rate, prefer to hold property either directly or via property units. This is of greater attraction than property held via subsidiary property companies, as tax is payable at the ordinary company rate before dividend income flows through to the insurer. To the extent that the income from an unquoted property company is transferred to the life assurer as interest on loan account, these tax considerations fall away.

(d) Methods of Investment

The methods by which property investment is acquired vary according to a number of factors, most of which are dictated by market forces but some of which are the result of a set of decision making parameters.

Many South African life assurers and certain larger pension funds have their own in-house property division. These divisions not only make decisions as to property acquisitions but also manage the existing portfolio. It is sometimes debatable whether such a division is as efficient as an outside management company, as it may not be as much in touch with the market, particularly with regard to rentals, as the independent agent. For this reason, many in-house property departments still make use of brokers, these operating under various guises including property brokers, estate agents and property economists.

Property may be acquired through property unit trusts which have the advantage of being readily available on the stock exchange and therefore easily sold. Constraints imposed by the registrar of financial institutions on property unit trusts ensure ample protection for not only the private investor but also the institutional investor. The somewhat erratic history of quoted property companies makes this method of property acquisition somewhat less attractive. However, gearing may be an advantage and shares may be purchased at lower than net asset value in many instances.

(e) Conclusion

The foregoing has suggested some of the fundamental policy considerations adopted by financial institutions when attempting to make successful property investments. However, perhaps the most crucial ingredient in successful investment management is vision.

Large bodies of widely dispersed investment decision makers seldom have vision. A relatively small management team at senior level, who can make bold decisions quickly and who have a "feel" for the market environment in which they operate, is the team which is likely to enjoy long term success in this increasingly important area of investment portfolio management.

6. SUMMARY

The money market, capital market, equity market and fixed property market represent the four principal avenues for the investment of life assurance funds. We have noted the general categories within these avenues, their characteristics, evaluation, selection and suitability as life office investments. This analysis and evaluation permits an appreciation of the available alternative investment avenues, highlights their significance and opens the way for a study of investment portfolio management and objectives in the following two Chapters.

CHAPTER VIII: SOURCE REFERENCES

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CHAPTER IX

ESSENTIALS OF INVESTMENT PORTFOLIO ANALYSIS AND MANAGEMENT

This Chapter deals with the essential considerations of investment portfolio analysis and management. The details of the various theoretical concepts discussed do not fall within the scope of this work and have been fully dealt with by the various authors referred to. The objective has been to bring these various concepts into perspective, notwithstanding the fact that few of the portfolio management theories referred to are ever consciously applied by life offices in South Africa. (See Chapter XI below.)

1. INVESTMENT AND ITS ELEMENTS

At the centre of any study of investment is the individual investor. Study of the theory in practice is concerned with the investor's attempts to make reasonably logical decisions about investment alternatives with widely differing levels of risk and reward.

In the analysis of investment portfolios two basic assumptions are made: that the investor is a risk averter and that all his investment decisions are designed to maximise wealth, accomplished through the process of reward maximisation and risk minimisation. This is usually achieved by protecting capital against loss, by increasing income or capital appreciation, and by reducing risk. These principles constitute the conventional wisdom of the average investor, who normally attempts to make all his financial, consumer and investment decisions in the light of the wealth-maximisation principle.

The principle of wealth-maximisation can be illustrated by means of an elementary example, as follows: Assume that an investment is expected to yield a return of F rands per year for n years. At the time of investment the return F_1 yielded at the end of the first year is valued at $F_1/(1+i)$, where i is the rate of discount. The return F_2 yielded at the end of the second year is valued at $F_2/(1+i)^2$ at the time of investment; and so on.

If we add this series of discounted values we find the present value V of the expected stream of returns over the n years. This approximates to F/i , and comes mathematically closer to F/i the longer the period of investment n and the larger the discount rate i .

If $F = R1\ 000,00$ and $i = 10\% (0,10)$ then $V = R10\ 000,00$.

Assume that the investor can increase income by 10 per cent but that he must accept a 12 per cent risk level instead of the assumed 10 per cent risk level in order to do so. In this case, the investor's income increases to R1 100 and the present value, V , becomes R9 166,67 instead of the previous R10 000. Although the investor's expected income has increased, the present value of his asset has decreased because of the higher discount rate relevant to the higher risk. In this case, the investor would have been better off with the R1 000 at 10 per cent investment because this maximised his wealth based on the difference on the two alternatives. The new alternative of R1 100 with a risk rate of 12 per cent would be the poorer choice, primarily because of the additional risk associated with the income. The R100 additional income does not fully compensate the investor for the additional risk of the investment.

In the analysis of all investment portfolios therefore, it is always assumed that investors would rather have more wealth (or reward) than less. All that follows is based on this premise.

(a) Investment

Investment may be defined as the "purchase by an individual or institution of an asset that produces a yield that is proportional

to the risk assumed over some future investment period".¹ More broadly, one might say that an investment is the purchase of any asset that offers the expectation of income and/or capital gains, and that its purpose is to increase the individual's wealth.

There are, however, investment considerations involved in almost all individual and institutional economic and financial transactions. If investors consume less and save more, there is a possible positive effect on investment, depending on the propensity to save. If investors purchase durable goods that actually increase rather than decrease in value, there is an element of investment there too. The fact that this work is concerned only with financial investment does not mean that other alternatives of real or consumer investments do not exist or are less important.

(b) Elements of Investment

All investment is concerned with the three fundamental questions of yield, risk and reward, and time:

Yield: The reward (yield) of an investment usually includes both income and capital appreciation (or losses) brought about by changes in the market value of the security. Yield is then expressed as a percentage of the initial investment, and in the case of fixed interest securities, yield is the compounded rate of return on the purchase price of the investment over its life time. This is usually referred to as "yield to maturity". The yield on equity, however, assumes no maturity date. Therefore, the equity yield is simply the price of the share divided into the current dividend. This is known as the "current yield". Since there is such a fundamental difference between the calculation of fixed interest (bond) yields and equity yields, errors of judgement are often made. A means of comparing bond yields and equity yields is therefore required and is demonstrated in section 9.2 below.

Risk and Reward: It is assumed that the investor always attempts to minimise risk and maximise reward but there is a direct correlation between reward and risk. Higher rewards are usually accompanied by

higher risk and therefore investors should attempt to keep the risk associated with reward proportional. Not all securities with a given level of reward have the same degree of risk. A knowledge of the amount of reward and risk associated with each security, as well as an acceptable means of measuring both, will enable the investor to make better investment decisions over the long term.

Time: An important part of the definition and assessment of any investment is the time period. The time period selected by an investor for a particular investment depends on his expectations for the future. It should meet his expectations with regard to both reward and risk. An investor may decide to invest for an indefinite period in equities or in fixed-period bonds. Changing economic conditions would suggest, however, that investors should also change investments from time to time. It would appear that most investment decisions made by investment managers these days are made with a three-year cycle in mind.² The investment review and analysis process then become a succession of three-year forecast periods with a constant re-evaluation of expected yield and risk factors in the light of changing circumstances.

(c) Investment versus Speculation

The difference between investment and speculation is primarily a difference in the amount of yield or reward expected, the amount of risk assumed, and the length of the holding period. Usually, a speculation is for a much shorter period of time than for an investment.

A second distinction is that the expected yield in a single speculative security purchase is much greater than the expected yield from the purchase of an investment security. The risks involved in the short-term movements of market prices are substantially greater than those of the long-term movements. The characteristics of price movement in the market, in the short run, appear to be random in character. In spite of the technical analysis of the market through the analysis of price and volume changes, the speculator is accepting substantially greater risks than the investor, largely because yield is so uncertain.³

The challenge of both investment and speculation is to make certain that the expectation of reward or yield is proportional to the risk involved. However, the acceptance of higher risks does not necessarily lead to higher yields. If the risk is kept proportional to the yield, then the investor or speculator has a clear choice between high yield, high risk securities or low yield low risk securities. Experienced portfolio managers often begin to rank investments according to their personal perceptions of the risk associated with each security.

A macro-economic analysis of future national economic trends as well as a micro-economic analysis of the future prospects of each company and industry are important ingredients in the investment process. The focal point of the analysis is to estimate the future expected yield over a three-year holding period, and the variability of the yield. This requires an estimate of future earnings and dividends, and future price-earnings ratios. This valuation appraisal is one of the most important aspects of the investment process.⁴

Working and accurate information sources as well as a knowledge of the market structure and the efficient market concept must be understood. The behaviour of the market itself should be understood and one should have an understanding of the kinds of random and unexpected events which can cause wide price variations.

The last step in the investment process is the selection of several investments expected to produce an acceptable result based on the needs of the investor. Any single security is unlikely to meet an investor's risk and reward requirements, and therefore diversification, which can be demonstrated to reduce risk without reducing reward, is essential.⁵ Understanding the theory and practice of portfolio construction is therefore yet another essential ingredient in the investment process.

2. YIELD: NATURE AND MEASUREMENT

When measuring the reward (yield) that a particular investment offers, one cannot take into account dividends or interest earnings

only. Included in any calculation of yield must be the likely impact of expected capital gains or losses. Once this has been done, the precise measure of yield then makes it easier to estimate and judge the magnitude of yields of comparable investments.

The essential formula for measuring yield over a one year period is simply as follows:

$$\frac{P_1 - P_0 + D_1}{P_0}$$

where P_0 is the initial purchase price of the investment, P_1 is the price or resale value of the investment at the end of the year, and D_1 is the dividend received by the investor during the year 1.

(a) Approximate Yield Over a Number of Years

If one wishes to make an approximation of the annual yield earned or expected over several years, the following formula may be used:

$$\frac{[(P_1 - P_0) + N] + D}{[(P_0 + P_1) + 2]}$$

where N is the number of years the investment was or is to be held. If we assume that the purchase price of the investment was R100 and that price after 5 years was R180 with an annual dividend of R4, the above formula produces the following:

$$\frac{[(R180 - R100) + 5] + R4}{[R180 + R100] + 2} = 14,286\%$$

The approximate annual yield for each of the five years of the investment period was or will be 14,286 per cent.

(b) Compound Yield Over a Number of Years

The more accurate method of estimating yield is by making use of the present value formula, which takes account of compounding. The rate of discount that causes the present value of the stream of expected future expected income to equal the initial price of the investment, is equal to the yield of the investment. The equation for measuring this yield is well known:

$$P_0 = \frac{D_1}{(1+r)^1} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \frac{D_4}{(1+r)^4} + \frac{D_5 + P_5}{(1+r)^5}$$

Where r is the discount rate of return earned on the investment or compound yield earned on the investment over the period for which it was held. Using the example quoted in 2(a) above, the above formula would read as follows:

$$R100 = \frac{R4}{(1+r)^1} + \frac{R4}{(1+r)^2} + \frac{R4}{(1+r)^3} + \frac{R4}{(1+r)^4} + \frac{R4 + R180}{(1+r)^5}$$

Solving for r in the above produces an expected yield of 15.70 per cent. This is the annual compound yield which may be expected from this particular investment over the period which it is held.

(c) Summary

It is clear then, that yield does not refer only to dividend and interest income, but is of such nature that it includes expected or realised capital gains or losses. Any calculation of yield which does not take account of the investment price movement is therefore incomplete and inaccurate.

There are numerous methods for measuring yield, only two of which are mentioned above. No reference has been made to the less frequently used quarterly yields method, linked return method, and geometric mean method.⁶ The method most commonly used by investment analysts and most widely accepted for measuring yield, is the present value method described above.

Important also to the method of calculating yield, is the length of the period during which the investment has been held or for which the forecast is to be made. Estimates of yield over unspecified periods may be inaccurate and misleading.

3. RISK: NATURE AND MEASUREMENT

One commonly understands "risk" to mean being exposed to injury, hazard, loss, exposure or damage. This may be an intuitively clear meaning but it is prone to be interpreted in different ways by different people. It is therefore desirable, however difficult or suspect, to develop a surrogate for the verbal definition of risk which is amenable to quantification. One should immediately state

that, whilst the attempts at risk quantification which we shall study in this section have become quite sophisticated, they are by no means infallible. As Ginsberg puts it, "The problems of an investor are essentially problems of uncertainty, and these, because of their nature, cannot be reduced by statistical exercises as can, for example, the problems of mortality rates. An investor has mainly his humility and his experience and common sense to guide him, helped by a number of analytical sign posts".⁷

The concept of risk relates to expected, rather than realised, returns on investment. The risk one assumes by investing in a particular security includes the possibility of one not realising the expected return. Uncertainty then is central to risk taking. However, in a formal sense, there is a difference between risk and uncertainty which must be elucidated.

The theory of probability provides the necessary tools for dealing with uncertain values. According to this theory, although we cannot be certain how much return we shall receive from an investment, we can predict with some degree of accuracy how much it is likely to be. The probability of an event taking place, or the relative chance of its occurrence, its subjective probability is quite different, and therein lies the major difference between risk and uncertainty.⁸

Uncertainty refers to a situation for which at least some of the possible future outcomes and their subjective probabilities are known. In contrast, in situations involving risk, all the future outcomes, together with their associated probabilities of occurrences. Although situations involving uncertainty are often closer to reality than those involving risk, it is difficult to model uncertainty. Risk, however, may be determined by statistical tools. Conceptually, risk is often defined as the variability or dispersion in a subjective probability distribution; it is measured by the variance or standard deviation of returns. Henceforth, uncertainty and risk will be used as synonymous terms. In fact, risk is frequently defined as uncertainty regarding the expected

rate of return from an investment. The use of variance or standard deviation in the measurement of risk is discussed in Section 3 (b) below.

(a) The Many Facets of Risk

Risk is a part of any financial investment decision and must be analysed along with other facets of a potential investment. There are various types of risk affecting an investment decision. Thus, a comprehensive analysis of risk for investment decisions is one which attacks the problem simultaneously from various points of view:

(i) Fixed Interest Risk. The risks associated with fixed interest investments are significantly different from those affecting equity shares. Unlike that of equities, a bondholder is promised interest income and the repayment of capital by the issuing authority. In this case, the major risks undertaken by bondholders are found in the areas of Interest rates, Inflation, Maturity, Default, Callability, and Liquidity.

Interest Rate Risk (Money Rate Risk): In the event of an increase in the market rate of interest, the price of an old bond with a lower coupon (interest) rate must fall sufficiently to offer investors yields that compare with new issues with higher coupon rates. In contrast, when the market interest rate declines, prices of bonds outstanding rise, because old bonds with a higher coupon rate will command a premium to make them as attractive as new bonds with a lower coupon rate. A change in the price of a bond due to a change in the market rate is the "interest rate risk" or the "money rate risk".

Inflation Risk: When it issues a bond, the issuing authority promises to pay future interest and capital with current rands. If a contract is made under which a lender receives a return on a R1 000 bond of R100 at the end of , the nominal return is 10 per cent. If during the ye .l price level is found to have risen by 5 per cent, the return would be only 4,762 per cent:

$$\left[\left(\frac{R1100}{1,05} \right) - R1000 \right] / R1000 = 4,762\%$$

Maturity Risk: Maturity risk refers to the contrasting perceptions of risk by lenders and borrowers. As a general rule, because borrowers fear increases in future interest rates, they prefer to borrow long by offering inducements to the lenders. However, the longer the period for which lenders part with their liquid funds, the more they are uncertain about the prospect of realising a capital loss and the higher the maturity risk.

Default Risk: Uncertainty about the receipt of interest and repayment of capital is the basis for default risk. Although payment of both interest and capital on time is promised by the issuing authorities, adverse financial conditions may cause some borrowers to occasionally fail to fulfil their promises. Because this possibility always exists for corporate and local authority bonds, when these types of bonds are purchased investors are subject to default risk.

Callability Risk: Under certain circumstances, the issuer of a bond may force the bondholders to redeem their bonds before they reach maturity. If a bond is called during a period of falling market interest rates, the bondholders will probably be forced to reinvest the proceeds at a lower rate. This is known as the "callability risk" but is almost unheard of in the South African context.

Liquidity Risk: A bond may also be subject to the liquidity risk. Liquidity refers to the cost of trade, research and information, as well as the price concession one must grant in order quickly to convert the bond into cash. In general, the less liquid a security the higher will be its liquidity risk.

(ii) Equity Share Risk. Investment in equities always exposes the investor to two important classes of risk: the risk that the variability in return will be caused by factors that affect the prices of all equities, i.e. market or systematic risk, and factors that are specific to a particular company or industry i.e. non-market or un-systematic risk.

Systematic or market risk is peculiar to the stock market as a whole. It refers to that portion of the total variability of the return of an equity return caused by factors which simultaneously affect the average return of all other shares. This is due to the possibility of individual share returns fluctuating as a result of changes in the overall market situation, e.g. a war, a general slump on the stock market, etc.

Most shares are either less or more volatile than the market in general. While this fact does not change the nature of the systematic risk, it does affect the degree of riskiness of a particular share. This important concept is developed in Section 3 (b) below.

In contrast to the systematic risk, the un-systematic risk refers to that portion of the variability of the return of an equity which is the result of unexpected events or developments within the firm or the related industry, e.g..

Risks inherent in equity investment may be set out as follows:

Inflation Risk: In inflationary times, investors must make provision for the manner in which inflation erodes the monetary value of their future returns. If one invests R1 000 in a share which pays a dividend of 7 per cent, at the end of the year one receives R70 in dividends, representing a 7 per cent real rate of return if the general price level remained unchanged during the year. If an inflation rate of 10 per cent were experienced, the real rate of return would only have been 6,34 per cent.

The Interest Rate Risk: Generally speaking, share prices tend to be inversely related to market interest rates. A rise in the market interest rate exerts a downward pressure on share prices, because the return on such alternative investments as bonds becomes more favourable, resulting in a shift of funds from the share market to the bond market. An increase in the market interest rate also raises the cost of borrowing funds for the purchase of equities on

margin, thereby reducing the prospective demand for shares. The reverse is true when market interest rates decline.

This may not be as true in the South African market as it is in the more developed international financial markets. The "weight of funds" theory suggests that in South Africa the volume of funds available for investment so far out-strips the availability of suitable investments that the market prices of most securities are artificially supported in the longer term, almost irrespective of interest rate and other structural changes. This matter will be referred to again in our study of the "efficient market hypothesis".

Tangible and Intangible Risks: This is a difficult distinction to draw. Tangible risks are associated with market fluctuations caused by variations in the national economic conditions. On the average, the market declines during a recession and advances during a period of rapid economic growth. Furthermore, history suggests that the stock market is usually more volatile than the economy.

In contrast to tangible risk, intangible risk is related to political, social and psychological factors which cause fluctuations in the stock market. As the stock market has a character of its own, sometimes its erratic behaviour can be explained only in terms of such illusive variables as mass psychology, business confidence, general uncertainty and the serious impact on the market of shocking news. Intangible risks are far less likely to be predictable than those which are tangible.

Business Risk: Business risk concerns the probability of incurring a loss or realising a lower than expected profit due to unfavourable operating conditions. Generally, this type of risk can be measured in terms of operating earnings or profits.

There are two kinds of business risk: external and internal. External risk results from operating conditions imposed on the firm by outside forces beyond its control. An oil embargo, an international monetary crisis, a world-wide recession, a failure of

economic policy or civil commotion, are all examples of external business risks.

Internal business risk is associated with the efficiency with which the business of a firm is conducted. Risks associated with the operating skills of management, the product diversification obtained, the maturity of the firm, and the efficiency of assets utilisation, are all examples of internal business risk. Shareholders of a company always take the risk that the company may be poorly managed.

Financial Leverage Risk: Financial leverage refers to the use by a firm of borrowed funds to increase its turnover and earnings. This leverage results because the interest charges on the debt are a fixed expense. That is, these fixed charges do not vary with the earnings of a firm before interest and taxes. They must be paid regardless of the amount of earnings available to pay them. Financial leverage risk refers to the possibility that the company may not be able to pay the fixed financial charges on borrowed funds because of insufficient earnings in any one period.

Operating Leverage Risk: Operating leverage risk is another dimension of the internal business risk. It can be defined in terms of the way in which a given change in the volume of sales affects operating profits. The degree of operating leverage is the percentage change in operating profit that results from a given change in sales volume.

Companies with higher fixed costs, and therefore higher break-even points, are more likely to realise a loss under unfavourable conditions than those companies which may have lower fixed costs and lower break-even points.

Industry Risk: Strictly speaking, industry risk is a combination of external and internal business risk. Sometimes all the firms in a given industry experience variability of return due to some common force which does not significantly affect the majority of firms outside that industry. For instance, motor manufacturers suffer cyclical fluctuations from sharply lower profits whenever motor sales

reach the bottom of their business cycle. Similarly, steel producers experience lower profits whenever foreign competition becomes formidable.

Lost Opportunity Risk: Another form of risk inherent in the nature of all investment and applicable both to fixed interest investments and equity share investments is the lost opportunity risk. Suppose after a careful investigation of all available investments one chooses to invest in the shares of company ABC. Subsequently one discovers that, while one's shares have appreciated 15 per cent, the price of XYZ company shares have appreciated 25 per cent over the same period. Therefore, although one may have realised a significant and positive return on the investment made, by investing in ABC company one lost the opportunity of realising a larger return by investing in XYZ company. This risk is inherent in the nature of all investments.

(b) The Measurement of Risk and Return

(i) Measurements of Risk. Unless it can be satisfactorily measured, risk cannot be dealt with effectively. Three statistical tools are commonly used to measure risk:

Beta analysis

Alpha and Error Term

Standard Deviation (Signs) or Variance

The first two statistical tools, i.e. Beta, and Alpha and Error Term, are measures of systematic and unsystematic returns. Standard deviation or variance is a measure of systematic and unsystematic risks. The techniques of measurement of risk and return present here are based only upon the "Market Model", which asserts that the relationship between returns on individual securities and returns on the market portfolio is linear. This is in contrast with the "Capital Asset Pricing Model" (CAPM) which states that, in equilibrium, investors will price capital assets so that the expected return on a security is equal to the riskless rate of interest plus a premium that is proportional to the risk measure, Beta. A further discussion of these two concepts occurs later in this Chapter.

(ii) Measurement of Return.

Beta Coefficient: If we assume that, during a two year period, quarterly percentage returns on a given investment, R_s , were related to the market return R_m the following table of notional values might be constructed:

FIGURE 9.1

MARKET AND INVESTMENT RETURNS

	Q ₁	Q ₂	Q ₃	Q ₄	Q ₅	Q ₆	Q ₇	Q ₈
Market Return (R_m)	0,0	1,0	2,0	3,0	4,0	5,0	6,0	7,0
Investment Return (R_s)	2,5	6,0	3,0	4,0	1,5	4,0	2,5	10,5

The above information is now transposed into graph form in figure 9.2 which reveals that the changes in the return of this investment did not always coincide with those of the market. For example, in the seventh quarter the investment return was only 2,5 per cent when the market return was as high as 6,0 per cent. However, when the market return was only 1,0 per cent (second quarter) the return of the investment was 6,0 per cent. Using the least squares regression method, we can simplify the representation of the relationship between the two returns by fitting a linear regression line through the points plotted and shown in Figure 9.2. In the investment world, the line of best fit (which approximates the relationship between security and market returns) is commonly called the "characteristic line".⁹

From Figure 9.2 it will be noted that the characteristic line is represented by the linear equation $R_s = 2,5 + 0,5 R_m$. It measures the average variability of the return of the investment relative to the market rate of return, and is measured here by

$\Delta R_s / \Delta R_m = 0,5$ i.e. the slope of the characteristic line, which, because of the linear equation, remains unchanged over its entire

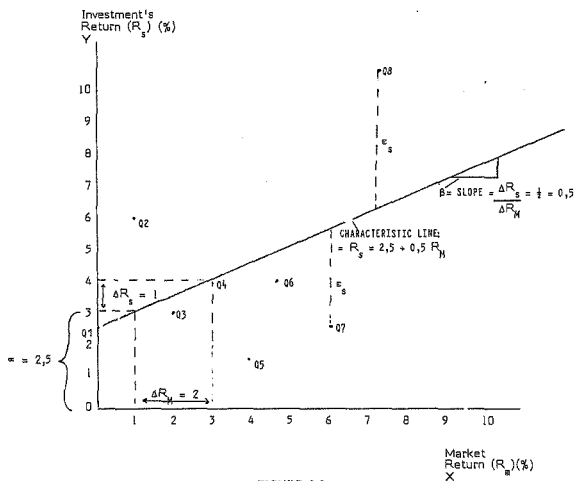


FIGURE 9.2

REGRESSION EQUATION SHOWING BETA, ALPHA
AND EPSILON RELATIONSHIPS

range. A slope of 0,5 implies that for every change of, say, 10 per cent in the market rate of return, the rate of return of the investment will change on average by 5 per cent.

The equation for a straight line takes the form $Y = a + bX$, where "b" is the slope of the line. This is why the slope of the characteristic line is called its "Beta", and in Figure 9.2 we have $b = 0,5$. More significantly as Beta (represented as β_s) measures the average variability of the rate of return of the investment relative to the market return it measures the systematic return of an investment.

In the case under consideration, the investment has a Beta of 0,5 ($\beta_s = 0,5$), meaning that, as compared to the market, it is a slow-moving investment. A slow-moving investment generally has a low beta, meaning that β_s is smaller than 1 ($\beta_s < 1$), whereas a fast moving investment would have a high beta, meaning Beta is greater than 1 ($\beta_s > 1$). An investment which has the same volatility as the market itself, would have a Beta of 1,0 ($\beta_s = 1$).

Alpha and Error Term: As has been demonstrated, beta measures how sensitive an investment's return is to changes in the return on the market, i.e. systematic return. A tool must now be developed for measuring unsystematic returns, i.e. measurement of changes in the return of a share due to factors unique to the company or industry.

Unsystematic return is the sum of two variables:- alpha (α_s) and error term (ϵ_s). The alpha, which measures the part of the return of an investment not associated with the overall movement of the market, is the so-called Y intercept shown in Figure 9.2. Given that the market return equals zero, the investment generates a return equal to 2,5 per cent. Therefore, the value of alpha is 2,5 ($\alpha_s = 2,5$).

In different time periods, an investment with a fixed beta may have different values of α_s and indeed, alphas can be highly unstable for any given stock. It should be remembered, that when alpha is

used as a measure of unsystematic return, the estimated alpha for one investment may be different from the estimated alpha for another with similar characteristics.

The remaining component of the unsystematic return, known as the error term, is best demonstrated by referring to the characteristic line in Figure 9.2. This reveals that the return of the investment cannot always be accurately predicted by the equation $R_S = 2,5 + 0,5 R_M$. For example when the market return was 6 per cent the investment return was expected to be 5,5 per cent:

$$\begin{aligned} R_S &= 2,5 + 0,5 R_M \\ &= 2,5 + 0,5 (6) = 5,5 \text{ per cent} \end{aligned}$$

Instead, the investment returned only 2,5 per cent. Similarly, when the market return was 7 per cent, instead of the expected 6 per cent, the investment returned 10,5 per cent. Each deviation of the actual from the expected return (the vertical distance between the actual return and the characteristic line) is called an error term. The error term represents the residual portion of the unsystematic return of an investment.

Variance: Variance is used to measure the fluctuations of both systematic and unsystematic returns. Based on the assumptions set out below, the following example illustrates the relationship between expected return and variance of a particular equity expected to perform in the following manner:

<u>Conditions Affecting the Share</u>	<u>Probability of Return (Pi)</u>	<u>Possible Return (Ri)</u>
Highly favourable	25%	50%
Favourable	25%	20%
Unfavourable	25%	0
Highly unfavourable	25%	-30%

Although one cannot accurately forecast conditions affecting the share, given the above figures, one can determine what the average expected annual return will be, from the following equation:

$$E(R_s) = \sum_{i=1}^k P_i R_i$$

Where $E(R_s)$ = expected return on share
 P_i = subjective probability that i th rate of return will be achieved
 k = number of possible rates of return
 $E(R_s)$ = $0,25(.50) + ,25(.20) + ,25(0) + ,25(-.30)$
 $= ,125 + ,05 + 0 - ,075$
 $= ,10$ (or 10%).

The above calculation shows the expected return on a share is weighted average of the possible returns, with the probabilities of the possible returns used as the weights. In the above example, the expected return is 10 per cent. However, as the expected return may vary, the expected variance may be computed by:

$$E(\sigma_s^2) = \sum_{i=1}^k P_i \{R_i - E(R_s)\}^2$$

Where $E(\sigma_s^2)$ = expected variance.

From the previous example:

$$\begin{aligned} \text{Expected variance} &= 0,25(0,50 - ,10)^2 + 0,25(.20 - 0,10)^2 + \\ &\quad 0,25(0 - ,10)^2 + 0,25(-0,30 - 0,10)^2 \\ &= 0,04 + 0,0025 + 0,0025 + 0,04 \\ &= 0,085 \end{aligned}$$

Thus the variance is a measure of the variability or risk associated with an investment. The larger the variance, the greater the risk of holding the investment.

It is now possible to calculate and compare the expected return and expected variance of a number of different investments, and then to make a decision as to which investment to purchase. This decision will be based on the risk preference of the individual investor.

In Summary: The concept of an "individual investment return" may thus be stated as: Investment Return = Systematic Return + Unsystematic Return. The Systematic Return of an investment is correlated with the market return and is determined by multiplying the beta of an investment (β_S) by the Market Return, R_M . The Unsystematic Return, which depends on factors unique to the industry and to the company itself, is measured by alpha (α_S) and the error term (ϵ_S). The total return on the security, R_S can be stated as:

$$R_S = \beta_S R_M + \alpha_S + \epsilon_S$$

The above equation is the general equation for measuring the total return of an investment. When using it for predicting future returns on the investment it is customary to modify the equation as follows:

$$E(R_S) = \alpha_S + \beta_S E(R_M) + \epsilon_S$$

Where

$E(R_S)$ = Expected Return on the Investment.

$E(R_M)$ = Expected Return on Market.

$\beta_S E(R_M)$ = Expected Systematic Return.

(if) Total Risk. Remembering that the equation for determining the total return on an investment is:

$$R_S = \alpha_S + \beta_S R_M + \epsilon_S$$

The total risk of a security, measured by its variance (σ^2_S), should equal the sum of the variance of alpha, the variance of beta multiplied by the market return, and the variance of the error term. Thus:

$$\text{Var}(R_S) = \text{Var}(\alpha_S) + \text{Var}(\beta_S R_M) + \text{Var}(\epsilon_S)$$

However, because the alpha for a given security is the Y intercept and is a constant for such security, its variability is 0. Thus:

$$\text{Var}(R_s) = 0 + \text{Var}(\beta_s R_m) + \text{Var}(\epsilon_s)$$

Symbolically, the above equation can be rewritten as:

$$\sigma_s^2 = \beta_s^2 \sigma_m^2 + \sigma_{\epsilon_s}^2$$

Verbally: Total risk = Systematic Risk + Unsystematic Risk.

Restated, one may say that the risk of an individual investment is the sum of the square of the Beta of the investment, times the variance of the Market's return + the variance of the error term.

Portfolio theory asserts that the variance of the error term, $\sigma_{\epsilon_s}^2$, which represents the unsystematic risk of the security, can be eliminated by selecting a large number of securities with diverse characteristics. This process is diversification and occurs through the construction of an efficient portfolio.

4. PORTFOLIO ANALYSIS

Investment managers generally wish to construct an efficient portfolio of securities. The objective of constructing such a portfolio is to reduce the portfolio risk below the aggregate risks of all the investments included in it. This is achieved by selecting investments that do not fluctuate in the same way. In a diversified portfolio, the fluctuations of some investments partly compensate for those of others, so that the variability of the return of the portfolio becomes significantly less than the variability of the individual components of the portfolio.

If the return on the shares of one company move in the opposite direction to those of another, the two companies have a negative co-variance. Ostensibly, co-variance is the essence of portfolio

risk. The expected return of a portfolio is the weighted average of the expected return of the securities in the portfolio. However the risk of a fully diversified or efficient portfolio, as measured by its variance, is smaller than the weighted average of the variance of its individual components.

Portfolio risks can also be analysed in terms of systematic and unsystematic risk. Enlarging a portfolio by choosing appropriately selected investments leads to a reduction and eventual elimination of unsystematic risk. However, under normal circumstances, diversification cannot altogether eliminate systematic risk.

The risk of a well diversified portfolio, which by definition is not affected by unsystematic risk, is simply the beta square of the portfolio, β_p^2 , multiplied by the variance of the market return, which is σ_m^2 , or $\beta_p^2 \sigma_m^2$. This portfolio, characteristically known as an efficient portfolio, commands an intuitive appeal for most investors and can be expressed as follows: $\sigma_p^2 = \beta_p^2 \sigma_m^2$.¹¹

Anyone holding such a portfolio should not be concerned with unsystematic risk as there would be no unsystematic risk attached to it. In such circumstances, an investor can consistently beat the market only if he or she can successfully devise a technique that will out-perform a given market index - e.g. the JSE Actuaries Index - the index being a surrogate for an efficient portfolio.

An investor's objective should always be to combine investments into a portfolio that will maximise yield and minimise risk in a way that will meet his specific investment requirements. This means that the investor needs to know the expected yield from each investment, the expected variability of that yield, and how the yields of the investments are correlated to each other.

The theory of portfolio management was first developed in 1952 by Harry M Markowitz.¹² He demonstrated that, once the level of risk the investor is willing to assume is established, a computerised theoretical model can be used as a basis for the systematic selection of the optimum portfolio that would maximise the rate of return.

The Markowitz model, in relating each investment to every other investment in the portfolio, required a sophistication and volume of work well beyond the capacity of most investment analysts. Its application therefore remained limited until 1964 when William Sharpe¹³ published a model which considerably reduced the number of the mathematical calculations required. He assumed, for the sake of simplicity, that the return on an investment could be regarded as being linearly related to a single index like the market index. Theoretically, the market index could consist of all the securities trading on the market. However, a popular average, like the Standard and Poor 500 index in the United States, or the JSE Actuaries index in South Africa, can be treated as a surrogate for the market index. Acceptance of the idea of a market index would obviate the need for calculating thousands of co-variances between individual securities, as any movement in equities could be attributed to movements in the single underlying factor being measured by the market index. The simplification of the Markowitz model became known as the "Market Model".

The Market Model provided the conceptual foundation for the Capital Asset Pricing Model in that it shifted the attention from variance, which measures total risk, to beta, which measures systematic or non-diversifiable risk.

In fact, this shift in risk consideration was characterised by the "beta revolution" and eventually led to development of the Capital Asset Pricing Model (CAPM). Once beta was accepted as a measure of the sensitivity of an equity to changes in the market or, more appropriately, as the measure of systematic risk, the next development introduced risk-free return into the general discussion. The relationship between risky and risk-free returns was carefully established around beta as the key variable in the model.

It is universally assumed that, in an efficient market, assets with the same risk should have the same expected rate of return. Based on this assumption, an investor holding a risky portfolio with the

same risk as that implicit in the Market portfolio ($\beta = 1$) should receive the same return as that of the Market portfolio. For this purpose the Market portfolio is broadly defined as one that contains all the securities traded on the market and measured by a suitable market index such as the JSE Actuaries' Index. Similarly, an investor holding a riskless portfolio should earn the return of a riskless asset. A more aggressive investor who invests half of his money in a risky portfolio and the other half in a riskless portfolio should receive an average of the returns on the market portfolio and of riskless assets. More specifically, if 100 per cent of total investible funds is invested in the risky portfolio (Market portfolio), the risk of the portfolio measured by its beta would be 1.0. If, however, the investor invests all his money in a riskless portfolio, the beta of the portfolio would be zero. If the investor invests in both the risky and the riskless portfolios, the beta of the composite portfolio would be between 0 and 1 ($0 < \beta_p < 1$), the exact values reflecting the proportion in which the funds are divided between the risky and riskless portfolios.

Thus, the expected return on a portfolio consisting of both risk-free and risky assets could be expected to be greater than the return on risk-free assets: $E(R_p) = (1 - w)R_f + wE(R_M)$

where $E(R_p)$ = Expected return on a portfolio
 R_f = Rate of return on a risk-free asset
 $E(R_M)$ = Expected return on Market
 w = Proportion of money invested in the risk portfolio
 $1 - w$ = Proportion of money invested in risk-free assets.

The CAPM says that, in equilibrium, investors will price capital assets so that the expected return on a portfolio is equal to the risk-free rate plus a risk premium that is proportional to the risk measure, beta.¹⁴ Symbolically:

$$\begin{aligned} E(R_p) &= (1 - \beta_p) R_f + \beta_p E(R_m) \\ &= R_f - (\beta_p R_f) + \beta_p E(R_m) \\ &= R_f + \beta_p [E(R_m) - R_f] \end{aligned}$$

The introduction of the market model was the first extension of the Markowitz co-variance approach through the assumption that returns on various investments are related through common correlations with some basic underlying factor. By exploitation of the linear structure provided by the market model, it was possible to partition total variation into the two component parts of systematic and unsystematic risk. The linearity assumption of the market model, however, is an assumption only and there is strong empirical evidence to the contrary.¹⁵ Once the linearity assumption is brought under fire, so too is the neat dichotomisation of risk that results. Regardless of the validity of the market, however, the assumption that for efficient portfolios all but the systematic component of risk will have been diversified away, must stand or fall on its own account.

The CAPM seeks to explain what would be the equilibrium implications of risk-return trade-offs in an efficient market, where all investors attempt to maximise the same one-period objective function in mean and variance of rate of return, subject only to different degrees of risk aversion.

Investment analysts are generally in agreement that modern portfolio analysis theory is not yet well developed enough to deserve recommendation, and may yet prove to be deficient in many respects. However, the Markowitz portfolio selection approach may be recommended in its original co-variance format. The full co-variance model provides a useful framework for investment portfolio analysis. Naive application of this approach, however, as with any approach, can lead to unsatisfactory results. If care is taken to allow for error and bias in estimation, and if the

implications of trading costs and taxation are accounted for, even approximately, then useful results can be achieved in normative application.¹⁶

5. PORTFOLIO MANAGEMENT

Successful portfolio management in an efficient market depends not only on the portfolio manager's skills, but on the quality of the information he or she receives from investment analysts. Investment analysis and portfolio management are intimately related. Investment analysis refers to the determination of the present value of a security or the determination of its expected return and degree of risk. Portfolio management refers to the handling of a pool of investible funds so that it yields an appropriate return consistent with the risk associated with the portfolio. Naturally, portfolio management includes portfolio construction, the selection of investments to be included in a portfolio. As previously mentioned, selection of investments is the prime responsibility of the investment analyst who makes selections on the basis of investment values determined by fundamental analysis. The approach which a portfolio manager may take to the management of the portfolio under his control will be fundamentally affected by his personal approach to the efficient market hypothesis (EMH).

In the late 1950s and early 1960s, an important controversy developed concerning the process by which the prices of equities are determined.¹⁷ Initially, a number of academics challenged the hypothesis that the market was inefficient, and that conditions of disequilibrium could exist in the market, and that successive changes in the prices of common equities were dependent on each other and could be accurately predicted. Later, a great deal of statistical work was done on the subject, the outcome of which was the establishment of the EMH.

The roots of the EMH date back to 1905 when Karl Pearson and Lord Rayleigh published "The Problem of the Random Walk".¹⁸ In this article it was demonstrated that the most efficient way to find a drunk man in a vacant field after a lapse of time was to start the

search at the point at which he was left. However, the idea of market efficiency differs significantly from that contained in the 1905 study.

The concept of efficiency was not systematically applied to the stock market until 1959 when Roberts and Osborne published research suggesting that changes in stock prices were random.¹⁹ The work of Roberts and Osborne had major effects in the academic world. Tests of the randomness of equity price changes, as surveyed by various academics, supported those of Roberts and Osborne.

The controversy surrounding the market efficiency issue cannot be comprehended without a clear definition of an efficient market. The market is said to be efficient if it satisfies the following five conditions:²⁰

(i) Because transaction costs are negligible, the outcomes do not materially differ from the outcomes resulting from decisions made in a world with no transaction costs.

(ii) Investors who desire to buy or sell equities are able to do so immediately without significantly affecting the prices of those equities.

(iii) Investors behave in a rational manner by investing their money in investments yielding highest returns for a given equity.

(iv) There is an effective information flow, meaning that new information spreads quickly among investors.

(v) Equity prices change quickly in response to changes in new information, meaning that the market price of an equity reflects all that can be known about the related company.

Most of the above conditions refer to the operational efficiency of the market. The market is generally assumed to be operationally efficient and consequently tests of market efficiency have concentrated on the last two points above.

Before attempting to construct a portfolio, the portfolio manager should determine his risk preference. This will be influenced by many factors including the overall wealth of the fund, income, psychological make-up, attitude towards equity investment, alternative investment holdings, and so on. Life assurance and pensions portfolio managers usually prefer a beta of less than 1 and, this determined, the portfolio manager must now decide on the ideal number of investments to be included in his portfolio. On the one hand, portfolio theory states that the more diversified the portfolio the less will be its degree of unsystematic risk. On the other hand, resources and other real world cost factors impose severe constraints on the number of investments that can be included in a manageable portfolio. Furthermore, it is desirable to include investments in a number of industries in the portfolio, as effective diversification, not merely duplication, helps to reduce the unsystematic risk of the portfolio.

Managers of most reasonably sized portfolios have access to computers that can be programmed to perform efficiently the task of investment selection. A quantitative technique that can be used for this purpose is linear programming, and the problem of selection is solved by the method of optimisation.²¹ This technique enables the portfolio manager to maximise the expected return of the portfolio subject to a set of constraints such as the required beta of a portfolio, no more than a certain percentage of total funds to be invested in a single equity or industry, etc. Although this technique is fairly involved, its implications are fairly easily comprehensible. However, linear programming may not be a sufficiently powerful tool for many large portfolio managers, and use has been made of quadratic programming as an alternative.²²

The final step in portfolio management is a re-organisation of the portfolio resulting from any one or a combination of the following factors:

Unsatisfactory performance; a change in the investor's risk preference; a change in market conditions; or changes in the characteristics of the assets themselves.

A portfolio constructed for an investor can be considered ideal only if it is developed against the background of the prevailing economic outlook for the nation, industry, and company and if it is consistent with the risk preference of that investor. It follows, therefore, that any change in one or more of these factors would call for a re-organisation of the portfolio.

Regardless of the causes that initiate the portfolio re-organisation process, active portfolio management involves at least the steps already specified. The portfolio manager begins by re-evaluating the risk preference or the utility function of the investor. A critical evaluation will help the manager to identify the portfolio beta. Having established a revised set of constraints that will best achieve the investor's goals, the next major step in active management revolves around the investment analyst. He or she must re-calculate the expected returns of all the investments from which a selection is to be made by carefully analysing the conditions that are likely to affect the economy, the industry and the company. The analyst must also generate the beta for each investment, either through personal calculations or by obtaining it from a stock broking service.

6. CONCLUSION

An attempt has been made in the above to discuss the technique and growing sophistication of active portfolio analysis, construction and management. The theoretical under-pinning of portfolio management and the capital market theory, which asserts that every investor should strive to construct and maintain a well diversified portfolio which carries no unsystematic risk, have been indicated.

We have seen too that, with active modern portfolio management, it is difficult to construct a portfolio which will diversify away all or most of the unsystematic risk while simultaneously maximising an investor's expected return for a given value of beta. As is evident, the actual process of portfolio construction and management is infinitely more complicated than it appears on the surface. Starting with an in-depth analysis of a large number of investments

in order to determine their expected returns and risks, and ending with an optimal portfolio requires the skills, dedication and total commitment of numerous analysts, computer programmers and a highly sophisticated portfolio manager capable of putting all these things together. Obviously, few investors have these resources and hence the great public interest in making ever increasing use of the developing expertise and facilities of life assurance and trust companies.

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CHAPTER X

THE INVESTMENT OF LIFE ASSURANCE FUNDS

Even though the investment objectives and policies of Life Offices show marked differences (Bernstein 1976), the investment process in all cases is very similar. Since this is bound to be the case, we need to spend some time on the principles and common objectives which generally apply.

As evidenced in Chapter VII, the life assurance investor represents a powerful force in our industrial and financial community, playing a dominant role in the investment and financial markets. The investment managers of these institutions, because of the funds they control, collectively possess a latent power over the management of these institutions, even though their objective may not be power or control but the earning of a satisfactory yield at minimum risk. The accumulation of sizeable funds is essential to the fulfilment of the obligations of life offices and these funds require to be prudently invested according to sound principles and objectives.

1. BAILEY'S FIVE CANONS OF INVESTMENT (1862)

From as early as 1762 when the life assurance industry was founded on sound scientific principles, the actuary occupied himself exclusively with actuarial matters, content to accept guidance from other experts regarding the rate of interest that should be assumed in his calculations. The need to establish a clear set of investment objectives to secure the solvency of the life office, to protect policyholder interest, and to retain a competitive edge, began to be realised some one hundred years later.

In 1862, Bailey¹, a British actuary, was the first to set out basic principles for the investment of Life Assurance funds. These became known as "Bailey's Canons" and for many years were accepted as being substantially correct. His five Canons are as follows:

(i) The first consideration should invariably be the security of capital.

(ii) The highest practicable rate of interest should be obtained, but this principle should always be subordinate to the security of capital.

(iii) A small portion of the total funds (the amount varying according to the circumstances of each individual case) should be held in readily convertible securities for the payment of current claims and for such loan transactions as may be considered desirable.

(iv) The remaining and much larger portion may safely be invested in securities that are not readily convertible. It is desirable, according to the second principle, that it should be so invested, because such securities, being unsuited for private individuals and trustees, command a higher rate of interest in consequence.

(v) As far as is practicable, the capital should be employed to aid the life assurance business".

Bailey's "Canons" were widely debated within the actuarial profession for several decades, the emerging conflict essentially being between the principles concerning the security of capital and the principles concerning the maximisation of income.

2. THE EVOLUTION OF BAILEY'S VIEWS

(a) Security of Capital

Bailey initially strongly emphasised the capital security aspect of investment. This was of paramount importance to him and he set his face against Stock Exchange securities or irredeemable or long dated Government securities. In his era, Government securities were

almost entirely undated Consols and their capital value was subject to "very inconvenient fluctuations in value"² with changes in prevailing interest rates. In addition, investment in equities were not seen by Bailey as suitable because of the very considerable risks involved in this avenue of investment in his time. His express preference was for bonds, mortgages, loans and bank deposits.

Mortgages, Bailey felt, were the ideal life assurance investment as the capital was free from fluctuation in market value, and the borrower's own stake in the venture acted as additional security, as it too was at risk.

Later (1891) Bailey, in a discussion on a paper by A G MacKenzie,³ relaxed his views and wrote: "... it being now hardly possible, as in former times, to obtain investments in which the principal is secure with a reasonable rate of interest, insurance companies must act as private investors would. Namely, they must go to the Stock Exchange and not have all their eggs in one basket, but they must be prepared to run risks of fluctuations in market value".

In 1912, May⁴ commented that Bailey's Canons were "as true today, as ever they were". However, he qualified Bailey's first Canon, which placed security of capital as a first consideration, by suggesting that the security aspect of capital be considered in regard to the total portfolio and not to each individual investment: "It is absolutely impossible to assure oneself of the safety of the capital of any single investment, and it is only in regard to the safety of the capital as a whole that one has a reasonable chance of success". May was thus one of the earliest known writers to suggest diversification as a technique of spreading risk, and added this as an additional investment principle to those laid down by Bailey.

In 1933 Penman⁵ agreed that the avoidance of capital loss or depreciation was more important than the rate of interest earned by the investment, and pointed out that investment was becoming more complicated and modifications to Bailey's Canons were necessary. He

suggested that foreign policyholder liabilities be represented by assets held in the same currencies as those liabilities so that currency re-valuations would not create gains or losses.

Bailey's Canons were still being endorsed as late as 1937 by A C Murray⁶ who added yet another principle, namely that an active investment policy should be followed. Murray meant this to mean that investment should constantly be considered and monitored in relation to the economic conditions prevailing. This principle has been criticised in the light of investment departments becoming obsessed by activity, believing that unless they were continually buying and selling, they would not effectively be carrying out their responsibilities.

In 1937 H E Raynes⁷ produced what is regarded as the first paper presenting a firm view that ordinary shares could and should be used as life assurance investment, despite the uncertainty of their capital values. He, too, believed that the default risk could be reduced by diversification, while the risk of having to liquidate assets prior to maturity (usually at a loss) could be reduced by considering the liquidity aspect of any given portfolio. The capital security aspect, therefore, should not be considered in isolation when formulating investment policy.

(b) Maximisation of Income

The importance of yield rather than security of capital was first recognised by Sharp in the discussion which followed Murray's paper,⁸ when he suggested that security of "well-chosen" income would provide security of capital automatically. He suggested that the highest practicable rate of interest should be obtained, subordinate always to the security of income.

In 1948, Pegler⁹ had already reformulated Bailey's first two principles as follows:

"It should be the aim of life office investment policy to invest its funds to earn the maximum expected yield thereon".

Pegler's use of the term "expected yield" was to avoid the implication that all investments should be placed at the highest possible yields, since these were usually associated with the highest risks.

Subsequently, in 1954, Clarke¹⁰ developed three different concepts of yield:

(i) The apparent yield, which was the dividend paid in respect of the last financial year, expressed as a percentage of the current price or the investment.

(ii) The expected yield, which was calculated on the cost price of the investment, and was an estimate of the future dividend payment combined with its probability of receipt, expressed as a percentage of the cost price of the investment. If the anticipated dividend payment is assumed to be 10 cents per share, probability of receipt 0,9 and cost price of investment 100 cents per share, then

$$\text{Expected yield} = \frac{10 (0,9)}{100} = 9,0\%.$$

(iii) The realised yield, which was calculated on the cost price of the investment when it was finally realised. If the last annual dividend payment received before the sale of the investment is 10 cents per share and the cost price of the investment 100 cents per share, then

$$\text{Realised yield} = \frac{10c}{100c} = 10\%.$$

Clarke's first investment principle was to secure the maximum realised yield. Since this was not possible at the time of investment, he proposed that the nearest approach was to maximise expected yield with the minimum deviation from the realised yield, i.e. with the minimum error. Minimising the error meant maximising the diversification of the underlying investments. (See Chapter VIII above.)

While early writers were concerned with income maximisation, this principle was discarded in favour of income security. The maximisation of expected yield was generally regarded as a far more acceptable principle.

(c) Matching and Immunisation

The funding of any asset should be related to the expected term of the asset (or economic life in the case of a machine or piece of productive equipment). This is also true in the case of a Life Office where policyholder liability has to be supported by assets of approximately the same term. That is to say that the asset must be selected to "match" the liability. Since Life Offices have to earn at least the rate of interest assumed in the premium calculations, the matching principle is important. If assets and liabilities are well matched, the Life Office is largely insulated against fluctuations in interest rates.

Pegler¹¹ described the matching principle as follows. If interest rates rise, a fund invested "long" will suffer depreciation, but if the assets are matched with the liabilities, the present value of the latter will diminish in the same proportion and the balance will not be affected. However, where a decline in the value of an asset is due to intrinsic factors affecting that particular asset, no corresponding fall in the value of the liability occurs.

In 1952, Redington¹² used the term "immunisation" to signify that investments could be made immune to a general change in interest rates. Before considering the practical difficulties of implementing the matching/immunisation principle, it must be mentioned that this technique prevents the escalation of profit as well as losses, and may not therefore be in accordance with the principle of maximising expected returns. Some of the complications of implementing an immunisation policy according to Redington are the following:

(i) It is difficult to relate the different yields applicable to various assets to a single rate of interest used for valuing liabilities. Furthermore, the differentials between yields may not remain stable over time.

(ii) Certain investments, instead of having a fixed maturity date, are repayable at the borrower's option within a stated fixed period. In the case of liabilities, policyholders are often granted options such as, for example, guaranteed surrender values or conversion options.

(iii) Investments like equities can be regarded not only as being irredeemable but also as having an indeterminate income.

(iv) During a period of historically low interest rates, life offices would be loathe to invest "long" in their efforts to immunise should they foresee the possibility of interest rates rising in the near future.

At any point in the life of a policy, the benefits secured can be analysed according to that part secured by past premium payments, and a future balance of the benefits still to be secured by future premium payments. The former part can be associated with a paid-up policy, and this part can be immunised. This technique is known as "paid-up immunisation". The problem associated with paid-up immunisation is that a life office could find itself holding assets of a shorter mean term than would normally be considered. This shorter mean term would result in a lower overall return and would conflict with the office's desire to maximise the expected return.

3. TWO MAJOR OBJECTIVES OF INVESTMENT

Having established the classical principles of sound life assurance fund investment, certain specifications in the general application of these principles have arisen. The investment objectives adopted by each life office reflect the source of its funds and also the commitment it has made about the funds placed in its custody by policyholders.

(a) Liquidity

Liquidating investments prior to maturity in order to meet policyholder commitments or unexpected policyholder claims, surrenders, or loans, usually means suffering an investment loss. The need for liquidity in life assurance investment management is therefore important. Liquidity is provided through the regularity of receipt of premium income, which is usually sufficient to cover management expenses and cash disbursements in the form of death benefits and other payments to policyholders. The remaining funds can be invested in securities that provide a great degree of liquidity through the flow of investment income. Examination of the South African experience as shown in Table 7.1 of Chapter VII above reveals the adequacy of income over outgo in that total income has always been well in excess of (approximately 2.5 times) operating expenses and benefit payments. Over time, the premium flow of life offices in both America and England has also proven (with some exceptions) to be more than double the outflow of claims.¹³ Table 7.3 in Chapter VII further confirms the lack of need for investment liquidity with cash reserves reflecting investment climate rather than any other motive. Indeed life offices often become fully invested for long periods.

The skill in forecasting mortality rates and improving life expectancies has largely removed the precautionary motive for liquidity on the part of life offices. Even in cash emergency situations like the 1918/19 influenza epidemic in the United States, premium flow adequately covered the sharply increased claims, while during the Great Depression (1930 - 1932), life office income continued to exceed outgo by more than 50 per cent¹⁴.

In more recent times the USA experience has been worse than that of most other countries. The flow of income was disrupted in 1966 and again in 1969-70. During those periods, new business diminished, policy loans increased, forward loan commitments proved too high, and mortgage payments declined. In order to stem the outflow of funds, forward commitments were reduced by 80 per cent, the life companies borrowed from banks and some securities were sold at a loss. These

difficulties, however, were caused more by Government interference in the market mechanism than by any basic flaw in established investment principles and objectives¹⁵.

With regard to the speculative motive, liquidity could theoretically provide life offices with greater flexibility in their investment policies, but the sheer weight of investible funds accumulated by life offices over just a few weeks could prejudice investment performance and thus turn prices against the insurers to the embarrassment of investment managers.

Thus, the precautionary as well as the speculative motives for liquidity do not appear to be particularly strong. The data in Table 7.3 of Chapter VII showing cash as a percentage of total life assurance assets certainly confirm this, the increase in the last three years being attributable to higher call deposit rates and expectations of rising fixed interest investment rates.

(b) Diversification

An important reason for risk avoidance is the trust nature of life assurance funds. If a life assurance company is to sell financial security to its policyholders, the co-movement of investment returns must be an important consideration in the construction of any investment portfolio. As discussed in the preceding Chapter, the measure of the co-movement between investment returns is the co-variance, which can be defined as the mean value of the product of the deviations of two rates of return from their respective expected values. Investment policy should, therefore, assume an appropriate dispersion of funds among a wide range of assets which all enjoy a low co-variance.

As an objective, diversification exacts a price in the form of a decline in the expected portfolio return, and the cost of having to seek, manage and control a wider array of investments. There is little evidence to indicate that portfolio diversification is deliberately sought as an investment objective by South African life offices. In practice, it appears as if the spread of assets held in

a life fund exceeds that which may have been held on diversification grounds alone.¹⁶ As the size of the life office funds available for investment is very large compared with the size of individual investments available, market imperfections compel them to invest in more than a limited mix and spread of assets. According to Clayton and Osborn¹⁷, the accrual of funds, together with a desire to keep them fully invested, ensures that portfolio diversification is obtained without conscious effort or any significant reduction in expected yield.

A further reason for the promotion of unintentional diversification is the limited trading of portfolio assets in South Africa. The legislative requirement in South Africa to invest in Part I assets, as described in Chapter VI, has restricted turnover in these particular assets. Many of the larger corporate investments have been directly negotiated so that the development of a secondary market in such investments may not always be possible should the assurer become disenchanted with the merits of the investment in question. In addition, says Esterhuizen,¹⁸ the desire to hold a sufficiently significant representation of equity holdings in a market of contracting supply, discourages the South African industry from any marked trading in equities.

4. INVESTMENT PRINCIPLES AND OBJECTIVES IN PRACTICE

The present value of the anticipated net premium inflow from current policies, discounted at the actuarial rate assumed in premium calculations, represents the present value of the life assurers' liabilities. An assurer is technically solvent if it possesses adequate and appropriate assets which, together with their future earnings rates, exceed the expected net claims arising from its current outstanding liabilities. The principles of capital certainty (security) and income certainty are therefore significant from the point of view of solvency. These two objectives conform with the requirements associated with the trust nature of the industry's investment funds, but do not appear to support the hypothesis that life assurers attempt to maximise the expected return on their investments and thus other, non-return investment principles

such as matching, liquidity, and diversification, are considered only in their capacities as risk-reducing attributes.

Thus, the most important investment principle to emerge has been the maximisation of expected income. This criterion has not been modified to any extent by the diversification policy of the industry since this behaviour has not appeared as a conscious objective. (See Chapter XI below.) The term "maximisation" denotes an unobtainable perfection. In practice, assurers will attempt to "optimise" the expected yield where the latter term shall mean the utilisation of the "best possible means" of achieving this objective. Clayton and Osborn summarised the practical application of investment principles and objectives as follows: "To sum up, the needs of life assurance companies in relation to their liabilities are such that they respond in the following manner. They follow a policy of keeping fully invested at all times. They are income-conscious investors who purchase assets to hold for income and do not normally behave as traders in securities. Subject to the constraints imposed upon them by their susceptibility to taxation and currency risks, they choose their investments with the aim of maximising expected yields, although this objective is modified in practice by the desire for some portfolio diversification within their equity holdings".¹⁸

Statutory bases for the valuation of assets and liabilities are laid down in South Africa. Principles of matching and immunisation assume that the value of assets and liabilities changes as the rate of interest changes. In South Africa this would not necessarily be true due to the statutory maximum valuation bases of assets and minimum valuation basis of liabilities. If rates of interest increase substantially, fixed interest securities and equities would be depressed in value, but companies would not be able fully to adjust the value of their liabilities if the corresponding adjustments resulted in a lower than minimum permissible valuation of such liabilities. The Insurance Act stipulates that quoted equities may not be valued at a price exceeding that which is quoted on the Johannesburg Stock Exchange. A sudden and substantial fall in equity prices, however temporary, could cause South African life

assurance companies to find themselves technically insolvent as they may not be able to decrease their liabilities correspondingly. A South African life assurer would thus have to be more concerned with capital security than would his British counter-part.¹⁹ More has been said about this aspect in Chapter VI.

Matching is acceptable from an income and capital security point of view when considering non-profit and with-profit business. The growth of linked life assurance business has altered the validity of these principles, and where linked business is transacted without the provision of investment guarantees, the principles of matching and immunisation are far less important because the company's liabilities equal the value of the linked assets at all times.

Where minimum investment guarantees are provided, matching is of importance only insofar as the value of the linked assets at maturity may not be less than the guaranteed minimum maturity value. In contrast with the earlier infatuations with capital security, therefore, more emphasis has been given to the investment aspect of life assurance as well as to its real contractual value. Since exact matching and immunisation prevent profits as well as losses, the principle has generally found few disciples other than those assurers who have a large content of single premium business on their books. Matching is important for this type of business so that the company can ensure both that it will have the necessary liquidity to meet these substantial maturities, and that the value of its assets at the time of maturity will be at least equal to the minimum guaranteed maturity value.

5. THE SOUTH AFRICAN LIFE ASSURANCE INDUSTRY

(a) Investment Policy

Investment return is important in that it has the effect of lowering the cost of the life assurer's products and thereby improving its competitiveness. The marketing and sales functions of each life office are constantly in contact with the environment and require an investment performance which satisfies the needs of prospective and current policyholders. The internal administration of the company,

its investment and actuarial functions, require returns necessary to maintain the smooth operation and solvency of the company. Investment policy is therefore both internally and externally motivated.

In practice (See Chapter XI below) investment policy in South Africa is constrained by the investment principles of the life office, the external regulation of the industry, investment conditions pertaining from time to time, and the attitude towards risk and reward by the body of policyholders at whom the life office aims its marketing activities.

Table 7.3 of Chapter VII reflects the investment policy of the life assurance industry in South Africa over the period 1972 - 1986. From this Table it is evident that over the period considered, the asset distribution pattern of the industry has in general remained fairly consistent. However, investment patterns have shown subtle changes as a result of events such as the effect of monetary policies on interest rates and rapidly appreciating property values. Much greater amounts of cash are being held on deposit and at call, while reater amounts are also being invested in fixed property. The requirement, in terms of the South African Insurance Act for our industry to invest in government stock as well as in other prescribed assets as outlined in the following section, has produced a picture quite different from what it would have been had South African legislation been similar to that of the USA where life assurance companies tend to regard government stock as a residual investment as well as a measure against which to adjudge alternative forms of investments.²⁰

The proportionately high investment in ordinary equities in South Africa resulted from the opening of the reverse yield gap in 1962. The opportunity of being able to participate in an expanding economy, effectively neutralising the effects of inflation, was the major motivating factor in the drive towards greater equity investment. "The irredeemable nature of equities created matching problems, and consequently considerable quantities of redeemable fixed interest

securities were purchased to counteract this irredeemable quality of equities", noted Esterhuizen.²¹

South African life assurers do, however, enjoy relative freedom of action regarding the investment of their "discretionary" funds remaining after meeting the statutory levels of investment in Part I assets described in Chapter VI. There are, however, certain problems and constraints facing the industry and these are discussed in the following section.

(b) Four Investment Problems

South African life offices are subject to four particular problems when dealing with the investment of their funds.

(i) Legislative Constraints. As noted in Chapter VI, the first major attempt at insurance legislation in South Africa was promulgated in the form of the Insurance Act No. 37 of 1923. This was later replaced by the Insurance Act No. 27 of 1943 which remains in force with certain subsequent amendments. This Act specifies certain minimum investments by Life Offices in prescribed assets often referred to as "Part I Assets". (See Chapter VI above)

At present, Life Offices are required to hold not less than 53 per cent of their net South African liabilities relating to their pension and retirement annuity funds, and not less than 33 percent of the remainder of their South African long-term liabilities, in Part I Asset Investments.

As mentioned and illustrated in Chapter VI, the trust-fund nature of life assurance assets was apparently the initial driving force behind the broad aim of Government legislation to protect these funds against poor management and to ensure a sufficient level of liquidity (See Chapter VI above). In more recent times, considerations of the importance of this avenue of investment to the financing of the *infra-structural* development of the country have influenced legislation in this area. In Chapter VI we noted that this fact was also stressed by the Franzsen Commission in its third report.

There are numerous critics of the Part I Assets investment requirement legislation, and the main areas of their arguments refer to four matters:

(a) The relatively low rates of return on Part I Assets, when compared with other investments, prejudices the overall yield obtained by life offices and therefore their policyholders. This is an obvious constraint to profit maximisation.²²

(b) Prescribed Part I Assets investments provide little protection against inflation and rising interest rates have led to capital losses.

(c) Infra-structural expenditure is effectively and substantially being subsidised by those persons least able to afford it, namely, the pensioners.

(d) Lower prescribed asset investment returns place additional strains on employers and employees alike in the area of pension and retirement annuity business, where higher prescribed asset holdings are required.

(ii) Taxation. Section 28 (i) of the Income Tax Act states that long-term insurers are taxed at the company rate of tax on 40 per cent of their adjusted gross income. Adjusted gross income is taken as gross investment income (including income from the letting of property), less investment income in respect of approved business. Approved business consists of business with approved pension and retirement annuity funds and annuities in the course of payment.²³

Taxable income also includes any fees for managerial or secretarial services but normally excludes any form of capital gains. In the determination of taxable income, therefore, no allowance is made for expenses incurred in the production of that income. This led to the formation of income-earning properties into separate companies, each taxed in the normal way and paying dividends to the life office out

of after-tax profits. Subsequently, nominee companies were formed in order to channel total net income before tax directly through to the life company.

Maximisation of the investment yields of a life office naturally refers to the effective yield after tax. As there is no tax on capital gains, realised or other, the choice between two alternative investments offering the same expected yield, with all other factors considered equal for both investments, must be that investment offering the greater potential for capital appreciation.

The 1982 increase in life company taxation from 30 to 40 per cent of adjusted gross income was deplored by the industry and many others. An increase in the rate of taxation applying to life companies simply means a lower return for life offices and their policyholders, less protection from inflation, further subsidy of infra-structural development by pensioners and others least able to afford it, and even greater strains on employers and employees with regard to pension and retirement provision. "No other country in the world has yet developed a more satisfactory alternative to our current system and level of life office taxation, and if any alternative system was both logical and scientific, it would tend to become so complicated as to be almost incapable of application in practice".²⁴ (See Chapter VI above.)

(iii) Erosion of Returns. In a mildly inflationary climate, investment in equities was traditionally accepted as a hedge against the erosion of real investment returns and, prior to the 1973/74 oil crisis, the effect of inflation on investment returns was not considered to be of crucial importance. In more recent times, however, sharply increasing price levels have led to traditional investment avenues being critically examined in the light of the structural changes which have taken place in the investment arena.

Any fixed interest investment gives protection against inflation so long as its coupon rate exceeds the average rate of inflation experienced over the term of the investment. Institutional and

private investors alike will naturally make every attempt to optimise their real rate of yield. Esterhuizen²⁵ in some extensive empirical research, demonstrated that the absolute dividend payments from industrial equities over the short, medium and long term have consistently shown superior growth rates to those recorded by fixed interest security returns. He also showed that growth in industrial equity income returns also exceeded the rate of inflation over periods of both low and high inflation between 1962 and 1977. Since then, inflation has continued to increase in South Africa from 11,12 per cent per annum in 1977, it rose to 18 per cent in 1985, further emphasising the significance of these factors.

Indicating that the dividend payment on equities constitutes only a part of the total equity yield, Esterhuizen²⁶ also studied the growth or decline of the capital element to give a more valid comparison between equity and fixed interest performances and inflation, and concluded that, in periods of high inflation, neither fixed interest nor equity investments maintained any positive real return, but that industrial equity investments appeared to be the best alternative under the circumstances. In November 1987 Brown (a Johannesburg stockbroker) had the results of a similar study for the period 1966 to June 1987 published. Over this period it seems that industrial shares generally kept up with inflation, with gold shares performing even better. Nevertheless, with official rates of inflation as high as 18 per cent during the period, careful selection was necessary for successful investment results. During the period, fixed interest yielding investments were nearly always below the rate of inflation. The question of investment erosion is more fully discussed under 'Inflation Risk' in Chapter VIII above.

(iv) Marketing Factors and Investment Policy. The South African life assurance sales fraternity, have come to believe and consequently have brought their clients to believe, that recent investment performance by life offices is an important indicator of future investment returns.

Whilst this may one day prove to be correct, there are no guarantees

of this and a conflict has thus arisen between the short-term market performance demands of the sales and marketing divisions, and the anticipated long-term security expectations of all policyholders. The investment department must thus tread a careful middle path between the higher risks associated with high short-term returns and the generally more secure but lower levels of long-term returns. Attempts to resolve these conflicts have necessarily led to a greater South African life office involvement with equity investment.

Expected future portfolio performance, most frequently based on past achievement, is a critical factor in the establishment of competitive premium rates. Furthermore, quotations showing illustrations of future death claim and maturity benefits, based on assumed levels of future investment performance net of taxation and all management changes and past actuarial performance, are often critical to a successful sales operation in a highly competitive environment.

Consequently, South African life office investment policy can no longer be a mere consideration of such matters as security of capital and income, matching and immunisation, liquidity, diversification, legislation, taxation and inflation. It must now also take into account the far more intangible, immeasurable, and fickle character of human nature encountered in the sphere of marketing and sales. (See Chapters XI and XII below.)

6. CONCLUSION

The trust-nature of the funds held by the life assurance industry has brought about a conservative attitude on the part of these companies towards the investment of their funds.

The importance of earning a sufficiently high yield on investments shifted emphasis away from the security of capital, considered in the opinion of earlier writers to be of paramount importance, to an emphasis on security of income. Later, by combining income return with its probability of receipt, optimisation of expected yield became the prime investment principle. Optimising of returns did not support the fundamental criterion of capital security in its

entirety and therefore attention had to be given to such principles as matching, liquidity and diversification in their capacities as risk-reducing factors.

As compared with returns experienced in the balance of the portfolio, the relatively lower returns obtainable on prescribed assets prejudicially affect the overall return to both life assurers and policyholders. This legislative constraint to the investment activities of South African life assurers continues to be the source of much discontent.

Present taxation legislation is considered fair, but indications of a desire on the part of the authorities to change the status quo could lead to major future investment complications and it is hoped that good sense will prevail.

Attempts to invest in such a manner as largely to offset the eroding effects of inflation have been made more difficult by the requirement to invest in lower yielding prescribed assets and, on a rand-cost averaging basis, it has been shown that an investment in equities has performed better than an investment in Government stock over the past ten years, but that the total equity return during this period of rapidly increasing prices has failed to maintain its real value.

The selection of equity investments and their performances directly affects the overall performance of life assurers and the competitiveness of their products. It has therefore become increasingly important for regard to be had to this marketing oriented consideration, as improving investment returns means lower priced products and thus advancing market penetration.

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PART C

EMPIRICAL RESEARCH, ANALYSIS AND CONCLUSIONS

AN EMPIRICAL STUDY OF THE CONTEMPORARY POLICIES,
PRACTICES, OBJECTIVES AND TECHNIQUES
OF LIFE OFFICE MANAGEMENT IN SOUTH AFRICA

PART C

EMPIRICAL RESEARCH, ANALYSIS AND CONCLUSIONS

CHAPTER XI

THE SOUTH AFRICAN LIFE ASSURANCE INDUSTRY : A SURVEY

During May 1986 a Questionnaire (included as an appendix to this Chapter) was sent to the Chief Executive of each of twenty-six South African life offices. In order to ensure anonymity and confidentiality, companies were not asked to identify themselves nor even to indicate whether they were proprietary or mutual offices. In addition, in order to ensure maximum response and objectivity, the Questionnaire was designed for ease of completion and quantitative, rather than qualitative analysis.

Nineteen offices responded with all but one returning fully completed Questionnaires. This excellent response (over 70 per cent) was further enhanced by the fact that in their replies most offices voluntarily identified themselves, making it possible to establish that four of the five largest life assurers in South Africa had responded and that the total business of all respondents accounted for approximately 85 per cent of all life assurance business conducted in South Africa in 1986.

Under the above-mentioned circumstances and constraints, the survey results are considered to be as comprehensive and objective as one could expect and the addition of more responses would be unlikely to have significant impact on the findings.

The Questionnaire was divided into five parts and it was suggested that these should be distributed to the relevant heads of the divisions in the respondent's company. From the varying handwriting

on most of the replies received, it was clear that this had indeed been done in most cases.

The five Sections of the Questionnaire dealt with corporate policy, administration, reinsurance, accounting and actuarial, and investment practices. Each of these elements of the life office operation were examined by means of carefully selected and deliberately worded and ordered Questions. Indeed, the structure and layout of the Questionnaire itself became the subject of a circumspect study before it was finalised.

The care taken in the construction of the Questionnaire paid dividends and produced very satisfactory findings as a result.

1. CORPORATE POLICY

The purpose of the Section on corporate policy was to establish the clarity with which life companies identify their overall corporate objectives, and how their new business, marketing and sales objectives are designed to meet these objectives. In addition, this Section determines the efficiency with which new life assurance products or packages are developed to serve the needs of the market and what management information is used to measure progress towards the attainment of the above objectives:

Question 1: Corporate Policy

Which of the following most characterises your fundamental corporate objective?

The optimisation/maximisation of:	[NO. OF RESPONSES]
1.1 Actuarial surplus/Company "Estate"	[6]
1.2 Gross ordinary premium	[5]
1.3 Gross pensions/group premium	[3]
1.4 Asset size	[4]
1.5 New business (sales)	[4]
1.6 Return on shareholder capital	[9]
1.7 Total investment yield	[4]

[[NO. OF
RESPONSES]

1.8	Security of capital	[1]
1.9	Policy owner benefits	[12]
1.10	Other	[1]

The question here was phrased explicitly and the word 'fundamental' was emphasised to elicit from respondents one or perhaps two answers. Unlike certain subsequent questions, no maximum number of answers was requested in order that it could be established just how clearly defined and concentrated were the corporate objectives of respondents.

As only one office gave an 'other' response, ("the provision of the means for the reduction/elimination of financial worry by members of trade unions and employee organisations") it may reasonably be assumed that the objectives listed in the question comprehensively cover the objectives of all life offices in South Africa.

Only four offices selected only one corporate objective. Two of these gave optimisation of return on shareholder capital as their objective and two gave policyowner benefit optimisation as their sole objective. It is interesting to note that both of the two latter companies identified themselves as proprietary offices listed on the Johannesburg Stock Exchange. It is not clear whether this sole objective will ever appear as such in their annual published accounts or whether the companies concerned have simply not yet decided that the optimisation of return on shareholder capital should be one of their fundamental corporate objectives.

What was surprising, was the large number of offices which gave three, four, five and more responses to this question. One can only assume that these offices have not yet clearly identified their fundamental corporate objective or that they genuinely follow these multiple objectives, some of which may be in conflict with one another. If this latter position is indeed true, it would seem that the directors and management of a number of life offices have an

extremely difficult task on their hands. Nevertheless, as not all the objectives are in conflict, it could conceivably be that many offices essentially do have the same fundamental objective of the optimisation of return on shareholder capital and the maximisation of policyowner benefits. This conclusion can be drawn from the fact that nine respondents (clearly, none of which was a mutual company) said that the optimisation of return on shareholder capital was one of their objectives, and twelve said that the maximisation of policyowner benefits was their objective. This would probably include the mutual companies in many cases.

Question 2: New Business

Please indicate your prevalent considerations when arriving at corporate new business objectives. (Tick no more than two)

	[NO. OF RESPONSES]
2.1 A percentage increase over last year's new business	[11]
2.2 Percentage of expected total SA market (market share)	[4]
2.3 Percentage of expected expenses (e.g. improving expense ratios)	[9]
2.4 Maximum growth permitted by corporate financial structure (i.e. new business strain considerations)	[4]
2.5 Administrative capacity constraints	[2]
2.6 Required premium flow/asset growth	[6]
2.7 Surplus generation requirements	[0]
2.8 Other:	[0]

As was anticipated in the first question, it was feared that too many answers may be given by respondents to this and subsequent questions for the answers to be meaningful. For this reason respondents were requested in most instances to tick no more than two, in the hope that this would concentrate their attention on the really important determinant of corporate new business objectives.

Only two offices selected one answer only. In both cases they indicated that their prevalent consideration when arriving at corporate new business objectives was a percentage increase over last year's new business. This was also the most popular choice of all other respondents [11], with a percentage of expected expenses (e.g. an improvement in expense ratios) a close second choice, with nine responses.

This is a very significant finding. South African life assurance companies are more concerned with attaining an improvement over last year's new business and expense achievements than in maintaining their market share or in producing those levels of new business which optimise the generation of company surplus.

This is a further example of the lack of clarity referred to in Section 1. above. Although a majority of offices said that their fundamental corporate objective was the optimisation of either the return on shareholder capital or policyowner benefits, no even one company suggested that the generation of surplus, the one item which would improve both return on shareholder capital and policyowner benefits, was considered when arriving at new business objectives.

Question 3: Marketing

Which of the following most characterises your corporate marketing objectives? (Tick no more than two)

- | | [NO. OF
RESPONSES] |
|--|------------------------|
| 3.1 Establish most favourable public image across the whole spectrum of the S A market | [2] |
| 3.2 Establish most favourable public image in a specific segment/s of the S A market | [14] |
| 3.3 Provide policy benefits designed for the entire spectrum of S A needs | [1] |
| 3.4 Provide policy benefits for a specific segment/s of the S A market | [14] |
| 3.5 Provide policy benefits for specific S A needs | [3] |
| 3.6 Take account of competitor actions/reactions | [2] |

The majority of respondents see themselves as providing benefits for and marketing to a specific segment or segments of the South African life assurance market. Only two offices (obviously the larger ones) see themselves as wishing to maintain a favourable image across the entire spectrum of the South African life market and yet only one of these wishes to provide benefits designed for the entire spectrum of South African needs.

Question 4: Sales

Which of the following most characterises your corporate sales objectives? (Tick no more than two)

	[NO. OF RESPONSES]
4.1 Desire to achieve maximum percentage of sales through brokers	[1]
4.2 Desire to achieve maximum percentage of sales through own agents	[4]
4.3 Desire to achieve balanced percentage of sales between agents and brokers	[10]
4.4 All sales are made through brokers	[4]
4.5 All sales are made through own agents	[3]
4.6 Desire to make some sales directly to the public (e.g. direct mail)	[12]
4.7 Desire to make no sales directly to the public	[1]
4.8 Desire to make all sales directly to the public	[0]

Clearly, a large majority of life offices have discovered that they are most comfortable in the position of maintaining both their own sales (agency) force and broker new business divisions. One office, which maintained an agency force of its own, sought to maximise sales through brokers whilst another, which also maintained a broker division, sought to maximise its sales through agents.

Only three respondents maintain an agency force only, and only four obtain their new business exclusively from brokers.

A significant finding here is that a large number of respondents [12] have the desire to make some sales directly to the public through the medium of direct mail, etc. Whilst it is known that very few life offices engage regularly and consistently in direct marketing activities, it is evident that many more would now like to and apparently no longer fear conflict with their agency or broker intermediaries, once considered an important reason for not undertaking direct marketing.

Question 5: Product Development

Which of the following most characterises present product/package introductions by your company?: (Tick no more than two)

New products introduced as a result of:	[NO. OF RESPONSES]
5.1 Independent research and development locally	[3]
5.2 Independent research and development overseas	[0]
5.3 Ideas developed from sales team input	[3]
5.4 Ideas developed from actuarial team input	[4]
5.5 Ideas developed by Marketing Committee	[11]
5.6 Ideas developed by advertising agency	[0]
5.7 Ideas developed from market research in South Africa	[1]
5.8 Ideas developed from competitor products	[2]
5.9 Reaction to market pressure/demands	[10]
5.10 Reaction to sales team demands	[2]
5.11 Other:	[0]

Life Offices consider that their new products and packages are brought about firstly by market demands [12] and then developed by their marketing committees [11]. Very little market research is done locally and none overseas. Life offices generally do not consider their sales teams to be important for the development of new products and packages, and few recognise development input from their actuarial staff.

Question 6: Management Information

Please indicate which of the following information is used in company monitoring and/or management:

(NO. OF
RESPONSES)

		Regularly (i.e. Monthly/ Quarterly)	Some- times	Never
6.1	Mix or distribution of products sold (endowment, term, etc) analysis	[16]	[3]	[0]
6.2	Life assured ages analysis	[8]	[8]	[3]
6.3	Life assured sex analysis	[9]	[6]	[4]
6.4	Life assured marital status analysis	[2]	[4]	[13]
6.5	Life assured race analysis	[9]	[7]	[3]
6.6	Life assured occupation analysis	[4]	[9]	[6]
6.7	Life assured geographical distribution analysis	[6]	[7]	[6]
6.8	Mode of premium payments analysis	[9]	[9]	[1]
6.9	Frequency of premium payments analysis	[10]	[8]	[1]
6.10	Average premium size analysis	[16]	[3]	[0]
6.11	Lapse ratio analysis	[17]	[2]	[0]
6.12	Intermediary support (location, institution, broker/agent mix, etc.)	[16]	[3]	[0]
6.13	Broker commission account debts analysis	[11]	[5]	[2]
6.14	Agent commission account debts analysis	[13]	[1]	[4]
6.15	The number of brokers that are actively supporting office	[9]	[7]	[2]

	<u>Regularly</u> (i.e. Monthly/ Quarterly)	<u>Some- times</u>	<u>Never</u>
6.16 The number of agents employed	[14]	[0]	[4]
6.17 Ageing of policies in force analysis (e.g. average years in force)	[5]	[11]	[3]
6.18 A 3-5 year projection plan	[9]	[6]	[4]
6.19 Other (state): Expenses against budget analysis			[4]
Actual mortality experience			[3]

In general South African life offices place importance on regular analysis of their mix or distribution of products sold, the frequency of their premium payments (monthly, annually, etc.), the average premium size of policies sold, their lapse ratios, an analysis of which intermediaries are supporting them and where, an analysis of which brokers and agents have commission debts to them (usually as a result of lapses and commission advances) and, where applicable, the number of agents actively employed.

Little importance is placed on the monitoring of the marital status or occupations of lives assured or where they live. Nevertheless, a little importance is placed on their ages, sex, race and method of paying premium.

Whilst nearly half of respondents place importance on a regular review of a three to five year projection plan, the majority (10) either seldom or never refer to such a plan. In addition, the majority of respondents seldom or never refer to the average number of years their policies have been in force (ageing of policies in force).

A minority of respondents gave various other management reports as being used regularly and of these, four referred to a regular comparison of expenses to budget, and three referred to a regular review of actual mortality experience.

2. ADMINISTRATION

This question was divided into three parts. The first two deal with the objectives of life offices in responding to policyholder and intermediary enquiries and new business life assurance applications. The second part attempts to discover the level of computerisation of life offices and the use made thereof.

The questions sought to discover whether life offices placed more emphasis on responding to new business life assurance applications or to dealing with existing policyholder enquiries. They sought too to establish the extent to which life offices made use of main-frame computers in areas other than the simple maintenance of policyholder records, premium accounting and actuarial liabilities:

Question 7: Administration

Which of the following most characterises your company's administration objectives?

[NO. OF
RESPONSES]

7.1 Enquiries answered within:	
(a) 24 hours of receipt	[0]
(b) 2 working days of receipt	[11]
(c) 5 working days of receipt	[6]
(d) 14 working days of receipt	[1]
(e) other:	[1]
7.2 New business cases issued within:	
(a) 24 hours of receipt	[1]
(b) 2 working days	[6]
(c) 5 working days	[8]
(d) 14 working days	[3]
(e) other:	[1]

Whilst only one life office attempts to issue new business within twenty-four hours, the large majority of respondents [14] do not attempt to issue new business in under five working days, one of which has differentiated standards for different "parts of the business".

The majority of respondents attempt to deal with administrative enquiries within two working days of receipt [11] but eight offices will take five or more days, one of which will differentiate response times for different "parts of the business".

Question 7.3

Please tick the appropriate boxes:
The following functions are computerised within the company (or will be within twelve months):

	[NO. OF RESPONSES]		
	Main- frame	Mini/ PC	Not Compu- terised
(a) New business quotations	[10]	[4]	[5]
(b) Branch new business processing	[14]	[1]	[4]
(c) Risk underwriting of new business	[6]	[0]	[13]
(d) Policy Schedule/Document	[18]	[1]	[0]
(e) Premium accounting	[19]	[0]	[0]
(f) Lapse/Arrear premium notifications	[19]	[0]	[0]
(g) Actuarial values (loans, claims, etc)	[19]	[0]	[0]
(h) Actuarial liability valuations	[19]	[0]	[0]
(i) Investment department activities	[8]	[9]	[3]
(j) Policy file storage/access	[14]	[0]	[5]

	<u>Main- frame</u>	<u>Mini/ PC</u>	<u>Not Compu- terised</u>
(k) Company general ledger accounting	[15]	[2]	[2]
(l) Personnel records	[5]	[8]	[7]
(m) Personnel payroll	[11]	[5]	[3]
(n) Training/manpower development records	[3]	[7]	[9]
(o) Intermediary commission statements	[18]	[0]	[1]
(p) Other			

In general, it may be said that South African life insurers are highly computerised. This applies not only to their day-to-day life assurance business activities but also to the general administration of their companies such as investments, general ledger accounting, payroll, personnel and training records.

All respondents have their premium accounting records, claim values and actuarial liability records maintained by main-frame computer. Only two do not have their policy documentation and intermediary commission records maintained this way.

A large majority of respondents maintain main-frame network facilities for branch new business processing, policy file storage and access, and company general ledger accounting. It is, however, surprising that so many respondents have not yet computerised their personnel or training records and even more surprising that thus far so many have failed to introduce computerised risk underwriting processes.

3. REASSURANCE

This question sought to establish the methods by which life offices determined their level of risk retention for reinsurance purposes, and the forms in which reinsurance treaties most commonly appear. The intention was to establish whether or not life offices believe that they make use of a scientific basis of establishing their risk

retention levels, or whether these are determined by methods more traditionally applied. In addition, the questions were intended to discover the extent to which the more modern profit-sharing type of reinsurance has been adopted by the industry.

Question 8: Retention

Please indicate which of the following is most true for your company: (Tick no more than two in each column)

Retained assured amount per life is determined by:

		[NO. OF RESPONSES]	
		Ordinary <u>Business</u>	Group <u>Business</u>
8.1	Actuarial formulae/statistical analysis	[10]	[11]
8.2	Traditional reinsurance levels plus inflationary and growth considerations	[6]	[7]
8.3	Amount of surplus (estate and free reserves)	[8]	[6]
8.4	Amount of office assets	[1]	[0]
8.5	Amount of office premium income	[1]	[1]
8.6	Average new sums assured	[2]	[2]
8.7	Other	[1]	[1]

The majority of respondents [10] claim that they make use of actuarial formulae and statistical analysis in arriving at the reinsurance retention amounts which they apply to both ordinary business and group life assurance. At the same time, however, it seems that the same offices who claim to make use of actuarial formulae rely on traditional reinsurance levels, the amount of accumulated and undistributed surplus in the life office and, in two cases, on the average new sums assured of new business sold.

Question 9: Reassurance Arrangements

Please indicate which of the undermentioned are currently applicable to new business:

	[NO. OF RESPONSES]	
	Ordinary Business	Group Business
9.1 Coinsurance treaty	[5]	[5]
9.2 Risk premium treaty	[17]	[6]
9.3 Modified coinsurance treaty (modified risk premium)	[1]	[0]
9.4 Quota share treaty	[3]	[7]
9.5 Profit sharing treaty	[12]	[9]
9.6 Surplus reinsurance	[4]	[3]
9.7 Catastrophe reinsurance	[8]	[11]
9.8 Stop-loss reinsurance	[0]	[0]
9.9 Excess of loss reinsurance	[1]	[2]
9.10 Current treaties are with two or more life reinsurers	[11]	[8]
9.11 Any one current treaty is split between two or more reinsurers	[3]	[0]
9.12 A facultative <u>treaty</u> exists	[12]	[5]
9.13 Reinsurance is conducted with other direct life offices	[1]	[0]

The results of this question confirm the statements made in Chapter V about the growing popularity of risk premium and profit-sharing reinsurance arrangements. For ordinary business the overwhelming majority of respondents have risk premium treaties currently in force, coupled with a profit-sharing arrangement. A good number of them [11] support two or more life reinsurers in South Africa and a significant majority [12] have facultative treaty arrangements.

As far as group business is concerned, quota share/co-insurance treaties are more popular, but profit-sharing arrangements persist

with catastrophe reinsurance arrangements being popular [11]. Here again, life offices conducting group business support two or more South African life reinsurers and consider catastrophe reinsurance to be of greater importance than under ordinary business. (For a description of these various types of reinsurance see Chapter V.)

4. ACCOUNTING AND ACTUARIAL

The purpose of the questions in this Section was to establish the extent to which the accounting practices of life offices vary and therefore the extent to which their published results are comparable with one another. Similarly, the questions sought to identify differences in actuarial liability and asset valuation practices, and the frequency with which office results are measured.

Question 10: Accounting

Please indicate which of the following is true for your company:

		[NO. OF RESPONSES	
		True	Not True
10.1	Advanced commission written off in full each year	[9]	[]
10.2	Advanced commissions paid treated as loans to intermediaries (i.e. assets) wholly or in part	[13]	[]
10.3	Properties revalued in books:		
	monthly	[2]	[]
	annually	[10]	[]
	other	[9]	[]
10.4	Revenue accounts produced:		
	monthly	[11]	[]
	annually	[19]	[]
	other	[6]	[]
10.5	Balance sheet produced:		
	ly	[9]	[]
	ly	[19]	[]
		[4]	[]
10.6	Unclaimed policy benefits brought back into balance sheet wholly or in part	[12]	[]

	<u>True</u>	<u>Not True</u>
10.7 Reassurance commissions inwards set off against commissions paid as reflected in revenue account, wholly or in part	[11]	[]
10.8 Policy charges/fees set off against overheads as reflected in revenue account, wholly or in part	[7]	[]
10.9 Other acquisition costs included under 'commission' in revenue account	[4]	[]
10.10 Full actuarial valuation done:		
monthly	[0]	[]
annually	[18]	[]
other	[3]	[]
10.11 Analysis of actuarial surplus done:		
annually	[17]	[]
other	[2]	[]
10.12 Actuarial valuations take credit for expected future policy termination profits	[4]	[]
10.13 Actuarial valuations take credit for expected future management fees/policy charges	[11]	[]

Whilst nine respondents claim to write off all commission paid in full each year, thirteen claim to treat all or part of this commission as a loan to intermediaries and hold them as assets in their balance sheets. Four offices marked both of these first two questions as being true. Clearly, it is not possible both to write-off commissions in full and to hold all or part thereof as a loan to intermediaries. It is therefore assumed that the four offices concerned write their commissions off in full and maintain memorandum accounts of commissions advanced to intermediaries. It is nevertheless significant that a majority of respondents maintain intermediary debt balances as assets in their balance sheets.

With regard to the revaluation of properties, the majority of respondents indicate that revaluations are done annually but two of

these indicated that revaluations can take place on additional occasions as well such as on the sale of property by one internally managed portfolio to another within the same life office. Seven offices indicated that they do not revalue either monthly or annually but at other frequencies such as "when material" or "at the discretion of the board". Surprisingly, two offices claim to revalue properties monthly and at no other frequency.

Naturally, all respondents will produce revenue and balance sheet accounts annually. What was surprising from the regular management point of view was that two respondents claimed to produce revenue accounts once per annum only, and six at either quarterly or half-yearly intervals.

Six respondents claimed to produce balance sheets once per annum only, four at quarterly or half-yearly frequencies and only nine on a monthly basis. These are surprising findings. Effectively managing a life office where revenue accounts are produced quarterly or less frequently may prove difficult. Where revenue accounts are produced half-yearly or annually only, effective management must be well-nigh impossible.

A significant number of life offices indulge in the "window-dressing" activities of improving the appearance of their revenue accounts and balance sheets by such devices as setting reassurance commissions off against commissions paid [11], reducing overhead expenses by policy fees/charges collected [7], and by including "other" acquisition costs under "commission" in the revenue account [4].

An overwhelming majority of respondents claim to undertake both a full actuarial valuation [16] and analysis of actuarial surplus [17] annually. Only two respondents claim to undertake both of these activities at less frequent intervals.

Whilst only four respondents claim to take credit for expected future policy termination profits in their actuarial valuation of policyholder liabilities, the majority [11] claim to take credit for their expected future earnings by way of management fees and other policy charges.

5. INVESTMENT PRACTICES

The questions in this Section set out to discover the extent to which matching and immunisation type investment activity takes place, the manner in which investment decisions are arrived at, the extent to which 'option' trading has developed, the extent to which the theories of modern portfolio analysis are consciously applied, the emphasis placed today on the traditional elements of capital security, yield maximisation and portfolio liquidity, the importance placed on competitive portfolio performance, and the extent to which company directors and their resources are involved in the investment decision making process:

Question 11: Investments

The following questions refer to what you would regard as a "normal" level of investment activity, assuming that there are no extreme swings in business conditions generally.

Please rate your answers on a scale 1 - 5, where the rating is as follows:

- | | |
|-----------------|--|
| 1 - NEVER: | (unimportant) less than 10% of the time |
| 2 - SELDOM: | 10 - 25% of the time |
| 3 - OFTEN: | 25 - 75% of the time |
| 4 - VERY OFTEN: | 75 - 90% of the time |
| 5 - ALWAYS: | (very important) more than 90% of the time |

[NO. OF RESPONSES]

1 2 3 4 5

- | | | |
|------|---|-------------------------------|
| 11.1 | Matching/immunisation
type investment
activity | [3] [9] [4] [3] [0] |
| 11.2 | Investing for specific
portfolios (e.g. capital
guarantee or high
performance) | [3] [4] [3] [7] [2] |
| 11.3 | Transfer of assets between
internal portfolios | [10] [7] [2] [0] [0] |
| 11.4 | "Venture capital"
investments made | [12] [6] [1] [0] [0] |
| 11.5 | Option trading in gilts | [6] [5] [2] [2] [4] |

		[NO. OF RESPONSES]				
		1	2	3	4	5
11.6	Option trading in other (non-prescribed) fixed interest investments	[14]	[3]	[1]	[1]	[0]
11.7	Option trading - other	[16]	[1]	[1]	[1]	[0]
11.8	Investment in mortgage bonds	[13]	[5]	[1]	[0]	[0]
11.9	Investment in staff mortgage bonds	[6]	[5]	[5]	[1]	[2]
11.10	Use of economic model building/computer projections	[8]	[7]	[4]	[0]	[0]
11.11	Use of Beta analysis	[9]	[8]	[1]	[1]	[0]
11.12	Use of other volatility measurements	[1]	[6]	[7]	[3]	[2]
11.13	Application of modern portfolio theory	[6]	[4]	[5]	[3]	[1]
11.14	Planning of investment programme in advance of expected premium and investment income	[1]	[1]	[4]	[4]	[9]
11.15	Importance placed on security of capital - (general funds)	[1]	[1]	[4]	[4]	[9]
11.16	Importance placed on capital appreciation - (general funds)	[1]	[0]	[5]	[5]	[8]
11.17	Importance placed on security of income - (general funds)	[1]	[2]	[5]	[6]	[5]
11.18	Importance placed on rising income - (general funds)	[1]	[1]	[4]	[7]	[6]
11.19	Importance placed on yield maximisation - (general funds)	[1]	[1]	[4]	[3]	[10]
11.20	Importance placed on risk minimisation - (general funds)	[1]	[4]	[3]	[7]	[4]

		[NO. OF RESPONSES]				
		1	2	3	4	5
11.21	Importance placed on portfolio liquidity - (general funds)	[2]	[4]	[7]	[6]	[0]
11.22	Importance placed on marketability - (general funds)	[1]	[1]	[1]	[11]	[5]
11.23	Importance placed on portfolio diversification - (general funds)	[1]	[0]	[7]	[4]	[7]
11.24	Importance placed on ranking in independent portfolio surveys - (general funds)	[4]	[2]	[1]	[4]	[8]
11.25	Investments made for corporate strategic/marketing reasons	[5]	[7]	[6]	[0]	[1]
11.26	Importance placed on market information emanating from:					
	- Stockbrokers	[1]	[0]	[3]	[10]	[5]
	- Directors	[4]	[6]	[3]	[4]	[2]
	- Own analysts	[3]	[2]	[2]	[4]	[8]
	- Other	[]	[]	[]	[7]	[]
11.27	Importance placed on investment committee	[4]	[1]	[5]	[6]	[3]

An unexpected result here is the widely distributed range of answers pertaining to the matching and immunisation activities of respondents and their investing for specific portfolios to which their investment policies are linked. Whilst three respondents never indulge in matching and immunisation activities, another three very often do (75-90 per cent of the time). Nine offices seldom indulge in this activity, but another four often do. However, the majority [12] either very seldom or never indulge in the matching and immunisation activity. No respondents claim always to be involved with this activity and this seems to confirm the difficulties which life offices experience in attempting to match and immunise and which are referred to in Chapter X above.

The findings of Question 11.2 would seem to reinforce this as, although most life offices today undertake business which is linked to specific internally managed portfolios, only nine respondents invest for these specific portfolios more than 75 per cent of the time and seven make such investments less than 25 per cent of the time.

Whilst ten respondents claim never to make transfers of assets between their internally managed portfolios, nine admit to doing so from time to time, if not often.

As could be expected, considering the risk of such investments and the trust nature of life assurance investment funds, "venture capital" investments are seldom made [18].

It is apparent that the majority of respondents have not yet become accustomed to regular gilts option trading, and other option trading is almost unheard of. Apart from the usual staff mortgage bond activity, mortgage bonds in general are not considered attractive investments.

Significant in the findings of this question is the fact that respondents in general do not make use of economic model building and computer projections in their investment activities, neither do they use Beta volatility measurements or apply modern portfolio theory to their investment decisions. (Some claim to use other volatility measurements on occasion, but have not said what these are.)

The majority of respondents claim to plan their investment programme in advance of expected premium and investment income and to invest this money with emphasis on security of capital, capital appreciation, security of income, rising income, yield maximisation, risk minimisation and investment marketability. However, portfolio liquidity, whilst being of interest, is not given major significance.

Whilst the majority of respondents admitted to placing importance on their ranking in the various independent investment portfolio

performance surveys undertaken throughout the industry, it seems surprising that six respondents indicated little or no interest in such surveys, possibly demonstrating the fact that they operate in markets not subject or exposed to the results of such surveys.

Whilst the majority of respondents indicated that investments are seldom made for corporate strategic or marketing reasons, it is significant that seven offices indicated that they were either often or always engaged in such activity.

Questions 11.26 and 11.27 are most illuminating. Whilst it is not unusual for people to look to the directors of life offices when assessing the investment performance potential of such offices, it is enlightening to note just who it is that life offices feel are responsible for the formation of their investment decisions. By far the majority give the credit to stockbrokers, their own company analysts and their investment committees. Seven respondents also make use of other sources such as banks, merchant banks and international analysts but few give credit for investment input or decisions to their company directors.

6. PRINCIPAL FINDINGS OF THE SURVEY.

As far as is ascertainable, a survey as comprehensive as this has not been conducted in South Africa heretofore. Furthermore, the high percentage response obtained has served to enhance the reliability of the results. The findings of this survey are of considerable interest and not inconsiderable concern. Apart from the results and conclusions discussed above, a study of the Questionnaire results by an informed reader may reveal yet further results and trends leading to further conclusions. However, it may be said that the principal findings of this survey are as follows:

(i) Life offices are generally unclear as to their fundamental corporate objective. The most commonly identifiable corporate objectives are the often conflicting aims of maximising both the return on shareholder capital and benefits to policyholders. Whilst two proprietary offices indicated that their sole objective was to

maximise policyholder benefits, it would appear that the majority of proprietary offices vigorously attempt to find an equilibrium between shareholder profits and policy owner benefits. This is a perfectly logical conclusion considering the natural pressures from shareholders on the one hand and the competitive market pressures on the other. Free market economists would consider this an ideal mix of market forces, at least for proprietary offices where both these forces are at play.

Bernstein obtained similar results from his Questionnaire in 1975. Although only nine offices responded to his Questionnaire, Bernstein concluded that whilst all nine companies set corporate objectives, the format in which these appeared varied extremely widely, were not always published and were frequently unclear. The results of Question 1 seems to indicate that ten years later, and taken on a much larger sample, the situation with regard to the establishment of clear corporate objectives has not much improved.

(ii) It is clear from the research that few offices show little or no interest in maintaining or improving their share of the total South African life assurance market. In general, the growth of life offices is not constrained by a lack of capital (i.e. new business strain), and when arriving at their new business objectives, they do not look to their fundamental corporate objectives for guidance.

The findings of the first two questions taken together hold the most serious implications for the South African life assurance industry in the long term. For an industry to be generally unclear about its fundamental corporate objective and at the same time to have little or no interest in its market share or in the profit optimisation of its sales levels, must be a phenomenon unique in South Africa if not the world. (This finding seems further reinforced by the answer to Question 16.18 later in the survey: the majority of companies seldom or never use a three to five year projection plan and it is not clear exactly what considerations are given importance by those who do.)

(iii) Question 3 of the survey shows that life offices have generally clearly defined the market segments in which they operate and the profile of the market segment to which they wish to continue marketing.

When read in conjunction with the results of Question 2, this is a surprising finding. Whilst life offices have a clear idea of their market segment they make no attempt to measure the growth of this segment in establishing their corporate new business (sales) objectives, neither do they seem concerned about whether their share of these clearly defined segments is growing, stagnating or declining.

(iv) The survey has also revealed that the majority of life offices find it desirable to receive a balanced proportion of their new business from both brokers and their own agency forces. This result is understandable and not surprising. Large Sections of the South African broker market are known to be somewhat fickle and capable of switching their allegiance overnight. Maintaining a balanced proportion of new business from one's own agency force is therefore a good protection against the vicissitudes of this phenomenon.

Also significant is the fact that life offices are today prepared to engage in direct marketing activities. With the obvious success of various direct marketing activities by a few South African life offices, many more South African life offices no longer consider direct marketing to be undesirable or in conflict with the interests of their intermediaries.

(v) Life offices clearly consider that their product development is determined firstly by the demands of the South African market. The Marketing Committees of life offices are generally responsible for the development of new products and packages and very little market research is undertaken in this regard.

Considering that so little life assurance market research takes place in South Africa, it seems surprising that the research indicates that

offices feel that their new products are developed in reaction to market demands. If they do not experience these market pressures through market research, then they must surely feel them through the medium of their sales intermediaries who are constantly in contact with their markets. Here again, offices generally do not consider input from their sales teams as being important in the development of new products and packages. They must therefore consider that they obtain their information on market demands from some other source and that this information is used in the development of ideas by their Marketing Committees. As it is known that life offices undertake very little market research, it must be assumed that whether they are aware of it or not, in general they obtain their information on market demands via their intermediaries. This surprising lack of awareness of their actual source of information possibly stems from an absence of formal structures for the conveying of information from the marketing 'coal-face' to the company management. It seems probable that this transfer of information is taking place anyway, through informally developed structures and that members of the Marketing Committee who are exposed to this information transfer are bringing it with them to committee meetings. Whilst this system obviously appears to work, it would seem more efficient for life offices to establish formal structures for the gleaning and interpretation of market information and the subsequent development of new products and packages. At the very least, they should make themselves aware of the true source of their market information, whether this is their intermediaries or not.

(vi) The importance placed by life offices on the mix of their products sold, their average premium size, their persistency experience and which intermediaries sold them, is evident from the research. It is also clear that offices place little or no importance on the marital status of policyholders or where they live (geographical distribution). Some importance is placed on policyholder sex, race and the method of premium payments and offices are actively interested in the number of agents and brokers supporting them, who these intermediaries are and where they are located, and the extent to which these intermediaries are indebted to

them. Taken in the South African context and in the light of the known concerns of Black intermediaries and policyholders, it is surprising to note how few South African life offices take a regular interest in the race, occupation or residential address of their policyholders. These facts should serve to allay such fears and concerns in the future.

Offices do not appear to be interested in the average number of years a policy has been in force and from this it may be assumed that no interest is shown in the persistency experience of policies which have been in force for more than one year. It appears that the majority of offices take a regular interest in their first year lapse ratios and the factors which influence this figure such as product mix, average premium size, frequency and mode of payment. What is surprising is the low response to the other factors which have traditionally been considered to influence lapse ratios such as life assured age, sex, marital status and occupation. Perhaps it is generally felt that these factors no longer have the impact on persistency which they were once believed to have, or perhaps it is a question of this information not being readily available from the data bank of the respondents concerned.

(vii) Less than half of South African life offices make use of three to five year projection plans and this infrequent use is not surprising when considered in the light of the results of Questions 1 and 2.

(viii) The desire of offices to deal more expeditiously with administrative enquiries on existing business than in the issuing of new business cases may be surprising to some. The fact that so few offices indicate a desire to issue new business cases instantly or within twenty-four hours is even more surprising. This seems strange in light of the fact that in Question 7.3 (c), six life offices have indicated that they maintain main-frame computer risk underwriting facilities. In the absence of these survey results, one might have assumed that life offices in general would have found it easier and more desirable, both from the shareholder and

policyholder point of view, to issue new business with as little delay as possible rather than to place marginally more importance on answering administrative enquiries on existing business.

(ix) The overwhelming majority of South African life offices maintain or have access to main-frame computer facilities. It seems strange therefore that with all this computing power at their disposal, the majority of life offices should place so little importance on computerised risk underwriting and even less importance on new business quotations and branch new business processing and on computerised record keeping and administration. Offices appear to place more importance on main-frame computer record keeping than computerised new business quotations, processing and underwriting. They see little value in computerising personnel and training records, and investment operations. These findings confirm an apparently predominant view that the administration of existing business is deserving of more prompt attention than the acquisition and issuing of new business. This may mean that in general, South African life assurance policyholders have the advantage of enjoying at least as much attention as those who are not yet policyholders and whom the life office would wish to woo. (The same could probably not be said of the motor or house-hold appliance industries.)

(x) When considering their reinsurance retention levels, life offices claim to make use of actuarial formulae and statistical analysis. However, they also consider the amount of surplus and free reserves in their company together with their traditionally maintained reinsurance levels as major determinants of current retention limits. In light of the fact that there is no generally accepted actuarial standard for the calculation of retention limits, (See Chapter V above) and noting that respondents have placed much emphasis on the amount of office surplus and traditional reinsurance levels, it may be concluded that these two latter factors play a greater role in the determination of reinsurance and retention limits than offices fully realise or care to admit.

Nevertheless, all South African life offices, even the very largest,

maintain reinsurance treaties. These appear largely to be risk premium reinsurance treaties coupled with profit-sharing arrangements. Similarly co-insurance/quota share reinsurance arrangements together with profit-sharing and catastrophe reinsurance arrangements appear to be considered as most appropriate for group business reinsurance. These findings are not unexpected. As was seen in Chapter V above, risk premium treaty arrangements, coupled with profit-sharing arrangements provide life offices with optimum protection against mortality experience fluctuations at minimum cost. What is perhaps surprising is that of the seventeen respondents who have risk premium treaties for ordinary business, only twelve appear to have been able or willing to negotiate profit-sharing arrangements. It is also surprising that not more life offices consider group business catastrophe reinsurance a necessity. Even for the very largest life insurers, the risk of a catastrophe claim (e.g. aeroplane or bus crash in which many of the office's policyholders are killed simultaneously) having a major impact on company profitability, must be significant.

From the survey it is clear that offices generally support two or more life reinsurers and maintain facultative treaty arrangements. No stop-loss reinsurance is conducted and very little modified co-insurance and excess-of-loss reinsurance has been found necessary. Offices no longer conduct reinsurance business with each other and very few (three) have individual reinsurance treaties split between two or more reinsurers.

(xi) The responses to Question 10 show that life offices generally maintain intermediary debt balances as assets in their balance sheets, and revalue properties in their books at their own discretion, usually no less frequently than annually. Frequently "window-dressing" activities improve the appearance of the revenue accounts and balance sheets of offices and the widely differing practices which have been high-lighted by this question must make it obvious that comparing the results of competing life offices is well nigh impossible. Their different treatment of assets and actuarial liabilities show such wide variation that even the most informed

analyst would hesitate at attempting comparison or even at commenting on the true long-term solvency or profitability of any life office. Indeed, the true intrinsic value of the assets and liabilities of each life office can only be assessed by its actuary and chief executive. Only they, with their intimate knowledge of their respective office, can comment with any degree of confidence on such things as the likelihood of recovering intermediary commission debts, the likelihood of actually being able to realise properties at their book values, the likelihood of claims experience deteriorating, remaining unchanged or improving, and the likelihood of actually realising the future policy termination profits and management fees taken credit for in the valuation.

(xii) An item of serious concern is the surprising number of offices which do not see fit to produce revenue accounts and balance sheets on a monthly basis. Only half of the respondents produce revenue accounts and balance sheets monthly. The remaining half produce these at less frequent intervals. As monthly accounts are usually at least a month old when they are finally available, quarterly and half-yearly accounts mean that respectively four and seven months pass before management is aware of what was going on in the company over the respective periods. This can surely not be the best technique for office surplus maximisation.

(xiii) The last Section of the Questionnaire dealt with the investment practices of life offices and the manner in which investment decisions are arrived at. The results show that offices see little or no benefit in matching and immunising investment activity, have not yet developed their options trading expertise and do not consciously apply the theories of modern portfolio analysis, the use of economic model building, Beta analysis or the like. A more practical investment planning programme is entered into by the majority of South African life offices. This most often takes account of the traditional requirements for capital security and yield maximisation, whilst placing lesser emphasis on portfolio liquidity. Perhaps because of the relatively small and intimate nature of the South African investment market, the investment

activities of life offices appear to be predominantly practical rather than over-sophisticated and there seems little indication of offices consciously moving towards the area of modern portfolio theory in the foreseeable future.

(xiv) Public image with regard to investment portfolio performance is of concern to the majority of offices who rely greatly on stockbrokers and their own resources for investment information and decision making, rather than on their own directors. Bearing in mind what might be perceived by the public as the principal source of investment information and expertise in the majority of life offices, it is not clear precisely what contribution is being made to the development and profitability of life offices by the numerous non-executive directors seen on their boards. Apparently these persons and their resources are seldom, if ever, involved in the investment decisions of their offices.

(xv) The results of the survey, taken together with what has appeared throughout the rest of this work, are at once exciting and discouraging. For offices to have remained so surprisingly uncertain about their fundamental corporate objectives, to use such simplistic methods for arriving at new business targets, to be so completely unaware of the true source of their market information and to have so obviously lost sight of the value of their available computing power in the marketing arena, is discouraging and disquieting.

These facts notwithstanding, South African life offices show some truly exciting characteristics. They appear to desire a more prompt service to existing policyholders than to the issuing of new business cases and thereby offer the South African insuring public high quality after-sales service. This is further emphasised by the almost total dedication of high technology computers to this area. In addition, the highly individualistic and practical manner in which life offices approach the whole question of investment and their lack of control or influence by directors is highly commendable and must account, at least in part, for their generally outstanding results over long periods of time.

The empirical results, taken in the light of what appears in the other Chapters in this work, lead us to a distillation of the essence of the foregoing in the following Chapter.

APPENDIX: LIFE ASSURANCE QUESTIONNAIRE

I. CORPORATE POLICY

1. Corporate Policy:

Which of the following most characterises your fundamental corporate objective?

The optimisation/maximisation of:

- | | |
|--|-----|
| 1.1 Actuarial surplus/Company "Estate" | [] |
| 1.2 Gross ordinary premium | [] |
| 1.3 Gross pensions/group premium | [] |
| 1.4 Asset size | [] |
| 1.5 New business (sales) | [] |
| 1.6 Return of shareholder capital | [] |
| 1.7 Total investment yield | [] |
| 1.8 Security of capital | [] |
| 1.9 Policy owner benefits | [] |
| 1.10 Other (state): | [] |

2. New business:

Please indicate your prevalent considerations when arriving at corporate new business objectives: (Tick no more than two)

- | | |
|---|-----|
| 2.1 Percentage of increase over last year's new business | [] |
| 2.2 Percentage of expected total SA market (market share) | [] |
| 2.3 Percentage of expected expenses (e.g. improving expense ratios) | [] |
| 2.4 Maximum growth permitted by corporate financial structure (i.e. new business strain considerations) | [] |
| 2.5 Administrative capacity constraints | [] |
| 2.6 Required premium flow/asset growth | [] |
| 2.7 Surplus generation requirements | [] |
| 2.8 Other (state): | [] |

3. Marketing:

Which of the following most characterises your corporate marketing objectives?: (Tick no more than two)

- | | | |
|-----|--|-----|
| 3.1 | Establish most favourable public image across the whole spectrum of the S A market | [] |
| 3.2 | Establish most favourable public image in a specific segment/s of the S A market | [] |
| 3.3 | Provide policy benefits designed for the entire spectrum of S A needs | [] |
| 3.4 | Provide policy benefits for a specific segment/s of the S A market | [] |
| 3.5 | Provide policy benefits for specific S A needs | [] |
| 3.6 | Take account of competitor actions/reactions | [] |

4. Sales:

Which of the following most characterises your corporate sales objectives?: (Tick no more than two)

- | | | |
|-----|--|-----|
| 4.1 | Desire to achieve maximum percentage of sales through brokers | [] |
| 4.2 | Desire to achieve maximum percentage of sales through own agents | [] |
| 4.3 | Desire to achieve balance percentage of sales between agents and brokers | [] |
| 4.4 | All sales are made through brokers | [] |
| 4.5 | All sales are made through own agents | [] |
| 4.6 | Desire to make some sales directly to the public (e.g. direct mail) | [] |
| 4.7 | Desire to make no sales directly to the public | [] |
| 4.8 | Desire to make all sales directly to the public | [] |

5. Product development:

Which of the following most characterises present product/package introductions by your company?: (Tick no more than two)

New products introduced as a result of:

- | | | |
|------|---|-----|
| 5.1 | Independent research and development locally | [] |
| 5.2 | Independent research and development overseas
(state country): | [] |
| 5.3 | Ideas developed from sales team input | [] |
| 5.4 | Ideas developed from actuarial team input | [] |
| 5.5 | Ideas developed by Marketing Committee | [] |
| 5.6 | Ideas developed by advertising agency | [] |
| 5.7 | Ideas developed from market research in South Africa | [] |
| 5.8 | Ideas developed from competitor products | [] |
| 5.9 | Reaction to market pressure/demands | [] |
| 5.10 | Reaction to sales team demands | [] |
| 5.11 | Other (state): | [] |

6. Management information:

Please indicate which of the following information is used in company monitoring and/or management:

- | | <u>Regularly</u>
(i.e.
Monthly/
Quarterly) | <u>Some</u>
<u>Times</u> | <u>Never</u> | |
|-----|--|-----------------------------|--------------|-----|
| 6.1 | Mix of distribution of products
sold (endowment, term, etc)
analysis | [] | [] | [] |
| 6.2 | Life assured ages analysis | [] | [] | [] |
| 6.3 | Life assured sex analysis | [] | [] | [] |
| 6.4 | Life assured marital status
analysis | [] | [] | [] |
| 6.5 | Life assured race analysis | [] | [] | [] |

	<u>Regularly</u>	<u>Some Times</u>	<u>Never</u>
6.6 Life assured occupation analysis	[]	[]	[]
6.7 Life assured geographical distribution analysis	[]	[]	[]
6.8 Mode of premium payments analysis	[]	[]	[]
6.9 Frequency of premium payments analysis	[]	[]	[]
6.10 Average premium size analysis	[]	[]	[]
6.11 Lapse ratio analysis	[]	[]	[]
6.12 Intermediary support (location, institution, broker/agent mix, etc.)	[]	[]	[]
6.13 Broker commission account debts analysis	[]	[]	[]
6.14 Agent commission account debts analysis	[]	[]	[]
6.15 The number of brokers that are actively supporting office	[]	[]	[]
6.16 The number of agents employed	[]	[]	[]
6.17 Ageing of policies in force analysis (e.g. average years in force)	[]	[]	[]
6.18 A 3-5 year projection plan	[]	[]	[]
6.19 Other regular management information considered important (please state):			

.....

.....

.....

.....

II. ADMINISTRATION

7. Administration:

Which of the following most characterises your company's administration objectives?:

- 7.1 Enquiries answered within:
- (a) 24 hours of receipt []
 - (b) 2 working days of receipt []
 - (c) 5 working days of receipt []
 - (d) 14 working days of receipt []
 - (e) other (state): []
- 7.2 New business cases issued within:
- (a) 24 hours of receipt []
 - (b) 2 working days []
 - (c) 5 working days []
 - (d) 14 working days []
 - (e) other (state): []

7.3 Please tick the appropriate boxes:
The following functions are computerised within the company (or will be within twelve months):

	Main- frame	Mini/ PC	Not Compu- terised
(a) New business quotations	[]	[]	[]
(b) Branch new business processing	[]	[]	[]
(c) Risk underwriting of new business	[]	[]	[]
(d) Policy Schedule/Document	[]	[]	[]
(e) Premium accounting	[]	[]	[]
(f) Lapse/Arrear premium notifications	[]	[]	[]
(g) Actuarial values (loans, claims, etc)	[]	[]	[]
(h) Actuarial liability valuations	[]	[]	[]
(i) Investment department activities	[]	[]	[]

	<u>Main- frame</u>	<u>Mini/ PC</u>	<u>Not Compu- terised</u>
(j) Policy file storage/ access	[]	[]	[]
(k) Company general ledger accounting	[]	[]	[]
(l) Personnel records	[]	[]	[]
(m) Personnel payroll	[]	[]	[]
(n) Training/manpower development records	[]	[]	[]
(o) Intermediary commission statements	[]	[]	[]
(p) Other major areas (state):	[]	[]	[]

III. REASSURANCE

8. Retention:

Please indicate which of the following is most true for your company:
(Tick no more than two in each column)

Retained assured amount per life is determined by:

	<u>Ordinary Business</u>	<u>Group Business</u>
8.1 Actuarial formulae/statistical analysis	[]	[]
8.2 Traditional reinsurance levels plus inflationary and growth considerations	[]	[]
8.3 Amount of surplus (estate and free reserves)	[]	[]
8.4 Amount of office assets	[]	[]
8.5 Amount of office premium income	[]	[]
8.6 Average new sums assured	[]	[]
8.7 Other (state):	[]	[]

9. Reassurance arrangements:

Please indicate which of the undermentioned are currently applicable to new business:

	<u>Ordinary Business</u>	<u>Group Business</u>
9.1 Coinsurance treaty	[]	[]
9.2 Risk premium treaty	[]	[]
9.3 Modified coinsurance treaty (modified risk premium)	[]	[]
9.4 Quota share treaty	[]	[]
9.5 Profit sharing treaty	[]	[]
9.6 Surplus reinsurance	[]	[]
9.7 Catastrophe reinsurance	[]	[]
9.8 Stop-loss reinsurance	[]	[]
9.9 Excess of loss reinsurance	[]	[]
9.10 Current treaties are with two or more life reinsurers	[]	[]
9.11 Any one current treaty is split between two or more reinsurers	[]	[]
9.12 A facultative <u>treaty</u> exists	[]	[]
9.13 Reinsurance is conducted with other direct life offices	[]	[]

IV. ACCOUNTING AND ACTUARIAL PRACTICES

10. Accounting:

Please indicate which of the following is true for your company:

	<u>True</u>	<u>Not True</u>
10.1 Advance commission written off in full each year	[]	[]
10.2 Advanced commissions paid treated as loans to intermediaries (i.e. assets) wholly or in part	[]	[]

		<u>True</u>	<u>Not True</u>
10.3	Properties revalued in books:		
	monthly	[]	[]
	annually	[]	[]
	other (state)	[]	[]
10.4	Revenue accounts produced:		
	monthly	[]	[]
	annually	[]	[]
	other (state):	[]	[]
10.5	Balance sheet produced:		
	monthly	[]	[]
	annually	[]	[]
	other (state):	[]	[]
10.6	Unclaimed policy-owner benefits brought back into balance sheet wholly or in part	[]	[]
10.7	Reassurance commissions inwards set off against commissions paid as reflected in revenue account, wholly or in part	[]	[]
10.8	Policy charges/fees set off against overheads as reflected in revenue account, wholly or in part	[]	[]
10.9	Other acquisition costs included under 'commission' in revenue account	[]	[]
10.10	Full actuarial valuation done:		
	monthly	[]	[]
	annually	[]	[]
	other (state):	[]	[]
10.11	Analysis of actuarial surplus done:		
	annually	[]	[]
	other (state)	[]	[]
10.12	Actuarial valuations take credit for expected future policy termination profits	[]	[]
10.13	Actuarial valuations take credit for expected future management fees/policy charges	[]	[]

V. INVESTMENT PRACTICES

11. Investments:

The following questions refer to what you would regard as a "normal level of investment activity, assuming that there are no extreme swings in business conditions generally.

Please rate your answers on a scale 1 - 5, where the rating is as follows:

- | | |
|-----------------|--|
| 1 - NEVER: | (unimportant) less than 10% of the time |
| 2 - SELDOM: | 10 - 25% of the time |
| 3 - OFTEN: | 25 - 75% of the time |
| 4 - VERY OFTEN: | 75 - 90% of the time |
| 5 - ALWAYS: | (very important) more than 90% of the time |

		1	2	3	4	5			
11.1	Matching/immunisation type investment activity	[	]	[	]	[	]	[	]
11.2	Investing for specific portfolios (e.g. capital guarantee or high performance)	[	]	[	]	[	]	[	]
11.3	Transfer of assets between internal portfolios	[	]	[	]	[	]	[	]
11.4	"Venture capital" investments made	[	]	[	]	[	]	[	]
11.5	Option trading in gilts	[	]	[	]	[	]	[	]
11.6	Option trading in other (non-prescribed) fixed interest investments	[	]	[	]	[	]	[	]
11.7	Option trading - other state:	[	]	[	]	[	]	[	]
11.8	Investment in mortgage bonds	[	]	[	]	[	]	[	]
11.9	Investment in staff mortgage bonds	[	]	[	]	[	]	[	]
11.10	Use of economic model building/computer projections	[	]	[	]	[	]	[	]
11.11	Use of Beta analysis	[	]	[	]	[	]	[	]
11.12	Use of other volatility measurements	[	]	[	]	[	]	[	]
11.13	Application of modern portfolio theory	[	]	[	]	[	]	[	]
11.14	Planning of investment programme in advance of expected premium and investment income	[	]	[	]	[	]	[	]
11.15	Importance placed on security of capital (general funds)	[	]	[	]	[	]	[	]
11.16	Importance placed on capital appreciation (general funds)	[	]	[	]	[	]	[	]

		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
11.17	Importance placed on security of income (general funds)	[	]	[	]	[
11.18	Importance placed on rising income (general funds)	[	]	[	]	[
11.19	Importance placed on yield maximisation (general funds)	[	]	[	]	[
11.20	Importance placed on risk minimisation (general funds)	[	]	[	]	[
11.21	Importance placed on portfolio liquidity (general funds)	[	]	[	]	[
11.22	Importance placed on marketability (general funds)	[	]	[	]	[
11.23	Importance placed on portfolio diversification (general funds)	[	]	[	]	[
11.24	Importance placed on ranking in independent portfolio surveys (general funds)	[	]	[	]	[
11.25	Investments made for corporate strategic/marketing reasons	[	]	[	]	[
11.26	Importance placed on market information emanating from:					
	stockbrokers	[	]	[	]	[
	directors	[	]	[	]	[
	analysts	[	]	[	]	[
	other (state):	[	]	[	]	[
11.27	Importance placed on investment committee input	[	]	[	]	[

CHAPTER XII

MANAGEMENT AND THE ASSURANCE INDUSTRY: A SUGGESTED APPROACH

A distillation of the essence of the foregoing research and analysis has been written into a few succinct pointers which may give direction to life office management. Greater detail of what is meant in each case may be obtained by reference to the relevant Chapters.

1. SETTING OBJECTIVES AND YARDSTICKS

From the point of view of management Chapter IV is a crucial Chapter. Here the importance of setting clearly defined objectives and of establishing the means for measuring progress towards their attainment are extensively discussed. From the survey results in Chapter XI, it seems that South African life office managers have much need not only of fixing in their minds clear statements of their corporate objectives but also of conveying these to their staff. They have need too, of establishing regular (preferably monthly) means of measuring progress towards the achievement of these objectives, which should, inter alia, be stated in terms of new business, persistency, manpower and expense targets, as well as administrative volumes and turn-around times.

Chapter IV also demonstrates that life offices have need of a long-term surplus projection plan in order to reduce the danger of directors and management making major decisions based solely on short-term (2-3 years) results and considerations. To attempt to manage life offices without such long-term projections is much more dangerous than for ordinary companies and cannot be conducive to the optimisation of life office profitability in the long term.

2. MARKETING ESSENTIALS

Important in the day to day management of a life office is the existence of formal conduits for the rapid and accurate transfer of market information to the relevant company personnel. This is essential for the effective development and promotion of products and packages demanded by the market from time to time. The informal arrangements which seem to surround this problem in the majority of cases are not appropriate to the achievement of the apparently dual principal corporate objectives of optimising both policyholder benefits and shareholder profits.

Similarly, there is a need for the greater use of the available computing power of life companies as a marketing tool. Rather than using this power purely in the accounting and administration fields, greater use can and should be made of it in the areas of new business promotion, information and service, as well as in the training and development of all staff.

3. REASSURANCE ARRANGEMENTS

The second most important Chapter in this work is Chapter V. Herein is contained the wide range of profit improvement opportunities offered by reinsurance and the reinsurers' expertise. As stated in the Chapter, reinsurance greatly widens the area for manoeuvrability of all life offices whether they be large or small. Apart from it being the great leveller which permits all offices to operate on an equal footing, the prudent life office manager may find within the reinsurance spectrum opportunities which can give him considerable advantages over his competitors.

4. ACCOUNTING AND ACTUARIAL PRACTICES

In the modern rapidly changing and highly competitive life assurance market, life offices can no longer afford to extract revenue accounts and balance sheets at annual, half-yearly or quarterly intervals. Monthly accounts are vitally important to steer the accurate course referred to in Chapter IV, Section 2 (a). The life office "spacecraft" needs frequent and regular minor adjustments to

its course if it is to remain within the very narrow corridor of its optimum flight path. The larger adjustments which almost always need to be made to the day to day management items when results are monitored less frequently than monthly, consume much more energy and capital and can have very deleterious effects on long-term profitability.

Similarly, the ideal of every life office should be to produce actuarial valuations of policyholder liabilities more frequently than annually. The more frequently these are produced together with an analysis of the source of emerging surplus and the profitability of individual products, the more accurately the office can be guided and hence the more profitably it can be managed.

5. INVESTMENT OPERATIONS AND MANAGEMENT

Apart from underwriting standards, premium persistency and expense control, management should not lose sight of the major contribution to office profitability which can be made by the investments department. As discussed in Chapter IV, Section 2 (c), the investment portfolio performance of a life office will have a direct and immediate impact on its generation of surplus. Indeed, depending on the mix of shareholder to policyholder funds in the balance sheet, and the nature of the product contracts and policy mix, the investment operations of a life office can frequently be the major determinant of its profitability. Here regular (monthly) measurements on agreed bases against agreed indices and targets will prove both useful and necessary. In addition, the involvement of non-executive directors in investment decision-making should be kept to a minimum. This is in the interests of unbiased thinking and promptness of decisions. Those offices which have to await monthly or even weekly "Investment Committee" meetings in order to take major decisions will find their investment results affected accordingly, particularly during sudden and violently varying markets such as the events on the Johannesburg Stock Exchange in October and November 1987. An understanding of the concepts set out in Chapters VIII, IX and X will prove both useful and necessary in this field of ever increasing importance to life offices.

GLOSSARY OF LIFE ASSURANCE TERMINOLOGY

A.

Accident Benefits -
an additional sum assured, usually payable only in the event of accidental death or accidental loss of eyes or limbs or parts thereof.

Actuarial Reserve/Liability -
the reserve or liability a Life Office has to establish, in terms of the second schedule of the Insurance Act in respect of the future payment of currently unmatured policies.

Actuary -
an expert who applies the mathematical doctrines of compound interest and probability to statistics from which life assurance and allied matters derive their principles of operation. In South Africa, Section 1. of the Insurance Act defines an Actuary as a Fellow of the Institute of Actuaries of England or of the Faculty of Actuaries in Scotland or the Society of Actuaries of America or of any other Institute, Faculty, Society or Chapter of Actuaries approved by the Minister of Finance.

Age -
the age normally used for premium calculations is age next birthday, being the operative age at the inception of the Life Assurance policy.

Agent -
person acting as intermediary between the life to be assured and only one Life Office. Such persons may or may not be considered to be employees by the Life Office concerned, but in terms of the Insurance Act they are not permitted to represent more than one Life Office and by virtue of this fact, they may receive part of their remuneration other than in the form of direct commission earnings on their life assurance sales.

Account Executive -
See Broker Consultant/Inspector.

Allocation Amount -

the portion of the premium for a linked assurance plan that is notionally invested on behalf of the policy owner and which gives rise to the eventual loan, surrender, death claim and maturity values. The allocation amount is sometimes contractually stipulated in the policy document and due to high acquisition costs of new business and 'front-end' loading, is frequently less in the first policy year or two than in subsequent policy years.

Ancillary Benefits -

additional or supplementary benefits added to basic endowment, whole life or term assurance policies and designed to provide cover in the event of occurrences other than natural death. The most common of these are accident benefits, capital disability benefits, waiver of premium benefits, guaranteed insurability benefits and dread disease benefits.

Annuitant -

person in receipt of an annuity.

Annuity -

a contract providing for periodic payment to be made to the annuitant by the Life Office in return for a lump sum investment. Payments may be made for a fixed period, for the life of the annuitant, or for a certain minimum period and thereafter for the life of the annuitant.

Acquisition Expenses -

commission, medical costs, underwriting, stamp duty, administration and other costs incurred when selling and issuing a new policy.

Assurance -

a word seldom used outside British areas of influence. It is commonly used to denote long-term insurance or insurance to indemnification against an event (death) which will certainly occur but at some unknown future date. In many countries it is either no longer used or has become interchangeable with the word 'insurance'.

Assured (the) -

see Life Assured.

B.

Bonus -

additions -

a share of surplus allotted to holders of conventional with-profit policies, usually in the form of additions to the sum assured.

compound -

new bonuses compounded each year upon the previous total bonuses or total sums assured.

declaration -

policyholders are notified of bonus declarations once the results of the valuation are known and the amount of the emerging surplus which is to be allocated to their policies has been determined by the Directors of the Life Office.

loading -

the extra premium payable by a with-profit policyholder for the right to participate in Company profits.

rate -

bonuses are expressed as a rate of the sum assured e.g. R40 per R1 000 sum assured or R40 per mille.

reversionary -

this kind of bonus reverts to the sum assured, vests in the policy once declared and is usually payable in the same circumstances as the basic sum assured.

terminal/capital/final/Tontine -

once declared, do not vest as part of the sum assured and may be altered at any time in the future. These bonuses are payable only in the event of death or maturity. At no time do they ever form part of the surrender or loan value of the policy on which they are declared.

Broker -

an independent or 'free-lance' intermediary able to represent more than one Life Office and remunerated solely by statutorily regulated commission on his life assurance sales. In terms of Regulations 28 and 29 of the Insurance Act, he receives no other material remuneration or enrichment from the Life Offices either in the form of cash or kind.

Broker Consultant/inspector -

a full-time employee of a Life Office who acts as the link between the Broker and the Life Office and whose main functions include keeping the Broker advised of developments in the Life Office and in the industry as a whole, the supply and collection of life assurance application forms, medical

examination reports and similar items, the provision of a policy enquiry and servicing function and the active encouragement of the Broker to support his or her employing Life Office.

C.

Capital Disability -
an ancillary benefit designed to pay the basic sum assured under the policy to which it is attached in the event of total and permanent disablement prior to the expiry of the term of the benefit. Sometimes referred to as "Advance Payment Disability Benefits" or "Accelerated Death Benefits".

Catastrophe Reassurance -
reassurance providing that, if as a result of a single catastrophe more than a specified number of claims are lodged exceeding in aggregate the agreed catastrophe limit of the ceding office, the reinsurer will be liable for a specified proportion of the excess loss.

Claim Value -
the amount payable under a policy on the death or disability of the life assured, or upon surrender or maturity thereof.

Closed Fund -
a life assurance fund into which no further new business is to be written.

Commission -
basic -
the monetary reward paid to the intermediary on the introduction of new life business. Usually expressed as a percentage of the total annual premium.

initial -
commission paid on the first year's premium.

renewal -
commission paid on subsequent years' premiums.

overriding -
usually paid to the field staff of Life Offices and expressed as a percentage of the initial and renewal commission payable to the agents or brokers falling under such staff.

Consultant -
see Agent.

Contract -
see Policy Document.

Conventional Business -
term applied to traditional with-profit and non-profit
business as distinct from the more modern linked assurance
business.

D.

Days of grace -
period during which a policy is kept in full force and effect
pending receipt of over-due premiums.

Decreasing Term Assurance -
a form of term assurance under which the sum assured decreases
during the term of the policy.

Deferred Annuity -
annuity in terms of which the first payment is delayed for a
predetermined length of time.

Deficit -
occurs when the total value of a Life Office's assets is less
than the value of its liabilities, as determined by the
valuator. An operating deficit is the excess of the increase
in the value of liabilities over the increase in the value of
assets during a given year.

Discontinuance -
policies discontinued due to lapse, surrender, death,
disability, maturity or expiry.

Document -
see Policy Document.

Domestic Insurer -
registered insurer with Head Office in the Republic of South
Africa.

Direct Disease Benefits -
an ancillary benefit providing for the accelerated payment of
all or part of the sum assured of the basic plan to which it
is attached, in the event of the assured suffering from one of
the "dread diseases", such as a heart attack, stroke, cancer
or other disease or occurrence stipulated in the policy
document.

E.

Endowment -

policy under which benefits are payable on death or a predetermined date, whichever occurs first, and under which early loan, surrender and collateral security values arise. May be linked or conventional business.

Equity Linked Policy -

see Linked Policy.

Estate -

the value of reserves, both hidden and disclosed, of a Life Office. It is the difference between the total net value of its assets and its liabilities as calculated on what is considered to be a current and realistic basis, and not simply on the static statutory valuation basis.

Exterpolate -

the process of obtaining a further series of values which lie outside of the range of a known series. This is as opposed to interpolation, the process of finding intermediate values within the range of a known series.

F.

Facultative Reassurance -

see Reassurance.

Foreign Insurer -

a registered insurer other than a Domestic Insurer.

Front-End Loading -

the practice of recovering from initial premiums all commissions and initial expenses incurred in the acquisition of a policy, resulting in there being no allocation amounts available until all such expenses have been recovered.

Funeral Policy -

a policy under which the benefits are limited to a certain maximum in terms of Section I. of the Insurance Act. This type of policy must provide principally for the provision of the funeral of the assured or the funeral of, or some other non-monetary benefit to, any other person.

G.

General Insurance -
non-life or short-term insurance other than life assurance.

Grantee -
policy owner who may or may not be the life assured.

Group Business -
usually refers to life assurance schemes which cover groups of people rather than individuals. Pensions business is often also included here.

Guaranteed Assurability Benefits/Guaranteed Insurability Benefits -
an ancillary benefit providing the option to effect certain pre-determined additional amounts of sum assured at given future intervals, without the necessity of the life assured having to provide the evidence of health and/or insurability that would otherwise normally be required.

I.

Immunisation -
an attempt at matching the assets of a Life Office to its liabilities in such a manner that the business is made immune to investment climate fluctuations, and so that changes in the value of the underlying assets are accompanied by a corresponding change in the value of the liabilities.

Income Security Plan -
see Permanent Health Insurance.

Industrial Insurance -
insurance business, other than funeral business, under which the insurer assumes similar obligations to life business but where the sums assured do not exceed certain statutory minimums laid down in Section I. of the Insurance Act.

Inspector -
see Broker Consultant/Inspector.

Insurance -
non-life short-term insurance where indemnification is against events which may or may not take place in the future.

Insurance Act -
the Insurance Act No. 27 of 1943 as amended.

Intermediary -
an introducer of new life assurance business who may be either
an Agent or a Broker.

Internal Investment Portfolio -
specific group of investments held by the life office
separately from their other assets, usually for purposes of
establishing the benefits to be attributed to linked policies.

Investment Portion -
see Allocation Amount.

L.

Lapse -
the cessation of benefits as a result of the non-receipt of
premium payments.

Level Premium -
identical premiums payable for the duration of the term of the
policy.

Liabilities -
see Actuarial Reserve/Liability.

Life Assured -
a natural person on whose life expectancy premiums are
calculated and on whose subsequent actual life experience
benefits are paid.

Life Business -
the business under which a Life Assurer, in return for the
payment of premiums, assumes an obligation to pay certain sums
of money in the event of the death, disability or survival of
the life assured, and excludes Industrial and Funeral
business.

Life Fund -
often referred to as an 'accounting artifice'. The
'balancing' item on the liability side of a life office
balance sheet, it merely reflects the accumulated balance of
all previous revenue accounts.

Life Office -
Life Assurance Company transacting life business.

Life Offices' Association -
a voluntary association of Life Offices formed to standardise general practice, to protect and advance the overall interests of the Life Assurance Industry, and to act as spokesman for the Industry in the public and private sectors.

Linked Policy -
a contractual systematic savings contract under which life cover is usually provided and under which a part of the premium paid is allocated to, or deemed to be allocated to, a given real or notional internal investment portfolio. This business is sometimes known as investment-linked or unit-linked business.

Loan Value -
the amount which may be borrowed by a policyholder from a life office against the security of a policy issued by that office. Loan value is usually determined as being a percentage of surrender value.

Long-Term Assurance Business -
any life, industrial or funeral business.

M.

Managed Portfolio -
also known as a "Balanced" or "Mixed" portfolio. Investment portfolio managed by a life office's investment team with a view to optimising yields from a mix of investments changed at their discretion.

Management Fee/Levy/Charge -
that part of the investment income and/or capital appreciation of the funds invested on behalf of 'linked' policyholders which is retained by the life office as a fee for its management service and as a contribution to its profits.

Matching -
investing so as to obtain a distribution of assets, making them as vulnerable as the liabilities which they underwrite, to those investment climate influences that affect both.

Mortality Profits -

profits arising from the actual death and disability claims experience being lower than that anticipated in the premium rates.

Mortality Table -

table showing mortality of lives by age group. In the first few years after the commencement of the life assurance policy, mortality experience is usually lighter than for lives which have been assured for a longer period of time.

Such a mortality table is known as a "select" lives table and is usually the basis for the calculation of premium rates. Other lives are said to experience "ultimate" mortality and are reflected on an "ultimate" mortality table.

Mutual Company/Society -

Life Offices in which there are no shareholders. Policyholders are theoretically the sole owners of all assets and profits, and are in control of management.

N.

New Business -

usually refers to the premium income emanating from new policies sold by the Life Office's intermediaries.

New Business Strain -

when new business is sold, the expenses incurred, commissions paid, and possible death claims arising, plus the statutory actuarial reserve required to be set up, usually exceed premiums received for the first year or two of the life of a new policy. This financial strain experienced by all life offices is commonly known as "new business strain".

Non Forfeiture -

a provision usually contained in whole life and endowment type assurance contracts, under which premiums remaining unpaid at the end of any period of grace are automatically advanced against the surrender value of the policy for as long as such value pertains.

Non-profit Business -

policies not participating in the profits of the Life Office. Sometimes known as without-profit or non-participating contracts.

P.

Paid-up Policy -

on premature discontinuance of premiums, a policy is kept in force for a reduced sum assured. Usually entails loss of any attaching ancillary benefits and a reduction in sum assured.

Part One Assets -

defined in Part I of the Third Schedule of the Insurance Act, these are approved or prescribed securities which must be held by a Life Office.

Per Mille -

per thousand.

Permanent Health Insurance (PHI) -

a kind of Term Insurance Plan which never accumulates any encashment values, designed to secure a regular income (usually monthly) for the insured in the event of temporary or permanent disablement as a result of either accident or illness. Some plans may be "cancellable" in the event of poor claims experience. Others are issued as "non-cancellable". Benefits are usually payable only after a given period of recognised disablement (usually 1, 3, 6 or 12 months) and cease on the recovery of the assured or on the attainment of a given age (usually 55, 60 or 65).

Policy Document -

the document or contract which sets out the terms and conditions upon which a life insurer has accepted a given risk, and under which he will recognise a claim, and under which certain benefits will be paid.

Policy Fee -

amount added to the basic premium in order to cover certain policy administration expenses. Usually a fixed amount independent of policy size.

Policy Holder -

commonly refers to the owner of a life assurance policy who is frequently, but not necessarily, the life assured under that policy.

Premium -

total amount paid by policy owner for the benefits described in the policy document.

Premium Rate -
see Rate.

R.

Rate -
the cost per mille of sum assured for a given benefit at a given assured age.

Reassurance -
that part of the sum assured under any contract issued by a Life Office which will be borne by another Life Assurance Office or specialist Reassurer in the event of a death, disability, or other ancillary benefit claim being admitted.

Treaty -
reassurance automatically effected on groups of policies in accordance with a pre-arranged treaty or agreement between a life office and a reinsurer.

Facultative -
reassurance effected on an individual case for case basis, usually because they are assessed to have unusual or substandard risks attaching and are therefore unable to be reassured in terms of any reassurance treaty.

Reassurer -
person or company accepting all or part of a risk initially insured by another party. Commonly refers to those companies which are specialists in reassurance and which transact no direct life assurance.

Reinsurer -
see Reassurer.

Renewal Expenses -
costs incurred in the on-going administration and maintenance of a policy.

Release of Reserve -
occurs when a policy for which a reserve has been created lapses or is paid out on surrender, death, disability or maturity. The amount of reserve held is usually greater than the amount paid out. This means that on release of reserve, the office concerned usually realises a profit or surplus.

Representative -
see Agent.

Retention -
that part of the sum assured of a contract issued by a Life Office which will be borne entirely by the same Life Office in the event of a claim being admitted.

Retirement Annuity -
policy providing for the accumulation of a fund to provide certain lump sum benefits and an annuity on retirement or prior death. This policy is constructed in the same way as an endowment plan but has different part I asset requirements, benefit rules and tax provisions.

Retrocession -
the process by which a reinsurer will in turn reinsure part of its own business with another reinsurer or direct writing life office.

S.

SA 1956 - 1962 -
the most recently published mortality table in South Africa setting out the result of a study of South African assured lives between the years 1956 and 1962. Current information indicates that mortality rates in South Africa have not significantly changed since publication of these tables.

Short-Fall -
see Deficit.

Short-term Insurance Business -
any insurance business other than life or retirement (long-term) business or compulsory third-party insurance. Commonly refers to the insurance of property or personal accidents only.

Stop-Loss Reassurance -
a reinsurance under which the reinsurer's liability commences when the aggregate claims experienced by the ceding office on the entire reassured portfolio exceed a pre-determined level.

Substandard Reassurance -
the reinsurance of sub-standard risks on lives considered to be impaired due to ill health or dangerous occupations or recreations.

Substandard Risks -
contingencies which are assessed as having a higher than
normally anticipated probability of occurrence.

Sum Assured -
amount payable in the event of a claim arising in terms of the
policy benefits. For this purpose claim includes death,
disability and maturity, as well as occurrence of the
specified events under any ancillary benefit provisions.

Supplementary Benefits -
see Ancillary Benefits.

Surplus -
difference between Life Office total assets and its total
liabilities. An operating surplus arises in a given year if
the increase in the value of the Life Office's assets in one
year exceeds the increase in the value of its liabilities in
the same year.

Surrender -
an action taken by the policy owner to cancel the contract of
assurance and to withdraw any remaining surrender value cash
benefits.

Surrender Value -
cash value of an endowment or whole life policy when
discontinued by the policy owner. Surrender values are
usually attained only after two or three years' premiums have
been paid and represent the full accumulated cash value less
the expenses incurred by the Life Office which would usually
have been amortised over the premium paying term of the
policy.

T.

Term Assurance -
a low premium policy designed to provide only death and
optional ancillary benefit cover during a specific period of
time. Premiums are low as no investment amount is included,
therefore no loan, surrender, paid-up, or maturity values
arise.

Terminal Bonus -
see Bonus.

U.

Unbundled -

describes the separation of the investment and life cover portions of a policy. This term is frequently used with reference to 'Universal' life policies.

Underwriting Profits -

see Mortality Profits.

Universal Life Policy -

special form of endowment or whole life plan with flexible maturity dates and flexible combinations of life cover and investment (allocation) portions.

V.

Vesting -

bonuses or dividends are said to "vest" when, once declared, they cannot be reduced or altered in any way. Life Offices often allow themselves great flexibility by vesting part of their bonus declaration (usually reversionary bonuses or income dividends) but allowing themselves to be able to declare the other portion of bonuses (terminal/capital/tontine) or dividends on a widely fluctuating and possibly negative basis.

Valuation -

the determination of the Actuarial liabilities arising from the in-force policies of a life insurer on a basis not less than that laid down by the Insurance Act.

Valuator -

the actuary appointed in terms of the Insurance Act responsible for performing the valuation.

W.

Waiver of Premium Benefits -

a kind of capital disability benefit which provides for the waiver of premiums during the balance of the term of any policy on the recognised permanent disablement of either the life assured or payor of premiums.

Whole Life -
a permanent assurance under which the sum assured is payable only on the death of the life assured. Premium payments may be required for the entire life-time of the life assured or may be limited to the attainment of a given age (often 65 years old).

With-Profit Business -
policies that participate in the declared profits of the Life Office.

Z.

Zillmer -
the initial expense allowance used in policy actuarial liability valuation calculation.

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