CHAPTER 3

LIFE INSURANCE - A PRODUCT INTRODUCTION

Learning Outcomes

When you have completed this chapter you will be able to

- explain how the concept of probabilities has an impact on the establishment of a usable mortality table and the determination of a life insurance premium;
- discuss the impact of AIDS on future mortality rates;
- identify the main expenses that need to be considered when a life insurance premium is being determined;
- explain the purpose of a valuation and briefly describe the two methods of doing a valuation;
- list and briefly describe the possible sources of a surplus when a valuation is undertaken;
- describe how, with profit, policyowners can share in the surplus established after a valuation;
- briefly describe how the owners of linked policies share in the investment returns of an insurer;
- describe, in some detail, how the universal concept works;
- discuss the implications of a possible negative review to the owner of a universal policy;
- list and briefly describe the other main types of policies that are still within the portfolios of most life insurers.

3.1 THE PRINCIPLES OF LIFE INSURANCE

3.1.1 UNDERSTANDING INSURANCE

An insurance policy is the promise by the insurance company to pay the proceeds of a policy at a definite date or on the occurrence of a specified event, according to the written conditions stipulated in the policy contract.

The premium is the amount paid to the insurer for the benefits provided under the policy contract. It is important that one understands certain basic elements and principles involved in insurance in order to decide on the correct policy needed to solve a particular life insurance problem.

3.1.2 TYPES OF LIFE INSURANCE

Historians of life insurance record that the earliest policies were issued only for one year. Later, long term whole life and endowment insurance policies were introduced. Premiums were since then payable at yearly, half-yearly, quarterly or monthly intervals.

Life insurance policies usually fell into two main classes:

- with profit or participating policies; or
- without profit or non-participating policies. The only non-profit long term policies that are still available in South Africa are term insurance policies and special risk policies such as hospital cash plans.

Term insurance

Term insurance is the simplest type of life insurance policy issued. The period of the policy is limited to a definite term, usually an agreed number of years, and the sum insured is payable only if death occurs within that term. In a term contract there is no element of investment, and the premium theoretically covers only current insurance protection and expenses. These policies are always issued without profits.

Term insurance, as an independent policy, is no longer widely offered on a level monthly premium basis in South Africa.

Reasons for this include:

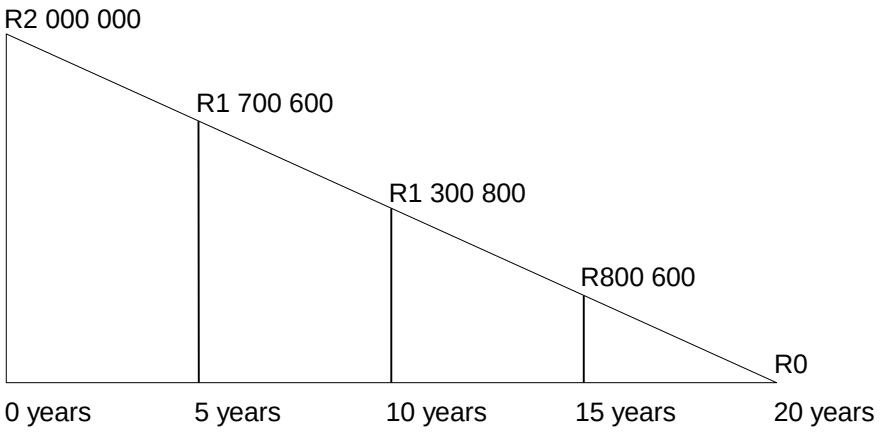
- the fear of rising AIDS claims under what is in effect guaranteed life cover;
- the low premium generated;
- increasing administrative costs which are not easily recovered in inexpensive term insurance plans;
- the increasing popularity of universal life plans; and
- the lack of cash values or payouts if the life insured survives.

Decreasing term insurance

This type of contract is a term insurance with a decreasing sum insured and is usually taken out in connection with loans when the loan is gradually being repaid.

The sum insured is reduced on a fixed scale year by year. It is often used for mortgage bond cover, so that if a person has borrowed money to buy a house, the amount borrowed will be repaid if he dies before the borrowed money has been paid back.

Below is an example of a decreasing term insurance policy:



Credit life insurance

The steadily increasing volume of instalment and credit sales of consumer goods has led to the introduction of collective (group) policies designed to cover the outstanding debts on the debtor's death.

Premiums are charged on the basis of decreasing term policies but as the procedure followed is simplified because individual policies are not issued, slightly lower modified premiums can be charged.

The policy covers the outstanding debt on the death of any hirer under a stipulated age. Arrears are not covered. Where premiums are payable quarterly or monthly they are based on the average outstanding debt in that quarter or month.

Claims are paid to the finance company on production of the agreement and the death certificate. No evidence of health is required and there is no question of selection either by the office or against it, as all the contracts of the finance company are included in the life policy.

A single collective, or group, policy is issued and each quarterly premium is calculated from a return supplied by the firm.

This form of insurance has also achieved remarkable growth in the covering of motor vehicle hire purchase deals, often on an individual basis with minimal underwriting. A single premium is paid, usually by way of an addition to the hire purchase funds being raised and abbreviated coupon type policies are issued with automatic collateral sessions to the finance provider.

NATIONAL CREDIT ACT

The enactment of the National Credit Act no. 34 of 2005 came into effect on 1 June 2007. Effectively, this was an amendment to the previous Usury Act of 1968, as well as the Credit Agreements Act of 1980, but it also contains some wide-reaching extensions.

While the intention of this Act is to control the activities of money lending, mainly to private individuals, there is an impact on insurance, as listed below:

- an extension to the concept of free-choice in the selection of the cover required, including houseowner's cover, where the compulsion on borrowers to purchase a particular policy with set cover terms now allows the consumer considerable choice, but in consultation with the lender. This has in any event emerged as a challenge to the current wording of Section of the Short Term Insurance Act since the FAIS Ombud ruled that the application of this in the strict sense was, in effect, a contravention of the provisions of the FAIS Act;

- control on the amount of cover which must be reasonable and not unreasonably costed, for example, credit life cover may only be on the basis of decreasing cover to meet the outstanding amount;

- a requirement that insurance premiums should be charged annually or monthly, only monthly for smaller loans.

Whole life insurance

Whole life insurance, was, from the early '80s to the early 2000s superseded by universal life plans. However there has been a resurgence in the popularity of risk-only whole of life policies since 2003, with the splitting of investment, life cover, disability, and dread disease policies. The trend is to buy life cover, disability or impairment cover, and dread disease cover, separately. This is in contrast with the traditional life (carrier) policy, with its supplementary benefits.

Whole life insurance with premiums payable throughout life used to be known as the purest form of life insurance. The annual premium in the early years was more than enough to cover the year-to-year risk and expenses.

The balance was therefore invested in order to accumulate a reserve against the time when each year's premium was no longer sufficient to cover the risk.

With profit whole life policies became particularly attractive in times of favourable investment conditions and high interest rates. They enabled such policyholders to participate in the success of the companies, who wished to pass on to their policyholders benefits from an increased disposable surplus resulting from favourable investments.

With profit whole life policies had an added attraction, in that the bonuses, if added to the sum insured until the life insured retired, could then be surrendered to reduce or extinguish the remaining premiums.

The principal objective of the whole life insurance was protection in one form or another. Its most common employment was by the breadwinner for the protection of the family.

Professional people and others whose capital was used in their profession or business often effected whole life insurances of substantial amounts for inclusion in ante-nuptial contracts.

The policies then constituted a protection for spouses and children and could not normally be claimed by creditors in the event of insolvency.

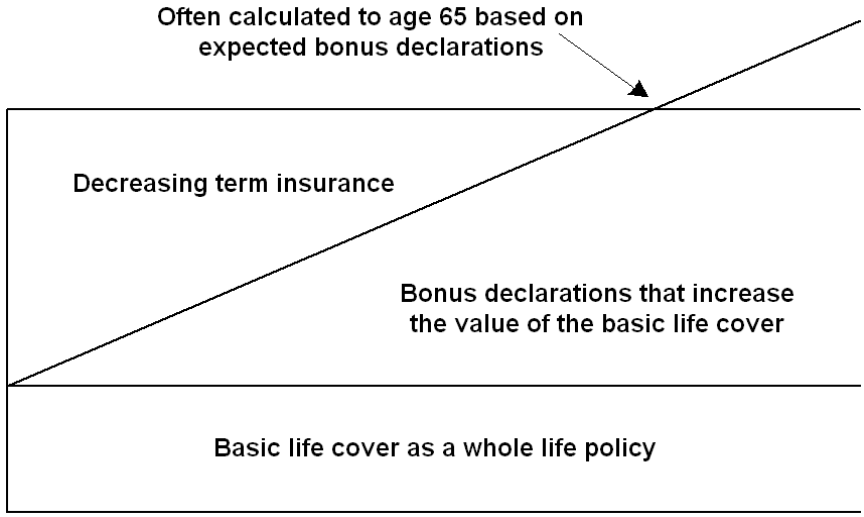
It became common to arrange for whole life insurances to be made paid up automatically, by limiting premium payments, at age 60, 65 or 85.

Reinforced whole life

The need to provide cheap life cover on a permanent basis led to the development of the reinforced policy.

A whole life with profits policy was supplemented by decreasing term insurance, the concept being that the bonus declarations added to the basic whole life cover value and so offset the decrease in the value of the decreasing term cover, thereby maintaining a level amount of cover, provided the insurers matched the anticipated bonus rate.

Below is an example



Pure endowments

Pure endowments are issued to provide a stipulated sum (with or without profits) on a certain date in the future (the maturity date) if the policyholder is still living on that date. The policy does not include life cover as such and, if the policyholder dies before the maturity date, the beneficiary will receive:

- a return of the premiums paid plus the value of any investment growth there might have been; or
- a fixed rate of interest on the premiums paid.

These policies are often sold to persons who are uninsurable for health reasons.

Endowment insurances

Until the introduction of investment linked policies, the endowment insurance was issued as a combination of a term insurance and a pure endowment.

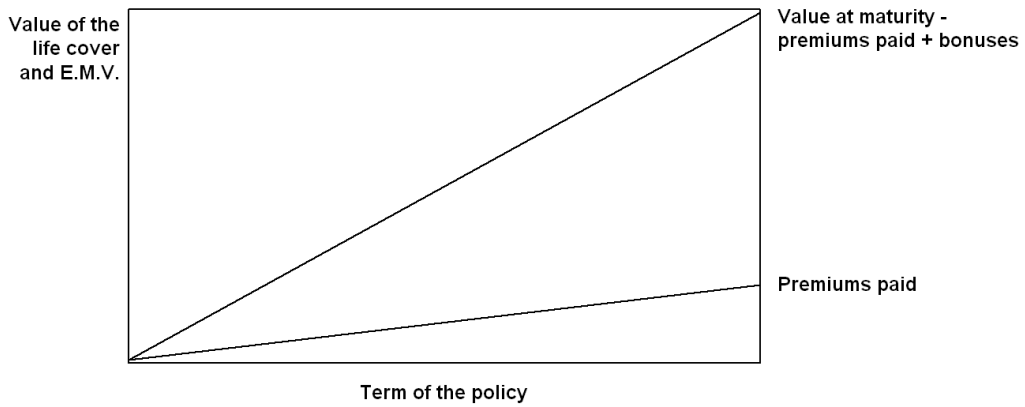
Example

An endowment insurance for R1 000 would provide for payment of R1 000 on the maturity date only if the life insured was living on that date (a pure endowment) or R1 000 on the death of the life insured provided it occurred before the end of the endowment term (the term insurance).

This was essentially known as a non-profit endowment.

Later developments to endowment insurance led to a combination of life insurance and assumed bonuses built into the anticipated end result. While this was still in essence a form of non-profit endowment policy the actuary was able to allocate bonuses to the policyowner and charge a slightly reduced premium. This therefore meant that with a non-profit policy a short term policy had a large element of investment built into the premium. This also meant that the longer the term selected, the larger the element of life cover could be. A very short term contract, for example ten years, was therefore mainly one of investment and was used mainly for things like education policies.

A very long term contract, for example, 40 or 45 years, was considered mainly for its life cover element and was seen simply as an alternative to a whole life policy and was used mainly for the protection of the dependants of the life insured if he should die. An example of an endowment insurance where the initial level of life cover was set at the same level as the anticipated payment at maturity is set out below:



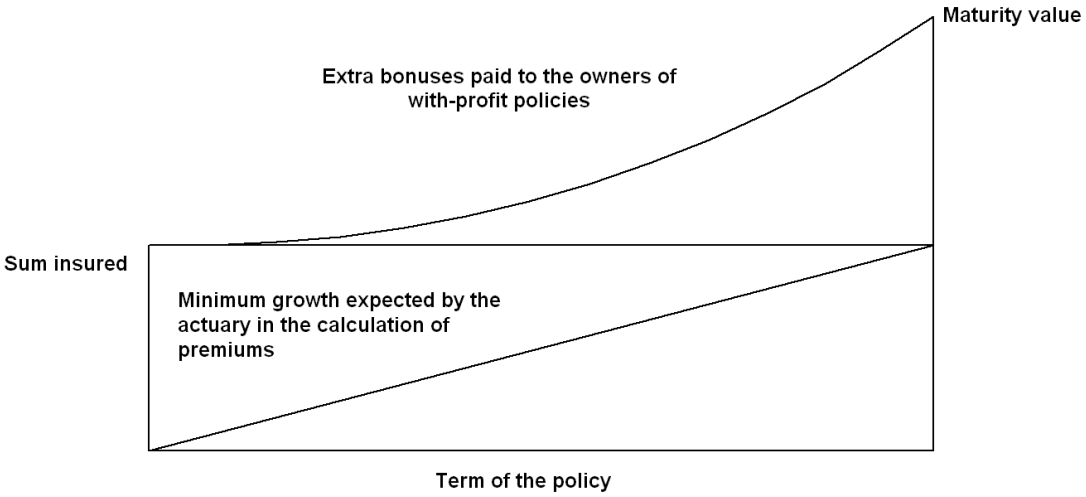
(E.M.V. means the Estimated Maturity Value)

The final result depended on the bonuses that were used by the actuary to work out the end result as these bonuses were always a part of his original calculations. This meant that if the bonuses declared were higher than expected the policyowner would get more money than he had hoped for. Similarly a lower bonus rate would mean a lower maturity value than expected.

A policy that continued for a long time would be able to accumulate more bonuses, especially as they were usually declared annually.

As has been mentioned earlier these non-profit endowment policies fell out of favour due to the lack of real growth and so the life insurance industry had to come up with a solution. This led to the development of with profit policies that became very popular because it led to the growth of the cover of the policies.

Below is an example of what we mean by a with profit endowment:



The universal principle can also work as an endowment policy where it is planned that the policy will end after a certain number of years and even if the insured is still alive.

The difference, however, is that the client can decide how much life cover is needed and only the minimum premium needed to pay for the life cover will be worked out. The client can then pay as much extra as he wants to, or can afford. The life insurer must only ensure that what is paid is more than the minimum premium and obeys the rules of the Insurance Act.

When an endowment insurance policy gets to the end of the contact period agreed by the policyowner and life insurer when it started, we say that it matures. On the maturity date of the policy, the value of the investment account will be paid to the policyowner.

Note that this value will in no way be linked to the value of the life cover of the policy. It is based on the value of bonuses declared in a with-profit policy or, in the case of a universal policy, the value of the investment account.

Reinforced endowments

The reinforced concept was also applied to endowment plans, with the amount of decreasing term added increasing the initial cover level to an amount equal to the projected maturity value, thereby offering something like a non profit endowment plan but for a lesser premium because the higher level of cover was not fully guaranteed but dependant on the bonus declarations being maintained at the anticipated rate.

3.1.3 HOW A PREMIUM IS DETERMINED

The premium of a life insurance policy is determined by an actuary. There are a number of factors that need to be taken into account in the determination of a premium. The three dominant factors are: **mortality, expenses,** and **interest**.

Another function of the actuarial department is the valuation of the company's assets and liabilities in order to test the solvency of the insurer. The official valuation performed in accordance with the provisions of the Long Term Insurance Act is seen as a test of an insurer's financial strength and ensures that the interests of its policyholders are safe-guarded.

These subjects play a major role in the business of life insurance and some background knowledge of them is important. The following should, however, provide a general insight into the parameters that need to be considered in the successful structuring of a life insurance product.

3.2 MORTALITY TABLES

3.2.1 PROBABILITIES

The first thing to be considered in dealing with the subject of mortality tables is the concept of **probabilities**. The dictionary defines probability as the extent to which an event is likely to occur.

Events which are certain are given the probability of 1 (one) and those events which are impossible are given the probability of 0 (zero). In between these two extremes are events that may or may not happen. If you pick a playing card from a pack of cards, it may or may not be the queen of hearts.

There are 52 cards in a pack (excluding jokers) so the chance of picking the queen of hearts is 1/52, however the probability of getting any queen in the pack is 1/13. The other aspect, is that the greater the number of times an event takes place, the closer will be the result to the probability.

For instance, one can call heads on the toss of a coin and although the probability is 1 out of 2 that heads will come up, one could toss the coin a few times and tails will appear each time. However, if the coin was tossed 1 000 times the probability of 1 out of 2, or 500 heads and 500 tails, would be close to being realised. This means that a probability factor of 0,5 would be applicable.

3.2.2 APPLICATION OF MORTALITY TABLES

Applying this concept to life insurance, one needs to know what the probability is of a man, aged 30, living until he reaches age 31. is. Let us assume that the probability is set out in the mortality tables as 0,00028. This would mean that, out of a group of 100 000 men that are 30 years old, 28 are expected to die before their 31st birthday. The actuary needs to determine this information.

If each one of the 100 000 men were to buy a life policy of R10 000 cover for one year only, then the actuary will know that he will probably have to pay 28 claims. This will cost the insurer R280 000. The actuary would, therefore, have to charge a premium of R2,80 for the R10 000 life cover to each of the 100 000 men who buy a policy.

The example given here is a very simple one. There are a lot of other things that the actuary must also remember when he works out the premium. This includes charges such as expenses and commission, and interest on the premium which can be invested until the claims are put in.

The actuary needs to know these probabilities to calculate a life insurance premium. The probability of when death will happen is set out in the mortality tables that the life insurers use, and forms the basis of the calculation of life premiums.

The probabilities used to work out the mortality tables are based on average people. This means people who are not overweight or underweight, or not too healthy or too sick. These people are called standard lives insured. It is the duty of the underwriters who work for the insurer, to work out whether an applicant for life insurance is a standard life insured who fits into the probabilities used for the mortality tables. The underwriters will ask for a medical examination, or the completion of a non-medical declaration, to find out whether a person is a standard life to be insured.

Where a person is not a standard life insured the underwriters will have to adjust the premiums that the proposer will be asked to pay. Should a proposer who is one of our group of 100 000 men, have a heart-condition, it could mean that he has a 50% higher chance of dying before he turns 31. The underwriter will have to add at least a 50% loading on the policy.

This means that in our example this proposer would have to pay the following:

Normal premium	:	R2,80
Loading of 50%	:	R1,40
Total premium	:	R4,20

The proposer who is very healthy may have a better chance of living than the standard life insured used to draw up the mortality tables. Some life insurers are even prepared to consider a discount on the premium that the standard life insured person should pay for a person who is healthier than the average person.

The mortality tables used by life insurers are not based on census statistics but on the actual experience of the life insurers.

In the business of life insurance, mortality tables have many uses in the calculation of:

- premium rates;
- rates for annuities;
- reserve values; and
- contribution rates for pension funds.

It is necessary to produce separate tables for use when calculating annuities.

When dealing with annuitants, one finds an automatic selection factor in that, generally, only people in good health, and who expect to live for a considerable time, will purchase an annuity. Accordingly, if the rates for annuities were based on ordinary life tables, one could find that the mortality was too heavy, and the life offices could face serious losses. It was, therefore, necessary to produce tables based on the mortality experience of annuitants.

The most widely used mortality, or life, tables are based on experiences of a number of different life offices. These tables are called standard tables and are published for general use. Interest functions are usually included for ease of application. However, offices may, in certain circumstances, prepare their own tables based on their particular experience. For example, an office that only operates at the top end of the market would probably experience a much lighter mortality than an office that meets the needs of those in high-risk occupations.

Standard tables are used, and these may then be artificially amended, in order to meet the particular needs of an office.

Due to the fact that mortality tables can only be based on past experiences, one finds that by the time the data has been collected and the results published the experience to which it relates is already some years old. Over the years the trend has been for mortality to become lighter.

One therefore finds that the use of the standard tables is likely to produce a heavier than necessary premium rate. Nevertheless life office actuaries are reluctant to anticipate a trend which may not occur and will tend to rely on the published tables. The reverse of course, is the case with the tables of annuitants' mortality. Here life offices cannot afford to ignore the trend to lighter mortality, and will therefore adjust the standard annuitant tables to take account of the probable improvement in mortality.

3.2.3 THE IMPACT OF AIDS ON MORTALITY RATES

The HIV/AIDS pandemic is a matter of particular concern to many African countries, where unprotected sexual contact is a prime cause of the rapid spread.

Particular aspects of the disease which make it especially difficult to handle are:

- the rapid growth of infected numbers;
- the long period of incubation (7 to 10 years);
- the absence of any obvious signs of HIV during the first part of the incubation with the associated infectious potential during this period;
- the high cost of treatment, which includes psychological or social counselling, treatment of the conditions arising from the deficiency in the immune system, treatment of the AIDS virus itself and, ultimately the cost of a prolonged stay in hospital;
- the social stigma attached to the disease and associated confidentiality issues;
- inherent dislike or fear of using some common protective measures during sexual intercourse;
- the fact that actual death does not come from the AIDS virus itself but from a range of other conditions such as tuberculosis (TB), pneumonia, severe diarrhoea, many of which are prevalent anyway;

- its transmission method which is of major importance in mother to child transfer;
- the relatively weak social status of women in African society in general; and
- overall poverty, which both limits health care and increases the incidence of uncontrolled commercial sex workers.

While the rate of HIV/AIDS infection is dropping in some countries, it is now estimated that there are some 40 million people living with HIV/AIDS in the world, of whom over 5,6 million reside in South Africa, where the incidence is still climbing, with an estimated 310 000 people dying of AIDS each year (UNAIDS report 2009). The AIDS pandemic has already resulted in an estimated 14 million children having been orphaned in Africa alone.

The decision by the members of ASISA to cease applying HIV/AIDS exclusions on basic life and lump sum disability policies as from 2007, including ignoring the clause on existing policies, means that the increased mortality experience will have to be absorbed into the mortality and morbidity rates used by the life offices. This results in significant increases in years to come.

Morbidity

When we talk about mortality we are referring to a person's death or chances of dying. Morbidity is about a person's chances of being disabled. In the same way that the actuaries that work for or with life insurance companies have mortality tables that they can use to tell them what the chances are that a person of a certain age will die during the year, they also have morbidity tables that will tell them what that same person's chances are of being disabled. These morbidity tables can then be used to work out the premiums for any disability benefits that the proposer might want.

The impact of the HIV/AIDS pandemic on morbidity tables, and therefore disability contracts can also not be ignored. The introduction of the drug Retrovir (AZT) and other drug cocktail therapies has enabled medical science to slowdown, to some extent, the progression of the disease.

This may well result in the payment period of a disability income benefit being extended way beyond such periods anticipated when premium rates were initially calculated. Having said this, it is still general practice to exclude HIV/AIDS as a valid cause of disability where benefits of this nature are concerned. It is only where a dread disease claim is being considered that the possibility of a lump sum payment in anticipation of death within 12 months may result in a claim payment, usually ex-gratia.

3.2.4 EXPENSES

No business can operate without having some expenses and a life insurance company is no exception.

There are underwriting expenses such as:

- paying doctors to do medicals; and
- the commission paid to the intermediary.

When you think of all the people that work for a life insurer like the:

- underwriters;
- new business clerks;
- claims assessors;
- policy servicing clerks; and many more

then you will surely understand that they need offices with office equipment in which to work and expect to be paid salaries amongst other things.

All these costs have to be considered by the actuary and built into the premium that will be charged for the policies.

3.2.5 INVESTMENTS

The third element that an actuary takes into account when working out what a premium must be is the **investment return** that he thinks that the investment manager will be able to earn with the premium money. The actuary will assume that the investments will earn, at least, some money and so will use this as a discount when working out the premiums.

Note

The actuary who assumes a high rate of investment return, will be able to charge a cheap premium. However, if the investments do not do as well as he thinks, there may be too little money for the life insurer to be able to pay claims. Because the Registrar of Insurance knows of this danger, he insists that the life insurance company's actuary does an annual valuation.

3.3 VALUATIONS

To do a valuation the actuarial department works out of the value of the insurer's assets and liabilities. The official valuation that must be done at least once every **three years** is a ruling of the Insurance Act. It is seen as a test of an insurer's financial strength and protection of the interests of the policyowners.

The results of the valuation or the valuation report, must be sent to the Registrar of Insurance. The Registrar can ask for a valuation at any time. Life offices usually carry out an internal valuation at the end of their financial year.

When doing a valuation the following play a special role:

- the **rate of mortality** that the insurer has experienced in the past and what it estimates will be experienced in the future; and

- the **average rate of interest** (growth and earnings) it has earned in the past on its assets, and what it estimates it will earn in the future; and
- **expenses** of running the business of the long term insurer.

A valuation puts a value on the assets and liabilities of an insurer.

3.3.1 THE PURPOSE OF A VALUATION

Liabilities are defined as the policy reserves an insurer should be holding, in order to meet the future benefits it will be called upon to pay to its policyholders, when claims arise.

The main reasons for carrying out a valuation is to test the solvency of a life office - especially if there is any doubt about its financial standing. The official valuation performed in accordance with the provisions of the Long Term Insurance Act is a test of an insurer's financial strength. This, therefore, ensures that the interests of its policyholders are safe-guarded.

The second reason for carrying out a valuation is to determine the amount of surplus funds available for:

- distribution to policyholders by way of bonuses;
- to shareholders by way of dividends; and
- to the company's reserve funds to be held against future contingencies.

Assets are compared to liabilities or reserves and the excess is the surplus available for distribution.

Thirdly a valuation must be done if two or more insurers are planning to amalgamate or if any part of an insurer's business is to be transferred to another insurer. A valuation is necessary to settle the terms under which the merger or transfer is to be made. The valuation basis in this instance may well be different to that employed in either of the above circumstances.

Finally, a valuation must be done to test the effect of new premiums and products.

Where a surplus is experienced at the time of a valuation, it would be imprudent, to consider such a surplus as profit. In calculating the surplus, certain assumptions have to be made. A true profit can only emerge if one is able to compare actual claims experience and expenses, against actual experience of premiums received and interest earned, after the last policy has been taken off the books. All the valuation does is give the actuary a guide on which he can estimate the amount he may consider proper and reasonable to distribute, where applicable.

The amount of surplus depends on the assumptions used in the valuation of the assets and liabilities. A large surplus could be expected if high interest earnings are assumed, especially if low expenses are anticipated and a low rate of mortality is also used. However, the danger is that there may not be a surplus available for distribution in the future.

Accordingly, most actuaries, when carrying out an internal valuation, tend to use a strong basis. This means being reasonably conservative in their assumptions as to future interest earnings, mortality rates and expected expenses. Therefore, the actuary can anticipate maintaining, and possibly increasing, future bonus rates and shareholders dividends, as well as maintaining current premium levels on policies.

When universal life products formed the bulk of the policies in force at most insurers, the payment of bonuses was not as much of an issue as it had been in the past. There are, however, still a substantial number of existing reversionary bonus policies in force. Since the early 2000's, there has been a move away from universal life products. Pure life policies, investment policies, stand-alone disability, debility (impairment), and dread disease policies are being increasingly sold.

3.3.2 RESERVES

The reserve value of a policy can be considered on the basis of past history or from the expectations of the future. Taking this further, the reserve value of a policy is the amount which at any point in time is made up of premiums and interest received to date, less claims and expenses, or the amount which is expected to cover the excess of claims and expenses over premiums and interest in the future.

There are two methods which may be used in calculating reserve values, the prospective method and the retrospective method. The former taking cognisance of what is likely to happen in the future and the latter what has happened in the past.

The prospective method

Almost invariably the prospective method of calculating reserves is used in practice because it is simpler, both administratively and in theory.

Under this method, the reserve value of a policy is calculated as the excess of the present value of future claims over the present value of future net premiums. The office net premium is the actual policy premium, excluding expense loadings. The present value of future premiums is an amount calculated by discounting, at a rate of interest, each premium over the term of years, from when it is due back to the valuation date.

The present value of future claims is an amount made up of the sums insured under the policies, discounted at a rate of interest. A mortality factor is applied to this to provide for anticipated death claims.

The retrospective method

In this method, the reserve is the amount by which the premiums paid to the date of calculation, accumulated at the valuation rate of interest exceed the accumulated value of claims. The equality between the two methods may be proved mathematically. If net premiums are used with the same assumed rates of interest and mortality the reserve values calculated under both methods would be the same.

3.3.3 SURPLUS

When the valuation is complete the difference in the amounts is the surplus or deficit on valuation.

If, as expected, there is a surplus it can arise from a number of sources:

- an **expenses surplus** will occur when the actual expenses incurred in running the business are less than the expenses assumed at the previous valuation;

- **surplus interest earnings** - is the amount by which the interest actually earned on the assets of the insurer is greater than the interest earnings assumed.

This is in fact the major cause of surplus as mortality and expenses are normally finely tuned to actual experience;

- a **mortality surplus** arises if the claims experience is less than that assumed;

- a **surrender surplus** happens when policies are surrendered the reserve no longer has to be held. A surplus will arise if the reserves released exceed any amounts paid out.

The greater part of any surplus is usually passed on to the policyholders. This may be by way of a declaration of bonus on the older conventional policies. The bonus will either be paid out or, be used to increase the policy reserves. The balance will go to contingency and unappropriated reserves.

The effect of this on a universal policy, is that the actual cost of the premium will be adjusted downwards, therefore making the policy cheaper. In practice, the premium will remain the same, but the costs, deducted from the policy investment account, will be reduced. This will result in a better investment return being experienced.

3.3.4 DISTRIBUTIONS TO POLICYOWNERS

In years past, it was quite acceptable for the reserve funds of the insurer to accumulate vast funds. Policyowners were simply paid the contracted proceeds of the policy as and when the policy matured. This would happen either when the term of the contract had expired, for example, an endowment, or when the policy became a claim as a result of the death of the life insured.

Greater understanding of the way that policies were structured, however, led to a demand amongst policyowners for a share of the surplus that the insurers were building up in their reserve accounts. Policyowners soon became aware of the fact that the natural conservatism of the actuaries were resulting in extremely large reserve funds that essentially belonged to nobody. This was particularly in the case of a mutual insurer which has no shareholders. As a result of this demand insurers developed the concept of with profit policies.

With profit policies

It is a statutory requirement that an actuary completes a valuation of the assets and liabilities of the insurer at least once every three years.

On completion of the valuation the actuary will have an idea of the surplus that has been accumulated, and that can be paid into the insurer's reserve account.

Based on the results of the valuation the actuary, who has established a surplus, can declare a profit that is to be paid to policyowners of with profit policies. The balance of the surplus is paid into the insurer's reserve fund.

These profits became commonly known as bonuses that were due to the policyowners. It was, however, not money that was automatically available to the policyowner.

Over the years it became practice for an additional loading (a bonus loading) to be added to ensure extra bonus growth.

Bonuses were classed as being either vesting or non-vesting. The **vesting** bonus became an addition to the policy value which could not be removed. **Non-vesting** implies that the bonus can be withdrawn if the actuary deems this necessary as a result of a subsequent poor valuation result.

Often, a combination of the two types of bonuses were declared, on the underlying basis that income already earned could be allocated out as a vesting bonus. Capital growth would, however, only be realised when the policy became a claim, or matured.

Note that due to the structure of the policies of those times the bonus growth was expressed as an increase on the life cover of the policies and not necessarily an increase in the actual cash value of the policy.

A further refinement of the bonus structure was the introduction of **terminal bonuses**. These were only payable on those policies that matured, or became a claim during the period between the valuation that the terminal bonus was applicable to, and the next statutory valuation.

It is the practice of some insurers who declared a vesting bonus on with-profit policies, to permit the policyowner to redeem the bonus in cash. The introduction of the Sixth Schedule to the Income Tax Act, and amendments thereto, led to certain tax implications on the redemption of bonuses as cash. As a result, the practice of redeeming these bonuses became unpopular amongst policyowners. It was discontinued in the development of new products by insurers.

As the Sixth Schedule is no longer applicable this means that any policyowners who still own one of these policies, could again withdraw bonuses, and would receive them tax-free. Any withdrawal of a cash bonus will reduce the increase in the life cover that the policyowner has enjoyed.

The flexibility in the design of universal products, allows a policyowner to make periodic withdrawals out of a policy that has acquired cash values. This money is, however, not a bonus, but a share in the real growth of the investment portfolio to which the policy is linked.

Linked policies

As the investment expertise of insurers improved they diversified into different portfolios that specialised in specific areas.

Insurers started indicating their performance in different portfolios that specialised in, for example:

- equities - shares on the Johannesburg Securities Exchange;
- property;
- capital investments - for example, government, municipal and utility bonds; and
- cash investments.

As the performance of these portfolios started indicating better returns than policyowners were getting from their with profit policies the policyowners started making demands for a share in these profits. The result hereof was the development of linked policies.

Insurers started making options available on their proposal forms for the policyowners to select a particular portfolio that their policies could be linked to. The tri-annual valuation still took into account the assets and liabilities of the insurer but these were now specified in terms of the policies linked to a specified portfolio.

Note that the growth was, however, still linked to a growth factor reflected against the sum insured of the policy.

Under certain of the portfolios the policyowner who was more conservative in his investment outlook was also still able to receive a minimum guaranteed return. The balance of the growth remained within the portfolio and was paid out much the same as terminal bonuses under the previous with profit policies.

More daring investors could choose to forfeit their guarantees, and rely on the higher potential returns at maturity of, for example, an equity portfolio. The natural progression of linked policies eventually led to the complete unbundling of policies and the creation of policies designed in terms of the universal concept. Increased use was made of externally managed investment funds as the investment component.

3.4 THE UNIVERSAL CONCEPT

It had long been the aim of life insurers to design a policy flexible enough to meet all the needs of the policyholder throughout his life. What has become generally known as the **universal policy** was developed.

Some of the terms that may be used in the description of the workings of a universal policy may initially sound a bit strange to you. The important thing to grasp, however, is the concept of the complete flexibility that the universal concept permits the client.

Imagine for a moment that a prospective policyholder who wishes to purchase a universal life policy has come into the offices of the insurer and opened a bank account. All premiums paid by the policyowner will in future be credited to this bank account.

In the life insurance industry this bank account is commonly known as the policyowner's investment account.

With the submission of the proposal form the applicant will have indicated a need for a certain level of life cover and, should he need to include them, some supplementary benefits. The underwriter of the insurer will assess the risk and determine the minimum premium needed to cover the expenses relevant to the cover requested.

The costs to be incurred, will take the following into account:

- the cost of the life cover and supplementary benefits required. This may either be at standard rates or with a loading - depending on the underwriting decision;
- commission to be paid to the intermediary;
- up-front expenses incurred by the insurer in the underwriting, assessment, acceptance and administration of the proposal;
- the cost of issuing the policy document; and
- general expense charges that are allocated to every policy in order to cater for the general administration of the insurer.

The policyowner will therefore be informed of the minimum premium that he will need to pay. In practice the intermediary will have been able to give the proposer an indication of what this premium will be.

It is only where the underwriter assesses the risk and finds that standard rates are inadequate that the policyowner will be asked to pay more than the minimum premium quoted by the intermediary.

The uniqueness of the universal concept is in the very factor of this **minimum premium**. The policyowner may choose to pay any premium in excess of this minimum that he can afford.

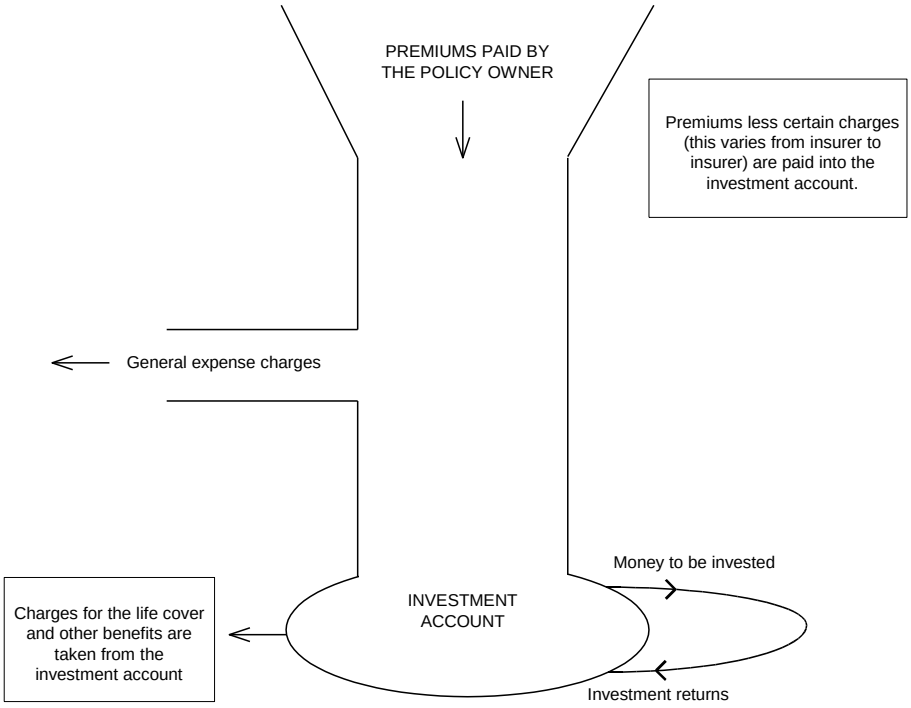
Remember there is an investment account at the offices of the insurer that all the premiums are to be paid into. All the expenses incurred by the policyowner are deducted from this account, as and when they are incurred. The only exception might be the general expense charges, although some companies also take out risk benefit premiums for certain additional benefits, such as accident cover, which may operate outside of the Universal policy design.

Some insurers will deduct these expenses before the rest of the premium is paid into the policy's investment account. The level of premium paid into the account therefore will dictate a number of possible scenarios:

- the more money paid into this account the greater the level of life cover and supplementary benefits that the client will be able to apply for;
- should the client choose a low level of life cover a larger proportion of his premium will remain in the investment account; or

- that the higher the life cover needs, the greater the costs incurred and therefore less of the premium will remain in the investment account.

The following picture may, more clearly, explain what we mean:



While some costs are naturally incurred up front by the insurer it is policy amongst most, if not all insurers, to amortise the costs over the full term of the policy.

Where the policy is a whole of life policy costs are usually recovered over a period of 30 years or to age 75 of the life insured, whichever is the sooner.

With a universal policy, the cost of the life cover and supplementary benefits needed by the life insured are calculated on a month-by-month basis, almost like a series of one month term insurances. The cost of this cover is calculated using the appropriate mortality table. If there is no investment account, the cost of the life cover would steadily increase as the life insured grew older.

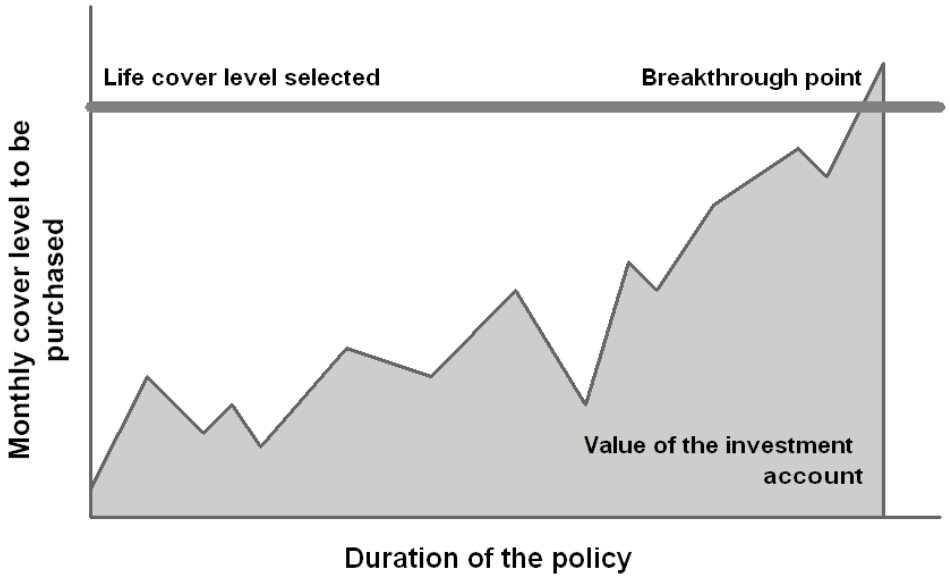
With universal policies, however, the value of the investment account is determined on a monthly basis.

Only the amount of cover, as is required to make up the difference between the value of the investment account and the stipulated life cover level (the sum insured) needs to be purchased on the "month-by-month" basis.

The increase in the cost of the life cover is therefore offset by the fact that as the investment grows the life cover required decreases. After a time, depending on how quickly it grows, the investment account could be equal to, or even greater than the required life cover.

At that point it would no longer be necessary to purchase life cover and the whole premium, less administration costs, would be available for investment.

If we were therefore to plot this on a graph the following picture will emerge:



One of the other advantages of a universal life policy is the fact that the insured can change the level of his life cover requirement at any time depending on whatever changing needs may occur. For example, if the insured were a young unmarried man, his life cover need would probably be small, but would increase dramatically if he subsequently married and had a family.

Then, when his children had grown up, his greater need would be for investment towards retirement. All these options can be accommodated by changing the level of cover on the policy. Naturally any increase in cover that is requested will have to be accompanied by evidence of continued good health satisfactory to the underwriters of the insurer.

The proposer can, when applying for the policy, request that the premium be increased each year automatically by a certain percentage up to a current maximum of 20%. The insurer will then also allow the level of cover to automatically increase each year but usually at a percentage rate lower than that applicable to the premium.

This means that, regardless of the state of health of the life insured, cover will increase year by year, going at least part of the way to counter the effects of inflation.

Another option enjoyed by the insured is to extend the maturity date of the policy. This means that if the policyowner does not wish to draw the proceeds of the policy on the normal maturity date, the policy can be maintained in force for a further period, either on a premium paying basis or as a paid up insurance.

Often there is no set maturity date under a Universal life policy and the insured can cash it in at any stage. Early encashment, however, will result in penalties as the amortised up front costs will now need to be recouped by the insurer. This will erode the actual value of the investment account. There are also certain legal restrictions that need to be taken into account if the policyowner decides to cancel the policy before its normal maturity date.

The term Universal Life is in some ways a misnomer, in that the Universal life structure works as well for shorter term endowments as it does for full life plans.

The universal life concept has been extremely popular in the market since the early 1980s. Not only are the policies highly flexible and easy to understand from the consumer's point of view, but they also offer cover at a low rate of premium, and lend themselves to easy structuring in order to best cover the client's needs.

3.4.1 THE GUARANTEED PERIOD

The reason why the actuaries can calculate and offer a low rate of premiums for universal policies is based on the fact that the life insurer sells the policyowner a new monthly term insurance policy at the beginning of every month. This releases the insurer from having to provide a guarantee that the premium quoted at the beginning of the policy will remain the same as long as the policy continues. From the insurer's point of view universal policies offer relief from guarantees in that the mortality charge may be changed at any stage after the policy commences.

Note

The actuary will, however, only review the general mortality experience of the **product** and not that of an individual life insured.

To ensure that the policyowner has some limited guarantee of a fixed premium for a period of time, most universal policies have a guaranteed period after which a renewal date is included in the policy. Should the actuary want to charge a higher premium before a renewal date, the extra premium required will be paid out of the reserve account of the insurer.

At the renewal date stated in the policy document the policyowner will be informed of the current status of his policy. A higher premium rate for the life cover may then be announced. Where it is found that costs have risen or the investment returns were below expectations, the policyowner may need to either reduce his life cover and/or supplementary benefits or increase the premium if there is not enough money in the investment account to meet the expected charges.

The insurer's actuary, being relieved from the need to build the cost of these guarantees into the premium, can charge a lower premium knowing that the mortality charges may be changed at any time after the policy commences. Remember that the actuary of the insurer has the right to review the premium being charged at any stage.

The policyowner must, however, accept that the possibility does exist. When requesting a high level of life cover with maximum supplementary benefits from an insurer, with an undertaking to pay only the minimum premium.

3.4.2 THE PURPOSE OF THE REVIEW OF A UNIVERSAL PRODUCT

The purpose of the review in the universal product design is the need to know whether enough premiums are being asked for the benefits. The product allows the actuary to ask for a higher premium at any time if the review shows that the value of premiums are not enough.

Note

During the guaranteed period of the policy the extra costs are paid for by the insurer from money in its reserve account. Where there is a surplus with universal policies the surplus will be used to increase the insurer's reserves. This means that the insurer would be in a position to lower the actual cost of the premiums and so make the policies more affordable. In practice the premium will remain the same but the costs will be reduced. This will result in the policyowner getting a better investment return on the investment part of his policy.

3.5 SOME NEW PRODUCT INNOVATIONS

Over the years, many insurers have come out with innovative ideas to enhance their market share in a very competitive environment. These ideas, while offering what appear to be new looking products, are essentially only revised versions of old, tried and tested, products that have been available for years.

If one were but to look at the similarity between some of these new products and the term and universal life insurance concepts being used to create them, one will soon realise what is meant by this statement.

While it is the policy of the Insurance Institute of South Africa to only deal with product information on a generic basis, some of the product information that you will be seeing in this section will appear to be quite familiar to you. You should not automatically assume that the information is linked to the products that you currently market. We have attempted at all times to ensure that the common factors of the product designs are highlighted and that the company specific information is minimised where possible.

3.5.1 PRODUCT “A”

This is essentially a life plan that provides cover for life changing events for the whole family. These life changing events include death, severe illness, disability and family trauma benefits. The life plan has as its basis a life fund which is the financial mechanism of the plan.

The life fund is used to fund benefit payments for the benefits selected by the principal life insured for himself and any members of his family included in the policy benefit structure. The fund is there to be managed by the insured during his lifetime so as to ensure maximum coverage of future long term commitments.

Benefits in the accumulating life fund can either remain level at the benefit limits selected at inception or can increase, if linked to either core CPI or a fixed percentage, on an annual basis. Benefits are defined as a percentage of the life fund and therefore, unless the principal life insured dies, cover continues after a claim has occurred for all benefits linked to the policy at a percentage of less than 100%.

Example

Let us assume that a level of 40% has been selected in the event of a claim for a life changing event, for example, a severe illness such as cancer. Should the life fund be based on a value of R1 million, R400 000 would be paid out. In the event of a further claim at a later stage for another severe illness, for example, a heart attack, a further R400 000 could be paid out.

The value of the life fund would, by this stage have reduced to R200 000, unless some form of escalation of the life fund was included at the inception of the policy.

A unique feature of this plan is the fact that the basic life cover benefit and some of the more commonly known dread diseases can be included on the life of the principal life insured and his spouse. The death of the principal life results in the payment of the complete value of any money in the life fund but, in the case of a spouse, a benefit selection percentage can be used as a basis to determine the life cover due on his death.

Note that where a waiver of premium on the death of the principal life has been included together with selected benefits for the spouse and/or any children on the policy, the policy will still cease.

However, the surviving spouse will be issued with a new policy (with premiums waived) with his elected death benefit as the new level of the life fund and all other selected benefits on him and the children re-instated[4].

The mechanism used for the life fund's basic structure is that of the universal concept with an investment account accumulating growth while cover is purchased on a month-by-month basis. The range of investment options has, however, been increased substantially with a number of global investment linkage options being made available. Policyholders can also elect to have their investments managed by an aggressive, moderate or conservative approach.

3.5.2 PRODUCT “B”

Product “B” is made up of different benefits with which a policyholder can build his own plan for life. The unique modular system allows one to choose what is needed from any one, two, three, or all the modules for death, disability, dread disease and premium protection insurance.

The policyholder can add or subtract benefits as they are needed or when goals and responsibilities change. In this way the policyholder can have all his needs covered under one policy.

With regards the death benefit, there are two cover options:

- level cover; and
- increasing cover.

[4] It is only where increased benefits are asked for at this stage that underwriting of the health risks will be undertaken.

The policyholder can also choose how he would like to pay the premiums. There is an option available for level premiums or for compulsory increasing premiums. There is also a guaranteed period of between five and 15 years that can be selected during which stated premiums cannot be altered, once again a development borrowed from the universal life concept.

An added advantage is that a terminal illness benefit will be paid as an acceleration of the basic life cover, if the life insured is diagnosed with a medical condition that will result in death within 12 months. The policyholder has the option of selecting how much of the cover should be redeemed and how much should be retained for the benefit of beneficiaries. A 100% option is, however, available.

QUESTIONS ON CHAPTER 3

Mental revision questions

Work through these mental revision questions as a test of your understanding of this chapter. We suggest that you attempt these before tackling the written questions. Please note that suggested answers are not provided as the chapter's text contains the answers.

1. Why is a life insurance policy said to be non-cancellable?

2. Explain probabilities.

3. What impact has AIDS had on mortality tables?

4. With a universal policy - what is the investment account?

5. With a universal policy - what is the guaranteed period?

6. What is a pure endowment policy?

7. How is an endowment policy reinforced?

Written questions

Attempt these questions after you have completed this chapter and its mental revision questions. Suggested answers to these questions are at the end of this book.

1. Explain how the fact that a person may have a heart-condition will result in him having to pay a higher life insurance premium than an average person.

2. Describe the factors that need to be taken into account when an actuary does a valuation and the reasons why it is necessary for a valuation to be done in the first place.

3. It has become common practice to alter a universal policy when more life insurance is required rather than contract for a new policy. Explain how the universal concept allows this trend to continue and expand.

4. A policyowner has just been informed that his universal policy has been reviewed and he needs to increase the premium on the policy by 12%. Explain to the policyowner how it is possible that this could occur.