

ost people think life insurance is very complex. Buyers are mystified by its structure, options and pricing. It is a fact; most people don't feel very comfortable discussing the entire subject of life insurance and death. But it's too important to the financial fabric of the family and business to be ignored. That's why we're writing this booklet, to help readers understand the basics. We call it, *The Key to Understanding Life Insurance*.

Many financial writers and commentators have made their living commenting on the pros and cons of life insurance,

especially term insurance versus permanent insurance. But they rarely, accurately explain the fundamental principles of how insurance works. The jargon and vocabulary can stop people cold. What most buyers want to know is quite simple. Their questions are the same whether they are purchasing term insurance, whole life, universal life, indexed life, or variable life. *What is the best policy for me? How much insurance should I buy? What will it cost? How long should I keep it?*

When these questions are not addressed, a mystique or confusion clouds the real value of

What is the best policy for me? How much insurance should I buy? What will it cost?

the insurance product. It can often cause buyers to make a less productive purchase, or no purchase at all. With this booklet, we hope to clear up some basic confusion that surrounds insurance policy pricing and provide a simple foundation to answer your questions.

What is Life Insurance?

Before we explain the key to understanding life insurance, let's define insurance and a few fundamental terms.

Insurance is a legal contract delivered to the buyer as a policy. It guarantees to pay a certain sum of money (death proceeds) to a specified person or entity (the beneficiary) when the insured dies.

The policy coverage remains in force as long as the cost for the coverage (the premium) is paid according to the contractual provisions in the policy. These costs can be paid directly by the

Life insurance is based on the fundamental mathematical principle of probability. buyer or deducted from the values within the policy, if any exist.

You can own the policy personally or have someone else own it instead. The owner has the legal right to name the beneficiary and may change the beneficiary at any time. The owner is responsible for any tax consequences related to the premium and the death benefits.

Most people don't think of life insurance this way, but it is risk sharing between

members of a group with a common goal to provide cash for their beneficiaries when they die. Insurance is purchased because someone loves someone or something. Some of the reasons insurance is purchased are to:

- pay off a debt
- finance a tax due
- purchase an interest in a business
- buy a piece of property
- provide a guaranteed income and financial security for loved ones
- create supplemental retirement income

Life insurance can also be used by an entity to recover the cost of a promise made by the employer to an employee. For example, an employer may offer a retirement benefit for a selected individual. Life Insurance can recover the cost of that promised benefit. Practically, life insurance is often the ONLY way the beneficiary of the policy can provide money to meet financial needs. And, in most cases, it is the least expensive way to fund an obligation or liability. Life insurance is based on the fundamental mathematical principle of probability. It is proven people die according to a predictable pattern. This pattern is referred to as a mortality table. It is built by accumulating historical data from census records. Insurance companies cannot know "who" in the group will die or when, just "how many." This predictable pattern and the amount of coverage are then mathematically converted into a lump sum amount equivalent to the present value of the promised benefit. The company needs to know this lump sum amount in order to calculate the contractual annual payment required until death.

The contractual annual payments are impacted by a set of factors such as interest and expenses. By providing coverage to hundreds of thousands of people, insurance companies will offer coverage to each insured for a small payment each year compared to the sum insured. By each insured paying their proportionate share, the large lump sum is available to their family or business when death occurs. Life insurance is NOT a gamble as some suggest. It is a proven mathematical principle based on the measured probability of death and it is available to anyone who can qualify and wants to pay the annual premium.

With this as background, let's look at why insurance works.

The Key to Understanding Life Insurance

As stated, life insurance is based on the predictable probability of one person dying among a group of insured's. The mortality table predicts the chances of a death occurring in any given year. Again, the actuaries (insurance company mathematicians) don't know who, just how many.

So suppose there are 1,000, 45-year old healthy men, all non smokers. Insurance company mortality tables assume all will be dead prior to some age, typically 120. The mortality table shown in Table 1 predicts the chances of a person's death in any given year between ages 45 and 100. Since life insurance is simply a group sharing the risk of funding a specified amount at death, the annual payment reflects their individual share. The first person in the group to die is paid for by those who remain. Those who die first will benefit the most based on the ratio of their contribution to the proceeds. Those who die last will still receive the same proceeds, but they will have paid more to receive them.

Even if we factor in interest earnings, the last to die will always have to pay more into the fund than the first to die, but they will usually pay less than the full value of the expected death benefits.

Determining the Cost of Insurance

Staying with our group of 1,000 healthy 45-year old males, let's follow what is likely to occur if they want \$1,000,000 of insurance.

As we learned, the cost of life insurance is determined by the relative probability of death at various ages. If the people in this group die as predicted by the mortality table, we know two will die the first year. The group's cost will be \$2,000,000. By spreading this cost over the entire group of 1,000 people (\$2,000,000/1,000 people), the annual payment would be \$2,000 per person. Notice there is no interest factored into this.

Table 1. Age 45 Mortality Table					
Ade	Chance	Number	Number		
	of death	living	of deaths		
45	0.23%	1,000	2		
46	0.26%	997	3		
47	0.20%	995	3		
49	0.23%	989	3		
50	0.33%	985	3		
51	0.36%	982	4		
52	0.40%	978	4		
53	0.44%	974	4		
54 55	0.49%	969	5		
55 56	0.55%	904 958	5		
57	0.68%	951	7		
58	0.74%	944	7		
59	0.81%	936	8		
60	0.89%	928	8		
61	0.99%	919	9		
62	1.11%	909	10		
64	1.25%	097 885	13		
65	1.55%	871	13		
66	1.70%	856	15		
67	1.86%	840	16		
68	2.03%	823	17		
69	2.20%	805	18		
70	2.41%	786	19		
72	2.05%	705	21		
73	3.28%	718	24		
74	3.63%	692	26		
75	4.00%	664	28		
76	4.41%	635	29		
77	4.89%	604	31		
78	5.45%	5/1	33		
80	6 79%	500	36		
81	7.58%	462	38		
82	8.41%	423	39		
83	9.31%	384	39		
84	10.30%	344	40		
85	11.41%	305	39		
86	12.63%	266	39		
0/ 88	15.97 %	229	35		
89	16.93%	161	33		
90	18.51%	131	30		
91	19.99%	105	26		
92	21.54%	82	23		
93	23.18%	63	19		
94	24.91%	48	16		
95	20.72%	35	13		
90 97	20.30%	∠3 17	10 8		
98	32.04%	12	6		
99	34.05%	8	4		
100	36.21%	5	3		
	Source: CS	SO 2001 Mal	e Nonsmoker		

At age 50, the probability is that three of the original 1,000 will die this year. Three deaths times \$1,000,000 of insurance divided by the remaining 985 people equates to \$3,331 per person. At age 60, the cost is \$9,000 per person, and at age 70 the cost is \$24,695 per person, and so on.

Chart 1 is a graph of these outcomes. Notice the flat part of the curve at the beginning. Obviously, this is when the group of insured's is very large and there are many sharing the risk. The coverage is very inexpensive early in the curve compared to the older ages. The real increase in the cost occurs when there are fewer and fewer in the group.

Where does the data come from to build a mortality table? Most large insurance companies have created their own data bank of death experience based on their years in business providing insurance coverage. In addition, the Federal government has calculated nationwide statistical measurements of mortality probabilities from the census information.



Each company's table is updated based on recent death claims. The national statistics are developed without the benefit of any physical examinations (called underwriting), but all the insurance company tables reflect actual quality underwriting information. The company medical underwriters receive full disclosure of all medical history plus a physical exam. This allows them to make an accurate assessment of the insured's health. For a person who has a known medical condition, cancer for instance, their probability of living a normal life expectancy is greatly reduced. If, from the onset, a company can eliminate the people who are in poor health from their table of experience, the rates will be more reflective of the actual statistical probability of death for their insured's.

There are different methods of developing the mortality costs used by the insurance carrier. To determine pricing, insurance companies select the mortality table most appropriate for the risk they are willing to insure. If medical information is not readily available, the company uses the mortality table that best reflects that higher risk.

Without dwelling on the relative merits of these tables, it is important to understand that each measures the cost of dying for different groups of people. Chart 2 compares the difference between five commonly used methods for determining premiums.



CHART2. Premiums for \$1,000,000 of life insurance from various sources

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How Do You Determine The Cost of Life Insurance?

Is the cost the initial premium? Or is it the cumulative amount of premium you have paid to some age, say age 50? Age 60? Age 90? Obviously, any specific age would be arbitrary. One logical age would be life expectancy. But most people don't understand the true meaning of life expectancy. They think this is when a person is supposed to die. Not so!

When a newspaper announces that the Social Security Administration estimates the life expectancy of a male in the United States is 74.83 years and for females 79.96, it causes men to pause with trepidation. But, life expectancy is not the age a person is expected to die. Instead, life expectancy (LE) is the average age at

TABLE 2. Life Expectancy					
	Age at		Age at		
Curren	Life	Current	Life		
Age	Expectancy	Age	Expectancy		
45	80.99	73	84.63		
46	81.03	74	84.96		
47	81.07	75	85.32		
48	81.11	76	85.69		
49	81.14	77	86.09		
50	81.18	78	86.51		
51	81.24	79	86.96		
52	81.29	80	87.45		
53	81.34	81	87.96		
54	81.41	82	88.51		
55	81.47	83	89.08		
56	81.55	84	89.67		
57	81.64	85	90.28		
58	81.74	86	90.93		
59	81.84	87	91.63		
60	81.95	88	92.35		
61	82.06	89	93.08		
62	82.19	90	93.87		
63	82.33	91	94.66		
64	82.49	92	95.46		
65	82.67	93	96.25		
66	82.86	94	97.07		
67	83.06	95	98.00		
68	83.28	96	99.00		
69	83.51	97	99.88		
70	83.76	98	100.67		
71	84.03	99	101.50		
72	84.32	100	102.17		
	•=				

which the people in the measured group will be dead. LE is different for each given age group at each point in time.

So, when the papers say that LE is 74.83 for males and 79.96 for females, they are referring to how long newborn babies are expected to live. The LE for a 65-year old male nonsmoker from group is now 17.67 years. That means that the average age of death for all currently 45 year olds when they reach age 65 will be age 82.67. Approximately half of this group will be dead by age 82.67, but the balance will still be alive. In other words, you have about a 50/50 chance of living longer than LE. An 80-year old male has a LE of 7.45. Even a 95-year old has a LE of 3 years. Table 2 shows life expectancies for various ages from our representative table.

What Does Life Insurance Cost?

Most people focus on the initial premium when looking at the cost of life insurance, NOT the cost over their lifetime. But what happens when you add up the total cost of insurance (all the mortality costs) from today until life expectancy?

Chart 3 shows the results of this study. Assume you are part of our sample group of 45-year old males. The sum of the mortality costs to LE is 70.8% of the face amount for a 45-year old male. That means, if you wanted to own \$1,000,000 of insurance starting today and you pay the annual mortality costs every year until life expectancy, you would need to pay \$708,721.



We have measured this cost for over 20 major insurance companies, and the cumulative rates all come out within 1% of each other. Actuaries (the mathematicians) all work from the same base of statistics. Every insurance carrier must mathematically be near the same target, or they have violated the fundamental theory of risk sharing.

But only 50% of the group will be dead at LE. Fifty percent will still be living. What happens if you are "unfortunate" enough to live until two-thirds of the initial group is dead. (This is called the first standard deviation from the average.) The standard deviation

is the next statistical breaking point from the average age of death (usually six to eight years later). If we add up all of the mortality costs for the same \$1,000,000 of insurance to the first standard deviation, it equals 123% of the face amount. Yes, you would have paid \$1,228,885 for \$1,000,000 of coverage if you lived until the two-thirds of LE point.

But one third is still alive. If you should live until the second standard deviations (when 95% of the group is dead) the ratio of mortality costs ratio to benefits increases to about 298%. That means you have paid \$2,975,107 for \$1,000,000 of insurance. If you only pay mortality costs, no one could ever afford to keep their life insurance until death.

The Natural Consequences of Aging

Okay, so here's a test. What would you do if you were 82 years old and your insurance premium notice came in the mail telling you to pay \$150,000 this year for your \$1,000,000 policy? Most people would say they wouldn't pay it and throw the notice away. Wouldn't you?

They would let the policy cancel and laugh at the absurdity of paying \$150,000 that year. But let's change the scenario. Suppose you just came back from your oncologist and knew you only had six months to live. Now what would you do?

Most of us have had enough experience with people dying to know it is only the fortunate who die quickly. There are those who linger for many months, sometimes years. If you got that premium notice in the mail, would you laugh and throw the premium notice away, or pay it? Most people say they would pay it.

The ability to choose whether or not to keep your policy based upon health conditions creates "*adverse selection*." The incentive to drop the policy if you are healthy or keep it if you are sick ruins the mathematical principle of probability. Insurance operates on statistical randomness to protect the integrity of the product. Healthy insured's must have an incentive to stay in the pool.

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It has been said actuaries calculate insurance premiums so the policy will lapse the day before the insured dies. Statistically, very few (less than 1%) mortality only insurance policies (called term insurance) ever pay a claim. People simply can't afford to pay the term insurance premiums at the older ages - the time they are most likely to die. As the mortality costs rise, if the only insured's who

retain their policies are those who know their chances of claim are certain, the insurance carrier faces financial crisis.

Insurance history reveals an interesting footnote. In the early 1800's, only the people who were "near death" retained their insurance. The healthy people canceled. And since there were no healthy insured's left to

pay premiums, what do you think happened to all of the companies? If you guessed <u>bankruptcy</u>, you are correct. Research will show all of the old line insurance companies started in business after 1840. That's because many of the older companies went out of business or had to restructure due to "adverse selection."

So the companies called in the actuaries and told them to solve the problem. They went off with their abacuses and came back with a brilliant solution - *The BOX*.

Introducing The BOX

The obvious solution was to pre-fund the mortality costs from a reserve account – we call this account **The BOX**. By setting up this reserve account, insured's can pre-deposit future mortality costs and policy expenses.

As we have seen, if carriers only offered insurance premium plans on a "pay-as-you-go" basis, no one would ever be able to keep their insurance in old age.

very few term insurance policies ever pay a claim.

Statistically,



Inside every permanent insurance contract is an individual account created to hold all premium payments. The premium payments include the current mortality costs PLUS an amortization of future mortality costs. From The BOX, the carrier deducts the annual cost of insurance (mortality costs) and policy expenses.



There is another element to The BOX, investment earnings. In order to offset the prohibitively expensive mortality costs, The BOX is credited with investment earnings to fund the future mortality costs and expenses. The investment element provides a powerful way to create additional funds in The BOX. The insurance company invests the premiums they receive (net of expenses), and then allocates earnings to The BOX after expenses and applicable management fees. The amount of earnings allocated varies according to the insurance contract.

In 1913, Congress passed the 16th amendment authorizing the collection of income taxes. The insurance industry sought regulatory relief to allow the money in The BOX to grow tax deferred for the policyholder. By allowing The Box to grow tax deferred, the government is recognizing the contribution life insurance makes to the welfare of society.

Are There Different Box Designs?

Once the concept of The BOX was introduced, insurance carriers began to design different payment configurations. Over the years, innovation allowed the policy owner to buy an insurance contract which required premiums for specific periods. So instead of a lump sum deposit, the premiums could be financed over 10 years, 20 years, until age 65, or for their whole life. Two basic funding strategies utilizing The BOX were developed - *Whole Life* (which offers a guaranteed premium) and *Universal Life* (which offers a flexible premium).

Whole Life guarantees the premium for the entire payment period. Any excess interest earnings, adjustments to mortality experience and expense loads are credited to The BOX as dividends. These dividends combine the earnings and costs together in one amount. This is often referred to as the *bundled* approach.

In 1980, several insurance carriers introduced a new architecture for permanent insurance products called Universal Life. Policyholders could determine the amount of premium they paid and the frequency of payment for a given face amount. The premiums, instead of being contractually fixed, are based on current investment assumptions. These premiums may be lower than for a comparable Whole Life policy because the prospective interest assumptions are most likely higher than the guaranteed interest assumptions for the Whole Life policy. Whole life premiums are calculated using a guaranteed rate of interest, and then dividends are credited based on actual performance. This is retrospective. Universal Life bases the premiums on prospective current interest assumptions instead of the guaranteed rate.

If the assumptions are inaccurate, the premiums will need to be adjusted and although Universal Life can be illustrated to look more favorable than Whole Life (i.e., you pay a lower premium for the same coverage), it is important to remember The BOX still needs the same amount of money to pay the same death benefit at life expectancy. There is no magic.

These differences can make understanding life insurance difficult. So keep in mind, if all of the assumptions for Whole Life and Universal Life are the same (same mortality table, same expense loads, and same interest credit rate), the amount the insurance company will need to collect is actuarially the same. Why? Life Insurance is a mathematical science.

The carrier is targeting a Lump Sum at each age. With a typical Universal Life policy, the premium to get to the lump sum is based on the current earnings assumptions projected over the lifetime of the policy contract. The premium for the lump sum with a Whole Life contract is based on a fairly low guaranteed rate, for example 3%. If the current rate for the Universal life is 5%, then the annual premium due would be projected to be lower for the Universal Life policy. Why? It is assumed the higher interest earned in The BOX would make up the difference in premium deposits. However, with Whole Life, there are earnings too. So when we factor in the dividend credits for the Whole Life policy, the performance of both policy types ultimately will end up being economically similar.

There are many reasons why advisors favor one type of insurance over the other. However, in the end, The BOX must have enough money to pay the mortality costs or you will be faced with paying them yourself.

The main difference between Whole Life and Universal Life is the flexibility the policyholder has to manage premium payments. With Whole Life, if they cannot pay the premium, the policy will borrow it from The BOX. This loan will require interest payments that are payable annually. If the interest is not paid, the loan will increase. Universal Life is much simpler. The mortality costs and expenses are deducted from The BOX whether or not a premium is paid. No loans or interest payments required. However, this freedom from the premium payment requirement may ultimately jeopardize the goal of lifetime coverage if insufficient premiums are not deposited in The BOX. This would defeat the entire purpose of using The BOX in the first place.

A Quick Summary

First, probability is the key to determining insurance premiums. People die according to a predictable pattern called a mortality table. The predictable pattern and the face amount of the policy are mathematically converted into a lump sum target that must be in The BOX in order to fund the contractual promise made by the policy. This lump sum can be financed by estimating the annual premium needed by The BOX in order to stay on target for the lump sum.

If the projected lump sum value of The BOX falls below the target, then the insurance carrier is unable to fulfill the terms of the contract. The policy will either be discontinued (lapse) or the annual funding amounts must be increased to get back on schedule for the lump sum. This is true for both Universal and Whole Life policies - although companies deal with the problem differently.



If you have a Whole Life policy, you can end up with too little cash in The BOX if you borrow too much and fail to pay the interest on the policy loans or fail to pay your scheduled premiums. With Universal Life, you become underfunded by failing to have enough in The BOX to pay the annual costs (mortality, expenses, and others). Ultimately, the result is the same. The policy will be canceled for insufficient funds.

Earlier we discovered the total mortality costs at life expectancy are 74.7% of the projected death benefit. Chart 5 illustrates the total amount of payments required by a 45-year old to fund this 74.7% for a \$1,000,000 policy using a 7% interest assumption. Notice the different amounts required at various funding periods. The single payment lump sum required in The BOX is only \$74,291. However, if the insured elects to fund The BOX over five years, the total payments increase to \$84,688 (\$16,934 annually) and over a 20-year period to \$131,076 (\$6,554 annually).

The Factors That Impact Pricing

Let's explore the four specific factors which affect the amount you have to put into The BOX. These factors are:

- 1. The predictable pattern of death (mortality costs)
- 2. The cost of doing business (expense loads)
- 3. The amount of interest credited to The BOX each year
- 4. The number of people who actually keep their insurance policies (called persistency)

Your individual account (The BOX) holds your annual payments or your lump sum deposit as long as you retain the insurance contract. As long as all the original assumptions are achieved, the value of The BOX will grow to meet the projected lump sum targets according to the illustration provided by the insurance company.

Each year, The BOX must pay the annual cost of insurance (mortality costs) and the policy expenses. The BOX also receives the interest credited each year by the insurance company. The BOX allows pre-funding of the cost of insurance so if the policy performs according to the originally illustrated assumptions, premiums plus compound interest on The Box will actually pay the higher insurance costs at the older ages.

What happens if someone wants to cancel their insurance early? In the first year or two there may be a significant shortfall between premiums paid and the cash surrender value of the policy. This is primarily due to expenses and surrender charges for early cancellation. The BOX must be assessed a surrender charge if the insurance company hasn't recovered all of its start-up expenses. It usually takes between five and fifteen years for a company to recover their costs.

What Happens If the Assumptions are Incorrect?

As we have seen, the insurance company projections are based on assumptions. So the actual results may vary from the original illustration based on the actual performance of these four pricing factors. With whole life, the carrier will "bundle" together interest, mortality, expenses and persistency into the "dividend" while universal life will "unbundle" each of these factors and apply them separately. The BOX adjusts in size to reflect any changes in the actual performance of these factors. The BOX will either get bigger or become smaller depending upon the actual performance of the carrier.

So what if interest rates do decline (or expenses rise or people die faster than expected)? Conceptually, The BOX would need to have more money to reach the Lump Sum objective. So, more money than originally illustrated needs to be paid as premium in order to deliver the projected results. With Whole Life this doesn't happen because the policy is guaranteed as long as the guaranteed premium is paid.

A drop in interest rates with a Whole Life policy will eventually cause the dividends to be reduced below the original illustration. Under an "abbreviated payment" approach (where dividend credits are used to pay premiums after a certain point), it is possible more premiums will have to be paid out-of-pocket than originally illustrated. With Universal Life, The BOX will require either a higher premium or, payments for a longer period if the policy owner was hoping to shorten the payment period.

But the opposite can also be true. If interest rates rise, expenses decline, or people live longer, The BOX will not need as much money from as originally illustrated. The BOX can then become "smaller," reflecting the improved performance. With Whole Life, the dividends would be higher and could increase coverage or reduce the premiums sooner. With Universal Life, a "smaller" Box would mean less out of pocket for the owner as the earnings would continue to pay mortality costs and expenses.

In the final analysis, The BOX must have enough accumulated to equal the mathematical lump sum targeted by the insurance company at any age. Otherwise, the company could not stay in business. If they have underfunded all of their contracts, the carrier would never have enough assets to meet their obligations.

A Closer Look at the Four Pricing Factors

Let's examine the four pricing factors mentioned previously to see how much impact future economic conditions can have on The BOX. Illustrations of The BOX will vary from company to company based on how they project these four factors. And if a carrier uses assumptions which are too aggressive, The BOX may not achieve the performance illustrated.

It is virtually impossible for most insurance buyers to know for certain how these factors will impact the specific product they purchased. But the surest way to protect yourself is by asking for a copy of the company IQ. This is the Illustration Questionnaire that all insurance companies have been asked to voluntarily provide. Questions about pricing assumptions for these four factors have been clearly stated. If the answers are unclear or the carrier has elected to not provide an IQ, ask why. This is comparable to "*taking the 5th*" in court.

Many insurance buyers believe that an illustration comparison between companies is a valid method for determining the best product to purchase. But purchasing a policy because one illustration shows better results than another may be a wrong

conclusion. The best illustration may contain very aggressive assumptions that make a direct comparison with an illustration from another company with more conservative assumptions impossible.

Let's look at some of the specific issues which impact the pricing structure of The BOX.

1. MORTALITY COSTS. As medical technology improves, people have been living longer. What happens to The BOX if the mortality experience for the insurance company is different than

Purchasing a policy because one illustration shows better results than another may be a wrong conclusion.

projected in your illustration? The company's actual mortality experience results from how long the people they choose to insure actually live. If their underwriting assessment was shoddy and inaccurate, the pool of insured's may die too soon. The company's financial reserves will be impaired. This will impact all of the other policies. The company will need to raise mortality costs which will drain money from your BOX faster than expected. This could increase the cost of your coverage.

Unforeseen negative events can also cause problems for an insurance company. For instance, the AIDS epidemic could impact the overall mortality experience of the industry, or of a particular company. An outbreak of some unknown virus or other illness might adversely affect the statistics. Any of these occurrences could cause The BOX to be underfunded and unable to generate enough compound interest to pay the increased mortality costs in future years.

Likewise, breakthroughs in medical care often reduce the company mortality costs. The BOX would grow faster because

lower costs are being deducted. But be careful! Some insurance companies are very aggressive and have already anticipated these improvements in mortality costs when they designed their illustrations. Check to make certain the carrier's IQ discloses any assumed mortality improvements. If they do, ask how these assumptions are made, and what impact these savings are projected to have on their product. If they haven't told you, then stay away from their BOX.

2. EXPENSES. Expenses associated with an insurance policy include administration, premium taxes, DAC taxes, and sales commissions. Another cost factor is risk capital. Companies also have to measure the cost impact poor investment results might have on their products. Some companies will project expenses in their illustration including a factor for inflation. Most companies will illustrate expenses holding steady, assuming there will be no increases for the maintenance of their contracts over the next twenty or thirty years. Again, the IQ should disclose how the carrier has priced their product to reflect their projected expense loads.

3. INTEREST CREDITS. Interest credits are the third factor in the pricing equation. Premiums (net of expenses) are invested by the company in a variety of bonds, stocks, mortgages and other investments. The returns credited to The BOX are based on this investment performance.

In recent years, most insurance companies have failed to earn interest at the rate originally illustrated. The company illustrations showed The BOX growing much faster than their current performance could support. Carriers justified this because the interest rates were high and their investment portfolios were benefiting from the higher investment yields. But when interest rates declined, these same illustrations, which were originally based on higher rates, look substantially worse since they never achieved the original level of illustrated returns anticipated.

4. PERSISTENCY. Persistency refers to the number of policies which stay in force from inception until death. We have

already discussed how adverse selection can negatively impact the financial stability of a company. Persistency is directly tied to this same problem.

An important aspect of persistency is the acquisition cost for each policy. It requires several years (often five to 15) before an insurance company can recover their costs. If a policy terminates before the company has recovered all of their costs, it could adversely impact other policyholders and the profitability of the company.

Persistency can also affect your policy through lapse supported pricing. Some companies assume an inordinate number of policies will actually terminate prior to the death of the insured. (By assuming lower death benefits will ever be paid, overall they can

project insurance benefits for a lower premium cost.) But if these policies do not actually lapse, then the higher benefit payments will hurt the company's financial performance and impact your BOX.

The Dynamics of The BOX

The size of The BOX will expand or contract depending on how these four factors perform. (Remember, dividends are a composite of the four factors.) If mortality costs or expenses go up, or interest goes The size of The BOX will expand or contract depending on how these four factors perform

down, The BOX must get larger (more premiums required). Either the premium is paid for a longer period of time, or, (as with Universal Life) the annual premiums must increase to reach the projected target. Likewise, if mortality costs improve, expenses stabilize or decline and/or interest rates increase, in order to reach target, The BOX can become smaller; this means fewer premiums may be required, or the premium may be reduced for a Universal Life policy.

So, The BOX isn't just static. The long term nature of the insurance obligation makes The BOX quite dynamic. The size of

your BOX is impacted by the investment performance of the insurance company. It is also affected by the ultimate results achieved in their underwriting (mortality costs), expense control, and business retention (persistency). A conservative company is more likely to attain their original assumptions than an aggressive company which uses illustrations to attract new business.

It would be wise for the fiscally prudent insurance buyer to consider overfunding The BOX to minimize the possible consequences of poor investment performance or the overstatement of pricing assumptions.



When Interest rates rise, the BOX becomes smaller



With Falling interrest rates, the BOX must become larger

How Much Can You Put in The BOX?

So ask yourself this question! If you are purchasing life insurance for your entire life do you want to pay the mortality costs on a pay-as-you-go basis each year with your money or would you rather have The BOX pay them for you from the compound interest and tax benefits?

Before we answer this question, let's review The BOX is very flexible. When you start your BOX, you can select how you want to fund it. You can put premiums in The BOX as one lump sum; you can fund it over five years, 10 years, until age 65, or for life. In most cases, you can change your mind and raise or lower your contributions at any time. It is important to remember that the sooner you fill The BOX, the less you actually pay out of your own pocket.

When you select your BOX, the target is calculated on certain interest assumptions, mortality costs and expense assumptions. If interest rates decline or mortality costs rise, The BOX will need more money. Likewise, if interest rates rise and/or mortality costs drop, The BOX needs less money. The BOX should be evaluated every year to determine whether or not it is on target.

Interest earned by The BOX is tax deferred and potentially tax free if the policy is held until death. Tax is owed on withdrawals in excess of the amount you have deposited into The BOX. This can be a real economic advantage; so much so that in 1984 Congress instituted IRC §7702. It defined life insurance and limits the amount of money you can put in The BOX. If you exceed that limit, then all of the earnings in The BOX become taxable. Your insurance carrier monitors this for you each year to make certain your plan does not exceed these guidelines.

The amount of contribution you can put into The BOX and still qualify as insurance ranges between pure cost of insurance and the maximum amount allowed under IRC §7702.

The minimum amount needed to fund The BOX is just enough to pay a level contribution to fund the mortality costs until age 95. At this point, the policy would be canceled and you receive nothing back. However, you can elect to fund for amounts greater than the minimum. But whatever your targeted premium, it is an individual choice and based on your individual needs.

For instance, let's again assume you are 45 years old. Let's say you want to have your insurance fully paid by the time you retire. You want to design the premium to fill The BOX during the next 20 years. At that time, if the assumptions are accurate, the policy should stay fully funded for life.

Another option might be to fully pay The BOX in 10 years. In this instance, the premium would be calculated to fill The BOX in

10 equal installments. At the end of ten years, if the assumptions are accurate, The BOX would need no further payments.

It is possible for company experience to be worse than assumed in making the original determination of the amount of premium required. If this happens, Whole Life dividends will be reduced, and Universal Life interest crediting rates may be reduced or mortality and expense charges increased. Under either policy, the result would be that you will have to pay more premiums than originally contemplated or for a longer period. If company experience is better than originally assumed, you could reduce your level of premium payment. Generally it is better to keep paying the same premium. i.e., to be conservative and overfund The BOX than to play it too close and run the risk of having to increase your outlays at what might be a bad time for you.

There is one final consideration in determining the amount you can put into The BOX.

What is a MEC?

In 1989, Congress placed yet another limitation on the tax advantages of life insurance. IRC §7702 already limited the size of The BOX; but Congress was concerned that life insurance taxation still offered too many income tax benefits when compared to other investments, especially annuities. So Congress enacted the Modified Endowment Contract (MEC) limitation to minimize the tax benefits. This is sometimes referred to as the seven pay test.

If The BOX becomes overfunded (less than the IRC §7702 limits but more than the MEC limits), any distributions from The BOX will be treated for tax purposes first as income, and then as recovered cost (last in, first out). If The BOX is not a MEC, then all premiums come out tax free before any of the gain is taxed (first in, first out).



This diagram depicts the range of premiums you can put into The BOX.

Notice that the range of premiums starts from the low end at the pure mortality costs. At the high end, the maximum you can put in The BOX is limited by the IRC §7702. The MEC limit reduces even further the amount you can put in The BOX if you want the most advantageous tax treatment on withdrawals. If you are willing to keep the premiums in The BOX until death, the insurance benefits grow untaxed for your beneficiaries. This could be a significant advantage.

Retail Insurance Pricing

Carriers increase insurance premiums based on the amount of risk they feel they are going to assume in each specific situation. This risk is usually determined by asking the potential insured to provide evidence of health. However, some policies are issued with no evidence of health being required by the carrier. In this situation, the company usually adds a mortality surcharge to offset the possible risk they are accepting. These loads can increase the pure cost of insurance as much as 30%-50% or more.

Chart 2 (on page 6) illustrates the premiums carriers charge based on the amount of risk they feel they are being asked to accept. The base rate used for group life insurance products is referred to as "*New York Table Y*." Depending upon competitive pressures and the size of the group, carriers will often discount these costs to obtain new business. Sometimes these discounts run

as much as 50%-70%. Annual Renewable Term to age 100 (ART 100) has a premium based on the risk associated with only one physical when the policy is first issued. After the beginning of the policy, the insurance company must continue to provide insurance coverage as long as the premiums are paid each year.

Re-entry Term requires the insured to submit new evidence of insurability before the policy will be renewed. The frequency

of re-qualification depends on the contract. It can be every 5 years, 10 years, 15 years, or 20 years. If you cannot re-qualify, you may still keep the policy, but at a significantly higher rate that will increase each year.

It is apparent that carriers set the premiums for their products based on the amount of risk they are contractually assuming and their ability to cancel the policy. If the company has a reasonable expectation of retaining the policy for the lifetime of the insured, it will set the mortality costs at or near their actual experience. The BOX is the only way the insured can benefit from these savings. In fact, most carriers offer mortality rates as low as or lower than the least expensive term rates to the policyholder who purchases The BOX.

Do insurance companies ever offer discounts to attract buyers?

Putting Money in the BOX

Once you start to put money (**premiums**) into The BOX, insurance companies will credit interest earnings to The BOX based on a mix of different investment strategies.

1. DECLARED CREDIT RATE. Most policy owners are content to accept the carrier's stated interest rate. This rate may change based on the overall performance of the underlying assets in the General Account of the carrier. Two types of underlying assets (investments) may be offered by carriers. A rate credited to a policy based on the overall assets of the carrier is called *portfolio yield*. A rate can be based on the return attributed to new money received by the company each year. This is called *new money rate*. Over time, the two rates blend together and achieve a similar return. But when rates are declining, the Portfolio rate holds up longer and shows a better long term performance on the illustration. When rates are rising, the new money rate will respond quicker and look better on the illustrations.

In either case, the insurance carrier guarantees the principal in The BOX. Only the rate will vary annually.

2. INDEXED CREDIT RATE. This is one of the more recent innovations for crediting return to policies. Here, the carrier offers crediting rate tied to one or more selected market indices. Typically the S&P 500 is used. The Box will be credited based on what the index did during a stated period of time. The typical approach is anniversary to anniversary. The Box will receive a percentage of the performance (called participation rate) of the index up to a limit (called the cap). They will also provide a guaranteed (sometimes called a floor) rate. So it is impossible to have negative performance. This type of policy will usually allow some percentage of The Box (from none to all) to be invested in this way, allowing the policy owner to determine how much market risk they are willing to take. The worst the policy can do is the floor rate. **3. VARIABLE MARKET RATE.** The policyholder may wish to assume all the investment risk by selecting from a portfolio of mutual funds within The BOX. This is called a variable product and can be either a Whole Life or a Universal Life. The range of investment options can be managed according to the risk tolerance of the policyholder. These selections include cash equivalents, (money market, guaranteed government securities), fixed returns (bonds, high risk bonds) and equity (balance, index, international and growth). Funds may be shifted from fund to fund through telephone transfers as often as the policyholder desires.

Each fund is managed by experienced, professional investment managers who specialize in particular fields. One of the advantages is the tax free growth during the accumulation period. The policyholder assumes all the risk by selecting any combination of funds. There is the real possibility of losing principal. This risk is offset however, by the potential for gains far greater than the more conservative declared rate. If the plan fails to meet the basic growth assumptions of the funds, the values in The BOX could be much lower than projected. In this case, the death benefit might decrease or the policyholder would need to put more premiums into The BOX if they wanted to maintain the planned death benefits.

4. HIDDEN RATE (No Lapse Guarantee). This is the latest method used by carriers to credit returns to The BOX. For a premium higher than the amount illustrated to age 100, the carrier will offer to guarantee the death benefit until age 120. This specified age could be younger. The guarantee is independent of any cash value available in the policy. The carrier does this by calculating a premium based on an undisclosed crediting rate for what some call a "no lapse fund." These types of policies are valuable when the primary purpose of the insurance is a death benefit.

Conclusion

The application and selection of life insurance products for sophisticated tax and retirement solutions requires more than just a computer illustration.

"Mortality only" products (term insurance) offer an inexpensive solution to providing insurance coverage, but on a temporary basis. By paying the curve, you are guaranteeing you will have to cancel the policy. However, not everyone wants their insurance coverage to lapse when they need it most, at death. They want the coverage to last as long as they do.

The BOX offers a unique way to utilize compound growth in a tax advantageous way. The net result is that you pay significantly less "out of pocket" for the mortality charges. The mortality costs are the same, but tax free investment returns help you pay the cost. But you have to fill The BOX to achieve this objective.

Either way, whether you pay the curve or fill The BOX, insurance provides a unique product which can deliver large amounts of capital for a fraction of the cost. Over time the cost of coverage must reflect your older age. So, if coverage is still desired when you are in your older years, The BOX provides the only economically acceptable, long term solution to pay those mortality costs.

In the final analysis, when you buy life insurance, you always buy term insurance. The only question is whether you pay the increasing mortality costs out of your pocket or you fund for it and pay for it with investment returns. You either pay the curve or you fill The BOX.



Great Educational Resources to Help You Better Manage Your Money

THE BOX Comic Book

Technically accurate, but without the details contained in The BOX booklet, the 4 page summary will help in your



understanding of the principles behind life insurance.

The Keys to Understanding Life Insurance



The BOX concepts are presented in four quick points. This point of sale tri-fold brochure is a good reminder for your client.



Why People Buy

Although each buyer's reasons are unique to their circumstances, there are predictable behaviors that dictate their buying decisions. This book explains how to position yourself to maximize your chances of success. You will learn:

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- 2. The four steps to the Buyer's Process.
- 3. How to deal with difficult objections.
- 4. How to Charge Fees.
- 5. How to minimize the risk of failure.

Baker's Dozen

Guy's 13 fundamental principles for financial independence are time-tested and philosophically sound principles. You will learn firsthand from Guy's own experience how he applied these principles to create wealth in his own life. Recently updated, this 188 page book highlights the value of securing the family's welfare before taking on the risk of higher yields.



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What investment strategies should an investor mix together to achieve long term financial success? *Investment Alchemy* describes a sensible, systematic method for shaping your investment decisions for the long term.

Written by Guy Baker and Rick Jensen, this 180 page book was also recently updated. It guides you through the components of Modern Portfolio Theory and gives you a method to make intelligent investment choices. Learn how to manage risk using concepts such as

diversification, efficient frontier, efficient markets, asset allocation, and market timing.

Manage Markets Not Stocks





By Guy Baker, MBA, CFP

Can you answer these important questions?

- Every portfolio buys risk. Not all risk is equal. Do you know how much risk and what type of risk you are buying?
- Based on your Investment Policy Statement are you buying more risk than you need?
- Do you know in which markets you are invested?
- Do you know how the largest institutional investors manage their portfolios?
- Do you have an Investment Policy Statement? Why is an investment policy statement important?

This informative 22 page booklet answers important questions about long term investing.

Maximize the Red Zone

Most business owners work a lifetime building an organization so they can convert it to income at retirement. But when is the best time to start the process? We call this the Red Zone. It is the final distance between where you are when you begin to plan for retirement and where you will be when you are ready to turn off the lights for the last time.

Help jump start the thinking process for business owners as they approach retirement. It gives an introduction to the issues and opportunities available and helps them score big in *The Red Zone*.



Market Tune-Up

- 1. How to open more cases with High Net Worth clients.
- 2. How to move them from the opening Interview to the Fact Finder.
- 3. How to build trust and confidence in you and your process.
- 4. How to create a compelling presentation
- 5. How to close 95% of your cases.
- 6. How to increase your efficiency in your office.
- 7. How and when to hire staff.
- 8. How to compensate them.
- 9. How to split cases with other agents

About the Author

Guy Baker, PhD earned his BS, MBA, MSFS, and MSM degrees in



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