An Analysis of Professor Belth's and Actuary Hunt's Life Insurance Policy Disclosure Approaches, and Why They Can't Really Be Considered Disclosure Approaches At All

By: Brian Fechtel, CFA, Agent, & Founder, BreadwinnersInsurance.com

Since the 1960s, Professor Emeritus Joseph Belth of Indiana University and Jim Hunt, Fellow of the Society of Actuaries (FSA) and Life Insurance Advisor for the Consumer Federation of America (CFA), have been widely-cited as two of the leading consumer advocates on life insurance matters. So then why don't Professor Belth and Actuary Hunt agree on life insurance policy disclosure? Does this tell us something about: 1) the disclosure problem, 2) these two guys, or 3) nothing at all?

This is the second of two articles in a series exploring life insurance policy disclosure. The first article presents the thoughts of Professor Belth and Actuary Hunt (and a few others) on Breadwinners' disclosure approach. This article presents Breadwinners' founder's thoughts on the disclosure approaches of Professor Belth and Actuary Hunt. Readers should have a good understanding of life insurance policy illustrations, as explained in the first article of this series, before reading this article.

First, a little about my friendships (repeated from first article to establish tone)

Jim Hunt and Joe Belth are both my friends. I have known each for more than 18 years and had countless phone conversations with them. Whenever their travel plans have brought them to NYC, I have always tried to catch-up with them for a meal. Both are smart and have taught me much about the life insurance industry.

For more than 15 years, Jim has served the Consumer Federation of America as its advisor on life insurance. When I was a Northwestern agent, Jim referred many clients to me; and as noted on my Testimonials' page, he found some of my research "invaluable." Jim is reserved and self-effacing, and yet so

very admirably and actively civic-minded; while "retired," during tax season he devotes 50+ hours/week as a volunteer AARP tax preparer. Although sometimes a little short tempered, Jim's words on such occasions are as few as his golf swings – a sport and passion at which he truly excels.

During the industry's 1990s sales scandals, I was fortunate to have had many long and very enjoyable phone conversations with Joe. Our talks were often punctuated by Joe's hearty laughter after one of his typical emphatic professorial talks. In many ways, Joe reminds me very much of my own dear father; even in his 80s, he's still a little didactic and very passionately engaged in his life's work. Although for years Joe proclaimed his award winning newsletter, *The Insurance Forum*, was "for the unfettered exchange of ideas about insurance," prior to about 10 years ago, the only ideas he ever entertained publishing were his own – which, of course, were typically good and well researched.

Jim's Approach

Jim, a life insurance actuary and in fact a Fellow of the Society of Actuaries (FSA), has always used the Linton Yield method to analyze a life insurance policy. This method, developed by M.A. Linton, an actuary in the 1930s with Mutual of NY, involves calculating the yearly yield, a.k.a. rate of return, on a cash-value policy by assuming that instead of paying one's premium money into the cash-value policy one buys term insurance and separately invests the difference. Jim makes assumptions about the cost of term insurance, and then calculates the "Linton Yields," which again are the implicit yields one would have earned on the invested difference to have the same year-end value as in the cash-value policy. (If this isn't clear from these words, it will become clear in the example below.) In a new policy, the Linton Yields are almost always large negative rates in a policy's early years and then various changing positive rates in subsequent years. As Jim points out to his clients, the calculated Linton yields not only vary from year to year, sometimes significantly, but they also of course vary depending upon the assumptions Jim makes regarding applicable term costs.

Joe's Approach

Joe, on the other hand, does it basically the other way. That is, Joe assumes a rate of return that one might earn on one's money and then uses that to calculate the implicit annual costs of the insurance. In his 1975 academic article presenting his disclosure approach, Joe used a 5% interest rate assumption, but given today's lower yields he currently recommends using a lower rate. Joe then goes another step, and adding an assumed value of the insurance protection, he calculates an annual rate of return for each year shown in the illustration.

Presentation and Discussion of Joe and Jim's Alternative Approaches

Examples of Jim and Joe's calculations are shown, with their specific formulas, in the spreadsheets on pages 5 and 6. Actual working spreadsheets of their separate approaches can be obtained from Breadwinners'.

As the spreadsheet for Jim's Linton Yield approach shows, his analysis report of a policy's 20 year illustration can contain nearly 40 interest rates, as he calculates, implicit yields for each year, and then yields over multiple periods, for example, from year 3 to 6, year 7 to 11, and then also potentially a whole slew of alternative yields for all years by making slight modifications in his assumed term costs (say 120% of his originally assumed costs). Nowhere, though, does Jim show the consumer the annual cost that the insurer is actually illustrating charging the consumer in each year, or the interest rate assumption that the insurer used in constructing the illustration.

Joe's approach also calculates 40+ numbers for a 20 year illustration. His approach does show calculated annual costs, but they are not the insurer's illustrated costs, and in fact his series of yearly calculated costs can be a string of negative values. Joe calculates implicit yearly rates of return, but again they are not the rate the insurer used in creating the illustration. Joe has also called for insurers to annually report to policyholders their actual annual policy costs and rate of return. Such reported figures would not, however, equal those Joe had

calculated at the beginning of the year, even if the insurer's actual annual performance was exactly as illustrated.

So, one interim conclusion, as is plainly obviously, is that these two approaches don't agree on any disclosed number, except by coincidental chance.

Three Obvious Questions

This all leads to a few obvious and important questions: 1) why don't their approaches agree, 2) why doesn't either's approach when applied to a policy illustration disclose the information that is embedded in the illustration, and more generally 3) why haven't they ever applied their approaches to disclose the historical financial performance of a life insurers' actual policies, and reconciled it, or tried to reconcile it, with the insurer's annual financial statement data?

To begin with, Joe and Jim's approaches don't agree because they both look at a policy illustration with their own, personal lens, and a "distorted" lens at that. **In fact, neither Jim nor Joe's approach is actual disclosure.** Disclosure is defined as revealing or making known that which is unknown. Yet, both of their approaches analyze rather than reveal. They both begin with assumptions of one sort or another (alternative term costs or opportunity interest rate), and then perform a little algebra to calculate some results. The very act of making an assumption, however, violates the rules of disclosure, which call for a straightforward presentation of information, not an interpretation or analysis of such. A whole slew of problems exist with trying to build a disclosure approach on such skewed platforms. However, rather than walk through the slew of such problems – some of which are intuitively apparent to many readers – it is more useful to focus on the specific shortcoming of each approach.

When an illustration is built with an assumption of one particular interest rate, it is not disclosure to use a different interest rate (as Joe does) to deconstruct it or to represent its performance with a multitude of different interest rates (as Jim does). Specifically, for example, to discount at 3% an illustration constructed based on 6% does not reveal the insurer's costs assumptions. Joe has never addressed this fault with his method. When Jim

reports a 4% Linton Yield for an illustration's particular policy year, and yet the insurer's illustrated performance was actually based upon assumptions of a 7% rate and annual costs of $900, it is difficult to list all of the possible misconceptions that a consumer can have from Jim's Linton Yields; let it suffice to say consumer comprehension is not fostered or abetted.

When consumers need to understand a cash-value policy – a product which can most clearly be described as a two-dimensional product with an annual cost and an annual compounding rate – it is not helpful to represent its performance with a single variable (the Linton Yield) or a series of a single variable (multiple years' Linton Yields). Such is akin to trying to completely describe a rectangle with one measurement. In addition, in the particular case of cash-value life insurance where annual costs have always been and must always be of real importance, to fail to clearly and explicitly spotlight a policy's costs is to fail to speak the consumer's language and to fail to facilitate his/her comparisons and other related analyses.

Quite simply, when one wants to provide disclosure of a policy illustration, the best, simplest, and most straightforward approach is to disclose the illustration's underlying annual costs and compounding rate assumptions. Anything else is just not disclosure of the illustration. Joe and Jim's approaches, rather than simplifying and distilling the essential assumptions underlying the illustration, complicate a consumer's understanding of such with a plethora of additional numbers. Their figures, rather than demystifying and deemphasizing the illustration – after all, **a policy illustration is nothing but an assumed scenario and not the basis on which to make any decision,** actually introduce a misleading impression, due to laymen's perceptions of mathematical analysis, of being genuine sophisticated, authoritative, and credible findings. But, mathematical analysis of fanciful and fundamentally immaterial illustrations is just simply mathematical analysis of fanciful and fundamentally immaterial illustrations.

Finally, neither Jim nor Joe has ever presented the results of applying their approach to historical policy information. While this is an obvious, essential requirement of an implementable disclosure approach, their omission of such

might not actually be that surprising. Neither of their approaches would produce results that would agree with the insurer's specific historical financial performance. That is, again, quite simply, because neither approach is a disclosure approach. Imagine if such non-disclosure disclosure approaches were used for mutual funds or companies' SEC filings, it wouldn't be a pretty sight. For the many who trumpet the virtues of disclosure and transparency in a variety of arenas, and yet who have not previously closely examined Joe and Jim's approaches, this insight regarding Joe and Jim's approaches can come as a bit of a surprise.

Linton Yield Calculations as Performed by Jim Hunt's CFA Rate of Return Service

Input Illustration Data Below
Healthy 40 Year Old Male

Policy Year	Annual Premium	Cash - Value	Death Benefit	Amt. of Term Ins. Purchased	Assumed Term Rates/ $1,000	Term Costs	Sidefund BOY	Sidefund YE	Linton Yields
1	3,591	-	500,000	496,409	0.92	459	3,132	0	**-100.0%**
2	3,591	2,320	500,000	496,409	0.95	474	3,117	2320	**-25.6%**
3	3,591	5,179	500,000	494,089	0.98	486	5,425	5179	**-4.5%**
4	3,591	8,116	500,000	491,230	1.02	499	8,271	8116	**-1.9%**
5	3,591	11,141	500,000	488,293	1.05	512	11,195	11141	**-0.5%**
6	3,591	14,214	500,000	485,268	1.08	524	14,208	14214	**0.0%**
7	3,591	17,464	500,000	482,195	1.16	558	17,247	17464	**1.3%**
8	3,591	20,905	500,000	478,945	1.24	594	20,461	20905	**2.2%**
9	3,591	24,345	500,000	475,504	1.33	631	23,865	24345	**2.0%**
10	3,591	28,522	500,000	472,064	1.42	672	27,264	28522	**4.6%**
11	3,591	33,072	500,000	467,887	1.53	714	31,399	33072	**5.3%**
12	3,591	37,834	500,000	463,337	1.62	752	35,911	37834	**5.4%**
13	3,591	42,810	500,000	458,575	1.73	793	40,632	42810	**5.4%**
14	3,591	47,998	500,000	453,599	1.84	836	45,565	47998	**5.3%**
15	3,591	53,402	500,000	448,411	1.96	880	50,709	53402	**5.3%**
16	3,591	59,030	500,000	443,007	2.09	926	56,067	59030	**5.3%**
17	3,591	64,900	500,000	437,379	2.31	1,009	61,612	64900	**5.3%**
18	3,591	71,026	500,000	431,509	2.55	1,099	67,392	71026	**5.4%**
19	3,591	77,437	500,000	425,383	2.81	1,194	73,423	77437	**5.5%**
20	3,591	84,150	500,000	418,972	3.10	1,299	79,729	84150	**5.5%**

Average Annual Linton Yield ROR's

Assuming Costs: >	100% ART	120% of ART	Max ART
If Policy Kept 4 More Years	**-16.4%**	**-15.1%**	**-2.6%**
If Policy Kept 8 More Years	**-3.6%**	**-2.8%**	**8.2%**
If Policy Kept 14 More Years	**1.8%**	**2.3%**	**10.9%**
If Policy Kept 20 More Years	**3.5%**	**3.9%**	**11.7%**

Marginal ROR's From Yr X to Yr Y if Term Costs = 100% ART

From Year 3 through Year 6	**-1.1%**
From Year 7 through Year 11	**3.5%**
From Year 12 through Year 17	**5.5%**

Jim's uses/assumes Annually Renewable Term (ART) premiums from a no-load insurer; Formulas and Notes shown on other page

Professor Belth's Disclosure Approach as Shown in his 1975 Article

Input Illustration Data Below
Healthy 40 Year Old Male

Policy Year	Annual Premium	Cash - Value	Death Benefit	Protection At-Risk Amt in $1000s	Yearly Price/ $1,000	Yearly Rate of Return	Assumed Term Rate/ $1000
1	3,591	-	500,000	500	7.4	-87.1%	0.92
2	3,591	2,320	500,000	498	2.8	-22.1%	0.95
3	3,591	5,179	500,000	495	1.8	-4.1%	0.98
4	3,591	8,116	500,000	492	1.9	-1.7%	1.02
5	3,591	11,141	500,000	489	1.9	-0.4%	1.05
6	3,591	14,214	500,000	486	2.0	0.1%	1.08
7	3,591	17,464	500,000	483	1.8	1.2%	1.16
8	3,591	20,905	500,000	479	1.6	2.1%	1.24
9	3,591	24,345	500,000	476	1.9	2.0%	1.33
10	3,591	28,522	500,000	471	0.5	4.5%	1.42
11	3,591	33,072	500,000	467	0.0	5.2%	1.53
12	3,591	37,834	500,000	462	(0.2)	5.3%	1.62
13	3,591	42,810	500,000	457	(0.3)	5.3%	1.73
14	3,591	47,998	500,000	452	(0.5)	5.3%	1.84
15	3,591	53,402	500,000	447	(0.6)	5.2%	1.96
16	3,591	59,030	500,000	441	(0.7)	5.2%	2.09
17	3,591	64,900	500,000	435	(0.9)	5.3%	2.31
18	3,591	71,026	500,000	429	(1.1)	5.3%	2.55
19	3,591	77,437	500,000	423	(1.4)	5.4%	2.81
20	3,591	84,150	500,000	416	(1.7)	5.5%	3.10

Joe's Assumptions to Calculate Yearly Price/$1000 and Yearly Rate of Return

Assumed Rate of Return 3% **Term Costs: Assumed Same as Jim's for simplicity sake**

Formulas:

Protection: At-Risk Amt in $1000s = (Death Benefit - Cash Value) /1000

Yearly Price /$1000 At-Risk= (((Prior YE Cash-Value + Premium) * (1+ Assumed Interest Rate)) - YE Cash-Value) / At-Risk Amt

Yearly Rate of Return = ((YE Cash-Value + (Assumed Value of Term/1000 * At-Risk Amt)) / (Premium + Prior YE Cash-Value)) - 1

Note:

1)YE stands for year-end, Prior YE, prior year-end

2) Assumed Term Rates/$1000 not shown in Joe's 1975 article. Shown here just for those wanting to verify Yearly RORS

Formulas and Notes for Jim's Approach

Amount of Term Purchased = Death Benefit - Prior YE Sidefund - Premium SEE NOTE 1

Term Rates/$1000 = Assumes Annual Renewal Term (ART) premiums, often second best health class, comparable death benefit

Term Costs = Amount of Term Purchased * Term Rates/$1000

Sidefund b.o.y = Prior YE Sidefund + Premium - Annual Term Costs and Sidefund YE = Policy's Cash Value

Annual Linton Yield = (Sidefund YE / Sidefund b.o.y.) - 1

Average Annual Linton Yields using Excel formula for calculating ROR on cash flow streams

1)Manually circumvent logical problems that arise from fact that annual term cost is function of the Sidefund b.o.y. & vice versa

2)Linton Yields for MAX ART included here b/c regulations require equal emphasis on Guarantees when NON-guaranteed shown

Breadwinners' Approach

Illustration Analyzer Output to be inserted. Or if not available in your copy, please just visit www.BreadwinnersInsurance.com and input the above illustration's data into the Illustration Analyzer. Be sure to note that the illustration of this universal life policy was created by the insurer assuming a 6.0% assumed interest rate.

Years from Now	Age	Death Benefit End-of-Year	Annual Premium	Surrender Cash Value End-of-Year	Total Amount Cost	At-Risk Amount	Cost Per Thousand ($/M)	Cum. PV Discted at 5% Cost/M
1	40	500,000	3,591	0	3,591	498	7.2	7.2
2	41	500,000	3,591	2,320	1,402	497	2.8	9.9
3	42	500,000	3,591	5,179	1,025	494	2.1	11.8
4	43	500,000	3,591	8,116	1,113	492	2.3	13.7
5	44	500,000	3,591	11,141	1,197	489	2.4	15.7
6	45	500,000	3,591	14,214	1,323	486	2.7	17.9
7	46	500,000	3,591	17,464	1,330	482	2.8	19.9
8	47	500,000	3,591	20,905	1,333	479	2.8	21.9
9	48	500,000	3,591	24,345	1,529	476	3.2	24.1
10	49	500,000	3,591	28,522	1,028	472	2.2	25.5
11	50	500,000	3,591	33,072	913	467	2.0	26.7
12	51	500,000	3,591	37, 834	971	463	2.1	27.9
13	52	500,000	3,591	42,810	1,038	458	2.3	29.2
14	53	500,000	3,591	47,998	1,120	453	2.5	30.5
15	54	500,000	3,591	53,402	1,210	448	2.7	31.9
16	55	500,000	3,591	59,030	1,304	442	3.0	33.3
17	56	500,000	3,591	64,900	1,395	436	3.2	34.7
18	57	500,000	3,591	71,026	1,485	430	3.5	36.3
19	58	500,000	3,591	77,437	1,563	424	3.7	37.8
20	59	500,000	3,591	84,150	1,641	417	3.9	39.3
						9302	Sum of At-Risk	
						465	Avg. Over 20 Yrs.	