

Indexed Universal Life

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Agenda

- What is Indexed UL?
- Sales Update
- IUL – Appeal and Potential Challenges
- Sample Index Crediting Methods
- Illustrations
- Recent Innovations

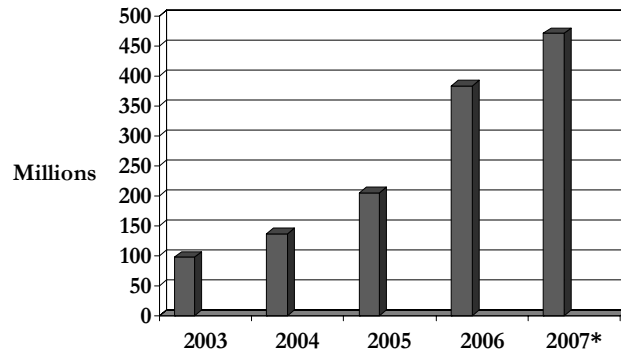
What is Indexed UL?

- A Universal Life contract that bases its interest crediting mechanism on the performance of an external index, such as the S&P 500.
- Allows policyholders to participate in the upside potential of the market without the downside risk associated with Variable Universal Life.
- Market is about 10 years old
 - Initially, only a few participants
 - As of 7/31/2007, at least 30 companies selling IUL

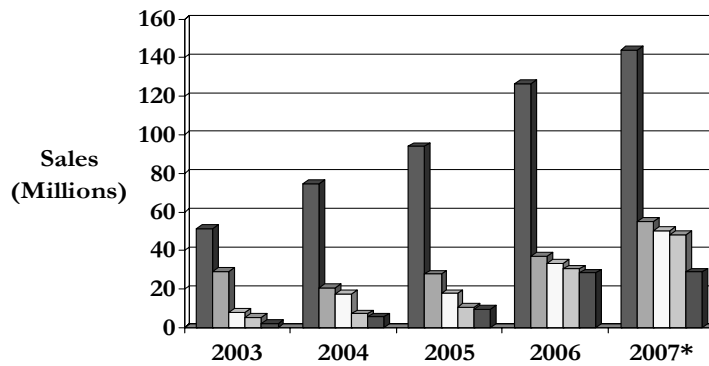
Indexed UL – Ideal for the “Risky Chicken”?



Indexed UL – Total Industry Sales



Indexed UL – Top 5 Sellers by Year



Indexed UL - What's the Appeal?

- **Relatively young market, growth potential**
- **Marketing sizzle**
- **Market exposure with no downside risk (unlike VUL)**
- **Interest guarantees**
 - Credited each year (just like fixed)
 - Multi-year guarantee (true-up at end of X years)
 - Lifetime guarantee (AV based on X% guarantee upon termination/death)
- **Favorable illustrations in our low interest rate environment**

Indexed UL – What's Difficult?

- **Operational Challenges**
 - Admin system
 - AV mechanics – timing of crediting
 - Holding account for charges or pro-rata from accts?
 - Buckets/segments, “sweep” frequency
 - Multiple index accounts
 - Fixed & variable loans within same contract
 - Ability to efficiently hedge; time to build scale
 - Managing the business – option costs can be volatile
 - Licensing fees for indices
- **Sales Complexity?**
 - Agents may be uncomfortable with the concept
 - Policyholder confusion
 - More moving parts
 - Complex contract language

Sample Index Crediting Methods

- Point-to-Point with Cap
 - Annual reset period is common; some products have monthly
 - Return limited by the cap
 - Typically, 100% guaranteed Participation Rate
- Point-to-Point with Participation Rate (PR)
 - Annual reset period is common
 - Annual Return multiplied by the PR
 - Typically, guaranteed to have no cap
- Monthly Average with PR
 - Less common
 - Annual Return (using the average as ending value) multiplied by the PR
 - Guaranteed no cap

Annual Point-to-Point with Cap

- **Easiest to explain and understand.**
- **Currently, seems to be most popular option.**
- **Performs well in increasing market scenarios.**
- **May illustrate weaker when compared to other crediting methods.**
- **Example: 12% Cap, Start Date = 8/1/2007**
 - Index Value 8/1/2007 = 1000
 - Index Value 7/31/2008 = 1200
 - Total Index Return = 20%
 - Index Credit = Minimum (20%, 12%) = 12%
 - Credit never less than zero

Annual Point-to-Point with PR

- PR is more difficult to explain and understand.
- Performs well in increasing markets, especially if increase is large.
- High illustrated rates.
- **Example: 67% Participation Rate, Start Date 8/1/2007**
 - Index Value 8/1/2007 = 1000
 - Index Value 7/31/2008 = 1200
 - Total Index Return = 20%
 - Index Credit = $20\% \times 67\% = 13.4\%$

Monthly/Daily Average with PR

- PR and Monthly/Daily Averaging is difficult to explain and understand.
- May perform better than Point-to-Point in volatile, especially down, markets.
- Illustrates in between.
- **Example 1 (up scenario): 116% Participation Rate, Start Date 8/1/2007**
 - Index start value = 1000, end value = 1100
 - Index average for the year: 1050
 - Index credit = $(1050 / 1000 - 1) * 1.16 = 5.8\%$
- **Example 2 (down scenario):**
 - Index start value = 1000, end value = 950
 - Index average for the year: 1035
 - Index credit = $(1035 / 1000 - 1) * 1.16 = 4.06\%$

Indexed UL - Illustrations

- **High illustrated rates based on historical market returns**
 - 7% - 9% common in today's market
 - Fixed UL today: 5% - 5.5%
- **Limited or no guidance on illustrated rate**
 - Illustration Model Reg doesn't mention IUL
 - Revised ASOP 24 – “For an indexed life insurance product where the investment assumption is sensitive to business or economic cycles, the actuary should consider an appropriate time frame commensurate with such cycles and the characteristics of the underlying index in determining recent actual experience.”
 - Is this the earned rate used in modeling to complete self/lapse support tests?
 - Is this the current credited rate assumption on the illustration?
- **Balance competitive needs and Illustration Actuary's judgment.**

Indexed UL – Illustrated Rates

- **The illustrated rate may vary depending on the index crediting method.**
- **For example, the same amount of money invested in options for each crediting method produces:**
 - *Annual Point-to-Point*: 12% cap and 7.80% illustrated rate
 - *Annual Point-to-Point*: 67% PR and 8.70% illustrated rate
 - *Monthly Average*: 116% PR and 8.20% illustrated rate
- **Illustrated Rates typically have been determined by some kind of “lookback” method.**
 - Example: look at index's returns for every day over the last 15 years and average them.
 - Depending on lookback period or differences in methodology, rates can vary company-to-company even if index features are identical.
 - Calculation method sometimes described in an illustration, sometimes not disclosed.
 - As mentioned, no regulation directly defines how to calculate.

Indexed UL – Illustrated Rates

- **Competitive Comparisons**
 - If index features are equivalent, agents should consider running each company's at a common crediting rate.
 - 12% cap is a 12% cap (if guarantee provisions are identical), no matter who is offering it.

Indexed UL – Illustrated Rates

Indexed Universal Life
 Sample Cap Rates - S&P 500
 Annual Point-to-Point Crediting Methodology

Product	Cap	Illustrated Rate	15-Year Lookback	35-Year Lookback
A	10.00%	7.36%	7.03%	6.57%
B	11.00%	7.47%	7.50%	7.04%
C	11.50%	8.00%	7.73%	7.27%
D	12.00%	7.15%	8.17%	7.78%
E	12.00%	7.90%	7.95%	7.49%
F	12.00%	7.95%	7.75%	7.22%
G	12.00%	8.00%	7.75%	7.22%
H	12.00%	8.00%	7.75%	7.22%
J	12.00%	8.00%	7.95%	7.49%
J	12.50%	8.20%	8.16%	7.70%
K	14.00%	8.20%	8.55%	8.02%
L	15.00%	9.18%	9.12%	8.65%
M	16.00%	9.70%	9.27%	8.73%

Indexed UL – Recent Innovations

- **Expanded Index Choices**
 - S&P 500, S&P 400, Nasdaq, DJIA, Euro Stoxx 50, Global Indices
 - Rainbow (combination of indices)
- **Asset fees (% of fund value loads)**
 - May allow for higher caps/PR's, and higher illustrated rates
- **Variable Rate Loans**
 - Variable rate is tied to Moody's
 - Loaned funds still get index credits
 - Favorable cash flow illustrations when loan rate < illustrated rate
- **Living Benefit Riders**
 - Critical/Chronic Illness accelerated benefit

Thanks!





What's New with Indexed Life?

2007 SOA Annual Meeting

David J. Weinsier

October 15, 2007

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Agenda

- Product Design
- Hedge Administration
- Rate Resetting

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Product Design

Basic structure similar to UL

- Issue ages
- Underwriting classifications
- Face amount bands
- Commissions
- Target premiums
- Load/charge structure
 - % premium
 - Per policy
 - Per 1000
 - COI
 - Surrender charge
- Common to trade spread for higher loads/COIs

Indexing feature

- Annual reset (i.e., ratchet) structure most common, multi-year index terms also available
- Crediting methods
 - Point-to-point
 - Simpler to administer and understand
 - Averaging
 - Re-gaining favor
 - Allows for higher participate rate or cap, relative to point-to-point
 - Can come in daily, monthly, quarterly varieties
 - Monthly cap
- How many buckets to offer?
 - Fixed bucket has become a must-have
- Benchmark index
 - S&P still dominant
 - Dow, Nasdaq, Russell, Bond also available

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The moving part

- Many carriers offer a 100% guaranteed participation rate
 - Early entrants had difficulty convincing producers and policyholders that a participation rate of e.g., 75% does not mean the carrier retains 25% of the index gain as profit
- Cap has become the prevalent feature to serve as the balancing item between the hedge budget and cost of the comparable derivative needed to hedge the liability
 - Industry range 10% - 17% for annual point-to-point design
 - 12% most common
 - Cap can be reset once per anniversary, but practice dictates less often
- Adjustable par rate has come back into favor recently, in conjunction with averaging methods
- Index spread exists on certain EIAs, not prevalent on IUL

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Determination of the guaranteed rate

- Underlying guarantee drives the amount that can be spent to purchase hedges
- Fixed bucket offers a UL-type guarantee (2-4%)
- New plans offer a *cumulative* underlying guarantee (and 0% annual index growth floor), somewhat akin to annuities
 - Such a feature can result in lowering the cost of the guarantee, thus providing a larger hedge budget, than an equivalent product with an annual guarantee

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Inclusion of an extended no-lapse guarantee ("NLG") feature

- Due to growth in protection UL with NLGs, market pressures to include on IUL
- Most products offer limited NLG (15-20 years up to age x)
- Several carriers offer a lifetime NLG on their IUL product
- Implications of offering a NLG
 - Revised AG38 (AXXX) can cause excessive reserves
 - Subject to increased interest rate and policyholder behavior risk
 - Stochastic testing (or at least sensitivity testing) becomes important
 - Mix of business moves more toward protection-type mix
 - Additional premium patterns should be tested
 - Ultimate lapse rates may be low (particularly if guarantee is ITM or close to it)
- Level of required premium is key driver to the cost of a lifetime NLG

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Hedge Administration

Hedging administration
<ul style="list-style-type: none">■ A system should be established to track incoming premium, as well as rollovers, and corresponding hedge purchases■ Since it will not be economical to purchase a hedge each time a premium is received, the system should track any unhedged or overhedged positions■ The system should reconcile actual hedge payoffs to policyholder index credits in order to check accuracy of hedges and identify any mismatches<ul style="list-style-type: none">■ Some degree of mismatch is expected due to decrements and requirement of round lots■ This information may allow you to adjust decrement factor and timing of purchases

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Dynamic hedging can result in a cost savings,
but economies of scale are necessary

- Some carriers have seen 15-20% savings when moving to dynamic hedging, due to reduction or elimination of bid-ask spreads
- Relatively large economies of scale requirement
 - Most carriers using dynamic hedging sell large amounts of VA, FIA or both
- More challenging to achieve a tight match between cash flows arising from hedges and corresponding liabilities

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Some carriers purchase hedges on 100% of
fund value (i.e., ignore expected decrements)

- 'Overhedging' is fairly common in the market for IA/IUL writers
- Gains from overhedging can result due to mid-year surrenders when the market value of the hedge has increased since purchase
 - Hedge can be sold at market value or held until maturity
- No gain would occur when market declines
- Be careful not to rely too heavily on gains from overhedging
 - Policyholders are not completely rational, but they are not completely irrational either
 - Skewed lapses should be considered

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Rate Resetting

Rate re-setting on IUL is similar to UL, with additional components

The following components will be needed:

- Hedge budget
 - Net asset yield (portfolio or new money)
 - Required pricing spread
 - Guarantee
- Current hedge costs at various points on the term structure

Also consider:

- Competitor rates
- Level of tolerance
 - It may make sense to only move the cap in 'round lots'
- Elasticity of lapse rates
 - How sensitive policyholders are to the difference between the current cap and competitor cap should be considered

Rate re-setting on IUL is similar to UL, with additional components (cont.)

- Due to additional sources of profit, resetting of cap on IUL may not be as frequent as resetting on EIA
- Anecdotal evidence shows that IUL carriers change cap levels rather infrequently, despite acknowledging current cap levels are unsupportable in current environment
- Stable rate would be preferred for illustrations

It is important to understand sensitivity of profitability to a reduction in spread caused by failing to modify the cap

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Derivation of hedge budget

- 12% cap, 100% participation rate, cumulative guarantee

Hedge budget

Net earned rate	6.0%
Target pricing spread	(0.5)%
<u>Guaranteed rate</u>	<u>(0.2)%</u>
Hedge budget (discounted to BOY)	5.0%

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Derivation of hedge cost

Hedge cost

Risk-free rate	5.0%
Dividend yield	1.8%
Long hedge volatility	11.0%
Short hedge volatility	9.0%
Long hedge cost (per Black-Scholes)	5.9%
<u>Short hedge cost (per Black-Scholes)</u>	<u>(0.9)%</u>
Hedge cost	5.0%

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Risk of hedge mismatch

- IUL profitability is highly dependent on accurately setting or re-setting the cap at levels supportable by corresponding hedge costs

Hedge cost	at issue	at reset
Risk-free rate	5.0%	5.0%
Dividend yield	1.8%	1.8%
Long hedge volatility	11.0%	17.0%
Short hedge volatility	9.0%	14.8%
Long hedge cost (per Black-Scholes)	5.9%	8.2%
<u>Short hedge cost (per Black-Scholes)</u>	<u>(0.9)%</u>	<u>(2.7)%</u>
Hedge cost	5.0%	5.5%

Without a corresponding change in cap, pricing spread falls to 0% !!!

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