

**How's Life?
An Overview of the Permanent Life Market**

SOA Product Development Actuary Symposium

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Today's topics

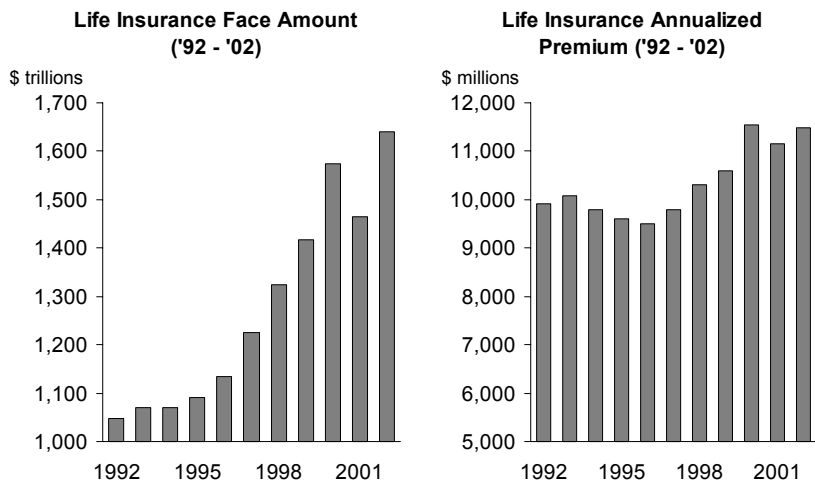
- Life market update
- Life product developments
- 2001 CSO

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Life Market Update

Although total life insurance face amount has grown 56% since 1992, growth in total premium has been much less



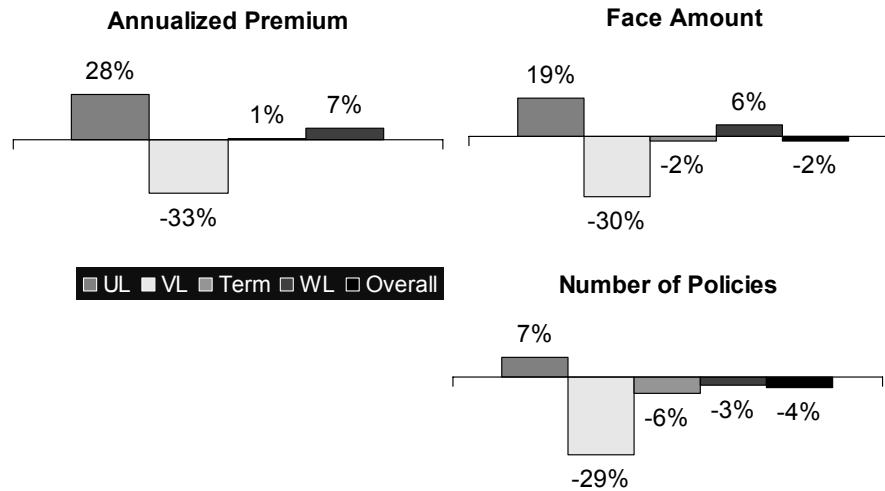
Source: Morgan Stanley Equity Research; LIMRA International

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Results for 2003 by product were mixed

Growth from '02 to '03



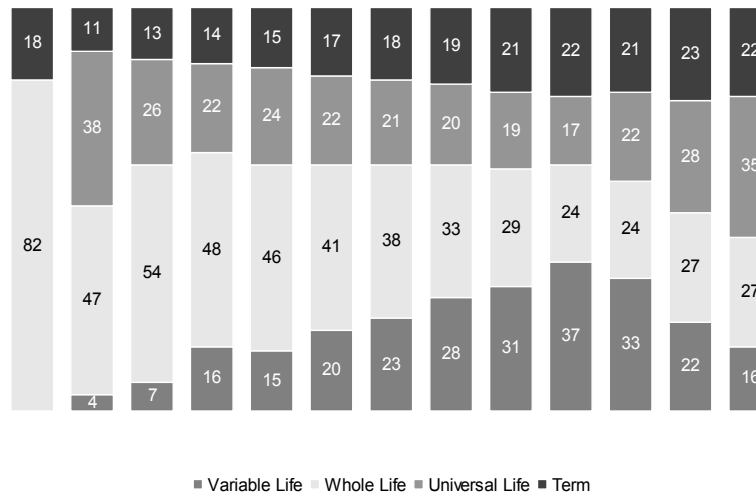
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Source: Morgan Stanley Equity Research; LIMRA International

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Market share of fixed and variable products has shifted over time

% of Total FY Premium **Market Share Of Individual Life Insurance by Product Type**

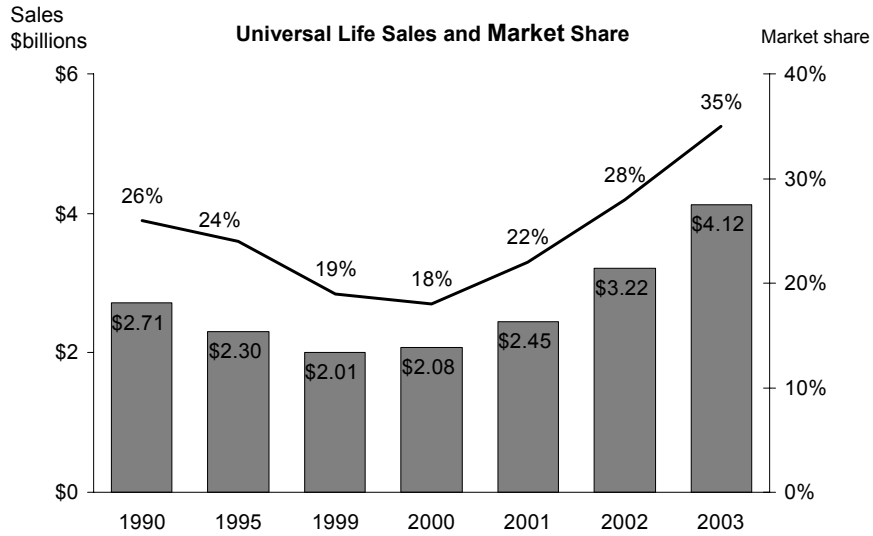


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Source: Morgan Stanley Equity Research; LIMRA International

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Universal life sales and market share continued to grow in 2003

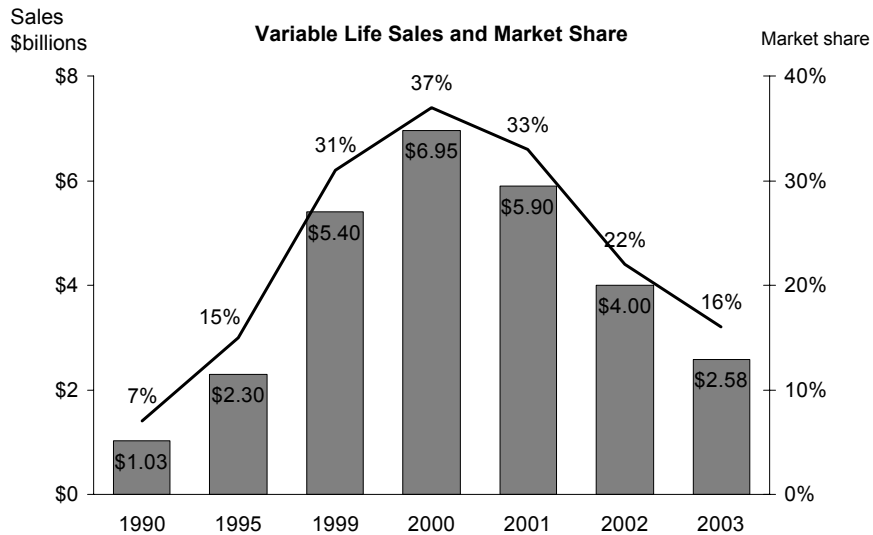


Source: Morgan Stanley Equity Research; LIMRA International. Sales include first-year target premiums, and 10% of single premium, but exclude dump-ins.

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The variable life market experienced remarkable growth throughout the 1990s — but, sales have dropped off considerably more recently



Source: Tillinghast VALUE Survey. Sales include first-year target premiums, 100% of dump-ins and 10% of single premium. LIMRA International (market share data).

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Life Product Developments

Most recent product development activity has been in the UL market, specifically around no-lapse guarantees

- Until recently, several third-party reinsurers offered reinsurance solutions that reduced reserve strain for UL secondary guarantees
- Direct companies have looked for alternatives
 - Affiliated off-shore reinsurance, utilizing their own letter of credit capacity
 - Securitization, an emerging alternative form of financing
 - To date, no AXXX securitizations have occurred
 - Managing reserve strain through product design

There are three general UL no-lapse guarantee designs in use today

Stipulated Level Premium

- Provides for a guarantee of x years as long as a specified level premium is paid each year
 - Some contracts offer multiple guarantee periods
- Generally offers little funding flexibility, although some designs offer a catch-up or pre-payment provision

Shadow Fund (SF)

- If the shadow fund value is greater than zero, the guarantee is intact and the coverage is guaranteed not to lapse, even if the surrender value is zero
- The shadow fund is an accounting feature
- The shadow fund — which works like the UL fund — generally uses a more favorable load structure than the actual base policy
- Provides payment and guarantee duration flexibility

Annually Renewable Term (ART)

- Hybrid of the shadow fund and stipulated premium designs
- Has a stream of graded specified premiums but relies on discounting to provide funding flexibility (e.g., level premium, limited pay)

Several companies appear to be managing AXXX reserve levels through product design

- States currently do not have load, credited interest or COI restrictions for shadow fund calculations

$$\text{Total AXXX reserve} = \text{XXX Reserve} + (\text{SF Value/SF Single Premium}) * (\text{NSP} - \text{XXX Reserve}) - \text{Surrender Charge}$$

- Design modifications that lower the ratio of the shadow fund value to the single premium to fund the shadow fund have emerged, including:
 - Tiered interest rates
 - High interest rates up to a certain fund level, and a lower interest rate on excess funds
 - High percent of premium loads and/or unit loads
 - “Excess” percent of premium loads
 - Tiered shadow fund COI charges

Low interest rates and less reliance on third-party reinsurance have caused companies to examine the true cost of secondary guarantees

Traditional Practice

- Liability-only pricing models
- Perform a limited number of sensitivity tests
- Focus on reducing reserve strain
 - Through product design and/or reinsurance
- Basic belief that there is a low probability that the guarantee will be “in the money”
 - Limited analysis of the economic cost of guarantee
- Continuation of traditional investment strategy, based on entire UL block of business

Emerging Practice

- In addition to base deterministic modeling, perform a stochastic analysis on key assumptions (e.g., lapse, mortality, expenses, earned rates)
 - Develop a risk profile
 - Determine a true economic cost of guarantee (metric)
- Focus on determining an “economic reserve”
 - Through design close the gap between statutory reserve and economic reserve
- More comprehensive analysis of investment strategy

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There has been less product development activity in the variable life market recently

- Some product manufacturers are experimenting with simplified new business processes and new product designs to tap investment-oriented distribution channels
 - Developed electronic application processes supported by call centers or fulfillment centers, insulating reps from new business processes
 - “dropping the ticket” sales process characteristic of mutual funds and annuities
- Revamping product designs
 - Developing protection-oriented designs
 - Revising GMDB / no-lapse guarantee features
 - Adding annuity guarantee features to life products

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Going forward, several emerging issues will shape the universal life and variable life markets

- For UL, regulators are beginning to scrutinize some shadow fund designs
 - Stay tuned as issue develops
- The future of the variable life market undoubtedly hinges on a recovery of the equity markets
 - Would be helped by less attractive fixed product alternatives
 - Long term, must significantly increase penetration of investment-oriented distribution channels to realize significant growth
 - Potential roadblocks: mutual fund related scandals, estate tax changes, significant bad press or market conduct issues

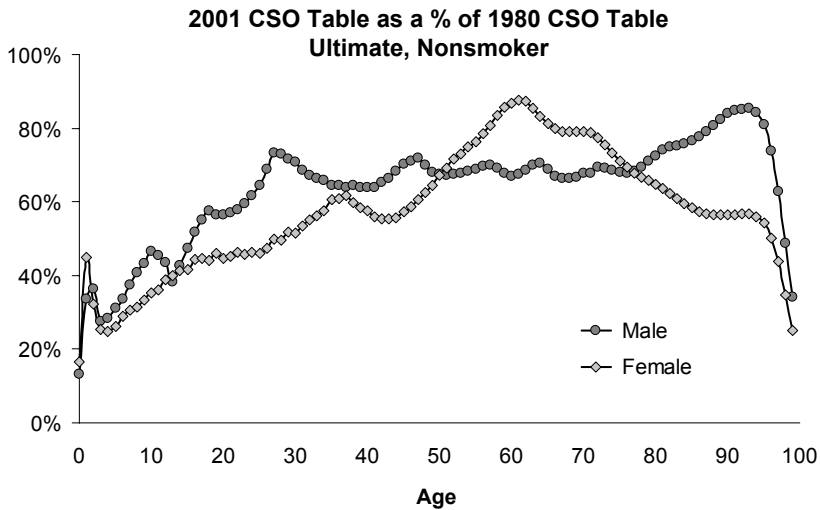
2001 CSO

The model regulation introducing 2001 CSO was adopted by LHATF in December 2002

- The 1980 CSO mortality table has been the valuation standard for almost 20 years
- Key differences in 2001 CSO vs. 1980 CSO

	1980 CSO	2001 CSO
■ Experience basis	1970-75	1990-95
■ Omega age	100	121
■ Select period	10/19	25
■ Rate basis	NS/SM, no pref	Same
■ Separate ETI Table	Yes	No

Mortality rates in the 2001 CSO table are significantly below those for the 1980 CSO table



Note: 1980 CSO table has an omega of 100, while 2001 CSO table has an omega of 121

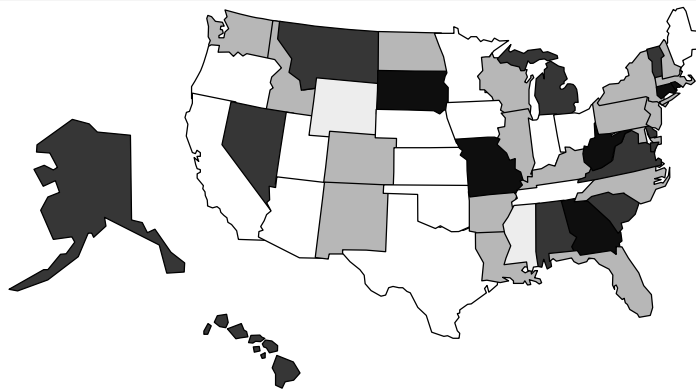
When can you use the 2001 CSO table?

- May elect to use 2001 CSO table as minimum standard for *specified plans* of insurance issued on or after January 1st of the calendar year next following or coincident with the effective date of the regulation
- Some states have adopted the regulation such that you may use the table on or after the effective date of the regulation
- The 2001 CSO table will be used as the minimum standard for *all* policies issued on or after January 1, 2009

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State adoption to date is summarized below



Source: www.veconsulting.com
March 8, 2004

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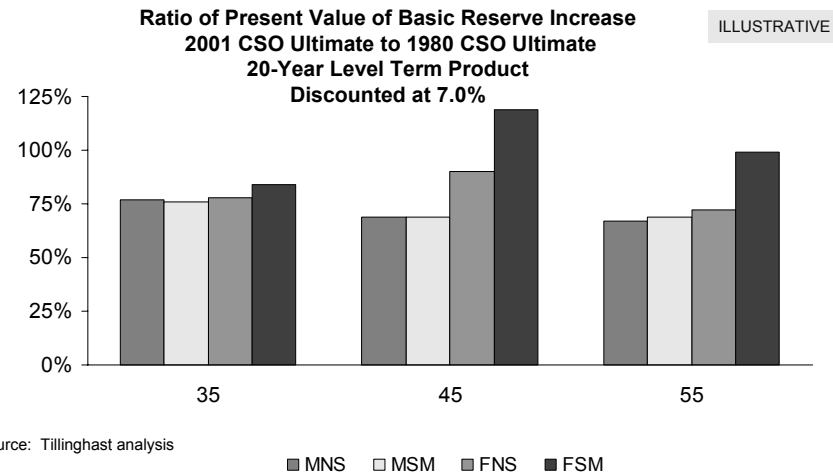
The 2001 CSO table will have a profound impact on life insurance sold in the U.S.

Changing to the 2001 CSO table will impact:

- Basic reserves and deficiency reserves on new issues
- Tax reserves on new issues
- Non-forfeiture requirements
- Maximum cost of insurance charges
- Section 7702 – guideline premiums and CVAT NSP
- Material changes

The impact of each of these will vary by product

Impact of 2001 CSO on basic reserves for term insurance is material



Post-XXX term products are generally 80-90% coinsured — the methods reinsurers use to manage XXX reserve strain will govern the impact of a move to 2001 CSO on product profitability

Initial term deficiency reserves will also be reduced

ILLUSTRATIVE

Initial Deficiency Reserves — Super Preferred Non-Tobacco

Plan	1980 CSO ¹	2001 CSO ¹	Ratio
10-Year			
M35	1.51	---	N/A
M45	3.30	1.61	49%
M55	4.29	0.48	11%
20-Year			
M35	3.30	1.36	41%
M45	9.71	7.72	80%
M55	26.09	12.01	46%
30-Year			
M35	3.45	1.23	36%
M45	20.76	14.98	72%

¹ Both calculated at 4.50% valuation rate, assuming mortality (20-30% of 1975-80 tables) consistent with super-preferred risks

The move to 2001 CSO will impact WL product values, although one must also consider impact of potential move to 4.0% valuation rate

- Maximum statutory valuation rate for 2004 issues of whole life insurance is currently 4.5%
- However, rate could drop to 4.0% if interest rates don't increase
 - Tied to Moody's corporate bond yield
- Moody's average rate for July 2003 to March 2004 was 6.21%
 - Rate for March 2004 was 5.84%
- If Moody's average rate for April 2004 to June 2004 is 6.22% or lower, valuation rate will drop to 4.0% for 2005
- Will also impact maximum nonforfeiture (NF) rate
 - If valuation rate = 4.50%, NF rate = 5.75%
 - If valuation rate = 4.00%, NF rate = 5.00%

The impact of the potential change in valuation rate partially offsets the impact of the change in mortality tables

Whole Life – Male Nonsmoker¹

ILLUSTRATIVE

Issue Age	Ratio of 2001 CSO to 1980 CSO, both @ 4.50/5.75% ²		Ratio of 2001 CSO to 1980 CSO, both @ 4.00/5.00% ³	
	PV Basic Reserve Increase	Minimum NF Values – Year 20	PV Basic Reserve Increase	Minimum NF Values – Year 20
35	84%	82%	90%	92%
45	86	87	90	93
55	88	92	90	96

¹ Based on level premium product with maturity at attained age 100 — the effect of age 121 maturity is negligible until very high ages

² Valuation rate = 4.50%, NF rate = 5.75%

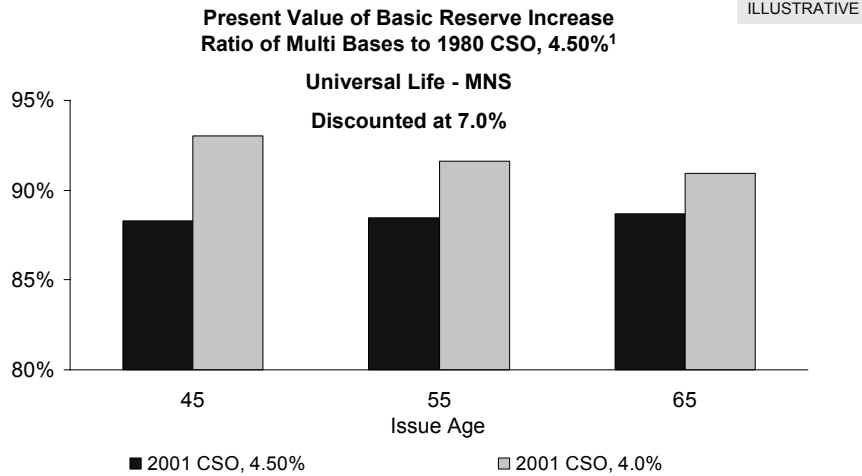
³ Valuation rate = 4.00%, NF rate = 5.00%

2001 CSO will also have an impact on universal life products — in several different areas

- AXXX and initial deficiency reserves for extended no-lapse guarantees will be reduced under 2001 CSO
 - Less so if valuation rate falls to 4.0%
- Cost of insurance charges (more of an issue for accumulation products)
 - Guaranteed COI rates will be reduced
 - At early durations, guaranteed COIs could fall below current COI
- In general, maximum surrender charges are reduced
- As a result, loads may need to be revised to maintain profitability

Many companies have found creative ways to reduce AXXX reserves — which often outweighs a move to 2001 CSO

Use of 2001 CSO reduces PV of basic reserve increase by only 12% — less so if valuation rate moves to 4%



¹ Based on stipulated level premium design, top quartile performance, assuming level premium scenario (AXXX not in effect, no pre-funding of guarantee). Use of reinsurance makes this less applicable.

Move to 2001 CSO results in significant decrease in initial deficiency reserves for UL for older issues

Comparison of Initial Deficiency Reserves¹

ILLUSTRATIVE

Plan	1980 CSO	2001 CSO	
	4.50%	4.50%	4.00%
Preferred			
M45	42.26	32.94	56.09
M55	54.30	32.07	55.74
M65	96.56	38.96	62.07
Super-Preferred			
M45	37.37	27.87	50.40
M55	53.10	31.28	55.01
M65	85.35	31.60	54.94

¹ Based on stipulated level premium design, top quartile performance, assuming level premium scenario (AXXX not in effect, no pre-funding of guarantee). Increase in initial deficiency at age 65 on 1980 CSO due in part to no select factors after age 70.

Nature of expected changes in UL products as a result of 2001 CSO will depend on several factors

- Ability to reduce reserves on products with extended no-lapse guarantees via other means
 - “Unorthodox” designs
 - Taking reserves offshore
- For companies not in this situation, use of 2001 CSO will help to some extent
 - More so for stipulated level premium design
 - Less so for shadow fund and ART design
 - Less so if valuation rate drops to 4.0%

Move to the new CSO will bring changes to VL comparable to some extent to accumulation UL

- Cost of insurance
 - Guaranteed COI charges will be reduced
 - Current COI charges may need to be reduced
- In general, maximum surrender charges are reduced
- As a result, loads may need to be revised to maintain profitability
 - Will require analysis under various load structures

Accumulation orientation of most VL products makes use of 2001 CSO less attractive

- Guideline and 7-pay premiums reduced
- 2001 CSO as % of 1980 CSO**

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	Male, Nonsmoker			Male, Smoker		
	GSP	GAP	7-Pay	GSP	GAP	7-Pay
25	82%	86%	87%	84%	86%	88%
35	84%	86%	88%	84%	85%	88%
45	86%	86%	80%	85%	84%	89%
55	87%	85%	90%	87%	83%	90%
65	89%	84%	91%	90%	83%	90%

- Reserves — Statutory reserves are unchanged in our example as cash value floor kicks in
- Nonforfeiture implications — maximum first year surrender charge per unit is reduced for most issue age/risk class/gender combinations

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Surrender charges may also need to be reduced for UL and VL products

Male Non-Smoker

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Issue Age	Maximum Initial Surrender Charge Per Unit		
	1980 CSO	2001 CSO	2001 CSO/1980 CSO
25	19.43	17.98	92.5%
35	24.24	22.05	91.0%
45	32.51	29.02	89.3%
55	47.28	41.24	87.2%
65	60.00	60.00	100.0%

Source: Tillinghast analysis

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The transition will cause complications if you do not plan to wait for all states to adopt

- If state of domicile has not adopted, use 1980 CSO to value all business
- If state of domicile adopts 2001 CSO
 - For state of domicile filing, use 2001 CSO for business issued on that basis (some states will still be on 1980 CSO)
 - Use 1980 CSO for all business when determining if reserves satisfy aggregate standards when filing in 1980 CSO states

A Texas domiciled company recently announced that it has launched a 2001 CSO product in at least 30 states and will file a different statement for its state of domicile than for states that have not adopted 2001 CSO

Timing may be everything — so plan your efforts and pick your spots

