

**Presentation to  
International Accounting Standards  
Board (IASB)  
March 30, 2010**

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**Recap of Testimony Presented Before the  
SEC's Life Settlement Task Force  
November 2, 2009**

# Outline

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1. Life Settlement – definition and goals
2. Auditing and accounting standards
3. Applied portfolio valuation methodology
4. Life Expectancy table-based estimates
5. New – Longevity Cost Calculator
6. Policy selection arbitrage heightens the need to enforce portfolio valuation methodology

# Life Settlements – Definition & Goals

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- The purchase of a life insurance policy from the policyowner by a third person for a lump sum of cash.
  - The new owners becomes the beneficiaries of the future death benefit.
  - New owners pays the premiums until maturity.
  - Typical owners are institutions or managed funds.
- Ownership goals:
  - Aggregate a statistically significant portfolio of assets.
  - Enjoy a reasonable return while maintaining liquidity.

# Longevity Valued Assets

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Longevity valued assets, such as life settlements, pensions, annuities and reverse mortgages, are Level 3 assets whose value is dependent upon an unobservable future event – the death of the insured.

## Limit Discussion to Life Settlements

Auditing and accounting framework exists to periodically fair value and provide transparency and disclosure for portfolios of life settlements.

Applying these standards will enhance liquidity for this asset class.

# Auditing & Accounting Standards

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AU § 328 / ISA § 540: Fair Value Accounting  
Measurements and Related Disclosures

AU § 329 / ISA § 520: Analytical Procedures

1. AU § 328.6 – Valuation methods incorporate assumptions participants have available or have knowledge of.
  2. AU § 329.18 – Valuation methods may result in significantly different fair value measurements. Auditors must evaluate reasons for these differences and reconcile them in establishing fair value measurement.
  3. AU § 328.23 – Test management's assumptions, developing independent fair value estimates for corroborative purposes.
- Implies using two different methodologies and then reconciling for corroborative purposes.

# Auditing & Accounting Standards

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4. AU § 328.40 – Auditors may make independent estimate considering all significant variables and differences. Auditors should test data used to develop fair value measurements and disclosures.
  - Only one significant variable – insured's life expectancy
  - To test data methodologies, verification must be published and commonly available and have corroborative evidence.
  - For life settlements, expect significant valuation differences. Commercial LE firms, looking at the same insured's medical records, often assign life expectancies that vary by 30% to 40%.

# Who Must Adhere to Standards

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Entities that issue securities or audited financial statements or where “investors” issue audited financial statements.

Key Points:

1. Statistically significant portfolio requires US\$200 Million of cash – 1,537 policies = 95%  $\pm$  5% accuracy.
2. Trend is toward small face policies (< \$ 1 million) to achieve statistical accuracy.
3. Investors now demand liquidity.
4. Investment grade rated securities will be here soon.
5. Auditors in U.S. are slow to recognize their responsibility. Concerns over liability are being expressed by their actuarial associates.

# Applied Valuation Methodology

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As Proposed to SEC and FASB:

1. Underwrite & price policy purchases using 3 commercial life expectancy analyze (LEs).
  - a. Price separately for each commercial LE and then average prices to facilitate periodic fair value adjustments.
2. Value each policy using second different LE methodology.
3. Use Kass and Raftery weighted average methodology to mark-to-fair-value based upon comparative accuracy of each initial LE estimate.
  - a. Initially assign each LE estimate a weighting of 25%.
  - b. Adjust relative weightings based upon accuracy of each estimate over the measurement period.
  - c. Revalue each policy in the portfolio.
  - d. Resultant sum of policy revaluations is fair value of the portfolio.



# Current LE Methodology

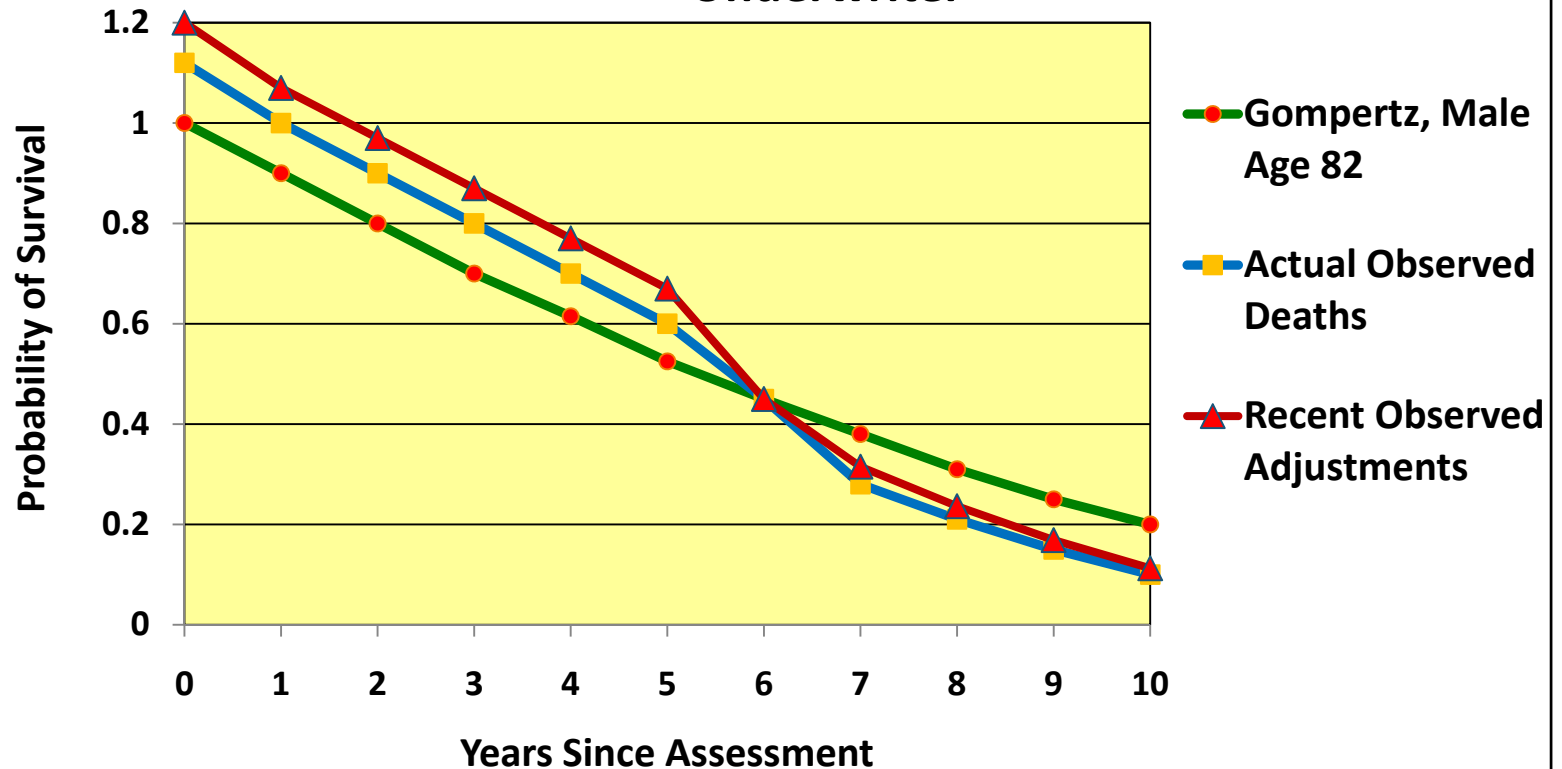
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LE's are based on Medical Records review with credits and debits assigned resulting in a subjective analysis.

Mortality theory dates to Gompertz work in 1825, whose work has been disproven over the past thirty years.

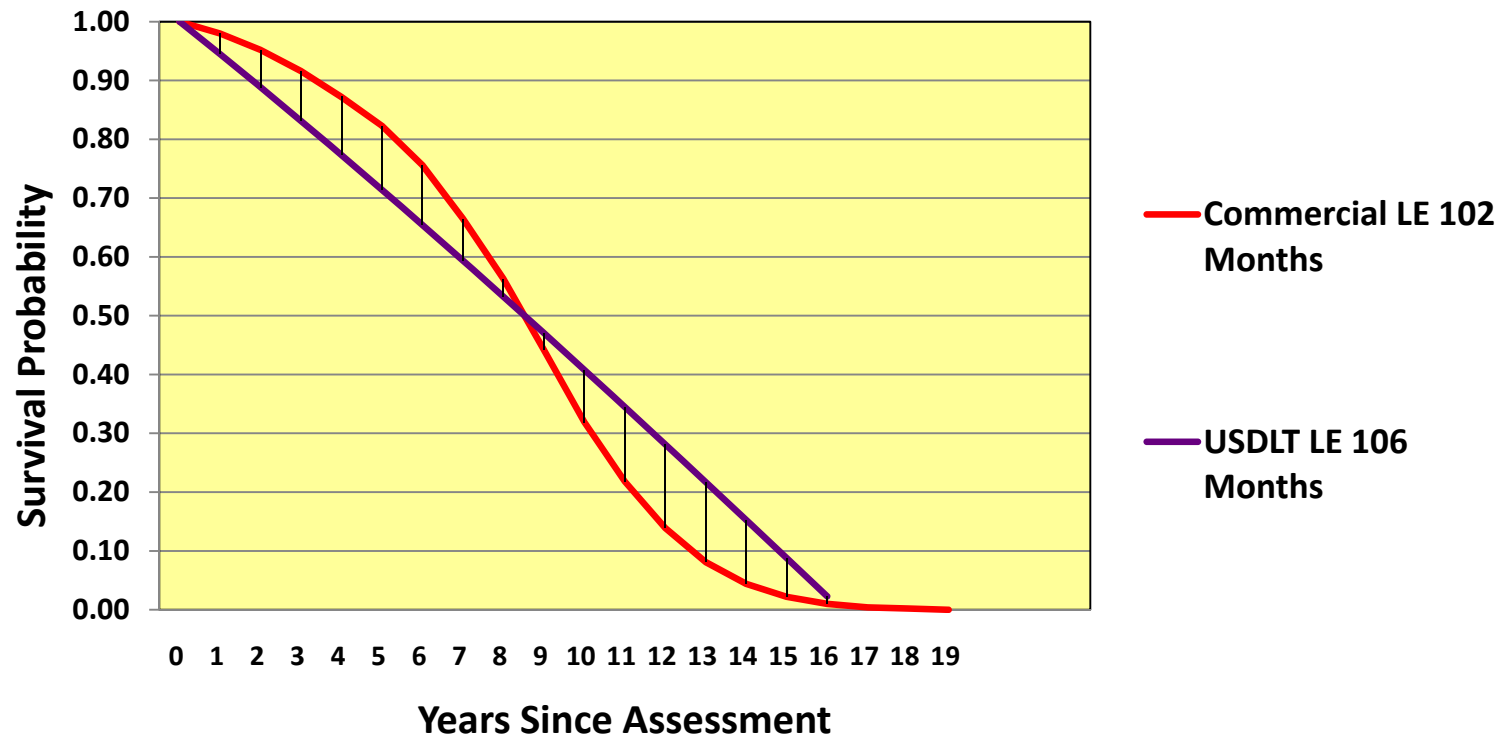
The resulting population based mortality tables are flawed in depicting a near linear occurrence of mortality.

**Gompertz, Actual vs Expected**  
**Male Age 82**  
**Simulation from Actual Data from Commercial LE**  
**Underwriter**



## Male, Age 77

### Comparison of Available LE Data



# Result is Distorted Portfolio Valuation

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From prior two graphs, portfolio will be undervalued during the first half of the portfolio's value line and overvalued during the last half of its life.

Theory of large numbers would imply that life expectancy estimate errors would balance out.

Problems with that assumption:

1. LE provider population table-based LE estimates have consistent bias in their methodology.
2. Post 2008, most bias in toward long LEs.  
Some blame new tables, others conservatism.

# **New Methodology – Longevity Cost Calculator**

The LCC is based on the National Long Term Care Surveys of 1984-1998.

95 variables were analyzed including medical conditions, functional and cognitive impairments, range of motion and behavioral characteristics.

LCC measures the health and degradation of health in a single individual. Used on the Social Security web site.

32,000 individuals were assessed at random resulting in over 20,000 deaths.

The analysis was peer reviewed and published in the *North American Actuarial Journal* in 2007 by a award winning actuary.

# **Longevity Cost Calculator (LCC LE)**

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The LCC LE is based on 76 questions taken from the 95 of the NLTCS. Eliminated similar questions.

LCC LE is 96% accurate using linear regression analysis

Ch-Square rating of variables, only 2 in top 21 appear on typical medical records.

Electronic submittal by brokers of the LCC created application yields an instant LE as well as GoM scores and survival functions.

The LCC LE provides the second methodology necessary for mark-to-fair-value portfolio valuation.

# Grade of Measurement (GoM)

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The resulting LCC data sets are so voluminous that it was analyzed using the Grade of Measurement (GoM) protocols.

Allows large numbers of variables to be simultaneously analyzed.

Generates scores for each individual person included in the analytic data set.

An essential building block for defining covariate trajectories.

Scores represent individual measures of declining vitality.

# Grade of Measurement (GoM)

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GoM I – Generally healthy with lowest level of impairments.

GoM II – Poorest subjective health, largest number of medical conditions, non-institutionalized, low mortality.

GoM III – High mortality rates, few medical conditions, few impairments, relatively good subjective health.

GoM IV – High mortality rates, high levels of physical and cognitive disability and institutionalization.



# LE Comparison 75 year old female

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US Decennial Life Table LE      12.3 years

GoM LE (Pure Types)      Comparative Commercial LE

GoM I	13.9 years	13.9 years
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GoM II	14.8 years	10.0 years
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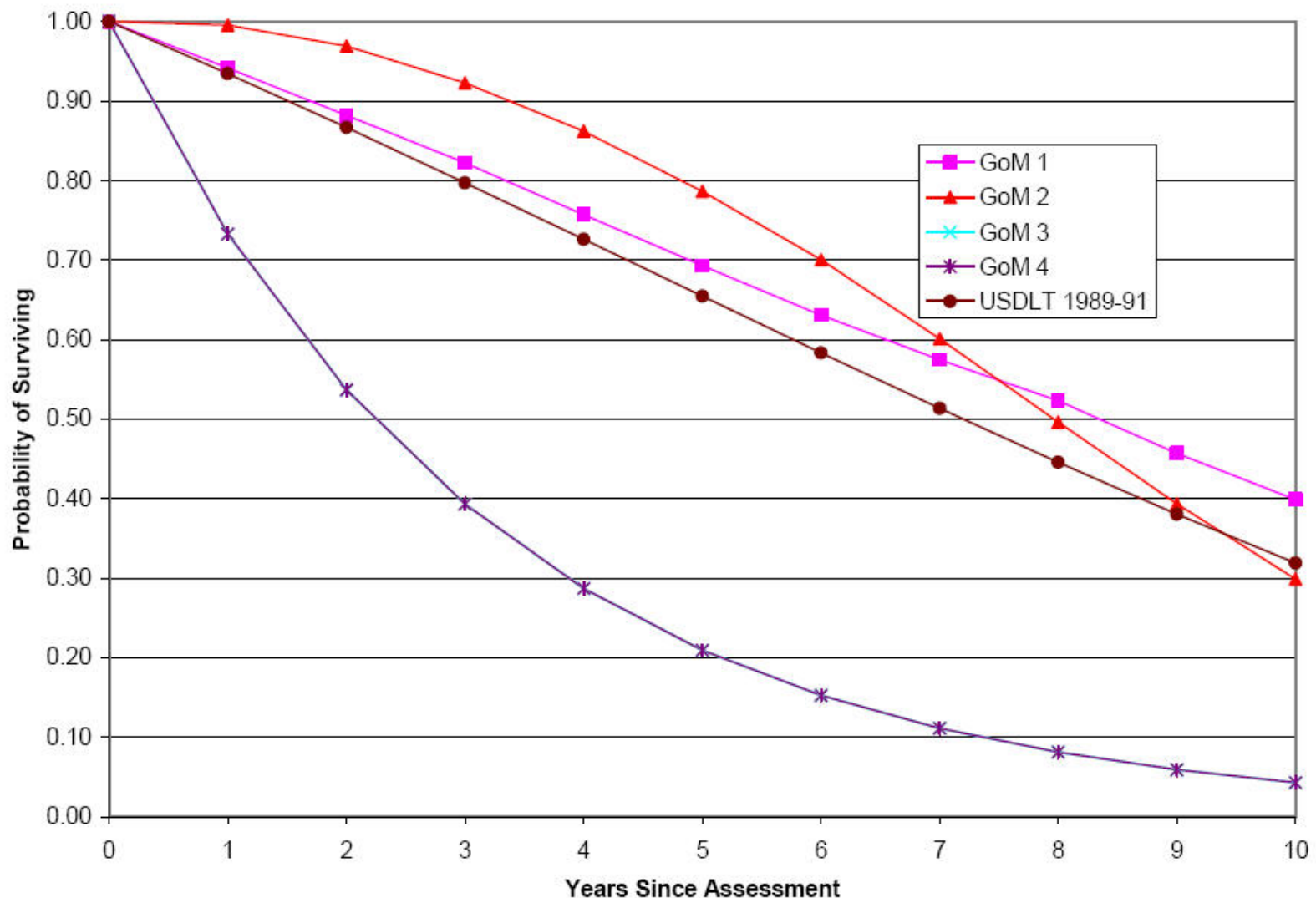
GoM III	3.7 years	10.5 years
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GoM IV	3.4 years	7.5 years
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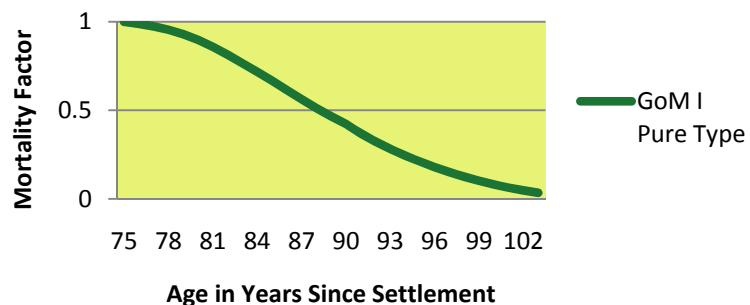
**Probability of Surviving for Each of 10 Years Following Initial Assessment at Age 82, Females,  
by Initial Time-Invariant GoM Pure Type and for the U.S. Decennial Life Table for 1989-91**



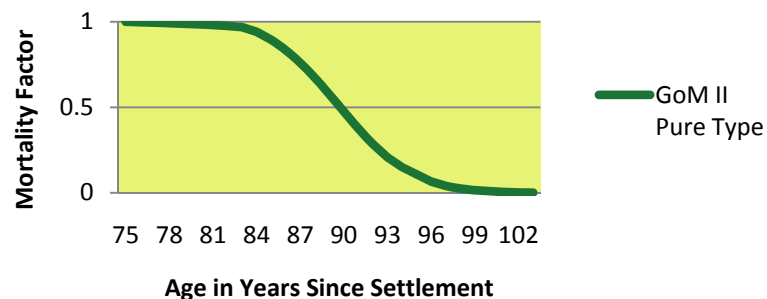
# Comparative Slope of LCC LEs

(Area Under the Line is Mortality Probability for Each Year)

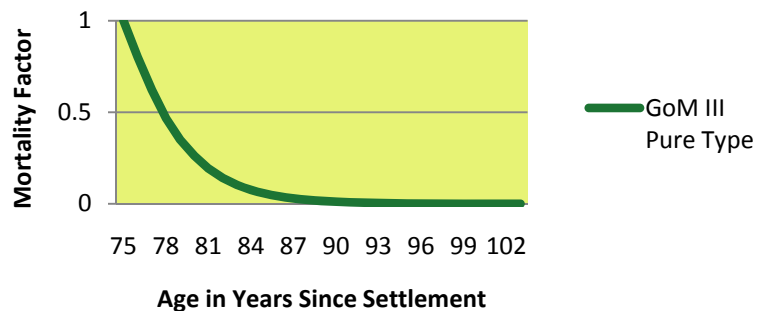
**Female Age 75  
GoM I Pure Type**



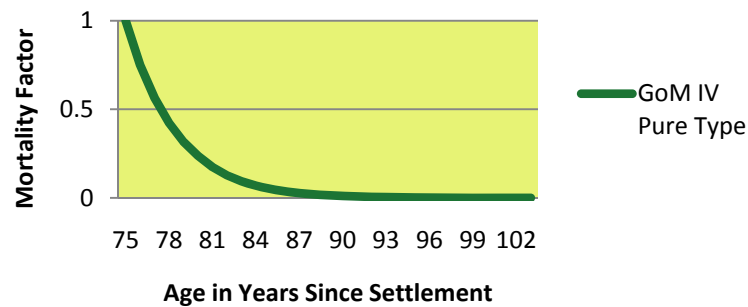
**Female Age 75  
GoM II Pure Type**



**Female Age 75  
GoM III Pure Type**



**Female Age 75  
GoM IV Pure Type**



# Policy Purchase Pricing

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Price Off of Commercial LEs

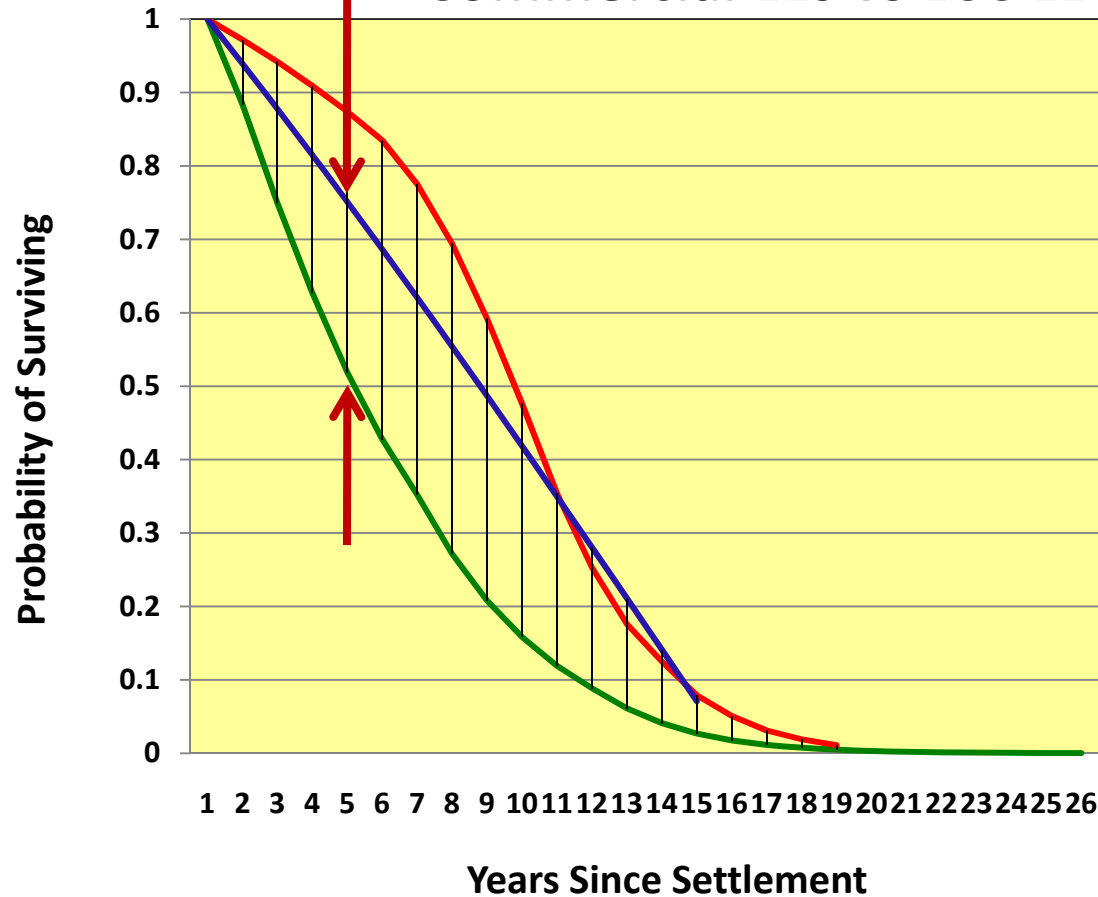
Make Purchase Decisions Off of LCC LEs

	<u>LCC LE</u>	<u>Comparative Commercial LEs</u>
GoM III	3.7 years	10.5 years
GoM IV	3.4 years	7.5 years

# Female, Age 89

## Commercial LEs vs LCC LE

$\Delta$  = Purchase Arbitrage



GoM I = 0.68

GoM II = 0.32

GoM III = 0.0

GoM IV = 0.0

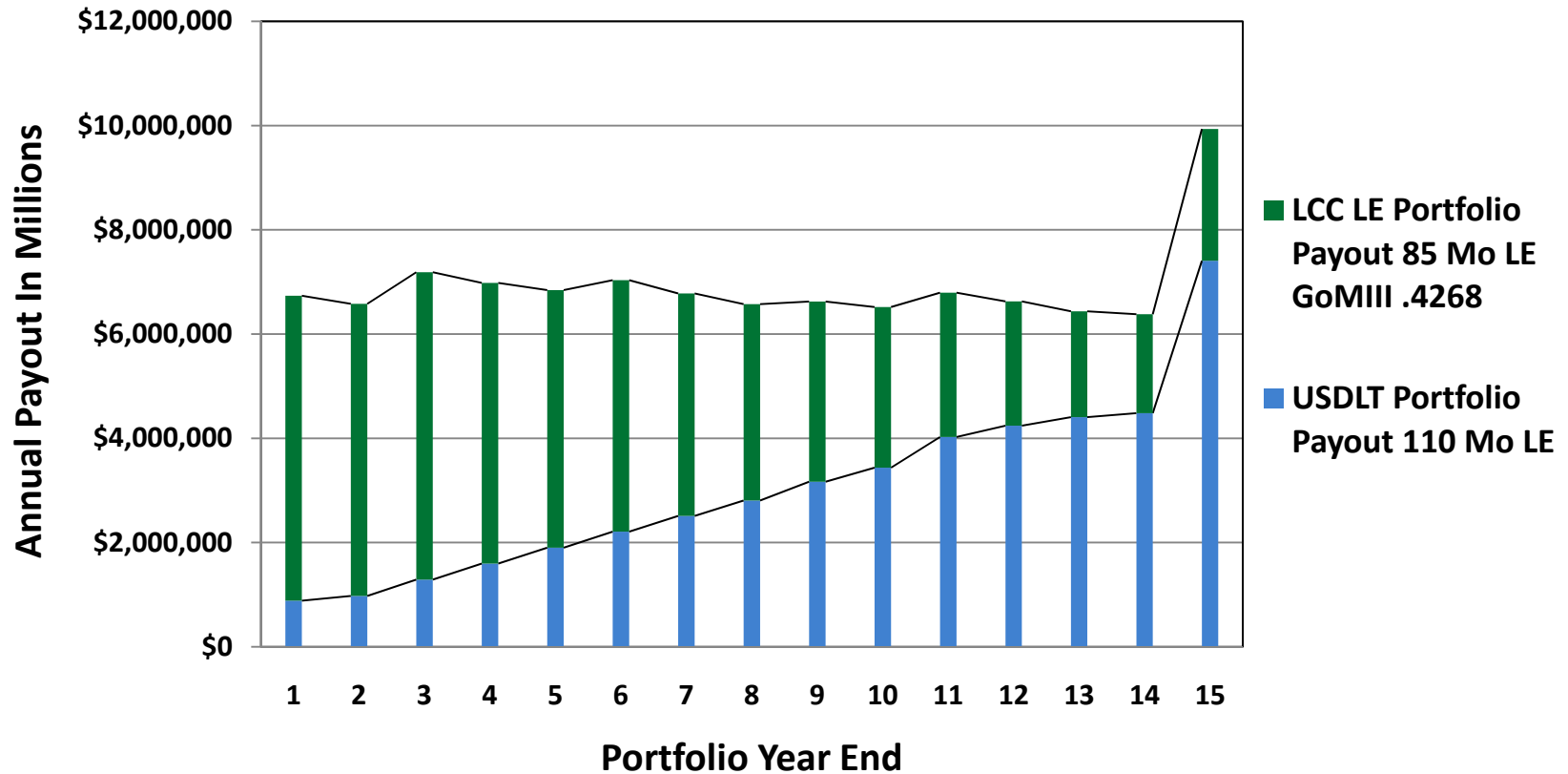
— LCC LE 62 Mo GoM  
1&2 = 62 Mo

— Long Commercial  
LE 105 Mo

— Avg Com LEs 94  
Mo

# Comparative Annual Payout of Surplus Cash, Sale Y/E 5 to Securitizer

The Previous Slide Yields this Kind of Front-end Cash Flow Loading



## Rate of Return Dynamics In Life Settlement Portfolio Valuation

### Example 1 - Portfolio Priced and Valued Using Commercial LEs

Portfolio Face Amount	\$100,000,000							
Maximum Commercial LE	110 Months							
Cash Required	\$17,000,000							
Target IRR for Purchases	14%							
Average Face Amount	\$500,000							
Policy Acquisition Costs	\$12,600,000	70%						
Starting Premium Reserve	\$4,400,000	30%						
Average Purchase Price	\$26,668							
Policies in Portfolio	200							
Average annual Premiums	\$20,000		If Residual Portfolio Sold This Year					
Premiums as % of Face	4.0%							
			Year 3	Year 5	Year 7	Year 9	Year 15	Year 20
Percent of Portfolio Maturing This Year								
Using USDLT Mortality For Female Age 76			5.7%	6.7%	8.0%	9.9%	28.0%	54.0%
Fund Pre-tax IRR if Sold This Year			19%	17%	17%	17%	17%	17%
Portfolio Sold to Yield 15% to Purchaser			20%	24%	29%	34%	26%	0%

## Rate of Return Dynamics In Life Settlement Portfolio Valuation

### Example 2 - Portfolio Priced w/ Commercial LEs and Valued Using LCC LEs

Portfolio Face Amount	\$100,000,000	
Maximum Commercial LE	110 Months	
Average GoM III LCC LE	85.2 Months	
Cash Required	\$17,000,000	
Target IRR for Purchases	14%	
Average Face Amount	\$500,000	
Policy Acquisition Costs	\$12,600,000	70%
Starting Premium Reserve	\$4,400,000	30%
Average Purchase Price	\$26,668	
Policies in Portfolio	200	
Average annual Premiums	\$20,000	
Premiums as % of Face	4.0%	

#### If Residual Portfolio Sold This Year

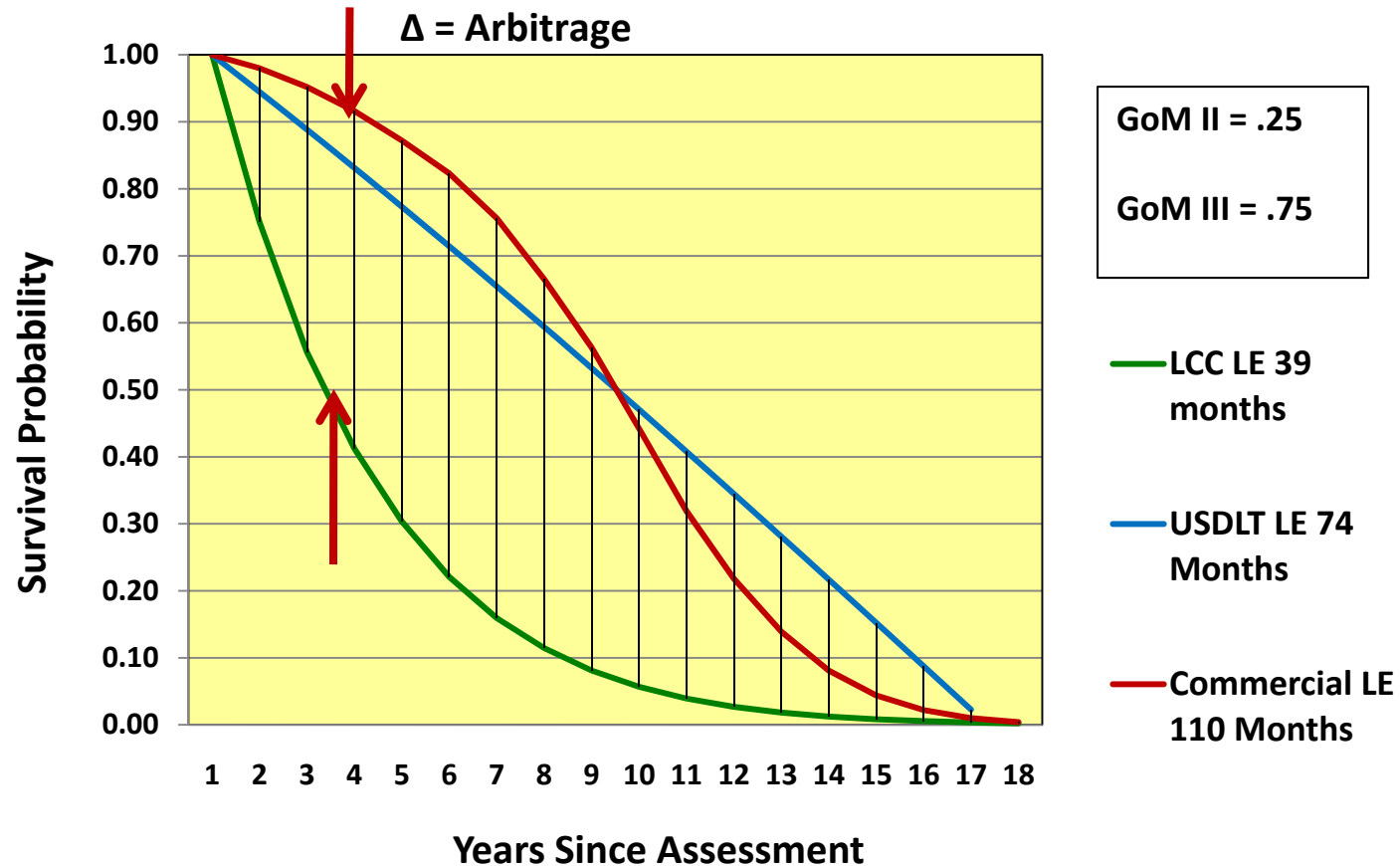
	Year 3	Year 5	Year 7	Year 9	Year 15
Percent of Portfolio Maturing This Year					
Using LCC LE, GoM III Mortality Factors	14.8%	19.0%	24.4%	29.2%	43.5%
Fund Pre-tax IRR if Sold This Year	42%	33%	31%	30%	30%
Portfolio Sold to Yield 20% to Purchaser	27%	26%	26%	24%	15%



# **Significant GoM III Arbitrage Causes Even More Portfolio Valuation Distortions**

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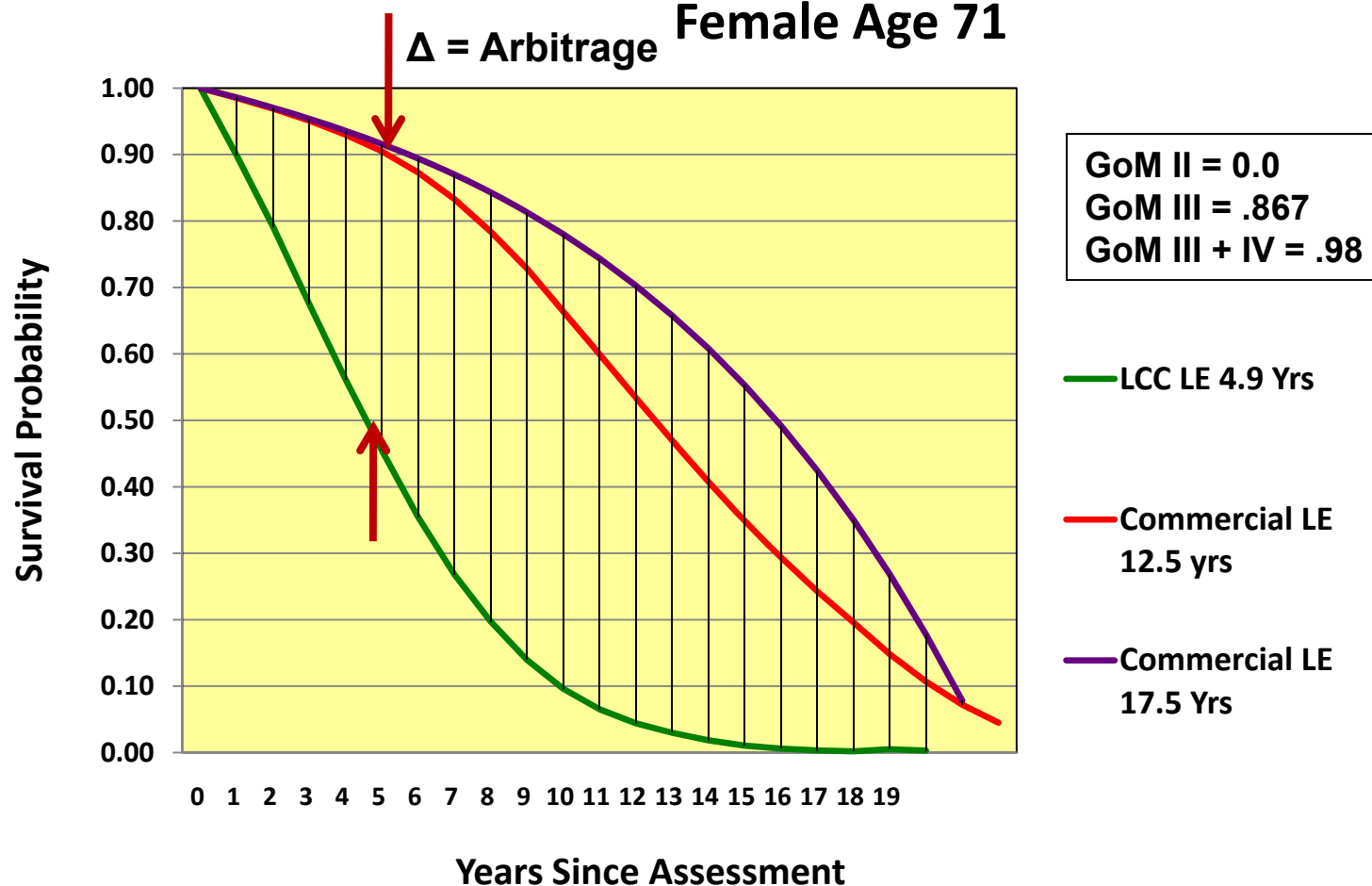
## Male, Age 80 Comparison of Available LE Data



## Two Commercial LEs vs LSF-LCC LE

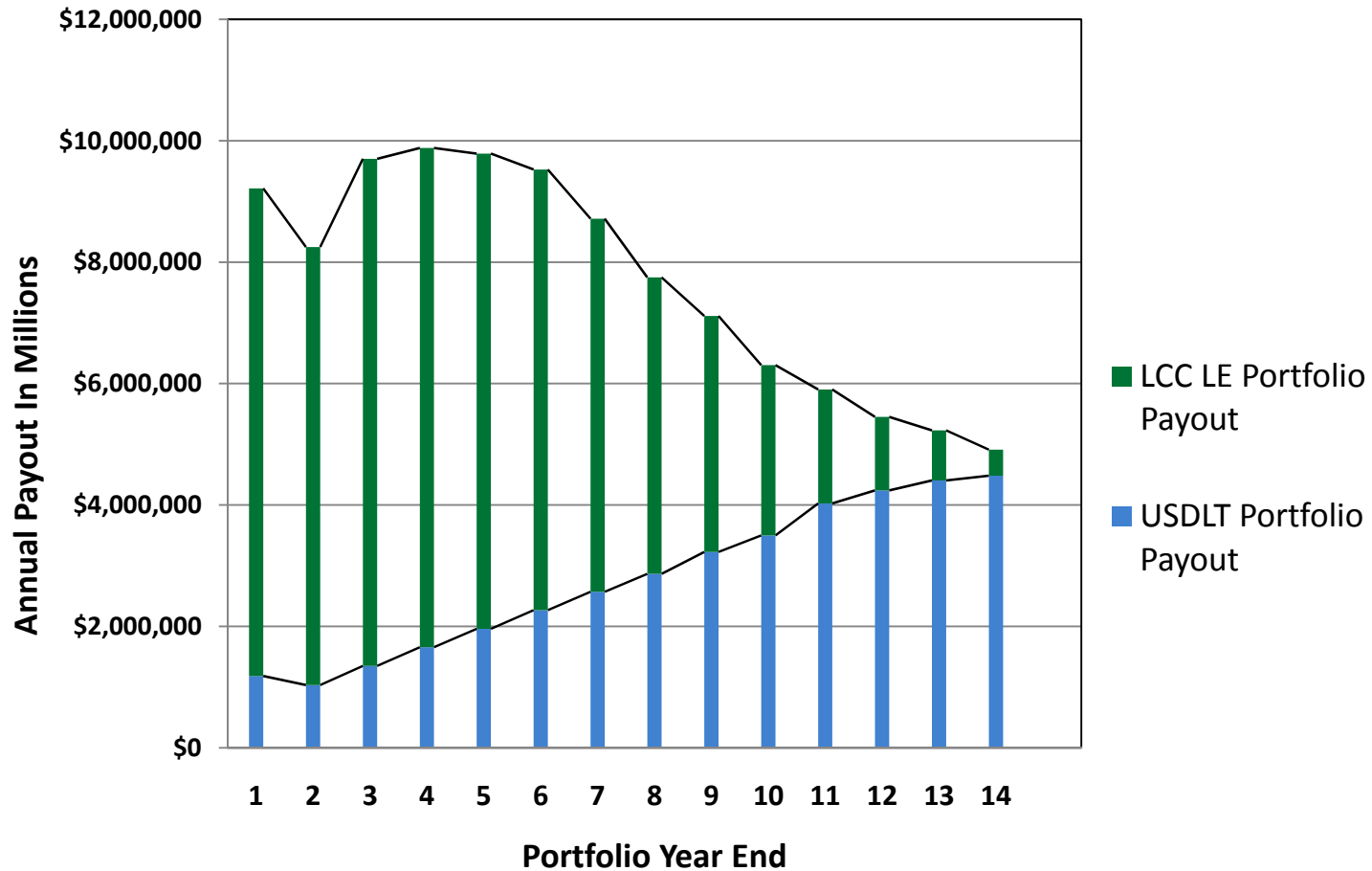
### Comparison of Available Data

Female Age 71



# Comparative Annual Payout of Surplus Cash

The Previous Slide's LE Differences Yield this Kind of Front-end Cash Flow Loading



# Contact Information

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