




# Actuaries Club of the Southwest IFRS

November 11, 2010  
KPMG LLP

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# Scope and Measurement Model

# Definition of an Insurance Contract

*“a contract under which one party (the insurer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policyholder.”*

- Consistent with existing definition and related guidance in Appendix B of IFRS 4 with minor changes to the application guidance to make distinctions between insurance contracts and other types of contracts.
- Proposals do not retain IFRS 4 implementation guidance

# Significant insurance risk

**Insurance risk is significant if, and only if, an insured event could cause an insurer to:**

- pay significant additional benefits
- in any scenario
- excluding scenarios that lack commercial substance (i.e. have no discernable effect on the economics of the transaction)

This condition may be met even if the insured event is extremely unlikely or even if the expected (i.e. probability weighted) present value of contingent cash flows is a small portion of the expected present value of contractual cash flows.

A contract does not transfer insurance risk if there is no scenario that has commercial substance in which the present value of the net cash outflows paid by the insurer can exceed the present value of the premiums.

Incorporates an amendment to the guidance in IFRS 4 to explain that contractual terms that delay timely reimbursement to the policyholder can significantly reduce insurance risk, so that some contracts containing such terms might not meet the definition of an insurance contract.

# IASB – FASB Major Differences

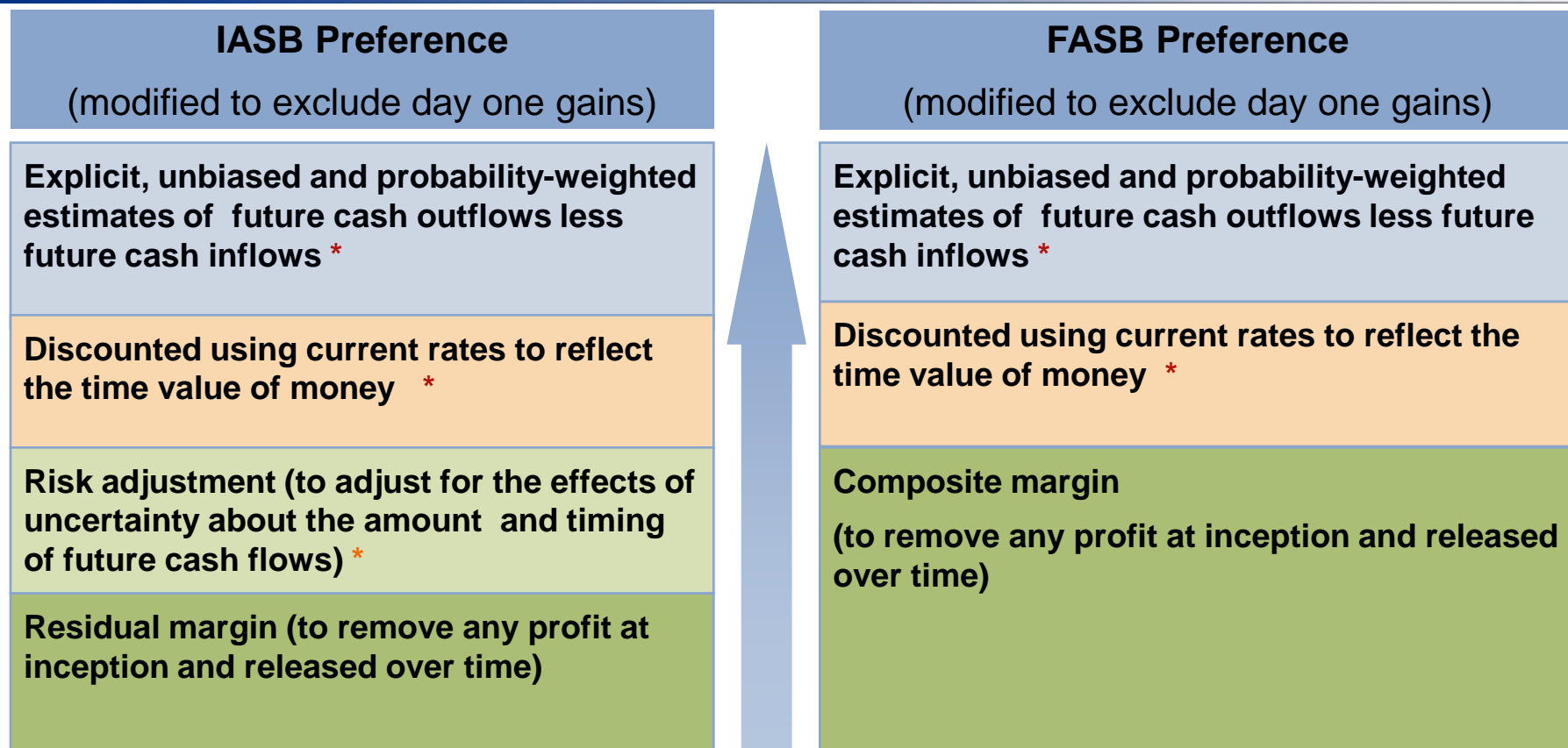
## Major differences between FASB Discussion Paper and the IASB's ED include:

- Measurement – three vs. four building blocks (composite margin (FASB) vs. risk adjustment and residual margin (IASB))
- FASB would not accrete interest on the composite margin (IASB accretes interest on the residual margin)
- Consideration of investment contracts with DPF within the scope of the insurance contracts project - FASB DP excludes (financial instruments) and IASB ED includes these contracts

**The FASB has not yet determined the extent to which a building-block or modified approach would apply to pre-claims liabilities of short-duration contracts – have asked for input from stakeholders**

# Proposed Measurement Models

## The three (or four) 'building blocks'



**Contract liability measurement**

**•Re-measured subsequent to inception through profit or loss**

**The sum of the first three building blocks in the IASB model (discounted cash flows with risk adjustment) is referred to as the present value of fulfilment cash flows**

# Modified approach measurement

The modified approach is required for pre-claim liabilities for contracts that meet both of the following:

- The coverage period is approximately 12 months or less
- The contract does not contain embedded options or other derivatives that significantly affect the variability of cash flows

## PRE CLAIM OBLIGATION

**Premiums  
received**

**Present value of  
future premiums  
in boundary of  
contract**

**less**

**incremental  
acquisition costs**

- Pre-claims obligation is reduced over the coverage period in a systematic way that best reflects the exposure from providing insurance coverage either
  - on the basis of the passage of time; or
  - the expected timing of incurred claims and benefits if this pattern differs significantly from the passage of time.
- The pre-claims liability is the pre-claims obligation less the present value of future premiums within the boundary of the contract.
- Discounting is required.
- Interest should be accreted on the carrying amount of the pre-claims liability using a current discount rate.





# Top Areas of Concern for Life Insurers

# Industry Perspectives for Life Insurers

**KPMG held a series of IFRS ED roadshows in late August and early September 2010. The top areas of concern expressed by the life insurance community included the following (in no specific order):**

- Recognition
  - Concern about recognizing when bound as opposed to effective date—potential financial impact due to changes in assumptions (e.g. Discount rate), also concern if loss recognized before effective date
  - Concern expressed in regards to systems and processes changes to capture this information and reflect in correct financial year
  - Most do not agree with the IFRS ED's expressed premise that this is a minor issue

# Industry Perspectives for Life Insurers (continued)

- Measurement Model
  - Building block approach not as much of a concern in concept for the life insurance community where block 1 represents projected cash flows, block 2 discounting and blocks 3 and 4 are risk and residual margin
  - Many comfortable with the concept of no gain at issue
- Margins
  - US audiences generally did not like the separation between risk and residual margin – the composite margin approach seems more in favor
  - Some confusion about how composite margin runs off – and many seem to feel that a re-measurement approach makes more sense

# Industry Perspectives for Life Insurers (continued)

- Discount rates – most concerns expressed around the impact of these rates:
  - Product perspectives relative to discount rates
    - Current approach would likely increase liabilities significantly for SPDA products and heavily discounted products like payout annuities, LTD and LTC
    - VA products are also likely to show increased reserves but the types of guarantees could impact significantly
    - UL will be more dependent on the extent of profit sources outside financial spreads
  - Specific issues expressed
    - De-linking the assets and liabilities not consistent with common ALM practices
    - Determination of liquidity premium is very unclear
    - Volatility introduced with using most current market rates at valuation

# Industry Perspectives for Life Insurers (continued)

- Transition - probably the second area of most concern following discount rates:
  - The current approach does not allow a residual margin for inforce prior to the transition date. This has the impact of reducing future profits
  - Calculating a true residual margin could be challenging for old business but pragmatic solutions would be better than no profits
- Acquisition Costs
  - Companies generally pleased that incremental acquisition costs included in building blocks as this implicitly spreads costs when there is a gain
  - Concern expressed over tightness of definition and inconsistencies with EITF 09-G – double implementation as move from one standard to the next

# Industry Perspectives for Life Insurers (continued)

- Unbundling
  - Lack of clarity in current ED around how important is the assessment of the inter-related nature of the insurance and investment component
  - Some may favor unbundling approaches to reduce volatility of UL and SPDA since under IAS 39, an amortized cost approach may be possible for the deposit component and so only insurance piece would fall under building blocks
  - Others feel that the components are inter-related and unbundling should not be done
- Financial Statement Presentation
  - Some doubts about usefulness of new summarised margin approach
  - Significant concerns expressed about transparency and comparability

# Industry Perspectives for Life Insurers (continued)

- Disclosures
  - Significant concerns about the sensitivity of information that may need to be disclosed
  - Further concerns about the time available given the additional quantitative information that is required
- Performance Management
  - Many felt that KPIs would need to be adjusted to reflect the new environment
  - Some are considering how to approach the volatility questions internally and externally to analysts in particular
- Resources
  - Concern about actuarial resources in particular is high – alternative solutions being considered by many – redeployment, hiring more, outsourcing



# Measurement Examples

**Building Block Approach**  
**No Unbundling Assumed**



# Initial Measurement of Insurance Contracts – Example from Paragraph B35 ED/2010/8

- Insurer issues an insurance contract
  - First premium payment – CU50
  - Incremental acquisition costs – CU40
  - Expected present value (EPV) of subsequent premiums – CU950
  - Risk adjustment – CU50
- Example 1A
  - EPV of future claims – CU900
- Example 1B
  - EPV of future claims – CU920

# Initial Measurement of Insurance Contracts – Example from Paragraph B35 ED/2010/8, continued

- Initial recognition

	IFRS ED	IFRS ED	FASB Comp	FASB Comp
	Example 1A	Example 1B	Example 1A	Example 1B
EPV of cash outflows	940	960	940	960
Risk adjustment	50	50	n/a	n/a
EPV of cash inflows	(1,000)	(1,000)	(1,000)	(1,000)
PV of the fulfillment of cash flows	(10)	10	(60)	(40)
Residual margin	10	0	n/a	n/a
Composite margin	n/a	n/a	60	40
<b>Liability at initial recognition</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>

- Immediately after initial recognition

EPV of cash outflows	900	920	900	920
Risk adjustment	50	50	n/a	n/a
Residual margin	10	0	n/a	n/a
Composite margin	n/a	n/a	60	40
EPV of cash inflows	(950)	(950)	(950)	(950)
<b>Liability immediately after initial recognition</b>	<b>10</b>	<b>20</b>	<b>10</b>	<b>10</b>

# Example #1 – Term Life

- Product Type – Term Life Insurance, 10 year product, no premiums nor cash flows after 10 years
  - Face value – \$5 million (January 1<sup>st</sup> issue date)
  - Premium – \$8,750
  - Incremental acquisition costs (1<sup>st</sup> year commission) – \$5,100
  - Non-incremental acquisition costs (1<sup>st</sup> year) – \$638
  - Maintenance expense per year – \$425
- Other Assumptions
  - Mortality – increases from 0.001 to 0.00236 (best estimate)
  - Lapses – 5% per year
- Margins and IFRS Discount Rate
  - IFRS Risk Margin (%PV of benefits) – 3.0%
  - IFRS Residual Margin – straight-line run-off (simplifying assumption if there is a net gain at start)
  - IFRS Discount Rate – 4%
  - GAAP Margin – 5% on mortality only
- Scenario Assumptions
  - Base – actual results are as expected
  - Alternative – Increasing mortality in Y1 through Y5, Change in prospective IFRS mortality assumptions at end of Y3 and Y5 (not expected to trigger LRE for GAAP)

# Example #1 – Term Life (continued)

## Financial Statement Comparison – Base

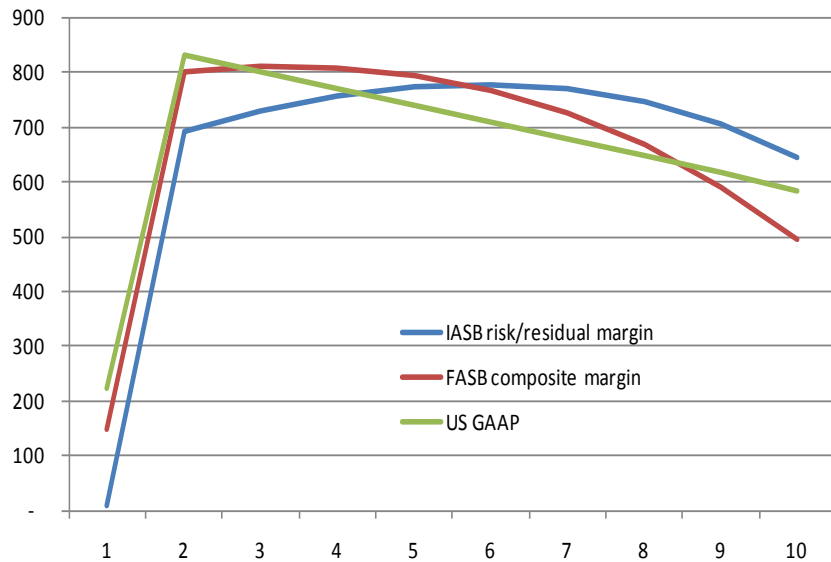
	IFRS ED			FASB Composite			US GAAP		
	0	1		0	1		0	1	
<b>Balance Sheet</b>									
Invested Assets	(638)	(2,217)		(638)	(2,217)		(638)	(2,217)	
DAC Asset	n/a	n/a		n/a	n/a		0	4,566	
Ins Liab BEFORE IFRS Margins	(3,958)	(5,750)		(3,958)	(5,750)		0	2,396	
Risk Margin	1,355	1,279		n/a	n/a		n/a	n/a	
Residual Margin	2,603	2,224		n/a	n/a		n/a	n/a	
Composite Margin	n/a	n/a		3,958	3,381		n/a	n/a	
Surplus	(638)	30		(638)	152		(638)	(47)	
<b>Income Statement*</b>	0	1	Total Year 1	0	1	Total Year 1	0	1	Total Year 1
Premiums		8,750	8,750		8,750	8,750		8,750	8,750
Investment Income		196	196		196	196		196	196
Acquisition Expenses	638	5,100	5,738	638	5,100	5,738	638	5,100	5,738
Maintenance Expenses		425	425		425	425		425	425
Claims		5,000	5,000		5,000	5,000		5,000	5,000
Inc in I.L. BEFORE IFRS margins	(3,958)	(1,792)	(5,750)	(3,958)	(1,792)	(5,750)		2,396	2,396
Incr in Risk Margin	1,355	(75)	1,279	n/a	n/a	n/a		n/a	n/a
Incr in Residual Margin	2,603	(380)	2,224	n/a	n/a	n/a		n/a	n/a
Incr in Composite Margin	n/a	n/a	n/a	3,958	(577)	3,381		n/a	n/a
Change in DAC	n/a	n/a	n/a	n/a	n/a	n/a		(4,566)	(4,566)
Profit	(638)	668	30	(638)	790	152	(638)	591	(47)

\* Note: US GAAP income statement shown for illustrative purposes – new IFRS margin presentation discussed later

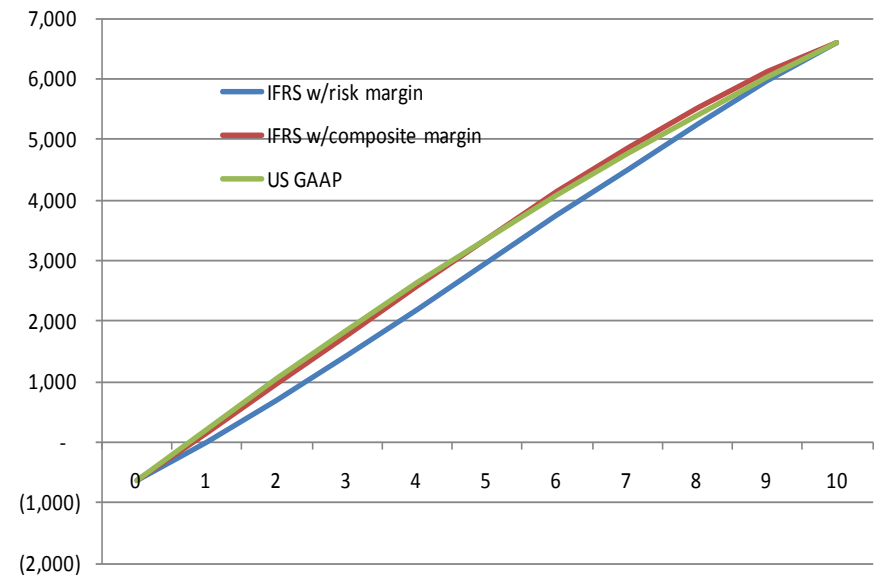
# Example #1 – Term Life (continued)

## Base Scenario

### Profit



### Surplus



# Example #1 – Term Life (continued)

## Base Scenario

<b>USGAAP</b>	0	1	2	3	4	5	56	7	8	9	10
<i>Balance Sheet</i>											
Invested assets	(638)	(1,946)	1,341	4,105	6,325	7,976	9,030	9,456	9,220	8,285	6,609
DAC	-	4,566	4,042	3,526	3,016	2,510	2,008	1,508	1,007	505	-
Benefit reserve	-	2,396	4,327	5,773	6,711	7,115	6,956	6,201	4,816	2,763	-
Maintenance reserve	-	(0)	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-
Surplus	(638)	224	1,056	1,858	2,629	3,371	4,082	4,762	5,411	6,027	6,609
<i>Income statement</i>											
Premium		8,750	8,304	7,880	7,477	7,094	6,729	6,383	6,053	5,739	5,440
Investment income		467	606	716	793	836	844	815	746	634	478
Acquisition expenses		5,738	-	-	-	-	-	-	-	-	-
Maintenance expenses		425	403	383	363	345	327	310	294	279	264
Claims		5,000	5,220	5,449	5,687	5,935	6,193	6,461	6,740	7,030	7,330
Increase in reserves		2,396	1,931	1,446	938	404	(159)	(755)	(1,385)	(2,053)	(2,763)
Amortization of DAC		(4,566)	524	516	510	505	502	501	500	502	505
Profit		224	832	802	772	742	711	680	649	616	582

# Example #1 – Term Life (continued)

## Base Scenario

<i>IASB Risk/Residual Margin</i>											
<i>Balance Sheet</i>	0	1	2	3	4	5	6	7	8	9	10
Invested assets	(638)	(1,946)	1,341	4,105	6,325	7,976	9,030	9,456	9,220	8,285	6,609
Insurance liability	(3,187)	(4,943)	(2,128)	151	1,884	3,057	3,658	3,671	3,079	1,862	-
Risk margin	1,465	1,374	1,272	1,159	1,035	899	749	585	406	211	-
Residual margin	1,721	1,614	1,495	1,362	1,216	1,056	880	687	477	248	-
Surplus	(638)	9	702	1,432	2,190	2,964	3,743	4,512	5,258	5,963	6,609
<i>Income Statement-traditional presentation</i>											
Premiums		8,750	8,304	7,880	7,477	7,094	6,729	6,383	6,053	5,739	5,440
Investment income		467	606	716	793	836	844	815	746	634	478
Acquisition expenses		5,738	-	-	-	-	-	-	-	-	-
Maintenance expenses		425	403	383	363	345	327	310	294	279	264
Claims		5,000	5,220	5,449	5,687	5,935	6,193	6,461	6,740	7,030	7,330
Increase in ins. liability		(4,943)	2,816	2,279	1,732	1,173	601	13	(592)	(1,217)	(1,862)
Increase in risk margin		1,374	(102)	(113)	(124)	(137)	(150)	(164)	(179)	(195)	(211)
Increase in residual margin		1,614	(119)	(132)	(146)	(161)	(176)	(193)	(210)	(229)	(248)
Profit		9	693	730	758	774	779	770	746	705	646
<i>Income statement-summary margin presentation</i>											
Risk adjustment		91	102	113	124	137	150	164	179	195	211
Residual margin		107	119	132	146	161	176	193	210	229	248
Insurance margin											
Experience adjustments		-	-	-	-	-	-	-	-	-	-
Change in estimates		0	-	(0)	(0)	0	(0)	0	-	(0)	0
Net gain at inception		(638)									
Investment income		467	606	716	793	836	844	815	746	634	478
Interest on insurance liability		(19)	(134)	(230)	(305)	(359)	(391)	(402)	(389)	(353)	(292)
Profit		9	693	730	758	774	779	770	746	705	646

**Note: insurance liability above is shown before margins for illustrative purposes only**

# Example #1 – Term Life (continued)

## Base Scenario

<b>FASB Composite Margin</b>											
<i>Balance Sheet</i>	0	1	2	3	4	5	6	7	8	9	10
Invested assets	(638)	(1,946)	1,341	4,105	6,325	7,976	9,030	9,456	9,220	8,285	6,609
Insurance liability	(3,187)	(4,943)	(2,128)	151	1,884	3,057	3,658	3,671	3,079	1,862	-
Risk margin	-	-	-	-	-	-	-	-	-	-	-
Composite margin	3,187	2,850	2,520	2,194	1,873	1,556	1,242	929	619	309	-
Surplus	(638)	146	949	1,760	2,568	3,363	4,130	4,855	5,522	6,114	6,609
<i>Income Statement-traditional presentation</i>											
Premiums		8,750	8,304	7,880	7,477	7,094	6,729	6,383	6,053	5,739	5,440
Investment income		467	606	716	793	836	844	815	746	634	478
Acquisition expenses		5,738	-	-	-	-	-	-	-	-	-
Maintenance expenses		425	403	383	363	345	327	310	294	279	264
Claims		5,000	5,220	5,449	5,687	5,935	6,193	6,461	6,740	7,030	7,330
Increase in insurance liability		(4,943)	2,816	2,279	1,732	1,173	601	13	(592)	(1,217)	(1,862)
Increase in risk margin		-	-	-	-	-	-	-	-	-	-
Increase in composite margin		2,850	(330)	(325)	(321)	(317)	(314)	(312)	(311)	(310)	(309)
Profit		146	802	811	809	794	767	725	667	591	496
<i>Income statement-summary margin presentation</i>											
Risk adjustment		-	-	-	-	-	-	-	-	-	-
Composite margin		336	330	325	321	317	314	312	311	310	309
Insurance margin		-	-	-	-	-	-	-	-	-	-
Experience adjustments		-	-	-	-	-	-	-	-	-	-
Change in estimates		0	-	(0)	(0)	0	(0)	0	-	(0)	0
Net gain at inception		(638)	-	-	-	-	-	-	-	-	-
Investment income		467	606	716	793	836	844	815	746	634	478
Interest on insurance liability		(19)	(134)	(230)	(305)	(359)	(391)	(402)	(389)	(353)	(292)
Profit		146	802	811	809	794	767	725	667	591	496

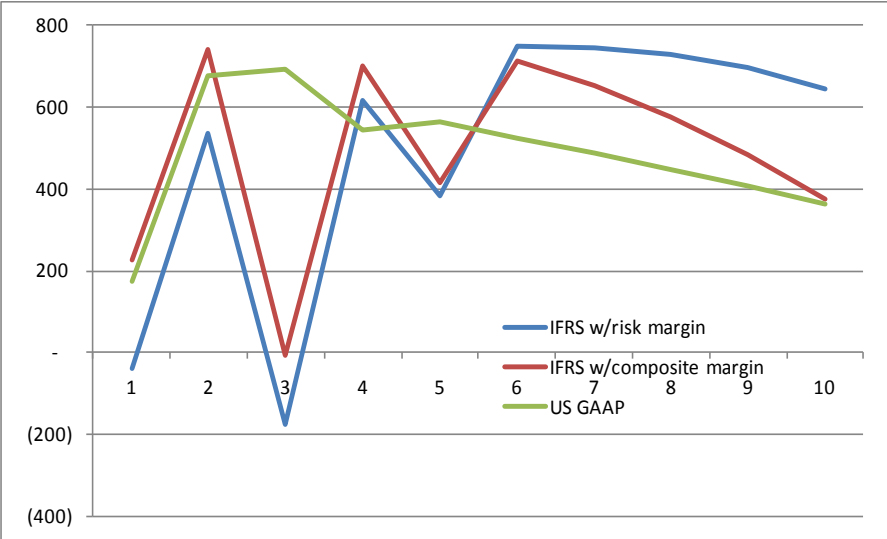
**Note: insurance liability above is shown before margins for illustrative purposes only**



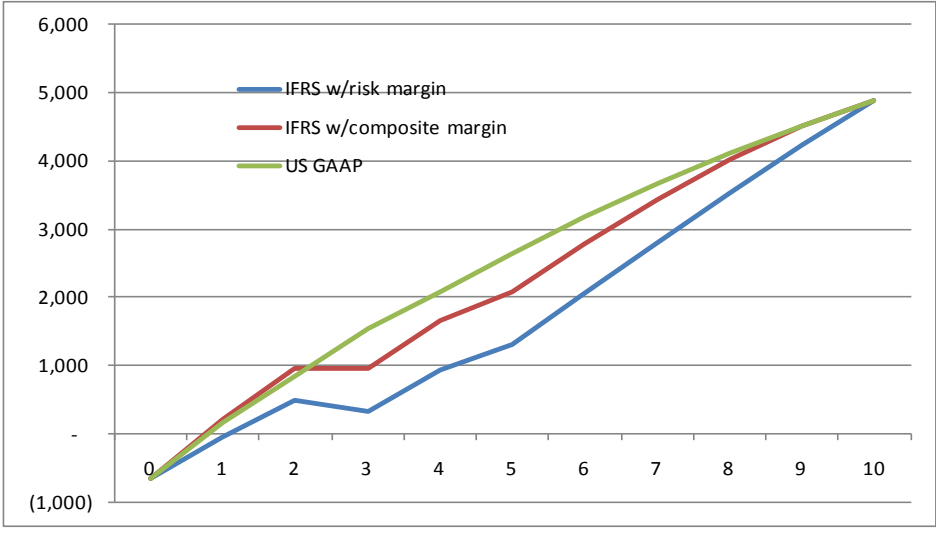
# Example #1 – Term Life (continued)

## Alternative Scenario

**Profit**



**Surplus**



# Example #1 – Term Life (continued)

## Alternative Scenario

<b>USGAAP</b>	0	1	2	3	4	5	6	7	8	9	10
<i>Balance Sheet</i>											
Invested assets	(638)	(1,996)	1,134	3,790	5,782	7,254	8,122	8,355	7,917	6,772	4,877
DAC	-	4,566	4,042	3,526	3,015	2,510	2,008	1,507	1,007	505	-
Benefit reserve	-	2,396	4,327	5,773	6,711	7,114	6,954	6,199	4,815	2,762	-
Maintenance reserve	-	(0)	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-
Surplus	(638)	174	849	1,542	2,087	2,650	3,176	3,663	4,109	4,515	4,877
<i>Income statement</i>											
Premium		8,750	8,304	7,880	7,477	7,093	6,728	6,381	6,051	5,737	5,438
Investment income		467	606	716	793	836	844	815	746	634	478
Acquisition expenses		5,738	-	-	-	-	-	-	-	-	-
Maintenance expenses		425	403	383	363	345	327	310	294	279	264
Claims		5,050	5,376	5,557	5,914	6,112	6,378	6,654	6,940	7,238	7,547
Increase in reserves		2,396	1,931	1,446	938	403	(160)	(755)	(1,385)	(2,053)	(2,762)
Amortization of DAC		(4,566)	524	516	510	505	502	501	500	502	505
Profit		174	675	693	544	564	526	487	447	405	363

# Example #1 – Term Life (continued)

## Alternative Scenario

<i>IASB Risk/Residual Margin</i>												
<i>Balance Sheet</i>	0	1	2	3	4	5	6	7	8	9	10	
Invested assets	(638)	(1,996)	1,134	3,790	5,782	7,254	8,122	8,355	7,917	6,772	4,877	
Insurance liability	(3,187)	(4,943)	(2,127)	924	2,573	3,954	4,406	4,255	3,484	2,073	-	
Risk margin	1,465	1,374	1,272	1,182	1,056	925	771	602	418	218	-	
Residual margin	1,721	1,614	1,495	1,362	1,216	1,056	880	687	477	248	-	
Surplus	(638)	(41)	495	321	937	1,319	2,066	2,811	3,538	4,233	4,877	
<i>Income Statement-traditional presentation</i>												
Premiums		8,750	8,304	7,880	7,477	7,093	6,728	6,381	6,051	5,737	5,438	
Investment income		467	606	716	793	836	844	815	746	634	478	
Acquisition expenses		5,738	-	-	-	-	-	-	-	-	-	
Maintenance expenses		425	403	383	363	345	327	310	294	279	264	
Claims		5,050	5,376	5,557	5,914	6,112	6,378	6,654	6,940	7,238	7,547	
Increase in ins. liability		(1,756)	2,816	3,051	1,649	1,381	451	(151)	(771)	(1,411)	(2,073)	
Increase in risk margin		(91)	(102)	(90)	(127)	(130)	(154)	(169)	(184)	(200)	(218)	
Increase in residual margin		(107)	(119)	(132)	(146)	(161)	(176)	(193)	(210)	(229)	(248)	
Profit		(41)	536	(174)	616	382	747	745	728	695	644	
<i>Income statement-summary margin presentation</i>												
Risk adjustment		91	102	90	127	130	154	169	184	200	218	
Residual margin		107	119	132	146	161	176	193	210	229	248	
Insurance margin												
Experience adjustments		(50)	(157)	(109)	(114)	(59)	-	-	-	-	-	
Change in estimates		(0)	(0)	(772)	0	(299)	-	-	-	-	0	
Net gain at inception		(638)										
Investment income		467	606	716	793	836	844	815	746	634	478	
Interest on insurance liability		(19)	(134)	(230)	(336)	(387)	(427)	(431)	(412)	(369)	(300)	
Profit		(41)	536	(174)	616	382	747	745	728	695	644	

**Note: insurance liability above is shown before margins for illustrative purposes only**

# Example #1 – Term Life (continued)

## Alternative Scenario

<b>FASB Composite Margin</b>												
<i>Balance Sheet</i>	0	1	2	3	4	5	6	7	8	9	10	
Invested assets	(638)	(1,996)	1,134	3,790	5,782	7,254	8,122	8,355	7,917	6,772	4,877	
Insurance liability	(3,187)	(4,943)	(2,127)	924	2,573	3,954	4,406	4,255	3,484	2,073	-	
Risk margin	-	-	-	-	-	-	-	-	-	-	-	
Composite margin	3,187	2,722	2,296	1,906	1,550	1,225	930	661	418	198	-	
Surplus	(638)	225	966	960	1,659	2,075	2,787	3,439	4,016	4,501	4,877	
<i>Income Statement-traditional presentation</i>												
Premiums		8,750	8,304	7,880	7,477	7,093	6,728	6,381	6,051	5,737	5,438	
Investment income		467	606	716	793	836	844	815	746	634	478	
Acquisition expenses		5,738	-	-	-	-	-	-	-	-	-	
Maintenance expenses		425	403	383	363	345	327	310	294	279	264	
Claims		5,050	5,376	5,557	5,914	6,112	6,378	6,654	6,940	7,238	7,547	
Increase in insurance liability		(1,756)	2,816	3,051	1,649	1,381	451	(151)	(771)	(1,411)	(2,073)	
Increase in risk margin		-	-	-	-	-	-	-	-	-	-	
Increase in composite margin		(465)	(426)	(390)	(356)	(325)	(296)	(268)	(243)	(220)	(198)	
Profit		225	741	(6)	699	416	712	652	577	485	376	
<i>Income statement-summary margin presentation</i>												
Risk adjustment		-	-	-	-	-	-	-	-	-	-	
Composite margin		465	426	390	356	325	296	268	243	220	198	
Insurance margin		-	-	-	-	-	-	-	-	-	-	
Experience adjustments		(50)	(157)	(109)	(114)	(59)	-	-	-	-	-	
Change in estimates		(0)	(0)	(772)	0	(299)	-	-	-	-	0	
Net gain at inception		(638)	-	-	-	-	-	-	-	-	-	
Investment income		467	606	716	793	836	844	815	746	634	478	
Interest on insurance liability		(19)	(134)	(230)	(336)	(387)	(427)	(431)	(412)	(369)	(300)	
Profit		225	741	(6)	699	416	712	652	577	485	376	

**Note: insurance liability above is shown before margins for illustrative purposes only**

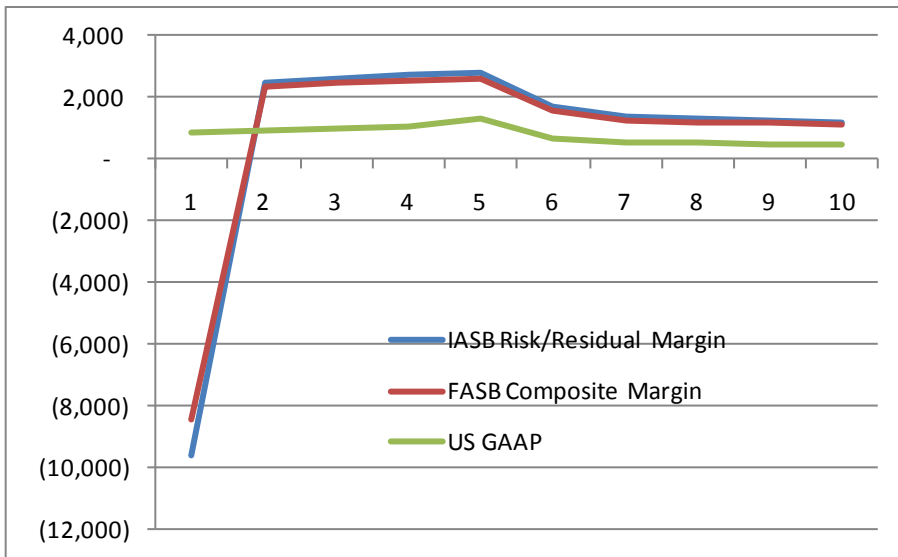
# Example #2 – Single Premium Deferred Annuity (SPDA)

- Product Type – SPDA
  - Deposit – \$100,000 (January 1<sup>st</sup> issue date)
  - Incremental acquisition costs (1<sup>st</sup> year) – \$5,000
  - Surrender charges – 5%,5%,4%,2%,1%
- Rates and Spreads
  - Guaranteed interest Y1 through Y3– 5%
  - Guaranteed interest Y4 through Y10 – 1.5%
  - Target spread – 150bp
  - Initial earned rate – 7.0%
  - Initial credited rate – 5.5%
- Margins and IFRS Discount Rate
  - IFRS Risk Margin – Based on cost of capital at 4% of target surplus
  - Target surplus – 5% of AV
  - IFRS Residual Margin – no net gain at start so no residual margin
  - GAAP Margin – none since FAS 97 product
  - Initial IFRS discount rate – 5.50%
- Scenario Assumptions
  - Base – actual results are as expected
  - Alternative – discount rate changes to 4.50% at the end of year 3

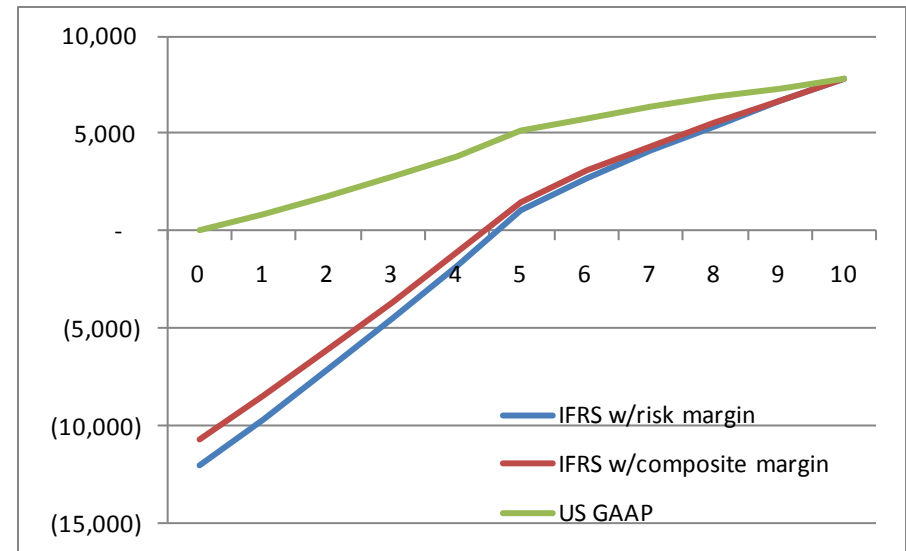
# Example #2 – SPDA (continued)

## Base Scenario

**Profit**



**Surplus**



# Example #2 – SPDA (continued)

## Base Scenario

USGAAP	0	1	2	3	4	5	6	7	8	9	10
<i>Balance sheet</i>											
Invested assets	95,000	99,526	104,148	108,865	110,305	72,141	58,562	56,302	54,143	52,078	7,824
DAC	5,000	4,249	3,517	2,803	2,084	1,297	930	657	413	195	-
Account value	100,000	102,921	105,891	108,909	108,543	68,296	53,692	50,627	47,709	44,928	-
Surplus	-	854	1,774	2,759	3,845	5,142	5,800	6,332	6,847	7,344	7,824
<i>Income statement</i>											
Investment income		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Interest credited		5,500	5,661	5,824	5,990	5,970	3,756	2,953	2,785	2,624	2,471
Surrender charges		105	108	111	171	455	-	-	-	-	-
Acquisition costs		5,000									
Amortization of DAC		(4,249)	732	714	719	787	367	273	244	218	195
Profit		854	919	985	1,086	1,297	658	532	515	498	479

# Example #2 – SPDA (continued)

## Base Scenario

IASB Risk/Residual Margin	0	1	2	3	4	5	6	7	8	9	10
<i>Balance sheet</i>											
Invested assets	-	99,526	104,148	108,865	110,305	72,141	58,562	56,302	54,143	52,078	7,824
Reserve liability	10,691	107,973	110,250	112,515	111,395	70,646	55,464	51,942	48,577	45,358	-
Risk margin	1,299	1,158	1,004	838	657	470	354	263	174	86	-
Residual margin	-	-	-	-	-	-	-	-	-	-	-
Surplus	(11,990)	(9,605)	(7,106)	(4,488)	(1,747)	1,026	2,743	4,097	5,393	6,634	7,824
<i>Income statement - Traditional presentation</i>											
<i>Deposit</i>		100,000									
Investment income		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Expenses		5,000									
Deaths and surrenders		2,474	2,582	2,696	6,184	45,761	18,361	6,018	5,703	5,405	47,399
Change in reserve		109,131	2,123	2,099	(1,301)	(40,936)	(15,297)	(3,614)	(3,455)	(3,307)	(45,444)
Profit		(9,605)	2,499	2,618	2,741	2,773	1,717	1,354	1,296	1,241	1,190
<i>Income statement - summarized margin presentation</i>											
Release of risk margin		142	154	167	180	188	115	91	89	88	86
Release of residual margin		-	-	-	-	-	-	-	-	-	-
Net gain at inception		(11,990)	-	-	-	-	-	-	-	-	-
Experience adjustments		-	-	-	-	-	-	-	-	-	-
Changes in estimates		-	-	-	-	-	-	-	-	-	(0)
Investment income		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Interest on insurance liability		(4,756)	(4,859)	(4,961)	(5,063)	(5,013)	(3,179)	(2,496)	(2,337)	(2,186)	(2,041)
Profit		(9,605)	2,499	2,618	2,741	2,773	1,717	1,354	1,296	1,241	1,190

**Note: insurance liability above is shown before margins for illustrative purposes only**



# Example #2 – SPDA (continued)

## Base Scenario

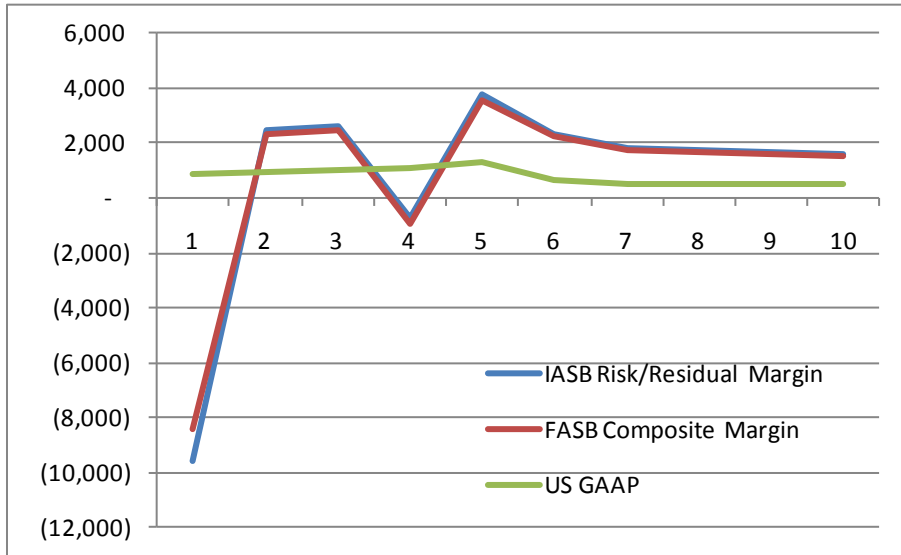
FASB Composite Margin	0	1	2	3	4	5	6	7	8	9	10
<i>Balance sheet</i>											
Invested assets	-	99,526	104,148	108,865	110,305	72,141	58,562	56,302	54,143	52,078	7,824
Reserve liability	10,691	107,973	110,250	112,515	111,395	70,646	55,464	51,942	48,577	45,358	-
Risk margin	-	-	-	-	-	-	-	-	-	-	-
Composite margin	-	-	-	-	-	-	-	-	-	-	-
Surplus	(10,691)	(8,447)	(6,101)	(3,650)	(1,090)	1,495	3,097	4,360	5,566	6,720	7,824
<i>Income statement - traditional presentation</i>											
Deposit		100,000	-	-	-	-	-	-	-	-	-
Investment income		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Expenses		5,000	-	-	-	-	-	-	-	-	-
Deaths and surrenders		2,474	2,582	2,696	6,184	45,761	18,361	6,018	5,703	5,405	47,399
Change in reserve		107,973	2,276	2,266	(1,121)	(40,749)	(15,181)	(3,522)	(3,365)	(3,219)	(45,358)
Profit		(8,447)	2,346	2,451	2,560	2,585	1,602	1,263	1,207	1,154	1,104
<i>Income statement - summarized margin presentation</i>											
Release of risk margin		-	-	-	-	-	-	-	-	-	-
Release of composite margin		-	-	-	-	-	-	-	-	-	-
Net gain at inception		(10,691)	-	-	-	-	-	-	-	-	-
Experience adjustments		-	-	-	-	-	-	-	-	-	-
Changes in estimates		-	-	-	-	-	-	-	-	-	-
Investment income		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Interest on insurance liability		(4,756)	(4,859)	(4,961)	(5,063)	(5,013)	(3,179)	(2,496)	(2,337)	(2,186)	(2,041)
Profit		(8,447)	2,346	2,451	2,560	2,585	1,602	1,263	1,207	1,154	1,104

**Note: insurance liability above is shown before margins for illustrative purposes only**

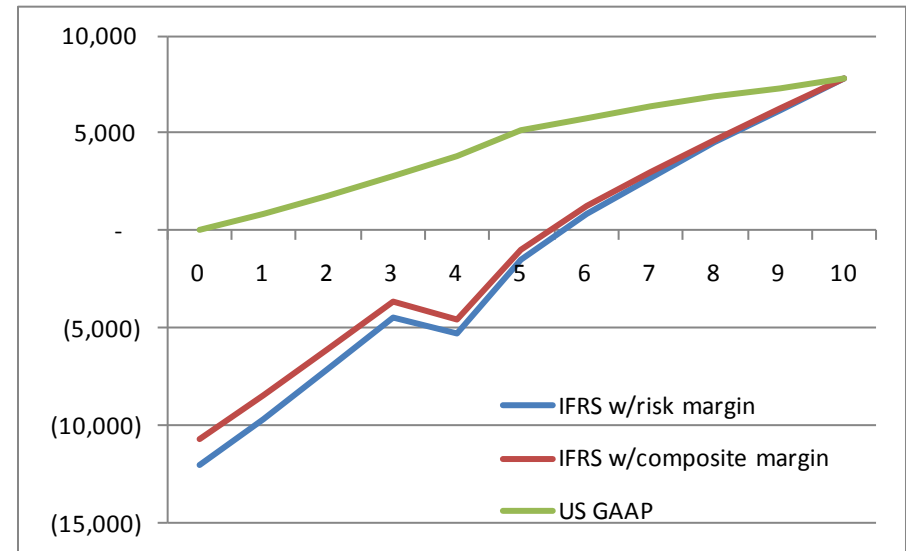
# Example #2 – SPDA (continued)

## Alternative Scenario

### Profit



### Surplus



# Example #2 – SPDA (continued)

## Alternative Scenario

USGAAP	0	1	2	3	4	5	6	7	8	9	10
<i>Balance sheet</i>											
Invested assets	95,000	99,526	104,148	108,865	110,305	72,141	58,562	56,302	54,143	52,078	7,824
DAC	5,000	4,249	3,517	2,803	2,084	1,297	930	657	413	195	-
Account value	100,000	102,921	105,891	108,909	108,543	68,296	53,692	50,627	47,709	44,928	-
Surplus	-	854	1,774	2,759	3,845	5,142	5,800	6,332	6,847	7,344	7,824
<i>Income statement</i>											
Investment income		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Interest credited		5,500	5,661	5,824	5,990	5,970	3,756	2,953	2,785	2,624	2,471
Surrender charges		105	108	111	171	455	-	-	-	-	-
Acquisition costs		5,000									
Amortization of DAC		(4,249)	732	714	719	787	367	273	244	218	195
Profit		854	919	985	1,086	1,297	658	532	515	498	479

# Example #2 – SPDA (continued)

## Alternative Scenario

IASB Risk/Residual Margin	0	1	2	3	4	5	6	7	8	9	10
<i>Balance sheet</i>											
Invested assets	-	99,526	104,148	108,865	110,305	72,141	58,562	56,302	54,143	52,078	7,824
Reserve liability	10,691	107,973	110,250	112,515	114,861	73,120	57,319	53,307	49,470	45,796	-
Risk margin	1,299	1,158	1,004	838	676	482	363	268	176	87	-
Residual margin	-										
Surplus	(11,990)	(9,605)	(7,106)	(4,488)	(5,232)	(1,461)	880	2,727	4,497	6,195	7,824
<i>Income statement - Traditional presentation</i>											
<i>Deposit</i>		100,000									
Investment income		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Expenses		5,000									
Deaths and surrenders		2,474	2,582	2,696	6,184	45,761	18,361	6,018	5,703	5,405	47,399
Change in reserve		109,131	2,123	2,099	2,184	(41,935)	(15,921)	(4,107)	(3,929)	(3,763)	(45,883)
Profit		(9,605)	2,499	2,618	(745)	3,771	2,341	1,847	1,770	1,697	1,629
<i>Income statement - summarized margin presentation</i>											
Release of risk margin		142	154	167	162	193	120	95	92	89	87
Release of residual margin		-	-	-	-	-	-	-	-	-	-
Net gain at inception		(11,990)	-	-	-	-	-	-	-	-	-
Experience adjustments		-	-	-	-	-	-	-	-	-	-
Changes in estimates		-	-	-	3,467	-	-	-	-	-	(0)
Investment income		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Interest on insurance liability		(4,756)	(4,859)	(4,961)	(5,063)	(4,020)	(2,559)	(2,006)	(1,866)	(1,731)	(1,603)
Profit		(9,605)	2,499	2,618	6,189	3,771	2,341	1,847	1,770	1,697	1,629

**Note: insurance liability above is shown before margins for illustrative purposes only**

# Example #2 – SPDA (continued)

## Alternative Scenario

<b>FASB Composite Margin</b>	0	1	2	3	4	5	6	7	8	9	10
<i>Balance sheet</i>											
Invested assets	-	99,526	104,148	108,865	110,305	72,141	58,562	56,302	54,143	52,078	7,824
Reserve liability	10,691	107,973	110,250	112,515	114,861	73,120	57,319	53,307	49,470	45,796	-
Risk margin	-	-	-	-	-	-	-	-	-	-	-
Composite margin	-	-	-	-	-	-	-	-	-	-	-
Surplus	(10,691)	(8,447)	(6,101)	(3,650)	(4,557)	(979)	1,243	2,995	4,673	6,282	7,824
<i>Income statement - traditional presentation</i>											
Deposit		100,000	-	-	-	-	-	-	-	-	-
Investment income		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Expenses		5,000	-	-	-	-	-	-	-	-	-
Deaths and surrenders		2,474	2,582	2,696	6,184	45,761	18,361	6,018	5,703	5,405	47,399
Change in reserve		107,973	2,276	2,266	2,346	(41,741)	(15,801)	(4,012)	(3,837)	(3,674)	(45,796)
Profit		(8,447)	2,346	2,451	(906)	3,578	2,222	1,752	1,678	1,608	1,542
<i>Income statement - summarized margin presentation</i>											
Release of risk margin		-	-	-	-	-	-	-	-	-	-
Release of composite margin		-	-	-	-	-	-	-	-	-	-
Net gain at inception		(10,691)	-	-	-	-	-	-	-	-	-
Experience adjustments		-	-	-	3,467	-	-	-	-	-	(0)
Changes in estimates		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Investment income		7,000	7,204	7,412	7,624	7,598	4,781	3,758	3,544	3,340	3,145
Interest on insurance liability		(4,756)	(4,859)	(4,961)	(5,063)	(4,020)	(2,559)	(2,006)	(1,866)	(1,731)	(1,603)
Profit		(1,447)	9,550	9,864	13,651	11,176	7,002	5,511	5,222	4,948	4,687

**Note: insurance liability above is shown before margins for illustrative purposes only**

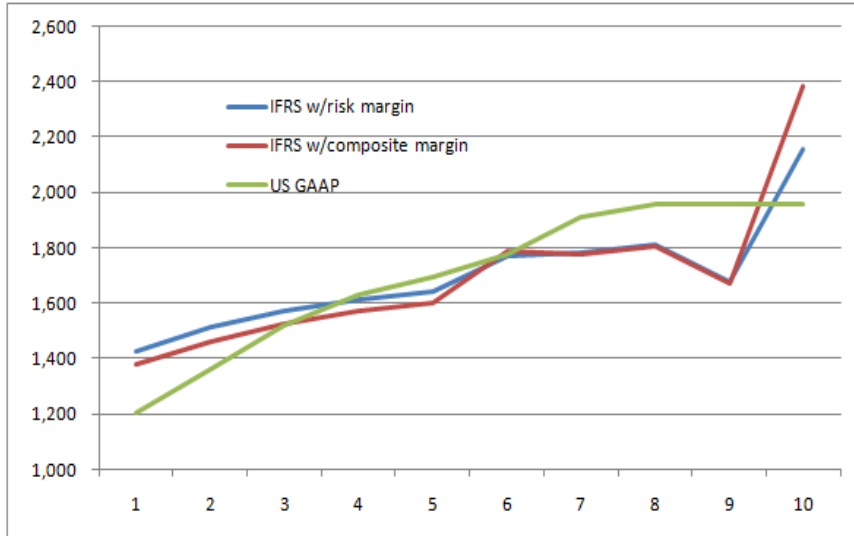
# Example #3 – SPUL

- Product Type – Single Premium Universal Life (no unbundling)
  - Face value – \$1 million (January 1<sup>st</sup> issue date)
  - Single premium – \$40,000
  - Incremental acquisition costs (1<sup>st</sup> year commission) – \$2,500
  - Non-incremental acquisition costs (1<sup>st</sup> year) – \$0
  - Maintenance expense per year – \$100
  - Surrender charges – 5%,4%,3%,2%,2%,0%
  - Expected earned rate – 7.0%
  - Expected credited rate – 4.5%
- Margins and IFRS Discount Rate
  - IFRS Risk Margin – 1.5% of AV (assuming a cost of capital approach)
  - IFRS Residual Margin run-off over PV of expected claims at inception
  - IFRS Composite Margin run off according to FASB Discussion Paper
  - IFRS Discount Rate – 4.0% (RF rate + illiquidity premium)
  - GAAP Margin – none since FAS 97 product
- Scenario Assumptions
  - Base – Level investment returns and credited rates.
  - Alternative #1 – Decrease in earned rates, credited rates stay the same – so there is spread compression
  - Alternative #2 – Decrease in both earned and credited rates – spread maintained, does not pierce minimum guaranteed rates

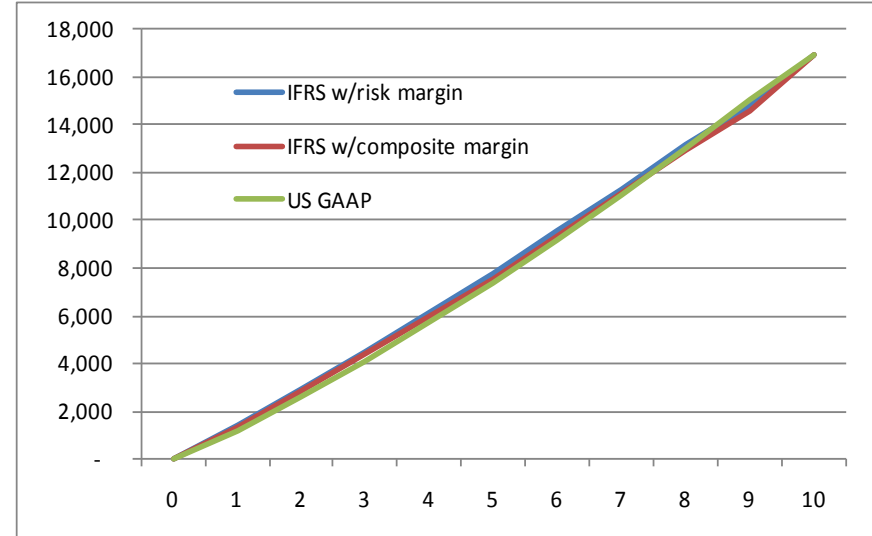
# Example #3 – SPUL (continued)

## Base Scenario

### Profit



### Surplus



# Example #3 –SPUL (continued)

## Base Scenario

<b>US GAAP</b>	0	1	2	3	4	5	6	7	8	9	10
<i>Balance Sheet</i>											
Invested assets	37,500	37,527	37,493	37,356	37,167	37,052	33,809	32,619	31,683	30,971	16,966
DAC	2,500	2,303	2,083	1,834	1,568	1,300	1,011	749	495	251	-
Policyholder liability	40,000	38,625	37,011	35,109	33,023	30,945	25,639	22,276	19,127	16,212	-
Surplus	-	1,205	2,565	4,082	5,712	7,407	9,182	11,092	13,051	15,010	16,966
<i>Income statement</i>											
Investment income		2,725	2,751	2,750	2,727	2,693	2,630	2,543	2,431	2,295	2,104
COI charges		1,067	1,311	1,606	1,801	1,808	2,033	1,910	1,898	1,851	1,987
Surrender charges		102	78	55	35	33	-	-	-	-	-
Interest credited		1,752	1,679	1,593	1,499	1,405	1,301	1,068	917	777	640
NAR on deaths		640	786	964	1,081	1,086	1,221	1,147	1,141	1,113	1,195
Acquisition costs		2,500	-	-	-	-	-	-	-	-	-
Amortization of DAC		(2,303)	220	248	267	268	289	262	254	244	251
Maintenance expenses		100	95	90	86	81	77	65	59	53	47
Profit		1,205	1,359	1,517	1,630	1,695	1,775	1,911	1,959	1,959	1,957



# Example #3 – SPUL (continued)

## Base Scenario

<i>IASB Risk/Residual Margin</i>	0	1	2	3	4	5	6	7	8	9	10
<i>Balance Sheet</i>											
Invested assets	-	37,527	37,493	37,356	37,167	37,052	33,809	32,619	31,683	30,971	16,966
Insurance liability	(2,030)	34,191	32,774	31,197	29,529	27,902	23,146	20,339	17,741	15,489	-
Risk margin	597	525	453	383	314	247	183	128	80	37	-
Residual margin	1,432	1,383	1,328	1,266	1,200	1,136	943	830	727	635	-
Surplus	-	1,428	2,939	4,511	6,124	7,767	9,538	11,322	13,135	14,809	16,966
<i>Income statement - traditional presentation</i>											
Premiums		40,000	-	-	-	-	-	-	-	-	-
Investment income		2,725	2,751	2,750	2,727	2,693	2,630	2,543	2,431	2,295	2,104
Acquisition expenses		2,500	-	-	-	-	-	-	-	-	-
Maintenance expenses		100	95	90	86	81	77	65	59	53	47
Death claims		667	820	1,005	1,127	1,131	1,271	1,193	1,184	1,153	1,234
Surrenders		1,931	1,870	1,792	1,703	1,596	4,524	2,475	2,125	1,801	14,827
Increase in insurance liability		34,191	(1,417)	(1,577)	(1,668)	(1,627)	(4,756)	(2,807)	(2,598)	(2,251)	(15,489)
Increase in risk margin		525	(72)	(71)	(69)	(67)	(64)	(54)	(48)	(43)	(37)
Increase in residual margin		1,383	(55)	(62)	(66)	(64)	(193)	(113)	(103)	(92)	(635)
Profit	-	1,428	1,511	1,572	1,613	1,643	1,771	1,785	1,813	1,675	2,157
<i>Income statement - summary margin presentation</i>											
Risk adjustment		72	72	71	69	67	64	54	48	43	37
Residual margin		50	55	62	66	64	193	113	103	92	635
Insurance margin											
Experience adjustments		-	-	-	-	-	-	-	-	-	-
Change in estimates		-	-	-	-	-	-	-	-	-	-
Net gain at inception		-									
Investment income		2,725	2,751	2,750	2,727	2,693	2,630	2,543	2,431	2,295	2,104
Interest on insurance liability		(1,419)	(1,368)	(1,311)	(1,248)	(1,181)	(1,116)	(926)	(771)	(754)	(620)
Profit		1,428	1,511	1,572	1,613	1,643	1,771	1,785	1,812	1,675	2,157

**Note: insurance liability above is shown before margins for illustrative purposes only**

# Example #3 – SPUL (continued)

## Base Scenario

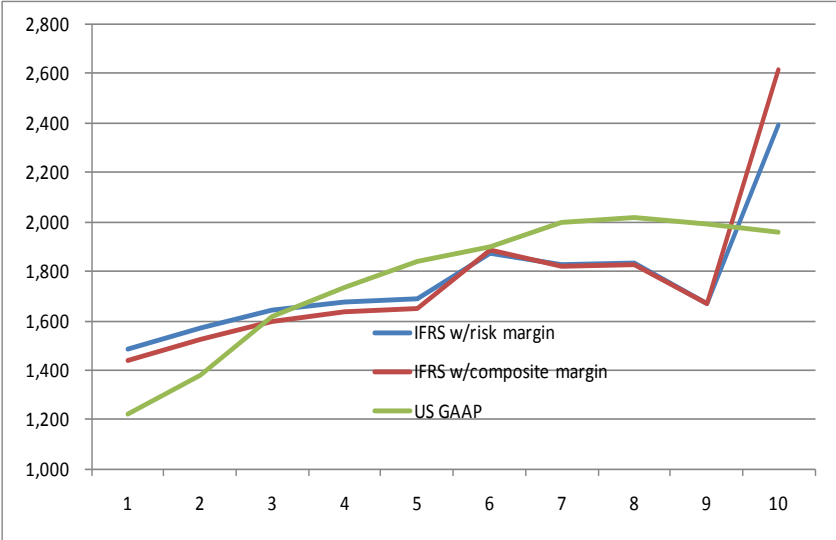
<b>FASB Composite Margin</b>	0	1	2	3	4	5	6	7	8	9	10
<i>Balance Sheet</i>											
Invested assets	-	37,527	37,493	37,356	37,167	37,052	33,809	32,619	31,683	30,971	16,966
Insurance liability	(2,030)	34,191	32,774	31,197	29,529	27,902	23,146	20,339	17,741	15,489	-
Risk margin	-	-	-	-	-	-	-	-	-	-	-
Composite margin	2,030	1,959	1,881	1,793	1,700	1,609	1,336	1,176	1,030	900	-
Surplus	-	1,377	2,839	4,366	5,937	7,540	9,327	11,105	12,912	14,582	16,966
<i>Income statement - traditional presentation</i>											
Premiums		40,000	-	-	-	-	-	-	-	-	-
Investment income		2,725	2,751	2,750	2,727	2,693	2,630	2,543	2,431	2,295	2,104
Acquisition expenses		2,500	-	-	-	-	-	-	-	-	-
Maintenance expenses		100	95	90	86	81	77	65	59	53	47
Death claims		667	820	1,005	1,127	1,131	1,271	1,193	1,184	1,153	1,234
Surrenders		1,931	1,870	1,792	1,703	1,596	4,524	2,475	2,125	1,801	14,827
Increase in insurance liability		34,191	(1,417)	(1,577)	(1,668)	(1,627)	(4,756)	(2,807)	(2,598)	(2,251)	(15,489)
Increase in risk margin		-	-	-	-	-	-	-	-	-	-
Increase in composite margin		1,959	(78)	(88)	(93)	(91)	(273)	(160)	(146)	(131)	(900)
Profit		1,377	1,462	1,527	1,572	1,603	1,787	1,778	1,807	1,670	2,384
<i>Income statement - summary margin presentation</i>											
Risk adjustment		-	-	-	-	-	-	-	-	-	-
Composite margin		70	78	88	93	91	273	160	146	131	900
Insurance margin		-	-	-	-	-	-	-	-	-	-
Experience adjustments		-	-	-	-	-	-	-	-	-	-
Change in estimates		-	-	-	-	-	-	-	-	-	-
Net gain at inception		-	-	-	-	-	-	-	-	-	-
Investment income		2,725	2,751	2,750	2,727	2,693	2,630	2,543	2,431	2,295	2,104
Interest on insurance liability		(1,419)	(1,368)	(1,311)	(1,248)	(1,181)	(1,116)	(926)	(771)	(754)	(620)
Profit		1,377	1,462	1,527	1,572	1,603	1,787	1,778	1,806	1,671	2,384

**Note: insurance liability above is shown before margins for illustrative purposes only**

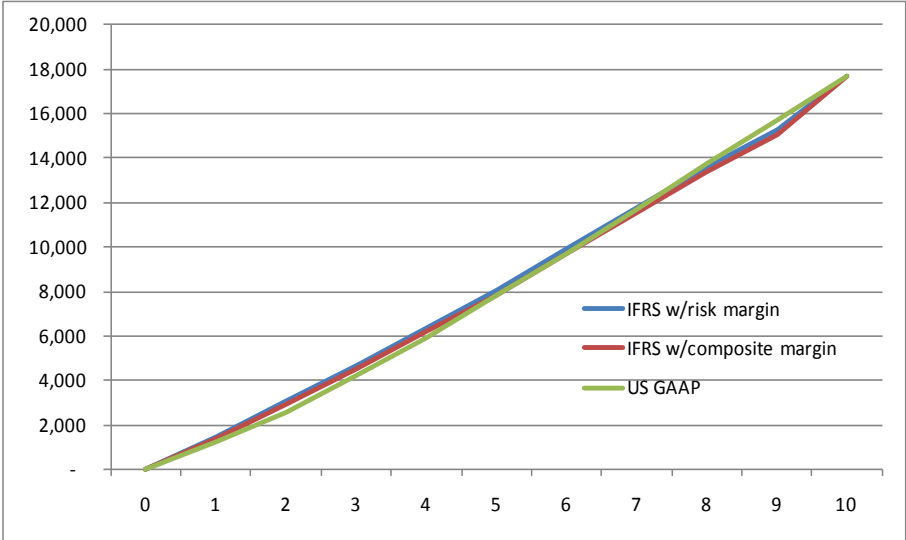
# Example #3 – SPUL (continued)

## Alternative #1

**Profit**



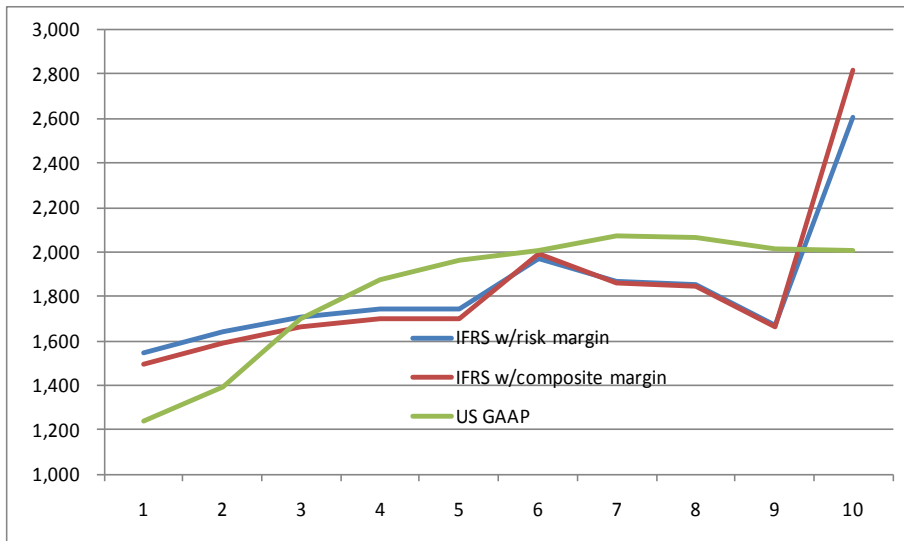
**Surplus**



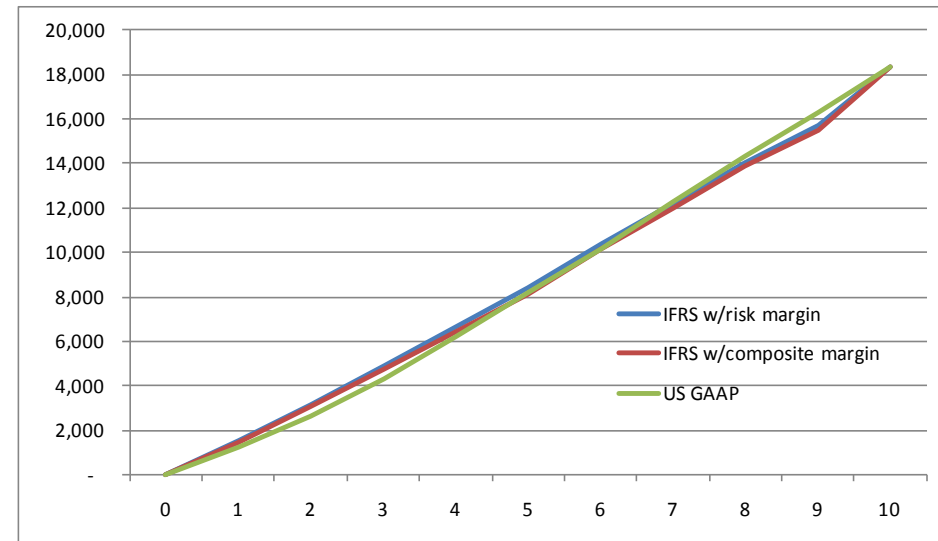
# Example #3 – SPUL (continued)

## Alternative #2

**Profit**



**Surplus**



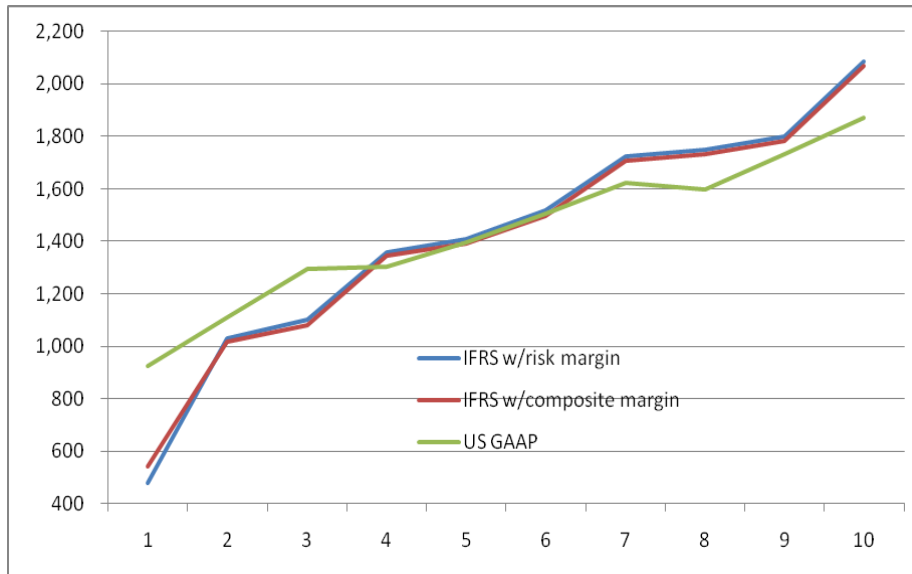
# Example #4 – VA GMDB

- Product Type – Variable Annuity GMDB, 5% Roll-Up (no unbundling)
  - Single deposit – \$100,000 (January 1<sup>st</sup> issue date)
  - M&E – 140bp
  - GMDB Charge – 10bp
  - Incremental acquisition costs (1<sup>st</sup> year commission) – \$5,000
  - Non-incremental acquisition costs – \$200
  - Maintenance expense per year – \$50
  - Surrender charges – 7%,6%,5%,4%,2%,1%,0%
- Margins and Rates
  - Target surplus (% AV) – 5% (used for risk margin)
  - IFRS Risk Margin
  - Residual/composite margin runoff method is based on benefits
  - IFRS Discount Rate – 8%
  - Long term equity growth – 8%
  - GA Earned rate – 6%
- Scenario Assumptions
  - Base – Actual experience is as expected
  - Alternative – Actual market falls to 0% in year 4, prospective equity rate assumption changed to 6%

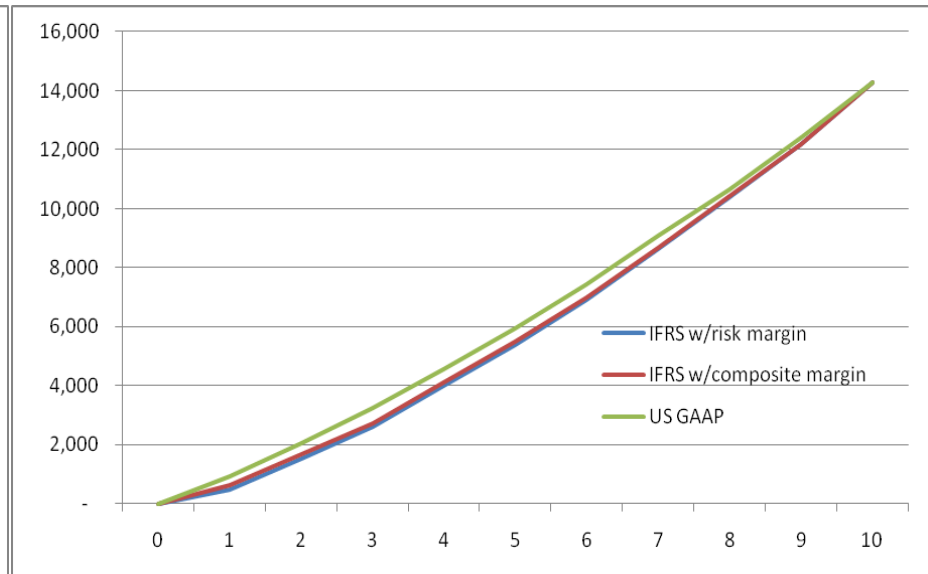
# Example #4 – VA GMDB (continued)

## Base Scenario

### Profit



### Surplus



# Example #4 – VA GMDB (continued)

## Base Scenario

<b>US GAAP</b>	0	1	2	3	4	5	6	7	8	9	10
<i>GAAP balance sheet</i>											
Invested assets	(200)	(3,674)	(2,197)	(587)	1,163	3,039	5,072	7,269	9,407	11,735	14,264
SA assets	-	101,642	105,448	109,357	113,370	117,483	121,692	109,275	113,065	116,905	(0)
DAC	-	4,614	4,258	3,861	3,419	2,939	2,411	1,829	1,282	674	-
Total assets	(200)	102,582	107,509	112,631	117,952	123,462	129,174	118,372	123,754	129,314	14,264
SA liabilities	-	101,642	105,448	109,357	113,370	117,483	121,692	109,275	113,065	116,905	(0)
SOP 03-1 reserve	-	17	27	35	40	42	41	36	29	17	-
Total liabilities	-	101,659	105,475	109,392	113,410	117,525	121,733	109,310	113,093	116,922	(0)
Surplus	(200)	923	2,034	3,239	4,542	5,937	7,441	9,062	10,661	12,392	14,264
<i>GAAP income statement</i>											
Investment income		(222)	(129)	(37)	63	172	288	414	534	666	809
M&E		1,400	1,423	1,476	1,531	1,587	1,645	1,704	1,530	1,583	1,637
GMDB charges		100	102	105	109	113	117	122	109	113	117
Surrender charges		298	129	112	93	48	25	-	-	-	-
Excess deaths		-	-	-	-	-	-	-	-	-	-
Incr in SOP 03-1 reserve		17	10	8	5	2	(1)	(5)	(7)	(12)	(17)
Deferrable acq cost		5,000	-	-	-	-	-	-	-	-	-
Non deferrable acq cost		200	-	-	-	-	-	-	-	-	-
Maintenance expenses		50	48	47	45	44	43	42	35	34	33
Amortization of DAC		(4,614)	356	398	442	479	529	582	547	608	674
Income		923	1,111	1,205	1,303	1,395	1,504	1,621	1,599	1,731	1,872

# Example #4 – VA GMDB (continued)

## Base Scenario

IFRS w/risk margin	0	1	2	3	4	5	6	7	8	9	10
<i>Balance Sheet</i>											
GA invested assets	-	(3,674)	(2,197)	(587)	1,163	3,039	5,072	7,269	9,407	11,735	14,264
SA assets	-	101,642	105,448	109,357	113,370	117,483	121,692	109,275	113,065	116,905	(0)
Insurance liability	(7,500)	90,002	94,700	99,660	104,697	110,023	115,610	104,661	109,788	115,236	-
Risk margin - COC method	1,286	1,389	1,297	1,190	1,066	925	764	582	410	216	-
Residual margin	6,414	6,101	5,739	5,305	4,788	4,183	3,479	2,667	1,892	1,007	-
Surplus	(200)	476	1,514	2,615	3,982	5,392	6,910	8,634	10,382	12,180	14,264
<i>Income statement</i>											
Deposit		100,000									
GA Investment income		(222)	(129)	(37)	63	172	288	414	534	666	809
SA investment income		7,880	8,009	8,309	8,617	8,934	9,258	9,589	8,611	8,909	9,212
Acquisition costs		5,200									
Maintenance costs		50	48	47	45	44	43	42	35	34	33
Death benefits		482	527	586	651	722	803	898	874	987	1,120
Surrender benefits		3,957	2,023	2,120	2,221	2,350	2,459	19,284	2,307	2,386	123,243
Insurance liability increase		90,002	4,698	4,960	5,037	5,326	5,587	(10,949)	5,127	5,449	(115,236)
Risk margin increase		1,389	(92)	(107)	(124)	(141)	(161)	(182)	(172)	(193)	(216)
Residual margin increase		6,101	(361)	(435)	(516)	(605)	(704)	(813)	(775)	(885)	(1,007)
Profit		476	1,038	1,101	1,366	1,410	1,518	1,724	1,748	1,798	2,084

**Note: insurance liability above is shown before margins for illustrative purposes only**



# Example #4 – VA GMDB (continued)

## Base Scenario

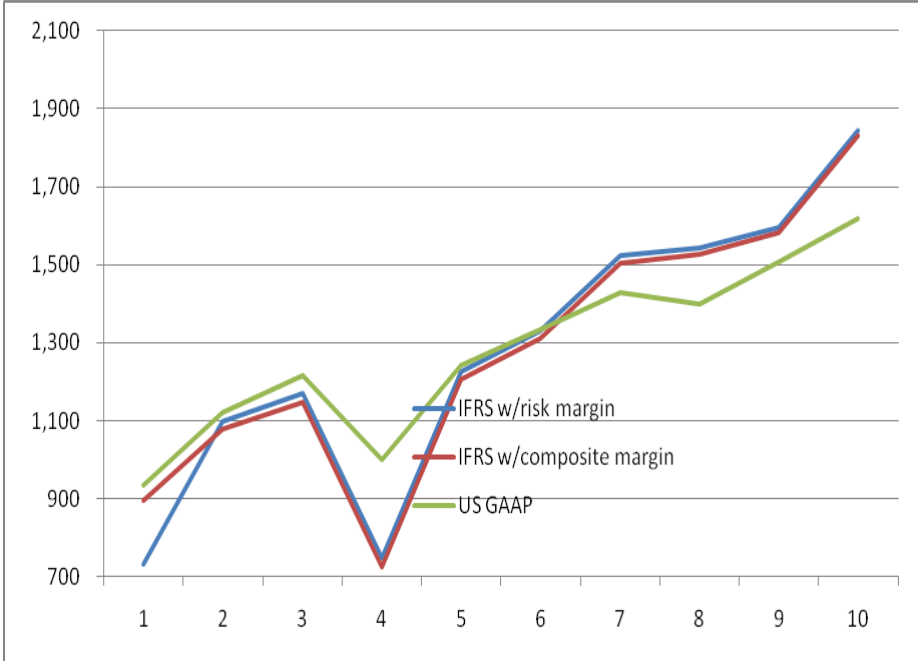
IFRS w/composite margin	0	1	2	3	4	5	6	7	8	9	10
<i>Balance Sheet</i>											
GA invested assets	-	(3,674)	(2,197)	(587)	1,163	3,039	5,072	7,269	9,407	11,735	14,264
SA assets	-	101,642	105,448	109,357	113,370	117,483	121,692	109,275	113,065	116,905	(0)
Insurance liability	(7,500)	90,002	94,700	99,660	104,697	110,023	115,610	104,661	109,788	115,236	-
Risk margin	-	-	-	-	-	-	-	-	-	-	-
Composite margin	7,700	7,325	6,891	6,369	5,749	5,022	4,177	3,201	2,272	1,209	-
Surplus	(200)	642	1,660	2,741	4,088	5,478	6,976	8,681	10,413	12,195	14,264
<i>Income statement</i>											
Deposit		100,000									
GA Investment income		(222)	(129)	(37)	63	172	288	414	534	666	809
SA investment income		7,880	8,009	8,309	8,617	8,934	9,258	9,589	8,611	8,909	9,212
Acquisition costs		5,200	-	-	-	-	-	-	-	-	-
Maintenance costs		50	48	47	45	44	43	42	35	34	33
Death benefits		482	527	586	651	722	803	898	874	987	1,120
Surrender benefits		3,957	2,023	2,120	2,221	2,350	2,459	19,284	2,307	2,386	123,243
Insurance liability increase		90,002	4,698	4,960	5,037	5,326	5,587	(10,949)	5,127	5,449	(115,236)
Composite margin increase		7,325	(434)	(522)	(620)	(727)	(845)	(976)	(930)	(1,062)	(1,209)
Profit		642	1,018	1,081	1,346	1,390	1,498	1,705	1,731	1,782	2,070

**Note: insurance liability above is shown before margins for illustrative purposes only**

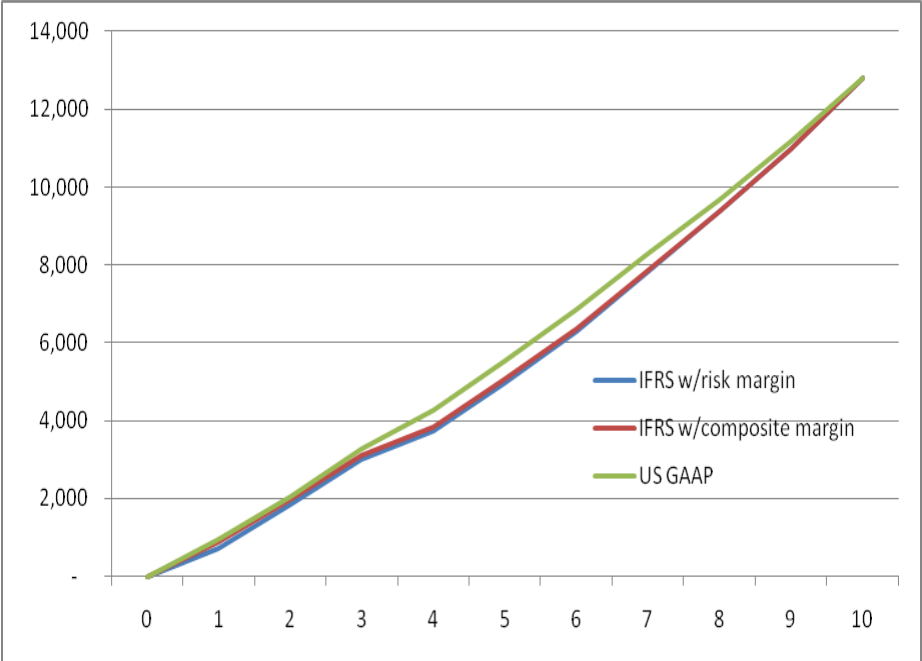
# Example #4 – VA GMDB (continued)

## Alternative Scenario

**Profit**



**Surplus**



# Example #4 – VA GMDB (continued)

## Alternative Scenario

<b>US GAAP</b>	0	1	2	3	4	5	6	7	8	9	10
<i>GAAP balance sheet</i>											
Invested assets	(200)	(3,674)	(2,197)	(587)	1,147	2,887	4,741	6,713	8,605	10,635	12,805
SA assets	-	101,642	105,448	109,357	104,972	106,764	108,537	95,654	97,134	98,569	0
DAC	-	4,628	4,285	3,902	3,170	2,675	2,153	1,603	1,102	568	-
Total assets	(200)	102,596	107,536	112,672	109,290	112,326	115,431	103,970	106,842	109,772	12,805
SA liabilities	-	101,642	105,448	109,357	104,972	106,764	108,537	95,654	97,134	98,569	0
SOP 03-1 reserve	-	19	32	42	46	48	46	40	32	18	-
Total liabilities	-	101,662	105,480	109,400	105,018	106,811	108,583	95,694	97,166	98,588	0
Surplus	(200)	934	2,056	3,272	4,272	5,515	6,848	8,276	9,676	11,184	12,805
<i>GAAP income statement</i>											
Investment income		(222)	(129)	(37)	63	163	270	382	489	604	727
M&E		1,400	1,423	1,476	1,531	1,470	1,495	1,520	1,339	1,360	1,380
GMDB charges		100	102	105	109	108	110	112	100	102	104
Surrender charges		298	129	112	86	44	22	-	-	-	-
Excess deaths		-	-	-	9	-	-	-	-	2	7
Incr in SOP 03-1 reserve		19	13	10	3	2	(2)	(6)	(8)	(13)	(18)
Deferrable acq cost		5,000	-	-	-	-	-	-	-	-	-
Non deferrable acq cost		200	-	-	-	-	-	-	-	-	-
Maintenance expenses		50	48	47	45	44	43	42	35	34	33
Amortization of DAC		(4,628)	342	383	732	495	522	550	501	534	568
Income		934	1,122	1,217	999	1,243	1,333	1,428	1,400	1,508	1,620

# Example #4 – VA GMDB (continued)

## Alternative Scenario

IFRS w/risk margin	0	1	2	3	4	5	6	7	8	9	10
<i>Balance Sheet</i>											
GA invested assets	(200)	(3,674)	(2,197)	(587)	1,147	2,887	4,741	6,713	8,605	10,635	12,805
SA assets	-	101,642	105,448	109,357	104,972	106,764	108,537	95,654	97,134	98,569	0
Insurance liability	(7,500)	90,002	94,700	99,660	96,977	100,020	103,145	91,642	94,338	97,171	-
Risk margin - COC method	1,198	1,294	1,195	1,079	947	813	664	500	349	183	-
Residual margin	6,302	5,941	5,527	5,033	4,450	3,848	3,167	2,401	1,687	889	-
Surplus	(200)	731	1,829	2,998	3,745	4,971	6,301	7,823	9,366	10,961	12,805
<i>Income statement</i>											
Deposit		100,000									
GA Investment income		(222)	(129)	(37)	63	163	270	382	489	604	727
SA investment income		7,880	8,009	8,309	-	6,204	6,310	6,414	5,653	5,740	5,825
Acquisition costs		5,200									
Maintenance costs		50	48	47	45	44	43	42	35	34	33
Death benefits		482	527	586	612	656	717	786	751	834	934
Surrender benefits		3,957	2,023	2,120	2,057	2,135	2,193	16,880	1,982	2,012	101,984
Insurance liability increase		90,002	4,698	4,960	(2,683)	3,042	3,126	(11,503)	2,696	2,832	(97,171)
Risk margin increase		1,294	(100)	(115)	(132)	(134)	(149)	(164)	(151)	(166)	(183)
Residual margin increase		5,941	(414)	(494)	(582)	(603)	(681)	(766)	(714)	(798)	(889)
Profit		731	1,098	1,169	747	1,226	1,330	1,522	1,542	1,596	1,843

**Note: insurance liability above is shown before margins for illustrative purposes only**

# Example #4 – VA GMDB (continued)

## Alternative Scenario

IFRS w/composite margin	0	1	2	3	4	5	6	7	8	9	10
<i>Balance Sheet</i>											
GA invested assets	(200)	(3,674)	(2,197)	(587)	1,147	2,887	4,741	6,713	8,605	10,635	12,805
SA assets	-	101,642	105,448	109,357	104,972	106,764	108,537	95,654	97,134	98,569	0
Insurance liability	(7,500)	90,002	94,700	99,660	96,977	100,020	103,145	91,642	94,338	97,171	-
Risk margin	-	-	-	-	-	-	-	-	-	-	-
Composite margin	7,500	7,071	6,578	5,990	5,296	4,579	3,769	2,857	2,008	1,058	-
Surplus	(200)	895	1,973	3,120	3,846	5,052	6,363	7,867	9,394	10,975	12,805
<i>Income statement</i>											
Deposit		100,000									
GA Investment income		(222)	(129)	(37)	63	163	270	382	489	604	727
SA investment income		7,880	8,009	8,309	-	6,204	6,310	6,414	5,653	5,740	5,825
Acquisition costs		5,200	-	-	-	-	-	-	-	-	-
Maintenance costs		50	48	47	45	44	43	42	35	34	33
Death benefits		482	527	586	612	656	717	786	751	834	934
Surrender benefits		3,957	2,023	2,120	2,057	2,135	2,193	16,880	1,982	2,012	101,984
Insurance liability increase		90,002	4,698	4,960	(2,683)	3,042	3,126	(11,503)	2,696	2,832	(97,171)
Composite margin increase		7,071	(493)	(588)	(693)	(717)	(810)	(912)	(850)	(949)	(1,058)
Profit		895	1,078	1,147	725	1,206	1,311	1,504	1,527	1,581	1,830

**Note: insurance liability above is shown before margins for illustrative purposes only**

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