

Product Profitability Database

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SEAC Spring Meeting - 2006

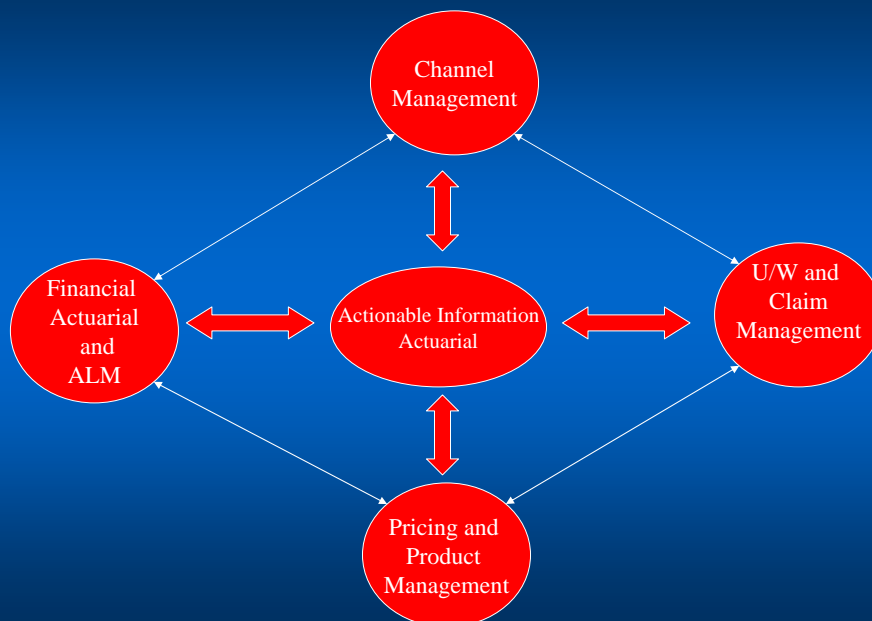
Presentation Agenda

- **What is the Product Profitability Database - PPDB**
- **Sample Product Profitability Reports and Analysis**
- **Business Benefits**
- **How to implement a Product Profitability Database or Business Intelligence environment**

Business Intelligence and Insurance

- What is the most important pre-requisite to survive in today's volatile and highly competitive insurance marketplace?
 - Actionable information at your finger tips!!
 - Business Intelligence can play a crucial role in almost every aspect of the insurance value chain

Business Intelligence and Insurance



Business Intelligence and Insurance

- Identify actionable strategies through profitability analysis
- More insight on understanding business through actionable information
- Interact by identifying key strategic initiatives to senior management



What is the Product Profitability Database Environment

- Internal actuarial management tool used to analyze actual to expected GAAP source of earnings by product and issue year.
- Provides financial actuaries with a more detailed insight on GAAP source of earning and the interdependencies that drive profitability.
- Decision making tool that establishes links between different actuarial areas.

What is the Product Profitability Database Environment

- Build bridge between the G/L System and the Financial Actuarial System.
- Ability to produce analytical reports by any specific product series or product by issue year.
- Ability to drill down from Product Grouping to a specific product, and slice and dice by any dimension available within the OLAP database environment.

INCOME STATEMENT (thousands) - PRODUCT A							
Issue Year	Pre-1997	1997 - 2001	2002	2003	2004	2005	Total
Interest Gain							
Earned	\$ 145,000	\$ 204,500	\$ 17,900	\$ 17,200	\$ 8,500	\$ 2,000	\$ 395,100
Credited	(97,000)	(139,600)	(13,500)	(9,000)	(5,500)	(1,200)	(265,800)
Int Gain	\$ 48,000	\$ 64,900	\$ 4,400	\$ 8,200	\$ 3,000	\$ 800	\$ 129,300
Mortality Gain							
COI's	\$ 110,000	\$ 147,200	\$ 15,000	\$ 14,800	\$ 13,500	\$ 3,500	\$ 304,000
Death Benefits	(70,000)	(85,700)	(7,000)	(2,000)	(3,000)	(100)	(167,800)
Mort Gain	\$ 40,000	\$ 61,500	\$ 8,000	\$ 12,800	\$ 10,500	\$ 3,400	\$ 136,200
Expenses/Other							
Expense Charges:							
Gross	\$ 13,500	\$ 24,600	4,500	7,500	19,000	25,000	\$ 94,100
Deferred	(100)	(1,035)	(4,100)	(7,000)	(16,500)	(21,000)	(49,735)
Net	\$ 13,400	\$ 23,565	\$ 400	\$ 500	\$ 2,500	\$ 4,000	\$ 44,365
Amort of DACVOBA/UER:							
DAC & VOBA	(14,000)	(40,800)	(1,000)	(12,000)	(7,000)	(500)	\$ (75,300)
Unearned Rev. Amort	500	6,490	(2,000)	7,000	(5,500)	200	6,690
Net	\$ (13,500)	\$ (34,310)	\$ (3,000)	\$ (5,000)	\$ (12,500)	\$ (300)	\$ (68,610)
Other:							
Net Commissions	(1,000)	(2,250)	(300)	(250)	(900)	(400)	(5,100)
Net G & A Exp.	(7,000)	(9,075)	(450)	(400)	(100)	(1,700)	(18,725)
TL & F	(2,500)	(4,600)	(1,000)	(950)	(1,700)	(4,500)	(15,250)
Surrender Charges	4,500	9,650	1,300	950	300	10	16,710
Misc. Inc. (Exp)	(7,500)	(9,700)	(2,100)	(2,000)	(1,700)	(700)	(23,700)
Total	\$ (13,600)	\$ (26,720)	\$ (5,150)	\$ (7,150)	\$ (14,100)	\$ (3,590)	\$ (70,310)
Pre-Tax Net Income	\$ 74,400	\$ 99,680	\$ 7,250	\$ 13,850	\$ (600)	\$ 610	\$ 195,190

STATISTICS PRODUCT A							
Issue Year	Pre-1997	1997 - 2001	2002	2003	2004	2005	Total
Avg Fix AV (millions)	\$ 9,000	\$ 13,000	\$ 1,250	\$ 900	\$ 600	\$ 140	\$ 24,890
Avg Sep. AV (millions)	700	1,830	200	100	80	15	2,925
Total Acct. Value	\$ 9,700	\$ 14,830	\$ 1,450	\$ 1,000	\$ 680	\$ 155	\$ 27,815
Avg Gross Face (millions)	\$ 75,000	\$ 121,200	\$ 17,000	\$ 14,500	\$ 13,800	\$ 4,100	\$ 245,600
Avg Ceded Face (millions)	(13,000)	(32,900)	(6,700)	(6,000)	(5,800)	(1,400)	(65,800)
Avg # of Policies	640,000	783,600	43,900	37,900	29,100	7,700	1,542,200
Premiums: (thousands)							
Target Premiums	\$ 100,900	\$ 145,100	\$ 23,700	\$ 22,500	\$ 24,700	\$ 51,200	\$ 368,100
Excess Premiums	19,900	55,600	16,800	16,000	36,400	90,000	234,700
Total Gross Premiums	\$ 120,800	\$ 200,700	\$ 40,500	\$ 38,500	\$ 61,100	\$ 141,200	\$ 602,800
Total Ceded Premiums	\$ (14,000)	\$ (24,600)	\$ (6,000)	\$ (5,000)	\$ (4,500)	\$ (4,500)	\$ (58,600)
Premium Tax: (thousands)							
2% of FY Premiums	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 30	\$ 30
2% of FY Excess Premiums	0	0	(0)	10	550	2,300	2,860
Deferrable Premium	\$ 0	\$ 0	\$ (0)	\$ 10	\$ 550	\$ 2,330	\$ 2,890
Interest Ratios							
Interest Spread	2.13%	2.00%	1.41%	3.64%	2.00%	2.29%	2.08%
Mortality Ratios							
COI per 1000	\$ 1.77	\$ 1.67	\$ 1.46	\$ 1.74	\$ 1.69	\$ 1.30	\$ 1.69
Death Benefits per 1000	(1.13)	(0.97)	(0.68)	(0.24)	(0.38)	(0.04)	(0.93)
Mortality Gain per 1000	\$ 0.65	\$ 0.70	\$ 0.78	\$ 1.51	\$ 1.31	\$ 1.26	\$ 0.76
as % of Premiums	33.1%	30.6%	19.8%	33.2%	17.2%	2.4%	22.6%
Expense Ratios							
Net Expenses:							
as a % of Premiums	9%	13%	11%	16%	21%	2%	11%
Net G & A Exp:							
as a % of Premiums	6%	5%	1%	1%	0%	1%	3%
\$ per policy	\$ 11	\$ 12	\$ 10	\$ 11	\$ 22	\$ 523	\$ 14
Profit Margins							
Net Income:							
as a % Premiums	62%	50%	18%	36%	-1%	0%	32%
as a % Avg AV	0.77%	0.67%	0.50%	1.39%	-0.09%	0.39%	0.70%

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Earning Analysis - (in millions) Product A															
By Issue Cohort	Total Gain			Mortality Gain			Interest Margin			Net Expense Charges			Other Expenses		
	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
Pre-1997	\$ 240	\$ 200	\$ 201	\$ 120	\$ 110	\$ 125	\$ 170	\$ 150	\$ 135	\$ 45	\$ 50	\$ 50	\$ (95)	\$ (110)	\$ (109)
1997	15	22	16	10	15	10	10	10	10	5	5	5	(10)	(8)	(9)
1998	27	19	19	20	12	10	10	10	10	5	5	5	(8)	(8)	(7)
1999	23	23	27	20	20	20	7	7	7	5	6	7	(8)	(10)	(7)
2000	21	17	22	15	15	20	7	7	7	7	6	8	(8)	(11)	(13)
2001	25	28	22	25	20	15	10	15	13	10	6	10	(20)	(14)	(16)
2002	12	26	29	25	30	35	7	10	13	5	(1)	1	(25)	(13)	(20)
2003	8	31	29	15	40	35	3	15	20	20	6	(2)	(30)	(30)	(24)
2004	(0)	13	20	(0)	10	40	-	2	10	-	15	10	-	(15)	(40)
2005	-	-	16	-	-	15	-	-	3	-	-	20	-	-	(22)
Grand Total	\$ 371	\$ 379	\$ 402	\$ 250	\$ 272	\$ 325	\$ 224	\$ 226	\$ 228	\$ 102	\$ 99	\$ 114	\$ (205)	\$ (218)	\$ (265)

YTD Earning Growth Analysis by Issue Year-Product A											
	Total Gain		Mortality Gain		Interest Margin		Net Expense Charges		Other Expenses		
	2003-04 Growth	2004-05 Growth	2003-04 Growth	2004-05 Growth	2003-04 Growth	2004-05 Growth	2003-04 Growth	2004-05 Growth	2003-04 Growth	2004-05 Growth	
Pre-1997	-17%	1%	-8%	14%	-12%	-10%	11%	0%	-16%	1%	
1997	48%	-25%	50%	-33%	0%	0%	4%	2%	18%	-8%	
1998	-27%	-4%	-42%	-14%	0%	4%	10%	1%	9%	6%	
1999	0%	17%	0%	0%	6%	5%	20%	9%	-18%	31%	
2000	-19%	27%	0%	33%	-9%	9%	-13%	19%	-28%	-20%	
2001	11%	-21%	-20%	-25%	52%	-12%	-35%	54%	31%	-19%	
2002	109%	13%	20%	17%	33%	26%	-121%	208%	47%	-49%	
2003	293%	-6%	167%	-13%	421%	33%	-70%	-134%	0%	21%	
2004	n/a	58%	n/a	286%	n/a	330%	n/a	-33%	n/a	-167%	
2005	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Grand Total	2%	6%	9%	19%	1%	1%	-3%	15%	-6%	-22%	
"New" vs "Old" Issues											
	2003-04 Growth	2004-05 Growth	2003-04 Growth	2004-05 Growth	2003-04 Growth	2004-05 Growth	2003-04 Growth	2004-05 Growth	2003-04 Growth	2004-05 Growth	
Earnings											
Pre-2002	-12%	-1%	-9%	4%	-7%	-8%	3%	7%	-7%	0%	
Post-2001	244%	36%	100%	56%	163%	66%	-19%	46%	-6%	-80%	
Grand Total	2%	6%	9%	19%	1%	1%	-3%	15%	-6%	-22%	

Earning Analysis by Product Group (in millions)	YTD 2005 Earnings on				
	2005 Sales	2004 Sales	2003 Sales	2002 Sales	2002-2005 Total
<u>Pre-Tax Earnings</u>					
VUL	\$ (0)	\$ 1	\$ 5	\$ 5	\$ 11
Non-Secondary Guarantee UL	8	10	5	20	43
Secondary Guarantee UL	10	10	35	10	65
Total	\$ 18	\$ 21	\$ 45	\$ 35	\$ 119
<u>Sales</u>					
VUL	\$ 30	\$ 45	\$ 30	\$ 50	\$ 155
Non-Secondary Guarantee UL	30	75	60	120	335
Secondary Guarantee UL	150	120	130	75	475
Total	\$ 260	\$ 240	\$ 220	\$ 245	\$ 965

<u>Actual Earnings as % of Target</u>	YTD Earnings as a % of Target Premium			
	2005 Sales	2004 Sales	2003 Sales	2002 Sales
VUL	4.0%	9.0%	16.7%	13.0%
Non-Secondary Guarantee UL	6.5%	14.0%	15.0%	15.0%
Secondary Guarantee UL	7.0%	12.0%	18.0%	15.0%
Total	6.5%	12.1%	17.0%	14.6%
<u>Pricing Earnings as % of Target</u>				
VUL	5.0%	11.0%	16.0%	15.0%
Non-Secondary Guarantee UL	7.0%	16.0%	17.0%	12.0%
Secondary Guarantee UL	9.0%	16.0%	20.0%	20.0%
Total	7.9%	15.1%	18.6%	15.1%

<u>Actual Earnings as % of Target</u>	<u>YTD Earnings as a % of Target Premium</u>			
	<u>2005 Sales</u>	<u>2004 Sales</u>	<u>2003 Sales</u>	<u>2002 Sales</u>
VUL	4.0%	9.0%	16.7%	13.0%
Non-Secondary Guarantee UL	6.5%	14.0%	15.0%	15.0%
Secondary Guarantee UL	<u>7.0%</u>	<u>12.0%</u>	<u>18.0%</u>	<u>15.0%</u>
Total	6.5%	12.1%	17.0%	14.6%
Shortfall on Surrender Charge Income	2.0%	3.0%	1.0%	0.5%
<u>Pricing Earnings as % of Target</u>				
VUL	5.0%	11.0%	16.0%	15.0%
Non-Secondary Guarantee UL	7.0%	16.0%	17.0%	12.0%
Secondary Guarantee UL	<u>9.0%</u>	<u>16.0%</u>	<u>20.0%</u>	<u>20.0%</u>
Total	7.9%	15.1%	18.6%	15.1%

<u>Actual Earnings as % of Target</u>	<u>YTD Earnings as a % of Target Premium</u>				
	<u>2005 Sales</u>	<u>2004 Sales</u>	<u>2003 Sales</u>	<u>2002 Sales</u>	
VUL	4.0%	9.0%	16.7%	13.0%	\$2 mill shortfall to pricing
Non-Secondary Guarantee UL	6.5%	14.0%	15.0%	15.0%	\$119 mill of earnings at actual returns
Secondary Guarantee UL	<u>7.0%</u>	<u>12.0%</u>	<u>18.0%</u>	<u>15.0%</u>	plus \$9 mill of Unlocking
Total	6.5%	12.1%	17.0%	14.6%	plus \$16 mill of Surr Chrg Income
Shortfall on Surrender Charge Income	2.0%	3.0%	1.0%	0.5%	less \$3 mill of Interest Gain (including AG-38)
					less \$15 mill of Mortality Gain
					plus \$9 mill of Net Expenses (including SOP-3-1)
<u>Pricing Earnings as % of Target</u>					\$135 mill of earnings at pricing returns
VUL	5.0%	11.0%	16.0%	15.0%	
Non-Secondary Guarantee UL	7.0%	16.0%	17.0%	12.0%	
Secondary Guarantee UL	<u>9.0%</u>	<u>16.0%</u>	<u>20.0%</u>	<u>20.0%</u>	
Total	7.9%	15.1%	18.6%	15.1%	

Business Benefits

- **Business Intelligence Hub for Actuarial Customers**
 - Pricing of Products
 - In-Force Product Management
 - Valuation – Capitalization Models
 - Financial Planning

Business Benefits

- **Other Benefits**
 - Identifying Policy Administration Anomalies
 - Improving Financial Accounting Processes
 - PGAAP Modeling
 - Principle Based Reserving

Implementing a Product Profitability Business Intelligence Environment

- Support and sponsorship from IT and Business Partners
- Business and Data Requirement Gathering stage
- Develop allocation methodologies for non-seriatim source of earning information
- Financial information must reconcile to the accounting system

Implementing a Product Profitability Business Intelligence Environment

FAS - 97 Source Of Earning Items	System Source	Direct or Allocated
Interest Gain:		
Interest Earned on Reserves & Surplus	Investment System	Allocated
Interest Credited	Admin. System & G/L System	Majority Policy Detail and Calculated via Fund-Roll
Mortality Gain:		
COI's	Admin. System & G/L System	Majority Policy Detail (and some allocation)
Death Benefits	Admin. System & G/L System	Majority Policy Detail (and some allocation)
Surrender Charges		
	Admin. System & G/L System	Majority Policy Detail (and some allocation)
Net Expense Charges:		
Expense Charges	Admin. System & G/L System	Majority Policy Detail (and some allocation)
Unearned Revenue - Deferred	Admin. System & G/L System	Majority Policy Detail (and some allocation)
Net Commission Expense:		
Commission Expenses	Admin. System & G/L System	Majority Policy Detail (and some allocation)
Capitalized Commission Expenses	Modeling/Projection System	Allocated
Net General Admin. Expenses:		
General Admin. Expenses	Budget/Expense System	Allocated
Capitalized Expenses	Modeling/Projection System	Allocated
Taxes, Licenses, and Fees		
	Budget/Expense System	Allocated
Miscellaneous Income		
	Financial Reporting System	Allocated
Miscellaneous Expenses		
	Financial Reporting System	Allocated
Amortization:		
DAC & VOBA	Modeling/Projection System	Allocated
Unearned Revenue	Modeling/Projection System	Allocated

Implementing a Product Profitability Business Intelligence Environment

Other Financial Information	System Source (Policy Detail)
Collected Premiums	Admin. System & GL System
Pending Claims	Claim System
Premium Sales	Admin. System
Up-To-Target Premium	Admin System
Excess Premim	Admin System
General Account Value	Valuation System Extracts
Separate Acoount Value	Valuation System Extracts
Cash Surrender Value	Valuation System Extracts
Reserves:	
Gross Stat, Tax, GAAP Reserves	Valuation System
Ceded Stat., Tax, GAAP Reserves	Valuation System
Inforce Death Benefit Amount	Admin System
Policy Count	Admin System
Loan Value Amount	Admin System

Implementing a Product Profitability Business Intelligence Environment

Policy Demographic Information	System Source (Policy Detail)
Policy Number	
System Admin. Code	
Legal Entry	
Distribution Channel	
Plan Code	
Gender	
Death Benefit Option	Admin System and/or Valuation System
State	
Issue Age	
UW Classification	
Exchange Indicator	
Status	
Termination Date	
etc....	

