

# Milliman reports 27 basis point increase in Hedge Cost Index for VA guarantees in November



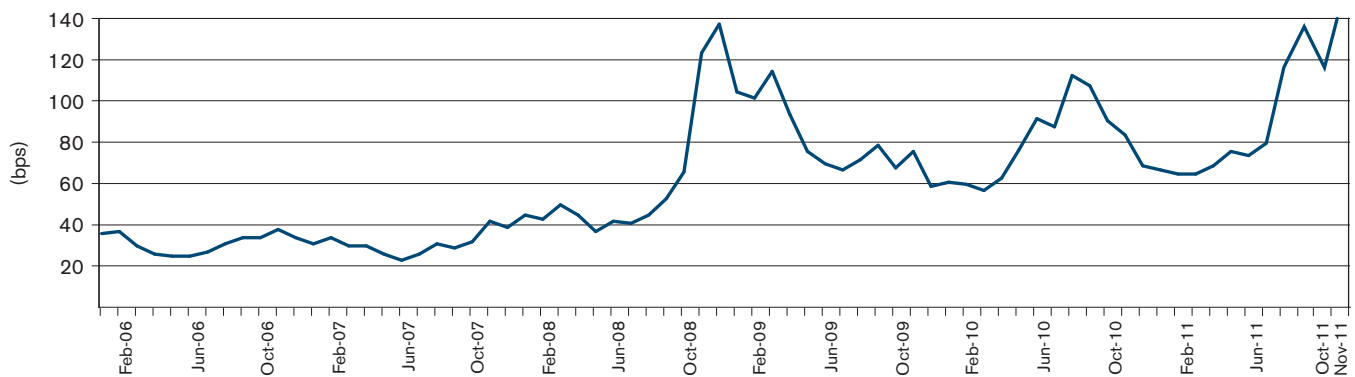
Index stands at 143 basis points

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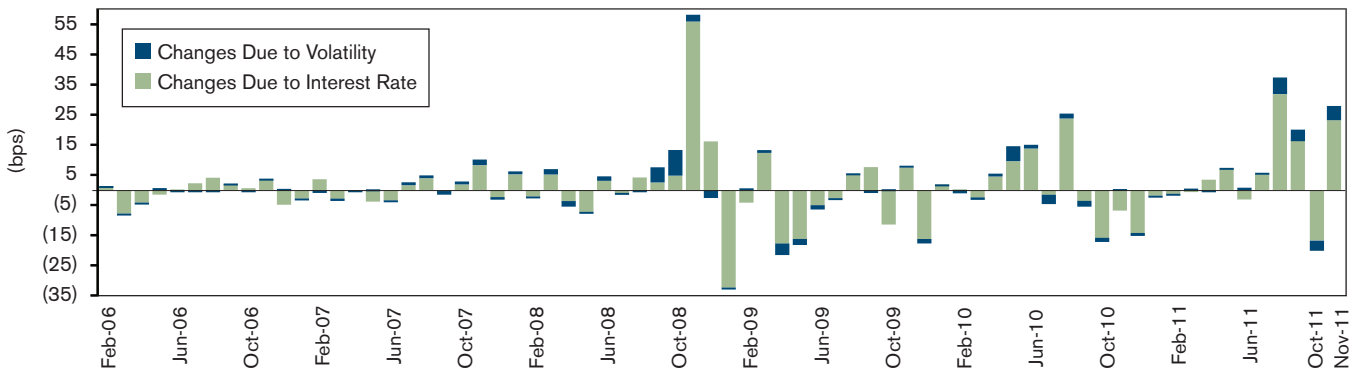
The expected hedge cost for a hypothetical lifetime GMWB block (see Index Methodology<sup>1</sup>) is estimated to be 143 bps as of November 2011, up 27 bp from the previous month.

The Index Methodology provides additional details about the assumptions and methodologies underlying the Milliman Hedge Cost Index.

**FIGURE 1: EXPECTED HEDGE COST (IN BPS OF GUARANTEED WITHDRAWAL BASE - SEE INDEX METHODOLOGY FOR DETAILS)**



**FIGURE 2: CHANGES IN EXPECTED HEDGE COST (IN BPS OF GUARANTEED WITHDRAWAL BASE - SEE INDEX METHODOLOGY FOR DETAILS)**



<sup>1</sup> To view the Milliman Hedge Cost Index Methodology, go to: <http://www.milliman.com/expertise/life-financial/products-tools/guarantee-index/pdfs/hedge-cost-index-methodology.pdf>.

### ABOUT THE MILLIMAN HEDGE COST INDEX

Milliman publishes an expected cost of hedging indicator as part of the Milliman Guarantee Index report to demonstrate the impact of changes in volatility levels and interest rate assumptions on the cost of hedging VA guarantees. Indicative hedge costs for a hypothetical lifetime GMWB block are calculated using the Milliman Guarantee Index and current swap interest rate levels. Attribution analysis for the results will help Index users better understand the monthly changes in hedge cost based on movements in volatility and risk-free interest rates.

The expected hedging costs are calculated using a generic lifetime GMWB product that is similar to product designs common in the market. The modeling of the guarantee is based on typical actuarial and behavioral assumptions widely used by many variable annuity (VA) writers. Additional details about product design and key assumptions for the hypothetical lifetime GMWB block are provided in the Index Methodology.

**FIGURE 3: HISTORICAL HEDGE COSTS AND ATTRIBUTION ANALYSIS (IN BPS OF GUARANTEED WITHDRAWAL BASE)**

#### EXPECTED HEDGE COSTS (BPS OF GUARANTEED WITHDRAWAL BASE)

DATE	CHANGES FROM PRIOR MONTH			EXPECTED HEDGE COST	DATE	CHANGES FROM PRIOR MONTH			EXPECTED HEDGE COST
	DUE TO INT RATES	DUE TO VOL	TOTAL CHANGE			DUE TO INT RATES	DUE TO VOL	TOTAL CHANGE	
1/31/06	N/A	N/A	N/A	35	1/31/09	(32)	(0)	(32)	104
2/28/06	1	0	1	36	2/28/09	(4)	1	(3)	101
3/31/06	(8)	(0)	(8)	29	3/31/09	12	1	13	114
4/30/06	(4)	(0)	(4)	25	4/30/09	(18)	(3)	(21)	93
5/31/06	(1)	1	(1)	24	5/31/09	(16)	(2)	(18)	75
6/30/06	0	(0)	0	24	6/30/09	(5)	(1)	(6)	69
7/31/06	2	(0)	2	26	7/31/09	(3)	(1)	(3)	66
8/31/06	4	(0)	4	30	8/31/09	6	0	6	71
9/30/06	2	0	2	33	9/30/09	8	(1)	7	78
10/31/06	1	(0)	1	33	10/31/09	(11)	0	(11)	67
11/30/06	4	0	4	37	11/30/09	8	1	8	75
12/31/06	(5)	0	(4)	33	12/31/09	(16)	(1)	(18)	58
1/31/07	(3)	(0)	(3)	30	1/28/10	2	0	2	60
2/28/07	4	(1)	3	33	2/25/10	0	(1)	(1)	59
3/31/07	(3)	(1)	(4)	29	3/30/10	(2)	(1)	(3)	56
4/30/07	0	(0)	(0)	29	4/29/10	5	1	5	62
5/31/07	(4)	0	(3)	25	5/27/10	10	5	15	76
6/30/07	(3)	(0)	(3)	22	6/29/10	14	1	15	91
7/31/07	2	1	3	25	7/29/10	(1)	(3)	(5)	87
8/31/07	4	1	5	30	8/30/10	24	2	25	112
9/30/07	(0)	(1)	(1)	28	9/29/10	(3)	(2)	(5)	107
10/31/07	2	1	3	31	10/28/10	(16)	(1)	(17)	90
11/30/07	8	2	10	41	11/29/10	(7)	0	(7)	83
12/31/07	(2)	(1)	(3)	38	12/30/10	(14)	(1)	(15)	68
1/31/08	5	1	6	44	1/28/11	(2)	(1)	(2)	66
2/29/08	(2)	(0)	(2)	42	2/25/11	(1)	(0)	(1)	64
3/31/08	5	2	7	49	3/30/11	0	0	0	64
4/30/08	(4)	(2)	(5)	44	4/28/11	4	(0)	4	68
5/31/08	(7)	(0)	(7)	36	5/30/11	7	0	7	75
6/30/08	3	1	5	41	6/29/11	(3)	1	(2)	73
7/31/08	(1)	(0)	(1)	40	7/28/11	5	1	6	79
8/31/08	4	(0)	4	44	8/30/11	31	6	37	116
9/30/08	3	5	8	52	9/29/11	17	3	20	136
10/31/08	5	8	13	65	10/28/11	(16)	(5)	(20)	116
11/30/08	56	2	58	123	11/29/11	23	4	27	143
12/31/08	16	(3)	14	137					

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