

# Milliman reports 17 basis point decline in Hedge Cost Index for VA guarantees in December



Index stands at 58 basis points

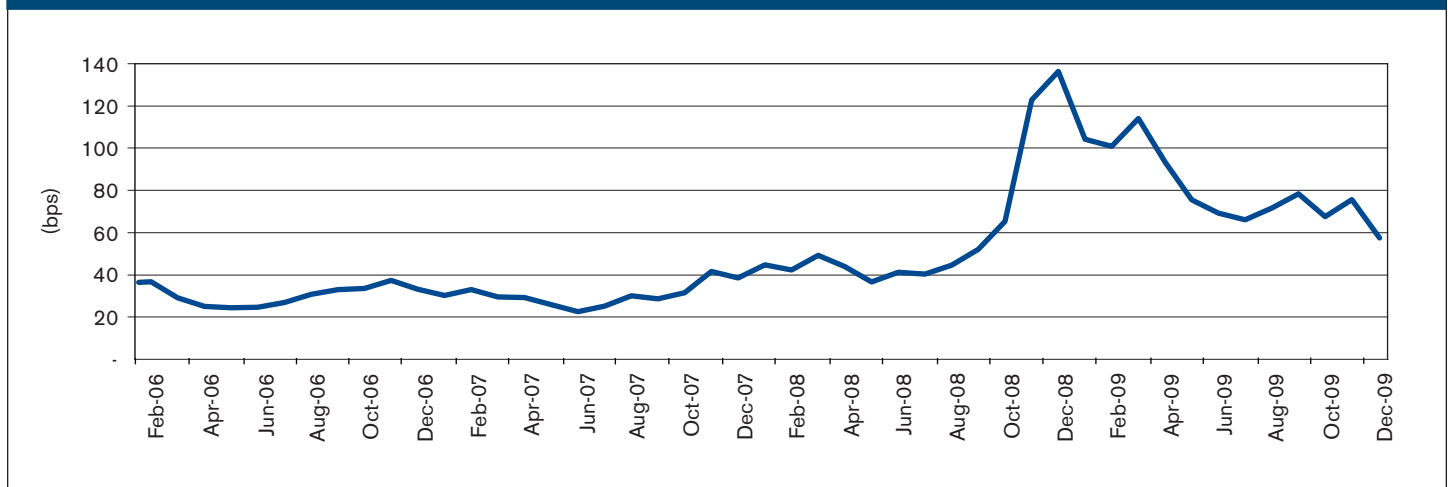
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The expected hedge cost for a hypothetical lifetime GMWB block (see Index Methodology<sup>1</sup>) is estimated to be 58 bps as of December 2009, down 17 bps from the previous month. Swap interest rates at the long end of the curve have increased by around 44-65 bps since the prior month-end, accounting for most of the decrease in the hedge cost index. The Index Methodology provides additional details

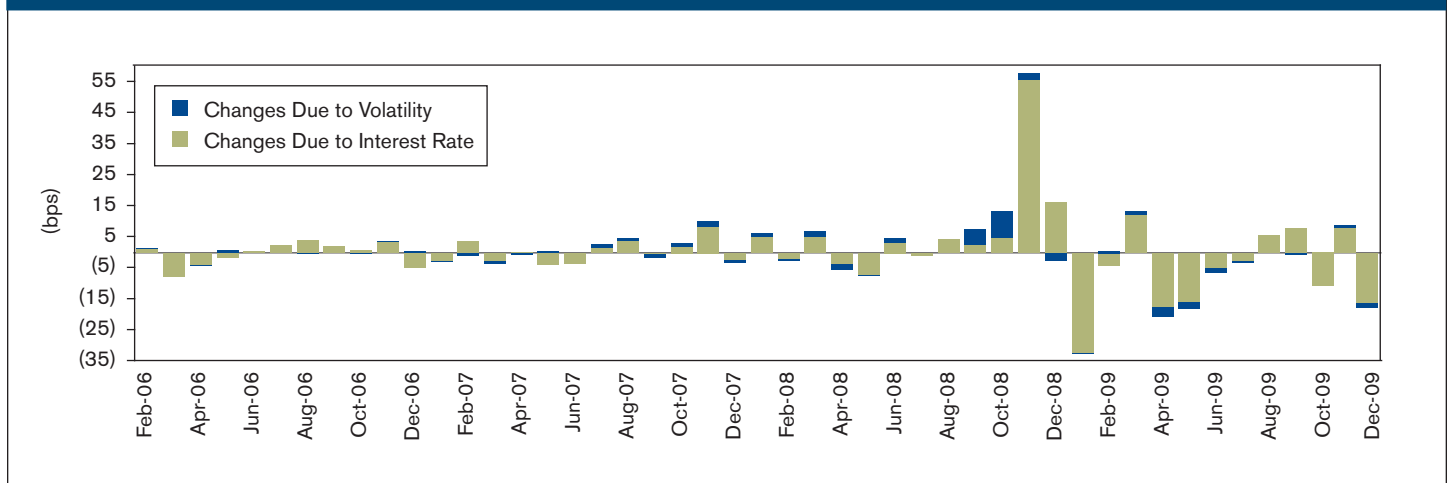
about the assumptions and methodologies underlying the Milliman Hedge Cost Index.

Expected hedge costs decreased by 79 bps in 2009, from an elevated level of 137 bps at the end of 2008. 71 bps of this decrease was a result of an increase in long-dated USD swap interest rates from the 2%-3% range to the mid-4% region.

**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 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)

CHANGES FROM PRIOR MONTH				EXPECTED	CHANGES FROM PRIOR MONTH				EXPECTED
DATE	DUE TO INT RATES	DUE TO VOL	TOTAL CHANGE	HEDGE COST	DATE	DUE TO INT RATES	DUE TO VOL	TOTAL CHANGE	HEDGE COST
1/31/06	N/A	N/A	N/A	35	1/31/08	5	1	6	44
2/28/06	1	0	1	36	2/29/08	(2)	(0)	(2)	42
3/31/06	(8)	(0)	(8)	29	3/31/08	5	2	7	49
4/30/06	(4)	(0)	(4)	25	4/30/08	(4)	(2)	(5)	44
5/31/06	(1)	1	(1)	24	5/31/08	(7)	(0)	(7)	36
6/30/06	0	(0)	0	24	6/30/08	3	1	5	41
7/31/06	2	(0)	2	26	7/31/08	(1)	(0)	(1)	40
8/31/06	4	(0)	4	30	8/31/08	4	(0)	4	44
9/30/06	2	0	2	33	9/30/08	3	5	8	52
10/31/06	1	(0)	1	33	10/31/08	5	8	13	65
11/30/06	4	0	4	37	11/30/08	56	2	58	123
12/31/06	(5)	0	(4)	33	12/31/08	16	(3)	14	137
1/31/07	(3)	(0)	(3)	30	1/31/09	(32)	(0)	(32)	104
2/28/07	4	(1)	3	33	2/28/09	(4)	1	(3)	101
3/31/07	(3)	(1)	(4)	29	3/31/09	12	1	13	114
4/30/07	0	(0)	(0)	29	4/30/09	(18)	(3)	(21)	93
5/31/07	(4)	0	(3)	25	5/31/09	(16)	(2)	(18)	75
6/30/07	(3)	(0)	(3)	22	6/30/09	(5)	(1)	(6)	69
7/31/07	2	1	3	25	7/31/09	(3)	(1)	(3)	66
8/31/07	4	1	5	30	8/31/09	6	0	6	71
9/30/07	(0)	(1)	(1)	28	9/30/09	8	(1)	7	78
10/31/07	2	1	3	31	10/31/09	(11)	0	(11)	67
11/30/07	8	2	10	41	11/30/09	8	1	8	75
12/31/07	(2)	(1)	(3)	38	12/31/09	(16)	(1)	(17)	58

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