

AXA Global Variable Annuity Product Review & Risk Management

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Unprecedented opportunities exist for insurance companies

- Retirees are living longer – A 30+ year plan
 - Example → Married couple aged 60: There is a 62% chance that one individual will live to age 90 !
- Retirees can no longer rely on government or employer
 - Future of government provided benefits in question
 - Corporate defined benefit plans becoming rare
- Individual savings will not be enough to fill the gap
- U.S. Example: 77 million worried Baby Boomers are entering retirement

A global retirement income dilemma...



[Insurance companies are uniquely positioned to address needs through guarantees

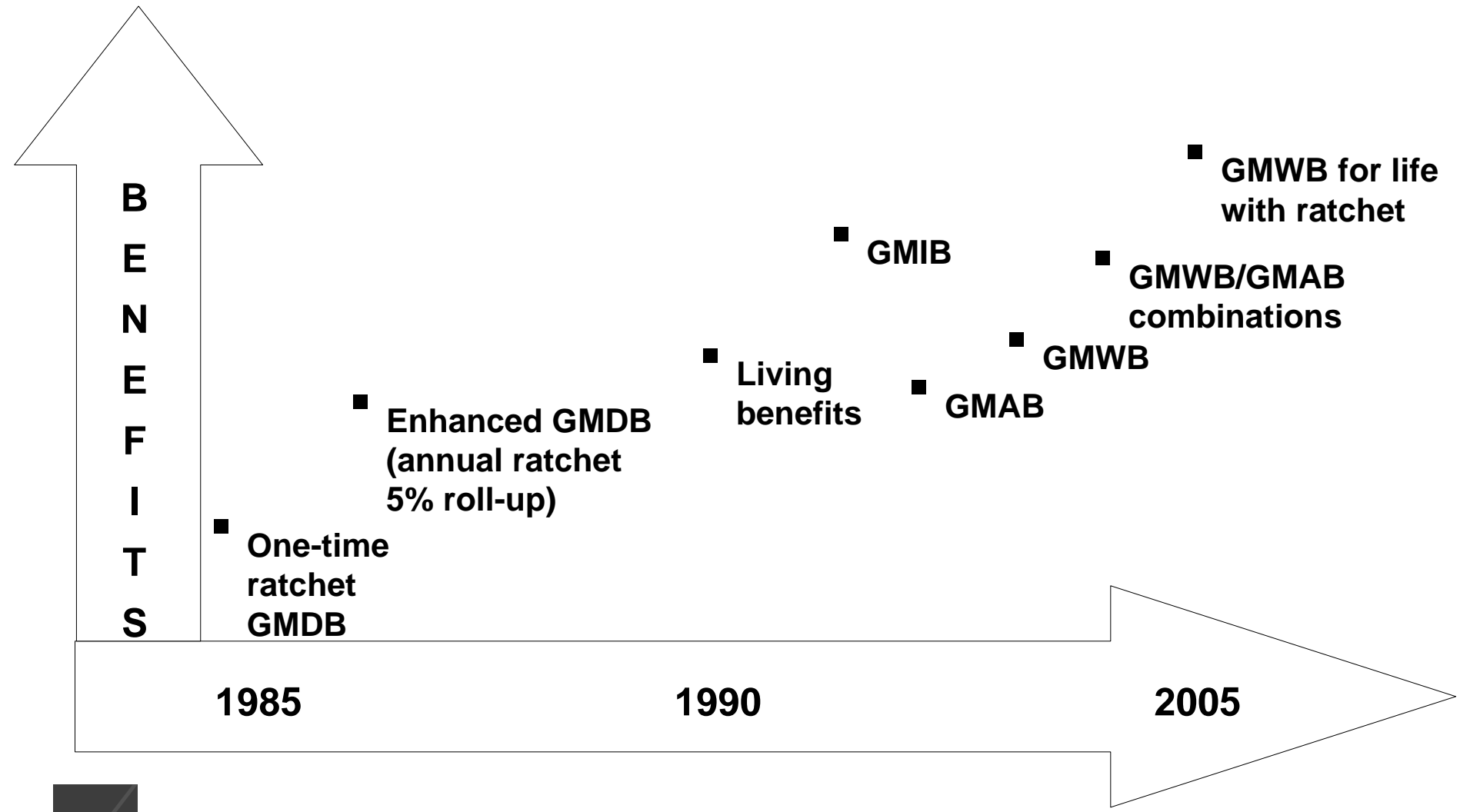
Guarantees allow long-term exposure to equities and provide:

- Death protection
- Longevity protection
- Income protection
- Principal protection

... delivered through variable annuities



Variable annuity product evolution has witnessed increased sophistication



Current trends in VA's point to increasing growth for strong competitors

- Return of U.S. VA industry to growth market status
 - +20% YOY growth in Q1'06 following +10% Q4'05 performance*
- Scale is increasingly important - Top 10 Market share*
 - 2001: 57%
 - Q1'06: 71%
- Living benefits guarantees driving sales
 - 81% of contracts sold in 2005 included a living benefits guarantee*
 - Merrill Lynch Advisors Survey (2006)
 - GMIB seen as best value and easiest sale
 - Morgan Stanley advisors study (2005)
 - Almost 80% view living benefits as essential to sale
- Global rollout of U.S. Variable Annuity style guarantees



* Source: VARDS

Variable annuity guarantee overview

- Variable annuities offer sophisticated guarantees to meet customer retirement needs
 - Equity put options to provide financial protection
 - Mortality based income distribution using mortality pooling expertise of insurers
- **Guaranteed Minimum Death Benefit (GMDB)** – guarantees a flat or contractually increasing death benefit (return of premium, Roll-up and ratchet)
- **Guaranteed Minimum Income Benefit (GMIB)** – guarantees a minimum income when annuitization option is elected
- **Guaranteed Minimum Withdrawal Benefit (GMWB)** – guarantees principal and allows set percentage of withdrawal each year, even if account value is zero



Variable annuity guarantees are not exclusive to U.S. retiree needs

- Global pensions shortfall in virtually all developed markets
- AXA offers U.S. style guarantees globally
 - Germany – (Q1'06)
 - Japan – (Q1'06)
 - Further potential to rollout to continental Europe and U.K.
- AXA shares innovations to leverage scale advantage
 - Risk management / hedging expertise and platform
 - Guaranteed benefits innovations
 - Consolidated European VA product platform



AXA's global VA product can offer income and protection across markets

<u>Country</u>	<u>Initial Launch Date</u>	<u>Benefits Offered</u>	<u>Distribution</u>	<u>Hedge Platform</u>
U.S.	1995	GMDB, GMIB, GMAB, GMWB	Tied Agents, Banks, Brokers, Planners	New York
Germany	Q1'06	GMIB	Tied Agents	Dublin
Japan	Q1'06	GMDB (\$ Denominated)	Banks	New York

- Potential guaranteed benefits opportunities
 - France
 - Belgium
 - Southern Europe (Spain, Italy, Portugal)
 - UK



New GMWB for Life launch creates opportunity to further penetrate “Living Benefits” market

- U.S. Accumulator '06 launch expected in July
 - Complements RIFL Dec '05 Retail advisors launch
- Living Benefits market = GMIB + GMWB
 - Both products address need for lifetime income
 - Target non-GMIB producers with new GMWB offering
- Product Features
 - Lifetime withdrawal percentage based upon age at first withdrawal
 - 4% below age 65; 5% for ages 65-74; 6% for ages 75-84, 7% above age 84
 - Benefit base resets annually to account value before and during withdrawal period
 - Benefit base increased by 5% of contribution if greater than reset and no withdrawal made during the year
 - Annual charge of 60 bps



GMIB remains a powerful Living Benefits competitor amidst a very competitive GMWB market

Major Product	Rank* Q1'06		Market Share		Delta
			Q1'04	Q1'06	
	1	TIAA-CREF	9.70%	9.30%	(0.40)
GMIB	2	Met + Travelers	11.60%	8.96%	(2.64)
	3	AXA Equitable	6.90%	8.55%	1.65
G M W B	4	Hartford	13.40%	8.25%	(5.15)
	5	John Hancock	4.00%	6.38%	2.38
	6	Pacific Life	5.50%	6.35%	0.85
	7	Lincoln National	4.60%	6.33%	1.73
	8	AIG	6.60%	5.83%	(0.77)
	9	ING	5.30%	5.67%	0.37
	10	Prudential (U.S.)	5.00%	5.58%	0.58

Hartford mkt share loss from peak (5.15%) exactly replaced by other GMWB competitors gains

- Strong competition on product features in GMWB market
 - Ratchets, withdrawal %, GMWB for life, funds management
- AXA GMWB opportunity depends on distribution execution
 - Identify and win GMWB producers from GMWB competitors
 - Protect GMIB market share



* Source: VARDS

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- **Product and Market Introduction**

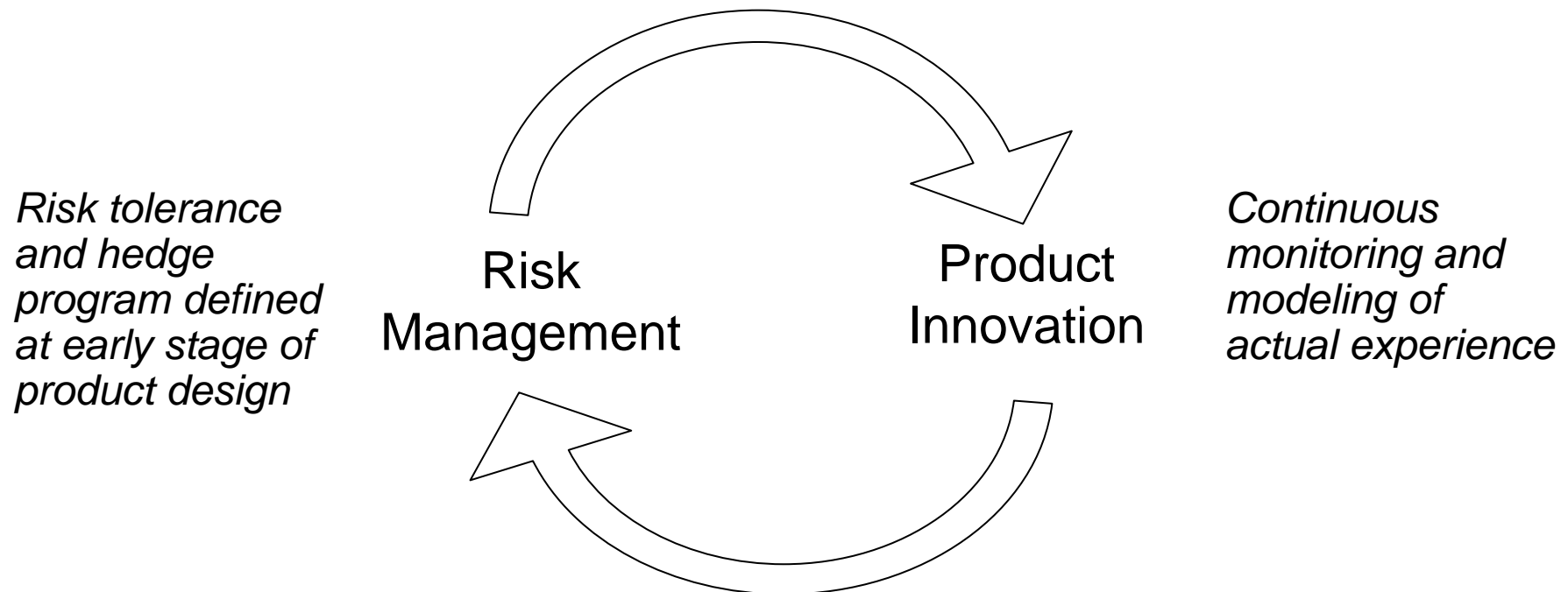
- **Risk Management**

- **Risk Sensitivity**

- **Conclusion**



Integrated Product and Risk Management is a continuous cross-functional process



- ➔ **A sustainable presence in the market**
- ➔ **Support strong balance sheet and ratings**
- ➔ **Validated by AXA Product Approval Process**



Product design is the starting point for product risk management

- **GMDB**

- No Roll up / Ratchet after age 85 - Product not offered after age 75

- **GMIB**

- Annuity purchase rate based on very conservative mortality table
- 10 Yr waiting period (longer for policyholder below age 50)
- Annual election only during 30 days following policy anniversary
 - Diversify benefit election risk
- Natural hedge in GMDB/GMIB product design
 - Policyholder can only benefit from DB or IB option – not both
- No election beyond age 85 - Product not offered after age 75

- **GMWB for Life (Retirement Income for Life)**

- Investments restricted to allocation funds
- Deferral bonus limited to 10 years



Fund management can improve risk profile and returns for clients

Allocation Funds have lower volatility

Allocation Fund	Target Allocation Equity / FI	Amount Invested	Estimated Realized Volatility*
AXA Aggressive Allocation	90/10	\$0.5bn	9.4%
AXA Moderate Plus Allocation	70/30	\$2.7bn	7.7%
AXA Moderate Allocation	50/50	\$2.7bn	6.1%
AXA Conservative Plus Allocation	40/60	\$0.4bn	4.6%
AXA Conservative Allocation	20/80	\$0.2bn	3.3%

* Estimated realized volatility since August 2003 – Based on return net of asset mgt fees

- Allocation Funds favored by policyholders (57% of Q1'06 net inflows)
- Fund Management Group responsible for selecting the funds
- Limits adverse selection from policyholder
 - Target allocation funds ensure diversification, reducing fund volatility
 - Rebalancing strategy embedded in fund



Dynamic Hedging is a core component of the VA risk management program

- Dynamic Hedging process designed to accumulate assets to meet future claims from policyholder options
- Isolate Dynamic Hedging as a “business”
 - Guaranteed benefits added to help sell variable annuities
 - Annual guaranteed benefit charges fund dynamic hedging program
- Mitigate economic exposure and P&L volatility
- Economics drive hedge program design - Dynamic hedging assets consist of accumulated funds available to pay guaranteed benefit claims

$$\begin{array}{r} + \quad \textit{Policyholder charges} \\ + \quad \textit{gain/(loss) on Futures} \\ - \quad \textit{accumulated interest} \\ \hline = \quad \textit{claims paid} \\ \hline = \quad \textit{change in aggregate value of benefits} \end{array}$$



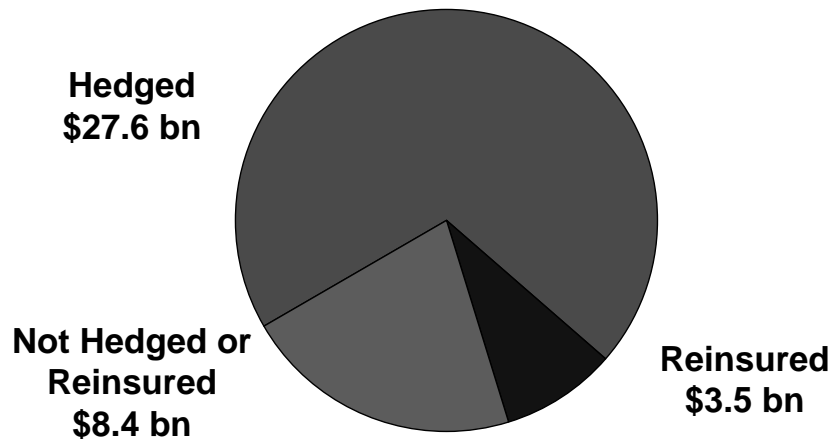
Additional impacts of hedging program

- IFRS hedge accounting and program economics have converged (unlike U.S. GAAP)
- Statutory
 - RBC / C3 Phase II – effective YE'05
 - Hedge program mitigates reserve requirements
 - Favorable 21 pts impact to RBC due to mix of business
 - Due to aggregation across entire VA block, significant amounts of inforce business featuring only ROP death benefit currently eliminates impact of new RBC rules
 - VACARVM – due to take effect 2006/07
 - Stochastic results will reflect benefit of hedging
- Ratings agency recognition for effective hedge program

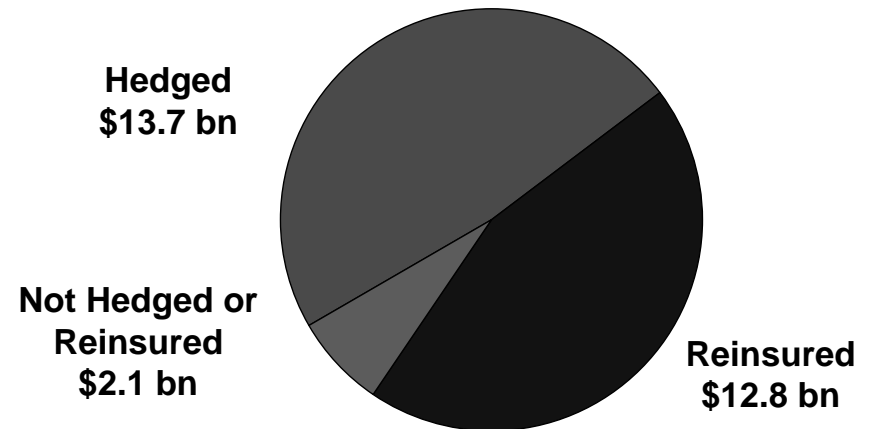


AXA Equitable Accumulator: Risk management summary

GMDB Benefit Base \$39.5 bn
79% Hedged / Reinsured



GMIB Benefit Base \$28.5 bn
93% Hedged / Reinsured



New business risk management does not utilize reinsurance, reducing counterparty exposure



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Key risks embedded in VA products

- **DELTA**: Rate of change of option price with respect to underlying fund value
- **VEGA**: Rate of change of option price with respect to volatility
- **RHO**: Rate of change of option price with respect to interest rates
- **Basis Risk**: Deviation between expected vs actual underlying fund returns
- **Policyholder behavior**: Deviation from valuation assumptions
 - Election (GMIB, GMWB)
 - Lapse
 - Fund selection



Delta risk hedged through dynamic hedging

- Delta (Equity market risk): Risk of equity market decline on separate account fund balances relative to guaranteed accumulation rate
- Risk hedged through short positions in exchange traded futures
 - S&P 500, Russell 2000, Nasdaq
- Highly liquid standardized contracts traded on CME
 - AXA is 0.3% of S&P 500 futures open interest, 3.5% of Russell 2000 futures open interest and 0.8% of NASDAQ 100 futures open interest
 - Open interest is only a fraction of monthly volume
 - Positions cash settle daily



Equity market volatility risk (Vega)

- High levels of market volatility may create imbalances between estimated benefit liability and hedge position
- Frequency of hedge program operation can mitigate impact
 - Normal markets
 - Option value calculated daily on seriatim basis / Futures positions traded weekly
 - Volatile markets
 - Option value calculated daily, or as often as intra day / Futures positions traded daily, or even intra day
- AXA Allocation funds
 - Reduce fund / benefit volatility and cost of benefit



Most policyholders unable to exercise options in response to an extreme volatility event

- Market dislocation risk (e.g. October 1987)
 - Option sensitive to equity market declines, but policyholder ability to exercise option is limited by product design
 - GMDB – no adverse selection
 - GMIB – 10 year waiting period ; annual election only during 30 days following policy anniversary
 - GMWB – subject to defined maximum annual withdrawal amount
 - Based on scenario testing, downside risk of sudden volatility is limited
 - 9/11, October 1987
 - Higher hedge cost during volatile periods should be offset by volatility gains realized over life of option



Scenario analysis reinforces economics of accepting volatility risk

Accumulator '04	Current Charge	Estimated Hedge Costs (bps):		
		95th Percentile (20 year realized volatility distribution)	Volatility Used In Embedded Value	95th %ile + 4% (20 year realized volatility distribution)
Ratchet GMDB, stand-alone	25	8	9	12
Max(Ratchet,6% rollup) GMDB, stand-alone	60	58	59	62
Total, ROP GMDB & Max GMIB	65	45	50	58
Total, Ratchet GMDB & Max GMIB	90	56	62	72
Total, Max GMDB & Max GMIB	125	93	98	107
Representative 20 yr Equity Volatility:		18%	19%	22%
Wgt avg of S&P500, Russell, & NASDAQ vols of :		17.5%, 20.5%, 31.0%	18.0%, 22.0%, 28.0%	21.5%, 24.5%, 35.0%

• Assumes mean fund return of 5% net of investment management fees

- Benefit charges set above estimated cost at extreme levels of volatility
 - Realized overall equity volatility since program inception of approx 12.5%
 - of which S&P 10.9%, Russell 17.3%, and Nasdaq 17.3%
- GMIB election rate 5% / 10% / 15%
 - Corresponds to “In-the-money” % of: 0%-20%, 20%-50%, > 50%
 - For example, 5% elect if benefit base is 0% - 20% ITM



Interest rate sensitivity (Rho)

- GMIB annuitization rate
 - Risk that long term rate is below interest rate implicit in guaranteed annuity purchase rate (mostly 2.5%)
 - Dynamically hedged using exchange traded Treasury note futures

- Risk free rate assumption of 5%
 - Risk that hedge assets accumulate at less than 5%
 - Long term rate assumption based on analysis of historical data
 - 10 Year swap rate currently above 5%



[Basis risk impacts efficiency of dynamic hedging strategy

- Deviation between expected vs. actual fund performance
 - Underlying separate account funds modeled into indices
 - Regression techniques replicate policyholder fund selection to equity index futures
 - Funds modeling re-evaluated on regular basis to capture performance difference and style drift
 - No basis risk impact assumed in hedge program
 - Fund selection process provides alpha benefits
- Optimization of funds modeling produces good fit
 - Weighted average R was 92% for 2005



Policyholder Risk – GMIB election risk is naturally hedged by GMDB exposure

- Hedge cost remains stable as GMIB election rate increases

Election Rates	Cost in bps	
	<u>Max</u>	
	GMIB Only	DB/IB
5/10/15	50	98
5/20/30	52	98
10/20/40	52	96
Flat 10	47	95
Flat 20	49	94

Assumes Embedded Value level volatility

- AXA Equitable experience represents two years of election activity
 - Election rates through YE'05: 0.7% / 1.9% / 4.9%
- Natural hedge in GMDB/GMIB product design
 - Policyholder can only benefit from DB or IB option – not both



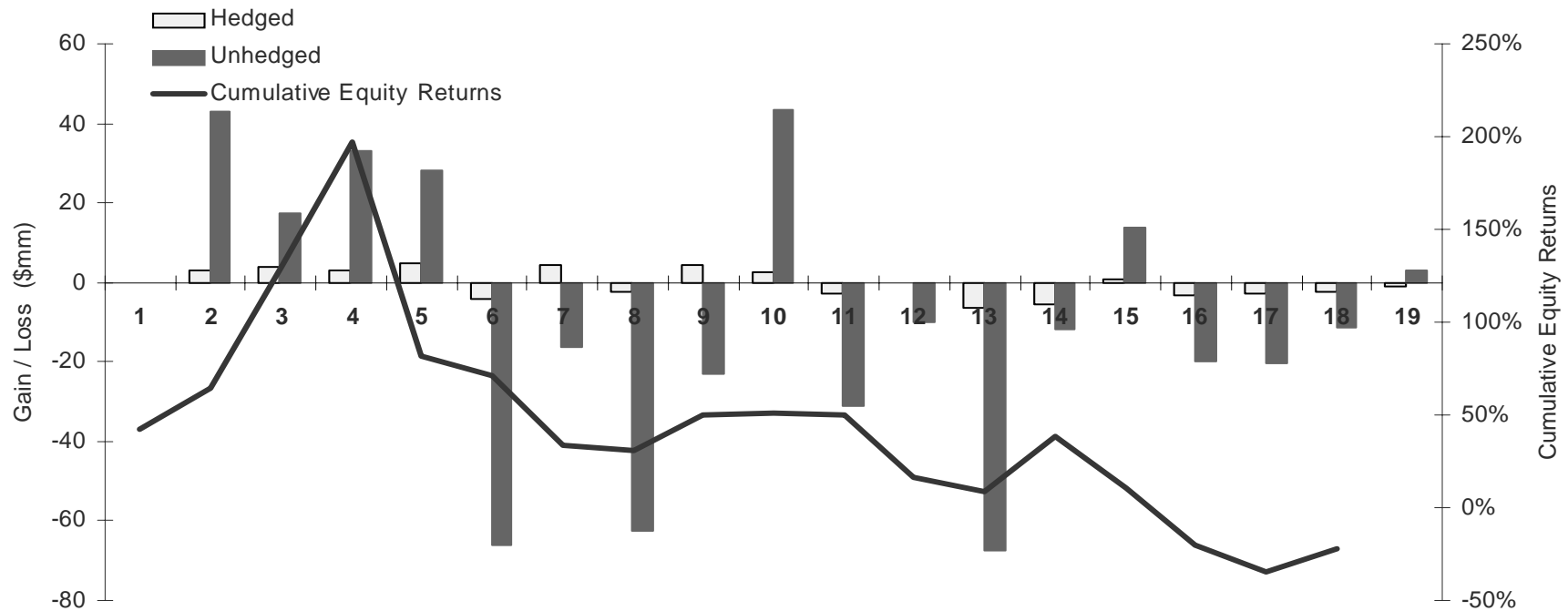
[Japan scenario: Exposes risks of both declining equities and interest rates

- Equities perform well in early years, setting guarantees at high levels (effect of annual ratchet). Then severe bear market, followed by several years of flat / negative equity returns
- Interest rates decrease from about 5% to below 2% after the GMIB waiting period, when policyholders can elect to annuitize
- Simulation uses Q4-05 inforce and 95th percentile volatility levels



Japan scenario: Results

- Max of ratchet & 6% rollup GMDB & GMIB - \$1 billion inforce
- Gain/Loss does not include base product profitability
- Simulation shows hedging program results in a pre-tax loss of \$4m versus a pre-tax loss of \$158m without hedging



October '87 scenario: Extreme short-term volatility

- October 1987 Stress Test
 - Black Monday: S&P 500 fell 20.5%, largest single day drop since 1929
 - AXA Equitable's Q4-04 actual inforce, \$20bn, 180,000 policies, GMDB and GMIB benefit
 - Examined several hedge rebalancing frequencies (daily, weekly, no rebalancing – initial position only)
- Stress Test conclusions
 - Short Equity Index Futures hedge provide gains, offsetting liability increase
 - Benefit charges over time sufficient to cover losses resulting from extreme events
 - AXA Equitable's volatility assumptions set a high levels
 - Futures rebalancing maintains level of hedge program efficiency
 - If no rebalancing, initial short Equity Index Futures position still provides significant risk mitigation



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Conclusion

- A Global retirement need met with Variable Annuities
 - Death, longevity, income and principal protection

- AXA's strong risk management program provides a competitive product offering advantage
 - Leverage scale – Sharing risk management platforms
 - Supports Customers / Distributors demand for sophisticated products

- Global Product rollout to continue in 2006-2007...
 - France, Belgium, Southern Europe, UK



THANK YOU!



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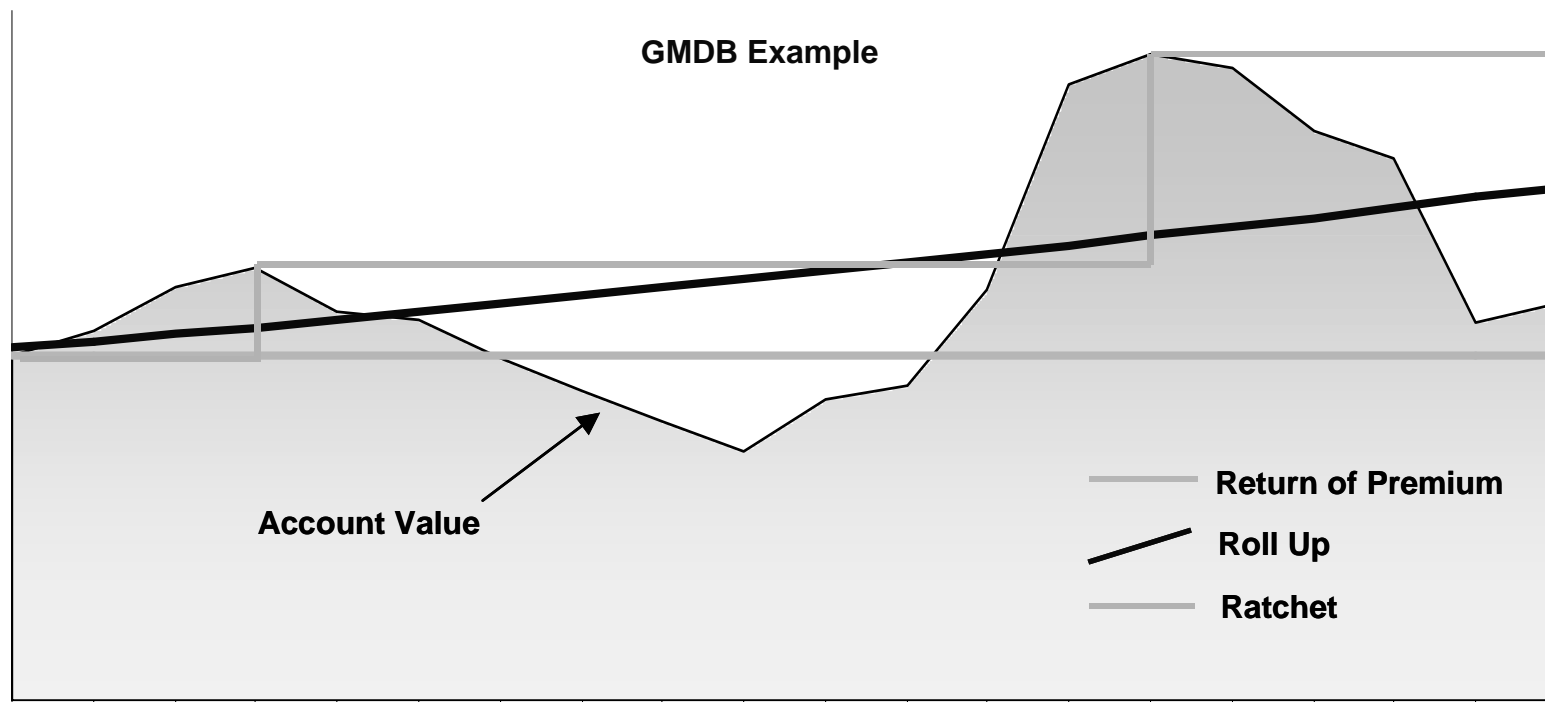
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GMDB – Death Benefit Options

- **Return of Premium:** higher of total premium or account value, adjusted for withdrawals
- **Roll-up:** premiums paid accumulated at guaranteed rate, adjusted for withdrawals
- **Ratchet:** highest account value at contract anniversary dates, adjusted for withdrawals
- **“Greater of” Ratchet or Roll-up:** greater of annual ratchet or roll-up amount



GMIB guarantees minimum annual income when annuitization option elected

- **Guaranteed Minimum Income Benefit** calculated based upon **Benefit Base**
- **Benefit Base** is not an annuity account value - only used to calculate guaranteed annual income if policyholder elects to annuitize after waiting period
- **Benefit Base** is the greater of 6% roll-up and annual ratchet, adjusted for withdrawals, up to certain attained age
- **Benefit "in-the-money"** when guaranteed benefit exceeds what **Account Value** could purchase at the then current interest environment

Purchased at Age 55

Age Male	Benefit Base	Guaranteed Min Annual Income Benefit
55	\$100.0	\$0.0
65	\$179.1	\$9.7
70	\$239.7	\$14.2
75	\$320.7	\$20.5

(\$1000)

Guaranteed Annual Annuity at given age for \$100,000

Annual Income at election
(at various interest rate levels and Account Value)

Age 65 Acct Value	Current Rate				
	-150bps	-75bps	Current Rate	+75bps	+150bps
\$134.5	\$9.7	\$10.4	\$11.1	\$11.9	\$12.7
\$125.1	9.0	9.7	10.4	11.1	11.8
\$116.8	8.4	9.0	9.7	10.3	11.0
\$109.4	7.9	8.5	9.1	9.7	10.3
\$102.3	7.4	7.9	8.5	9.0	9.7

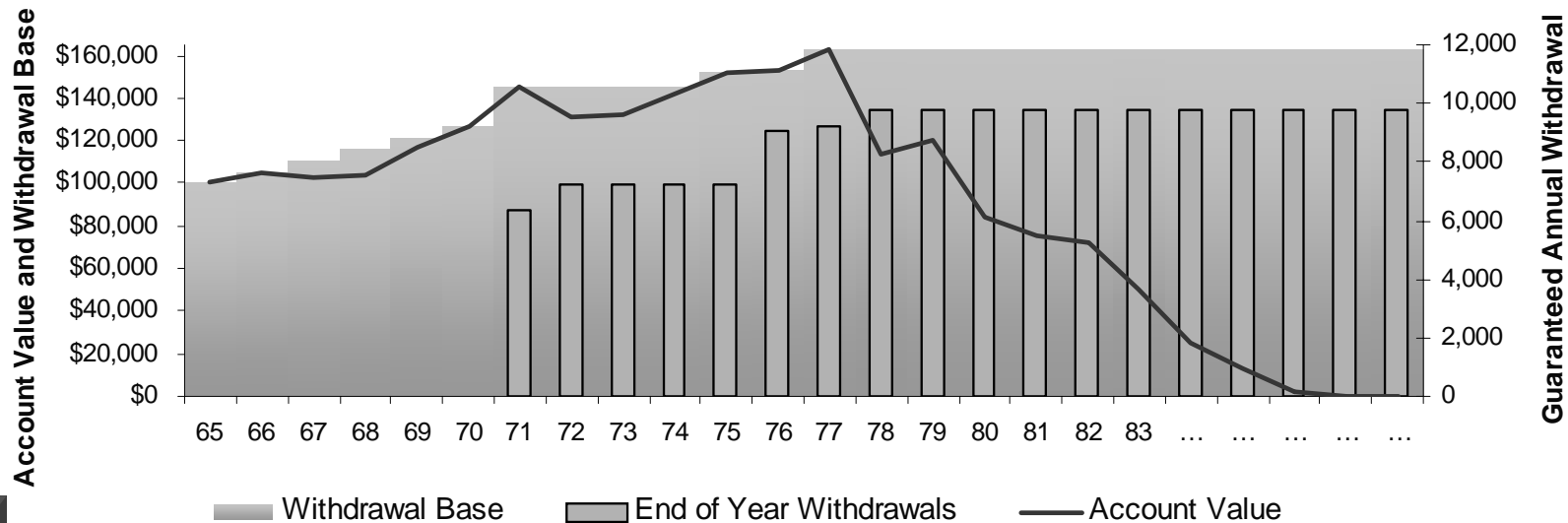
GMIB "in-the-money" - Policyholder should elect

GMIB "out-the-money" - Policyholder should NOT elect



GMWB for life provides income for life through periodic withdrawals over a number of years

- **Guaranteed withdrawal percentage based upon age at first withdrawal**
 - 4% below age 65; 5% for ages 65-74; 6% for ages 75-84, 7% above age 85
 - Annual charge of 60 bps
- **Benefit base increased by 5% of contribution if greater than reset and no withdrawal made during the year**
- **Benefit base resets annually to account value before and during withdrawal period**
- **If resets occurs, rate resets to percentage withdrawal band**
- **Withdrawal amount guaranteed for life of policyholder**



Japan Scenario: Detailed results

- Max of ratchet & 6% rollup GMDB & GMIB - \$1 billion inforce
- Gain/Loss does not include base product profitability
- Simulation shows hedging program results in a pre-tax loss of \$4m versus a pre-tax loss of \$158m without hedging

	Equity Returns	Treasury Rates	Year	Futures Gains	Actual Claims	Actual Premiums	Gain / (Loss)	
							Hedged	Unhedged
\$mil			0	\$0	\$0	\$0	\$0	\$0
	42.6%	5.40%	1	-40	0	10	3	43
	15.3%	5.16%	2	-14	0	13	4	18
	39.9%	4.61%	3	-30	0	15	3	33
	29.0%	5.74%	4	-23	0	19	5	28
	-38.7%	6.53%	5	62	-5	22	-4	-66
	-5.9%	5.42%	6	21	-8	21	4	-16
	-21.8%	4.78%	7	60	-11	19	-2	-62
	-2.4%	3.31%	8	28	-11	18	4	-23
	14.5%	4.57%	9	-40	-10	16	3	43
	0.6%	3.07%	10	28	-12	15	-3	-31
	-0.3%	2.77%	11	10	-46	13	0	-10
	-22.2%	1.94%	12	61	-54	10	-6	-68
	-7.3%	2.22%	13	6	-52	8	-5	-12
	27.5%	1.66%	14	-13	-37	6	1	14
	-19.6%	1.63%	15	17	-31	5	-3	-20
	-27.8%	1.37%	16	18	-31	4	-3	-20
	-19.0%	0.91%	17	9	-28	3	-3	-11
	19.42%	1.37%	18	-4	-23	3	-1	3

Total **-\$4** **-\$158**

