A 2006 Report

DEFERRED ANNUITY PERSISTENCY

FULL REPORT

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INTRODUCTION

This study examines the persistency of deferred annuities on a contract anniversary basis. Contracts were observed for a period of one year for separate samples of contracts in force at the beginning of 2002, 2003, and 2004 as well as contracts sold during each of these years. The results are based on business issued through 2004 and written by 26 companies. A total of 30.3 million contracts, including contracts in multiple years, were available for analysis.

The study was designed to analyze the surrender activity of deferred annuities by selected product, customer, and distribution characteristics. Two earlier studies analyzed the same characteristics for contract years 1992 through 1996.[1] All three studies are based on information provided by life insurance companies, including a sample of individual contract record data and a sample of product surveys containing product, customer, and distribution information.

Another purpose of the analysis is to quantify, through modeling procedures, the relationship between surrender activity and variables associated with surrender. Quantifying this relationship is useful in product design, valuation, investment management, evaluation of market performance, and corporate planning.

The study examines contracts for which all of the cash value is surrendered (full surrenders, free looks, and internal replacements) and contracts for which only a portion of the cash value is withdrawn (partial withdrawals). It measures annualized full surrenders and partial withdrawals in two ways: as a percentage of contracts in force and as a percentage of cash value in force.

The remainder of this Introduction provides a summary of the overall study results, along with definitions and the methodology used in the study. Chapter 1 provides detail and analysis of the results for variable deferred annuities sold within retail markets (nonqualified and IRA). An analysis of retail fixed annuities then follows in Chapter 2. Chapter 3 investigates surrender and cash flow activity of variable and fixed annuities sold within institutional markets (e.g., 403(b) plans). Finally, the appendices include detailed tables of surrender experience and the list of contributing companies.

[1] *Annuity Persistency Study*, LIMRA International and Society of Actuaries, 1997; *Annuity Persistency Study*, LIMRA International, 2002.

SUMMARY OF RESULTS

Using a constant group of companies that provided persistency data for years 2002, 2003, and 2004, the contract activity for 27.7 million observations was calculated. Across all years, 1.5 million (5.5 percent) incurred a full surrender.[2] In addition, 3.9 million (14.0 percent) had part of the cash value withdrawn, 36,656 (0.1 percent) were annuitized, 286,376 (1.0 percent) were surrendered due to death or disability, and 22.0 million (79.4 percent) had no surrender activity (Table 1).[3] Unlike the two previous in-depth persistency reports, full surrender activity was higher among variable contracts (5.8 percent) than among fixed contracts (4.8 percent). However, partial withdrawal activity was higher among fixed contracts. Overall, partial withdrawal activity has increased since the 1990s.[4]

Table1 – Contract Activity by Product Type —Years 2002 through 2004

	Variable	**Fixed**	**All**
Full surrender	5.8%	4.8%	5.5%
Partial withdrawal	12.5	17.2	14.0
Annuitized	0.1	0.2	0.1
Death or disability	0.8	1.6	1.0
No activity	80.8	76.2	79.4
	100.0%	**100.0%**	**100.0%**
Number of contracts*	**19,263,899**	**8,461,655**	**27,725,554**

Note: Includes contracts present in multiple years.

Tables 2, 3, and 4 display persistency results separately for each of the three contract years examined in this study for the same constant group of companies. Full surrender rates were highest in 2004 (5.7 percent) and lowest in 2003 (5.2 percent). Partial withdrawals increased each year, from 13.1 percent in 2002 to 14.8 percent in 2004.

[2] Full surrenders include free looks and replacements (both internal and external).

[3] Partial withdrawal results exclude contracts that otherwise terminated during the observation year and had a partial withdrawal. Also, contracts that did not terminate upon the death of the annuitant / owner (e.g., spousal continuance) were classified as “no activity” for this study.

[4] Annuitizations may be underreported because some participating companies were unable to distinguish between contracts terminating due to surrender or annuitization. Also, deaths that did not result in contract terminations were tracked separately in the current study; in previous studies, all deaths were treated as contract terminations.

Table2a – Contract Activity by Product Type — 2002

	Variable	**Fixed**	**All**
Full surrender	6.3%	4.3%	5.7%
Partial withdrawal	11.9	15.9	13.1
Annuitized	0.1	0.2	0.1
Death or disability	0.8	1.5	1.0
No activity	81.0	78.1	80.1
	100.0%	**100.0%**	**100.0%**
Number of contracts	**6,160,892**	**2,707,742**	**8,868,634**

Table2b – Contract Activity by Product Type — 2003

	Variable	**Fixed**	**All**
Full surrender	5.5%	4.4%	5.2%
Partial withdrawal	12.3	17.3	13.9
Annuitized	0.1	0.3	0.1
Death or disability	0.8	1.5	1.0
No activity	81.3	76.5	79.8
	100.0%	**100.0%**	**100.0%**
Number of contracts	**6,436,315**	**2,853,551**	**9,289,866**

Table2c – Contract Activity by Product Type — 2004

	Variable	**Fixed**	**All**
Full surrender	5.6%	5.7%	5.7%
Partial withdrawal	13.3	18.2	14.8
Annuitized	0.1	0.3	0.1
Death or disability	0.8	1.7	1.1
No activity	80.1	74.2	78.3
	100.0%	**100.0%**	**100.0%**
Number of contracts	**6,666,692**	**2,900,362**	**9,567,054**

Annuities sold on a retail basis to individuals tend to have different persistency patterns than annuities sold within employer retirement plans.[5] Retail annuities, which consist of contracts sold within individual retirement accounts (IRAs) and nonqualified contracts, tend to be owned by people close to or within their retirement years. These individuals may draw from their account balance in order to create income. Annuities sold within 403(b), 401(k), or other employer-sponsored qualified

[5] Group annuities that fund employer-sponsored plans are excluded from this study unless a) they are marketed on an individual basis by means of a master group contract and trust agreement; b) participants are issued certificates as evidence of participation; and c) participants have the rights to full or partial surrender of cash values.

retirement plans are predominantly owned by younger people still in their working years. Surrender activity within this market reflects a wider range of factors than is true for retail markets (Table 3).

Table 3 – Contract Activity by Market Type—Years 2002 through 2004

	Retail		Employer-Sponsored	
	IRA	**Nonqualified**	**403(b)**	**Other qualified plans**
Full surrender	5.4%	5.1%	6.9%	6.4%
Partial withdrawal	19.8	11.9	6.3	10.5
Annuitized	0.1	0.2	0.1	0.1
Death or disability	0.6	1.7	0.2	0.4
No activity	74.0	81.1	86.5	82.7
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Number of contracts	**9,793,638**	**12,428,394**	**3,250,910**	**2,217,546**

DEFINITIONS

Cash value on an in-force contract is the account value as of the beginning of the observation period (i.e., January 1) and before any reductions for surrender charges. The cash value on a new issue equals the initial premium if known; otherwise, it is estimated from the contract's first-year premiums.

Contracts with partial withdrawals that terminated in the same contract year due to full surrender, annuitization, or death or disability are treated as having surrendered, annuitized, or terminated due to death or disability. Only contracts with partial withdrawals that were in force at the end of the contract year were treated as partial withdrawals.

Contracts with surrender charges are contracts with penalties in effect for early withdrawal of cash value. Unless otherwise specified, this definition *excludes* contracts with free full surrender provisions (see definition). Contracts that assess nominal administrative fees on cash value withdrawals are also not included.

Contracts without surrender charges are contracts that do not have penalties in effect for early withdrawal of cash value. These contracts include those for which the surrender charges have expired.

Free full surrender provisions are any provisions that allow the customer to surrender the entire annuity contract without being assessed a surrender charge within a period when surrender charges are otherwise normally in effect. Two common examples of such provisions are *bailouts* and *windows*. *Bailout* provisions allow penalty-free surrenders if the renewal interest rate ever falls below a stated interest rate or, more commonly, falls more than a certain percentage (often 100 basis points) below the initial credited interest rate. Customers are usually limited to a 30- to 45-day period in which to exercise this provision. We were unable to determine if the bailout clause was *pierced* either during or prior to the study period since historic interest rates were not collected for each contract. *Window* provisions are similar to bailout provisions, with the exception that there is no condition upon the renewal interest rate. Windows typically *open* for a 30- to 45-day period at the end of the interest guarantee period. Both window and bailout provisions expire when surrender charges expire.

Variable annuities include products with and without a fixed investment option. *Combination annuities,* which are variable annuities with at least one fixed option, are included as variable.

Fixed annuities include book value, market-value-adjustment (MVA), and equity index annuity (EIA) products. Account balances for all fixed annuities must grow at a guaranteed minimum rate of interest or higher, though the specific rate may vary according to crediting methods.

METHODOLOGY

The percentages and rates in this study are calculated as follows:

Percent of Contracts

$$= 100 \times \frac{\text{Number of contracts with a particular characteristic}}{\text{Total number of all contracts}}$$

Percent of Cash Value

$$= 100 \times \frac{\text{Cash value on contracts with a particular characteristic}}{\text{Cash value on all contracts}}$$

Contract Surrender Rate

$$= 100 \times \frac{\text{Number of contracts surrendered during the year}}{\text{Number of contracts exposed to surrender during the year}}$$

where the number of contracts exposed recognizes the length of time each contract is exposed to risk of surrender during the year. Surrenders contribute exposure for a full year. Contracts that terminate due to death, disability, or annuitization are excluded from the numerator of the surrender rate formula but are included within the denominator (exposure) based on available information about the timing of the termination. If a contract's termination timing is known, then it contributes to the denominator in proportion to its exposure.[6]

Cash Value Surrender Rate

$$= 100 \times \frac{\text{Cash value surrendered during the year}}{\text{Cash value exposed to surrender during the year}}$$

where cash value exposed recognizes the length of time each contract is exposed to risk of surrender during the year. Partial withdrawals prior to surrender are not included in cash value surrender rates; contracts that had partial withdrawal activity but remained in force at the end of the year were treated identically to contracts without partial withdrawal activity that remained in force at the end of the year.

Reporting Criteria

Surrender rates in this study are generally based on a minimum of 1,000 contracts exposed to the risk of surrender. If a particular category does not have at least 1,000 contracts, the surrender or withdrawal rate is not shown and is labeled as insufficient data.

To ensure that the reported analyses are representative of the individual annuity industry, and to protect the confidentiality of participants' results, each surrender rate must be based on a sufficient number of companies. Therefore, if fewer than three companies contributed to a category, even if more than 1,000 contracts are exposed, the surrender rate is not disclosed. In addition, if a single company contributes 75 percent or more of the contract or cash value exposure used in a surrender rate calculation, then the surrender rate may not be disclosed. Instead, unweighted surrender rates will be reported: each company's surrender rate will be separately calculated and then averaged.

[6] If a contract's termination timing is not known, then it is assumed that the termination occurred mid-year.

VARIABLE RETAIL PRODUCTS

Variable products sold within IRAs and nonqualified markets represented 76 percent of the variable contracts and 85 percent of the VA assets in the study.

During the years 2002 through 2004, approximately four in five VA retail contracts, including those issued during the year, remained in force and experienced no withdrawal activity (Table 4). Full surrenders fell sharply between 2002 and 2003, but then increased in 2004. Partial withdrawals increased in prevalence each year. Terminations due to annuitizations, death, or disability remained at a constant level during this period.

Table 4 – Variable Retail Products: Contract Activity By Year, 2002 through 2004

	2002	**2003**	**2004**
Full surrender	5.6%	4.7%	5.0%
Partial withdrawal	13.4	13.7	14.6
Annuitization	0.1	0.1	0.1
Death	1.5	1.5	1.5
No activity	79.4	80.0	78.8
Total	**100.0%**	**100.0%**	**100.0%**
Number of contracts	**4,053,717**	**4,281,351**	**4,489,814**

Based on a constant group of 13 companies.

Except for analyses of multi-year trends, the remainder of this chapter will report surrender rates for calendar year 2004. A total of 6.5 million variable retail contracts were available for analysis.[7]

SURRENDER CHARGES

Most variable retail products charge some penalty for surrenders or certain partial withdrawals that occur within a specified period. Often, the surrender charge schedule is based on the number of years since the contract was issued.

Other products have similar charge schedules, but are based on the number of years since the last premium was deposited in the contract. Almost 60 percent of the periodic premium variable products had surrender charges that were based on years since deposit (excluding those products that had penalties based on age of owner, or no surrender charges at all). This surrender charge basis did not

[7] Based on 17 companies.

lend itself to clearly differentiating contracts that were in a surrender penalty period from those that were not. Because of this difficulty, all analyses involving the presence of surrender charges were based on all products that had a surrender charge basis of years since issue, as well as products that had a surrender charge basis of years since deposit, provided that at least one of the following criteria were met:

- no additional premium received since issue, in which case the schedule would be equivalent to one based on years since issue;
- was a first-year issue;
- received additional premium during the year of observation or the previous year, which would mean that the contract had at least some charge in place; or
- was in a contract year that was less than the length of the surrender charge schedule, which would mean that the contract had a least some charge in place.

For analyses involving more specific factors, such as the number of years remaining in the surrender charge period or the charge amount, stricter criteria were applied: products with charges based on years since deposit were excluded entirely unless they were first-year issues or had had no additional premium since issue.

Surrender charges were strongly associated with persistency among variable retail annuities. The year following surrender charge expiration, contract surrender rates approached 15 percent (Table 5). Thereafter, rates were generally higher than was the case for contracts still in the surrender charge period. Cash value surrender rates were lower than contract surrender rates in the years prior to surrender charge expiration, but were higher in the years after charges expired.

Table 5 – Variable Retail Products: Full Surrender Rates by Time Remaining In Surrender Charge Period

Years remaining	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
3 or more	58.7%	65.1%	2.6%	2.0%
2	11.0	9.4	4.9	4.1
1	10.5	8.4	5.8	5.1
0	6.5	5.4	14.4	17.5
-1	3.1	2.6	11.1	12.7
-2	1.9	1.6	9.8	10.3
-3 or more	8.4	7.5	8.6	8.7
Total	**100.0%**	**100.0%**	**4.9%**	**4.2%**

Contract exposure: 2,987,990; cash value exposure: $175,410,305,173. Based on contracts with surrender charge basis of “years since issue” and contracts with surrender charge basis of “years since deposit” and no additional premium since the first contract year.

Length of surrender charge period

Surrender rate patterns tend to reflect surrender charge schedules. The most common surrender charge length, present on about 47 percent of the VA products in this study, involves a seven-year period, during which surrender charges gradually decrease until reaching zero by the end of the seventh contract year. For contracts with this schedule, the 8th year marks the beginning of the period in which surrenders and withdrawals can be done penalty-free. As might be expected, it also marks a significant jump in surrender activity (Table 6). Contracts in years 9 or later have higher surrender rates than those in years 1 through 7.

Table 6 – Variable Retail Products: Full Surrender Rates by Contract Year for Contracts With 7-Year Surrender Charge Schedule

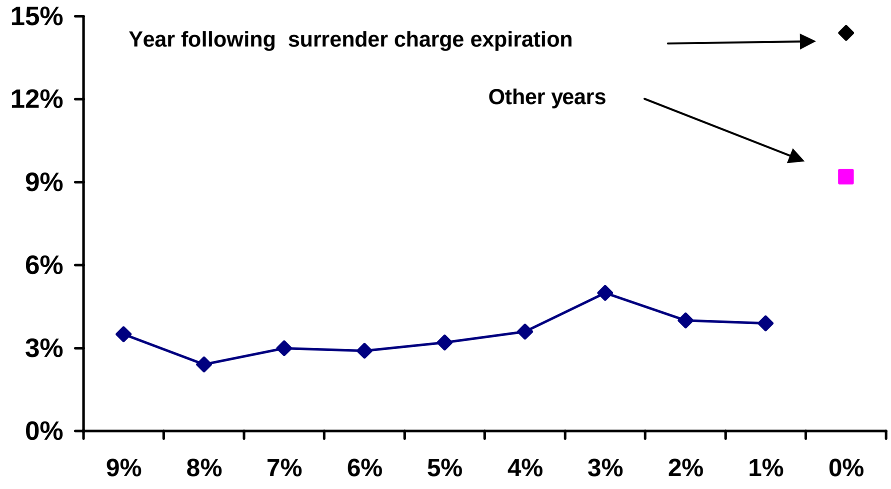
Contract year	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
1	6.8%	8.9%	1.4%	1.3%
2	9.7	12.6	2.3	1.8
3	8.3	10.0	2.8	2.7
4	10.3	10.0	3.2	2.8
5	12.6	10.3	3.7	3.2
6	11.3	9.5	4.3	4.3
7	11.0	9.4	5.3	5.5
8	9.2	8.5	11.2	14.1
9	7.0	6.7	8.2	9.8
10	3.7	3.6	7.7	9.1
11 or more	10.3	10.5	6.7	7.8
Total	**100%**	**100%**	**5.0%**	**5.1%**

Contract exposure: 3,631,246; cash value exposure: $200,834,976,265.

Amount of charges

The association between amount of the surrender charge and the likelihood of full surrender is not as straightforward as might be anticipated. Owners are almost equally likely to surrender when the charges are large or small (Figure 1). The expiration of charges, as opposed to their gradual decline, appears to be a far more significant factor in explaining surrender rates.

Figure 1
Variable Retail Products: Full Contract Surrender Rates by Amount of Surrender Charge



Note: Based on contract exposure of 4,268,962.

COST STRUCTURE

Deferred variable annuities generally take the form of B-share cost structures, in which surrender charges can be triggered by partial or full withdrawals occurring within a certain time period after the contract is purchased (or after additional premiums are added). C-share cost structures are essentially "no load" products that have no surrender charges. This liquidity places C-share products at much higher risk of early surrender.

Both B-share and C-share products have been sold for decades. More recently, "L-share" products have been introduced. In general, L-share cost structures are similar to B-share structures, except that the surrender penalty period is shorter (e.g., 4 years rather than 7 years).

Across all types of surrender charge schedules, VAs with L-share cost structures tend to have better persistency than either B-share or C-share annuities (Table 7) during the first three contract years. However, the L-share surrender rates increase in contract year 4, reflecting the expiration of surrender charges for some blocks of business. Because most of the L-share contracts had not yet exited the surrender charge period in 2004, the persistency of contracts that exited the surrender charge period in later years could not be obtained.

Table 7 – Variable Retail Products: Full Surrender Rates by Cost Structure

	Contract surrender rate			Cash value surrender rate		
Contract year	**B-Share**	**C-Share**	**L-Share**	**B-Share**	**C-Share**	**L-Share**
1	1.4%	9.0%	0.9%	1.2%	14.0%	0.8%
2	2.2	10.4	1.3	1.8	11.3	1.1
3	3.3	10.3	1.9	4.7	10.5	1.5
4	3.7	8.9	12.5	3.0	10.1	15.4
5	4.2	8.0	--	3.4	8.2	9.1
6	5.3	8.6	--	4.9	8.9	--
7	7.0	10.5	--	6.9	8.9	--
8	12.5	11.0	--	14.9	8.7	--
9	9.5	12.2	--	10.5	10.9	--
10 or more	8.4	9.4	--	8.9	11.5	--
Total	**5.9%**	**9.4%**	**2.4%**	**5.6%**	**10.6%**	**2.1%**
Exposure*	**4,114,838**	**159,763**	**324,999**	**$242.6**	**$13.8**	**$28.0**

-- Insufficient company representation. Cash value exposure values are in billions.

OWNER CHARACTERISTICS

Age

There was no relationship between the attained age of the annuity owner and full surrender activity of variable retail annuities. The percent of contracts fully surrendered ranged from 4.9 (among owners aged 75 to 84) to 6.0 percent (among owners aged 60 to 64) (Table 8). However, partial withdrawal activity was clearly associated with the owner's age, with sharply increased rates after age 60 and age 70. As people enter their retirement years, many will need to draw income from their investments, including deferred annuities. Government-assessed early withdrawal penalties also expire at age 59½, and withdrawals become mandatory for IRA annuities after age 70½.

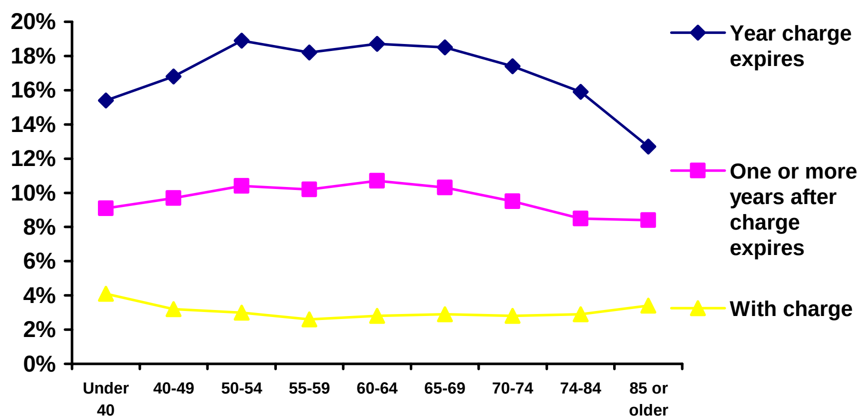
Table 8 – Variable Retail Products: Surrender Rates by Age

Owner age	Percent of contracts	Percent of cash value	Contract surrender rate: Full	Contract surrender rate: Partial	Cash value surrender rate: Full	Cash value surrender rate: Partial	Cash value surrender rate: Total
Under 40	5.9%	2.1%	5.3%	3.7%	5.3%	1.9%	7.2%
40-49	13.7	8.2	5.2	3.9	4.9	1.5	6.4
50-54	11.2	9.5	5.2	5.3	5.0	1.8	6.8
55-59	14.3	14.6	5.2	7.2	4.6	2.0	6.6
60-64	14.3	16.5	6.0	13.0	5.0	2.7	7.7
65-69	12.6	15.2	5.8	17.3	5.1	2.7	7.8
70-74	10.8	13.0	5.4	31.5	5.1	3.1	8.2
75-84	14.3	17.1	4.9	28.5	4.9	2.9	7.8
85 or older	2.9	3.9	5.2	20.2	5.2	2.7	7.9
Total	**100.0%**	**100.0%**	**5.4%**	**15.0%**	**5.0%**	**2.5%**	**7.5%**

Contract exposure: 5,451,616; cash value exposure: $302,300,175,189.

For contracts still in the charge period, or those that have exited the charge period one or more years earlier, age of owner appears to have little impact on surrender rates. It is only among contracts for which surrender charges have recently expired that any age differences are shown: owners in their 50s and 60s are somewhat more likely than older or younger owners to surrender their contracts upon charge expiration (Figure 2).

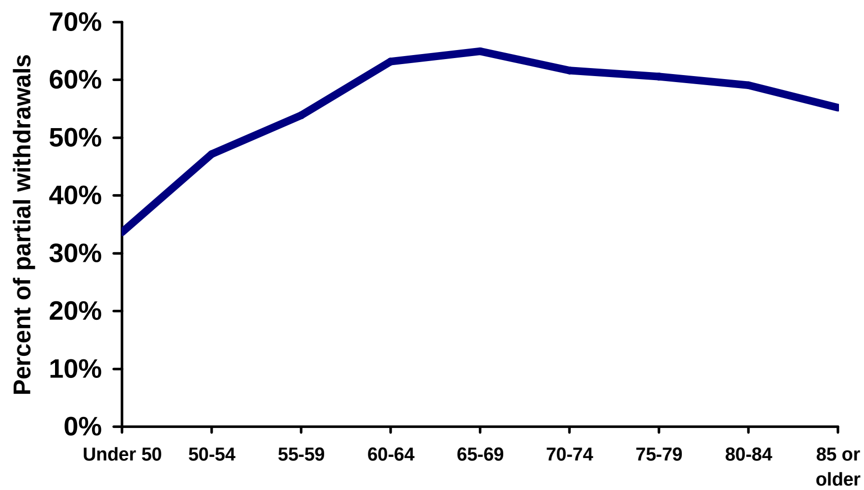
Figure 2
Variable Retail Products: Full Cash Value Surrender Rates by Surrender Charge and Age



Cash value exposure: In charge period, $222,611,760,706; year charge expires, $9,465,050,636; one or more years after charge expires, $20,798,656,562.

Systematic withdrawal activity
Across all ages, about 77 percent of contracts with any partial withdrawal activity had at least some systematic withdrawal activity. As a percentage of all money withdrawn, systematic withdrawals increase steadily between ages 50 and 65, nearly doubling their share of withdrawals (Figure 3). After age 65, their share of withdrawals declines slightly.

Figure 3
Variable Retail Products: Systematic Withdrawals As Percent of Partial Withdrawals by Age



Figures based on 705,630 contracts in which partial and systematic withdrawal information was available.

Gender

Men who owned variable retail annuities had slightly higher surrender rates than women (5.8 percent vs. 5.5 percent, respectively). Almost of all of the gender difference occurs in the year that surrender charges expire (Table 9.

Table 9 – Variable Retail Products: Full Surrender Rates by Gender and Surrender Charge

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With surrender charge				
Men	43.4%	48.4%	3.6%	3.0%
Women	42.8	39.6	3.5	2.8
Total	**86.2%**	**88.0%**	**3.5%**	**2.9%**
Year surrender charge expired				
Men	2.3%	2.0%	14.7%	18.0%
Women	2.2	1.7	14.1	16.7
Total	**4.5%**	**3.7%**	**14.4%**	**17.4%**
One year or more after surrender charge expired				
Men	4.9%	4.7%	9.3%	9.9%
Women	4.4	3.6	9.2	9.5
Total	**9.3%**	**8.3%**	**9.2%**	**9.7%**

Contract exposure: 4,332,966; cash value exposure: $252,801,312,672.

PRODUCT FEATURES

The past decade has witnessed an impressive upsurge in the prevalence of secondary benefits on variable annuities. In the 1990s, guaranteed minimum death benefits (GMDBs) rose to prominence. These benefits enhanced the typical, standard return-of-premium death benefit by promising that beneficiaries would receive an amount based on premiums grossed up by an annual percentage (i.e., rollup) or based on account performance (i.e., ratchets and resets).

More recently, the industry focus has shifted to benefits that can be obtained while the contract owner is alive: guaranteed living benefits (GLBs). Initially similar in design to GMDBs, GLBs have evolved to include income, accumulation, and withdrawal benefits with increasing complexity of features and options. They have also been extremely effective in raising industry VA sales, and may be an integral component of the growing market for retirement income products.

After the prolonged market downturn of 2000-2002, many contracts had account balances that were significantly lower than their GMDB benefit amounts -- a situation that could impact persistency. To the extent that GLBs are “in the money,” contract owners may be more reluctant to surrender their contracts and thereby give up future benefits.

The current study did not allow for a determination of benefit balances; however, the presence of GMDBs and GLBs was tracked at the contract level.[8]

Death Benefits

Variable annuities have offered a variety of GMDBs since the 1990s. The standard return-of-premium benefit currently applies to about half of all VAs, with benefits based on ratchets, rollups, or other methods applying to the remaining contracts (Table 10). Annual ratchets and rollups were associated with lower surrender rates than alternative benefit calculations.[9]

Table 10 – Variable Retail Products: Full Surrender Rates by GMDB Election

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
Return of premium	49.5%	42.4%	6.4%	6.0%
Annual ratchet	14.1	18.0	4.3	3.8
Multi-year ratchet	11.6	9.9	6.9	6.9
Rollup	6.2	8.1	4.4	3.9
Other*	18.6	21.6	10.6	9.9
Total	**100.0%**	**100.0%**	**6.9%**	**6.4%**

*Includes GMDBs based on higher of rollup or ratchet.
Contract exposure: 4,108,109; cash value exposure: $231,960,927,898.

Guaranteed Living Benefits

The principal GLBs include guaranteed minimum income benefits (GMIBs), guaranteed minimum accumulation benefits (GMABs), and guaranteed minimum withdrawal benefits (GMWBs). Both GMIBs and GMABs generally require that a specified waiting period elapse before the benefit matures. Because these periods can last 10 years or longer, contract owners who have elected these benefits may be more inclined to keep them than owners who have not elected them. This motivation may be particularly strong from GMAB owners, whose benefit is not tied to a future decision about annuitization. On the other hand, GMWBs generally have no mandatory waiting period; individuals can choose to begin withdrawals immediately after benefit election. Depending on withdrawal activity and market performance, benefit electors may not necessarily have any added incentive to keep them in force than non-electors.

[8] The relationship between GLBs and contract owner behavior, including surrender activity, will be examined in a forthcoming LIMRA study, *Variable Annuity Guaranteed Living Benefits Utilization*.

[9] It is unclear why VAs with GMDBs based on "other" calculation methods had markedly higher surrender rates than other VAs. They were not associated with older contracts, particular distribution channels, shorter surrender charge periods, or older owners.

For retail VAs within their surrender penalty periods,[10] GLB election was associated with improved persistency for both GMIBs and GMABs in 2004 (Table 11). As expected, the difference in surrender rates for electors vs. non-electors was larger for GMABs than for GMIBs. There was no clear relationship between GMWB election and persistency, though electors were slightly *more* likely to surrender their contracts than non-electors.

Table 11 – Variable Retail Products: Full Surrender Rates by GLB Election

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
GMIB				
Elected	26.8%	35.3%	2.5%	1.9%
Did not elect	73.2	64.7	2.9	2.8
Total	**100.0%**	**100.0%**	**2.8%**	**2.5%**
GMAB				
Elected	10.6%	12.5%	1.5%	1.2%
Did not elect	89.4	87.5	4.9	4.2
Total	**100.0%**	**100.0%**	**4.6%**	**3.9%**
GMWB				
Elected	4.0%	7.0%	2.7%	2.3%
Did not elect	96.0	93.0	2.4	2.1
Total	**100.0%**	**100.0%**	**2.4%**	**2.1%**

Based on contracts that a) offered a GLB, and b) were within a surrender charge period.
Exposures: GMIB, contract exposure 1,525,565, cash value exposure $99,354,499,073; GMAB, contract exposure 1,018,802, cash value exposure $67,300,260,422; GMWB, contract exposure 1,741,291, cash value exposure $122,257,657,156.

Partial withdrawal activity was clearly related to GMWB election. More than half of all contracts in which the owner had elected a GMWB had partial withdrawal activity during the year (Table 12). On average, these partial withdrawals represented 7.9 percent of contract value – slightly more than the 7.0 percent limit offered by many GMWBs.[11]

[10] Sampling limitations prevented analysis of business that had exited the surrender penalty period.

[11] The denominator for the partial cash value surrender rate for contracts with elected GMWBs displayed in Table 12 (3.4 percent) includes all contracts, not just those in which a partial withdrawal occurred. When the rate is only based on those contracts with partial withdrawals, the percent of cash value withdrawn is 7.9 percent.

Table 12 – Variable Retail Products: Surrender Rates by GMWB

	Percent of contracts	Percent of cash value	Contract surrender rate		Cash value surrender rate		
			Full	Partial	Full	Partial	Total
Elected GMWB	2.0%	3.9%	2.9%	57.2%	2.6%	3.4%	6.0%
Did not elect GMWB	48.6	55.1	4.5	14.6	4.7	2.2	6.9
GMWB not available	49.4	41.0	7.4	14.7	6.7	2.8	9.5
Total	**100.0%**	**100.0%**	**5.9%**	**15.5%**	**5.5%**	**2.5%**	**8.0%**

Contract exposure: 5,451,616; cash value exposure: $302,300,175,189.

NUMBER OF FUNDS

Retail VAs with fewer than 25 subaccount funds available for asset or premium allocation tended to have higher surrender rates than VAs with 25 or more funds (Table 13). There appears to be no marginal improvement in persistency beyond 25 funds – contracts with 35 or more funds had about the same surrender activity as contracts with 25 to 34 funds. Furthermore, the ratio of without-charge to with-charge surrender rates was larger for contracts with 25 funds or more than for contracts with fewer than 25 funds.

Table 13 – Variable Retail Products: Full Surrender Rates by Number of Funds and Presence of Surrender Charge

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With surrender charge				
Fewer than 25 funds	15.1%	12.5%	5.2%	4.1%
25 to 34 funds	39.3	40.8	2.8	2.4
35 or more funds	28.5	32.5	3.5	2.6
Without surrender charge				
Fewer than 25 funds	7.3%	7.1%	10.6%	11.2%
25 to 34 funds	6.1	4.4	9.0	9.9
35 or more funds	3.7	2.7	--	--
All contracts*				
Fewer than 25 funds	24.7%	20.2%	8.5%	8.0%
25 to 34 funds	47.9	48.9	4.5	4.3
35 or more funds	27.5	30.9	5.2	4.3

Contract exposure: 4,151,281; cash value exposure: $206,314,304,479.

-- Insufficient company representation

*Includes contracts for which presence of surrender charge could not be determined.

DISTRIBUTION CHANNEL

After surrender charge presence, distribution channel is one of the most important factors in predicting surrender activity. Career and independent agents, stockbrokers, financial planners, and bank representatives each possess different motivations to conserve in-force annuity contracts. While compensation structures undoubtedly play a major role in sales representatives' activities, other motivations could influence their conservation behavior. For example, those with a large number of clients may not find it advantageous to maintain contact with every person to whom they sold deferred annuities. Sales representatives also may relocate, change professions, or retire in the years between a contract's issuance and its exit from the surrender charge period.

Persistency is not markedly different across distribution channel when retail VA business is not separated by surrender charges (Table 14). Both contract and cash value surrender rates vary within a narrow range (from 4.3 percent for wirehouse-sold contracts to 7.1 percent for career-agent sold contracts).

Table 14 – Variable Retail Products: Full Surrender Rates by Distribution Channel

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
Career agent	32.9%	22.6%	7.1%	6.1%
Financial planner and independent broker-dealer*	22.2	25.4	5.9	5.4
Wirehouse	24.2	31.2	4.3	4.4
Bank	19.7	19.8	5.1	4.7
Other	1.0	1.0	6.6	6.0
Total	**100.0%**	**100.0%**	**5.8%**	**5.1%**

Contract exposure: 4,477,974; cash value exposure: $256,357,590,209.

*Includes contracts sold through independent agent channels

More telling are channel comparisons among business that either has or does not have surrender charges. Career agents have low surrender rates for VA business that has exited the surrender charge period, relative to the rates for business with charges (9.5 percent vs. 4.8 percent, respectively) (Table 15). Planner-sold and wirehouse-sold contracts, by contrast, have much higher surrender rates for out-of-charge business.

Table 15 – Variable Retail Products: Full Surrender Rates by Distribution Channel and Surrender Charge

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With surrender charge				
Career agent	23.6%	17.8%	4.8%	3.8%
Financial planner and independent broker-dealer*	20.3	23.1	3.8	3.1
Wirehouse	20.2	25.9	2.2	1.9
Bank	19.3	19.3	3.3	2.8
Out of surrender charge				
Career agent	8.1%	4.9%	9.5%	9.7%
Financial planner and independent broker-dealer*	3.8	3.6	12.7	13.7
Wirehouse	3.5	4.5	11.1	12.4
Bank	1.2	0.9	8.3	18.5

Contract exposure: 3,544,610; cash value exposure: $213,363,840,455.

*Includes contracts sold through independent agent channels

COMPENSATION

Commission Amounts

The relationship between commissions and sales production is well established: holding other factors constant, sales tend to be stronger for products with higher commissions. However, the relationship between persistency and commission amounts is less clear. Is there any added incentive for a salesperson to persuade a client to retain his or her annuity, simply because the salesperson received a higher first-year premium-based commission?

As shown in Table 16, first-year commissions do appear to have a modest influence on persistency. Contract and cash value surrender rates decrease as commissions increase, particularly for VAs that are in their surrender penalty period.[12] However, the relationship between commissions and persistency is not clear for business out of the surrender charge period; there appears to be little advantage in persistency for contracts with commissions above 5.5 percent.

[12] It may also be the case that higher commissions are associated with higher surrender charges. If so, then the lower surrender rates could be explained in terms of surrender charges rather than any inducement for conservation efforts by salespeople. Among VA products, there was a modest relationship between first-year commission amounts and first-year surrender charge amounts ($r = .32$).

Table 16 – Variable Retail Products: Full Surrender Rates by First-Year Commission Amount and Presence of Surrender Charge

Amount of first-year commission	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With surrender charge				
3.5% or less	17.8%	22.1%	5.8%	6.8%
>3.5 to 5.0%	10.3	9.8	5.2	5.3
>5.0 to 5.5%	8.8	5.8	4.8	3.4
Over 5.5%	13.1	12.4	4.4	3.4
Without surrender charge				
3.5% or less	0.7%	0.5%	5.0%	5.2%
>3.5 to 5.0%	26.3	32.6	10.5	9.5
>5.0 to 5.5%	19.8	14.4	8.3	8.8
Over 5.5%	3.1	2.6	12.4	14.4
All contracts*				
3.5% or less	25.9%	33.9%	5.8%	7.4%
>3.5 to 5.0%	23.9	26.0	6.1	6.7
>5.0 to 5.5%	28.0	18.2	6.4	5.4
Over 5.5%	22.2	22.0	5.1	4.3
Total	**100.0%**	**100.0%**	**6.6%**	**6.3%**

*Includes contracts for which the presence of surrender charges could not be established.

Contract exposure: 1,964,540; cash value exposure: $ 117,374,175,760. Figures based on unweighted surrender rates.

After the initial compensation for establishing the contract, annuity salespeople can receive additional commissions through two means: a) premium-based commissions on renewal premiums; and b) asset-based commissions. The latter method does not require any additional cash inflows, but tends to pay lower rates (0.5 percent of account value or less) than premium-based compensation structures.

For contracts in their second through seventh years, contract surrender rates were lower if the salesperson received either form of commission (Table 17). For contracts in their eighth or later years (after which point most had exited the surrender penalty period), commissions were associated with both lower contract and cash value surrender rates.

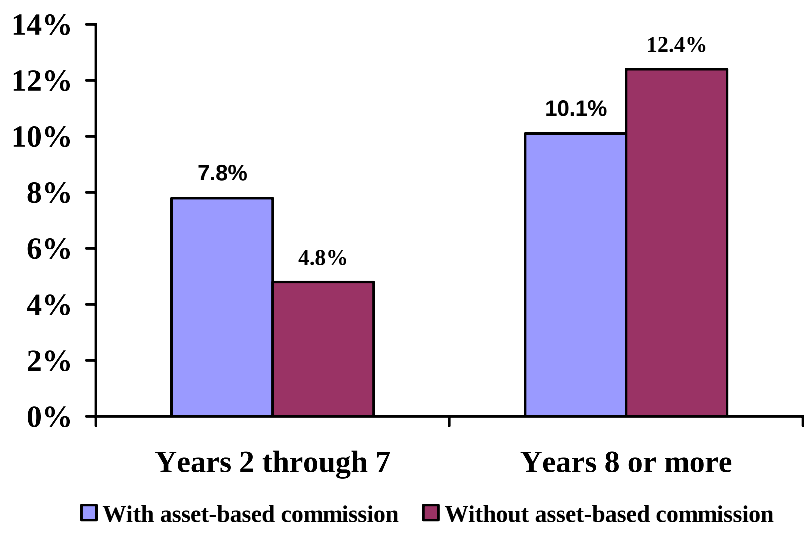
Table 17 – Variable Retail Products: Full Surrender Rates by Presence of Commission

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
Contract years 2 through 7				
Commission paid	17.9%	17.5%	3.9%	4.6%
No commission paid	45.7	50.6	5.7	4.5
Total	63.6%	68.1%	5.2%	4.6%
Contract years 8 or more				
Commission paid	10.5%	18.6%	8.4%	9.4%
No commission paid	25.9	13.3	9.6	13.5
Total	36.4%	31.9%	9.2%	11.8%

Contract exposure: 1,777,477; cash value exposure: $ 100,976,275,585. Contracts with missing premium information were excluded from analysis.

When examined separately, asset-based commissions appear to aid persistency for contracts in their 8th or later years (Figure 4), but do not positively influence persistency for contracts issued more recently.

Figure 4
Variable Retail Products: Full Cash Value Surrender Rates by Presence of Asset-Based Commission



Figures based on unweighted surrender rates. Cash value exposure in years 2 through 7: $17,561,027,073 with asset-based commission; $53,210,127,712 without asset-based commission. Cash value exposure in years 8 or more: $12,940,585,602 with asset-based commission; $33,675,587,177 without asset-based commission.

Producer Persistency Bonuses and Chargebacks

About 1 in 10 retail VA contracts offered the sales representative a bonus for persistency (Table 18). Most often these bonuses begin after the first year and are based on the contract's account value. Persistency was slightly better for retail VAs in their third or later contract years.

Table 18 – Variable Retail Products: Full Surrender Rates by Persistency Bonus

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With persistency bonus				
First year	1.2%	1.4%	0.8%	0.7%
Second year	2.5	2.8	3.5	3.3
Third or later	7.4	6.8	6.3	6.5
Total	**11.1%**	**11.0%**	**5.1%**	**4.9%**
Without persistency bonus				
First year	9.1%	10.3%	1.5%	0.9%
Second year	14.1	15.8	2.7	2.3
Third or later	65.7	62.9	6.6	6.8
Total	**88.9%**	**89.0%**	**5.5%**	**5.3%**

Contract exposure: 1,477,729; cash value exposure: $56,430,571,139.

Just over half of retail variable contracts had first-year commission chargebacks provisions. If a contract with such a provision is surrendered within 12 months of issue, producers may be charged for their commission; in some cases, they may lose a percentage of their commission if the contract is surrendered within 6 months of issue. These provisions may therefore spur salespeople to maintain contact with the customer and ensure satisfaction with the product they purchased.

Commission chargebacks were strongly associated with lower surrender rates; however, contrary to expectations, they were associated with better persistency among contracts in their second or later contract years rather than their first contract year (Table 19). Possibly, commission chargebacks act to tighten the criteria salespeople use when considering whether the annuity product is appropriate for a particular client, such that these clients are more inclined to maintain their contracts for longer durations.

Table 19 – Variable Retail Products: Full Surrender Rates by First-Year Commission Chargeback

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With commission chargeback				
First year	6.2%	8.5%	2.4%	2.9%
Second year	7.3	9.8	3.8	3.9
Third or later	42.1	43.0	7.8	7.7
Total	**55.6%**	**61.3%**	**6.6%**	**6.4%**
Without commission chargeback				
First year	2.0%	2.3%	2.6%	2.7%
Second year	3.4	4.1	4.1	3.3
Third or later	39.0	32.3	9.0	9.2
Total	**44.4%**	**38.7%**	**8.4%**	**8.2%**

Contract exposure: 2,201,379; cash value exposure: $ 133,333,953,175.

CASH FLOWS

Retail market VAs are primarily sold to individuals who are transferring assets, from either qualified retirement plans (e.g., IRA rollovers) or from other investments. For the most part, these VAs are funded with a single premium, and no additional premiums are added for the duration of the contract.

Only 1 in 10 retail VAs sold in 2003 or earlier received premium in both 2003 and 2004 (Table 20). Subsequent premiums were more likely among recently-issued contracts and among contracts funding IRAs. Because IRA owners over age 70 ½ must take minimum annual withdrawals from their accounts, additional cash inflows after that age are rare. Therefore, Table 20 also displays results for IRAs owned by individuals under age 70.

Table 20 - Variable Retail Products: Percent of Contracts
With Premiums in Both the Current (2004) and Prior (2003) Year

Contract year	IRA, All ages	IRA, Age 70 or older removed	Nonqualified	All
2	36.8%	38.0%	14.0%	26.9%
3	17.7	18.9	6.6	13.8
4	16.5	17.9	5.6	12.2
5	9.6	10.9	3.1	6.7
6	8.2	9.6	4.8	6.6
7	8.7	10.2	5.3	7.2
8	5.3	6.4	6.7	6.0
9	5.7	6.7	8.1	6.8
10	6.6	7.7	8.3	7.4
11	6.6	7.9	7.9	7.2
12	6.6	7.9	7.8	7.2
13	7.5	8.7	9.3	8.2
14	8.8	9.9	11.1	9.7
15 or more	7.8	8.5	18.9	10.9
All years	**12.0%**	**13.5%**	**7.5%**	**10.0%**
Number of contracts	**828,288**	**706,487**	**621,921**	**1,446,209**

Based on contracts sold in 2003 or earlier.

When additional premium was received in the contract's second year, it was generally a smaller amount than the premium received in the contract's first year (Table 21). But current and prior year premiums were similar for older contracts. This pattern suggests that some individuals were choosing to make systematic contributions over time, in much the same way as workers contribute to retirement plans through payroll deductions.

Table 21 – Variable Retail Products: Ratio of Current Premium to Prior Year's Premium by Plan Type

For Contracts With Premiums in Both Years

Contract year	IRA	Nonqualified	All
2	0.42	0.60	0.48
3	0.83	0.88	0.85
4	0.97	0.92	0.95
5	0.98	1.08	1.01
6	0.95	0.96	0.95
7	0.91	0.96	0.94
8	0.98	0.95	0.96
9	1.07	1.05	1.06
10	0.85	0.92	0.89
11	1.03	0.95	0.98
12	0.88	0.93	0.91
13	1.05	0.96	0.99
14	0.97	1.14	1.06
15 or more	0.88	0.97	0.92
All years	**0.53**	**0.70**	**0.59**
Number of contracts	**98,875**	**46,596**	**145,471**

Additional cash inflows after the contract's first year were associated with better persistency. Contract (cash value) surrender rates were 2.4 (1.5) percent for retail VAs that had additional premium since the first year, compared to 6.7 (6.9) percent for retail VAs had no additional premiums.[13]

Average contributions

Retail VAs tend to have the highest initial contributions of all deferred annuities. For contracts issued in 2004, average first-year premiums exceed $67,000 (Table 22). In later contract years, retail VAs had much smaller average premiums. Generally, premiums were higher for nonqualified VAs than for IRA VAs (including those owned by individuals under age 70).

[13] It is possible that additional premiums extended the surrender penalty period, in which case surrender rates would be expected to be lower. However, due to sampling limitations, it was not possible to separate products with surrender charges based on years since issue from products with surrender charges based on years since deposit.

Table 22 – Variable Retail Products: Average Total Annual Contributions by Contract Year*

Contract year	IRA, All ages	IRA, Age 70 or older removed	Nonqualified	All
1	$58,889	$56,691	$76,235	$67,192
2	4,934	4,838	7,745	6,097
3	2,545	2,440	4,142	3,202
4	1,303	1,271	1,644	1,452
5	745	737	667	710
6	627	640	661	643
7	555	588	725	630
8	643	669	916	786
9	635	678	1,033	828
10	611	655	864	725
11	605	619	1,072	806
12	717	732	1,382	1,010
13	663	642	1,654	1,057
14	797	791	1,461	1,063
15 or more	609	551	1,235	780
All years	**$9,579**	**$9,647**	**$14,005**	**$11,555**
Number of contracts	**1,452,957**	**1,266,485**	**1,171,570**	**2,624,527**

* Premiums greater than $5 million were removed from calculations.

FIXED RETAIL PRODUCTS

Fixed products sold within IRAs and nonqualified markets represented 89 percent of the fixed contracts in the study and 91 percent of the assets.

During the years 2002 through 2004, approximately three in four fixed retail contracts, including those issued during the year, remained in force and experienced no withdrawal activity (Table 23). Full surrenders increased between 2003 and 2004, and partial withdrawals increased in prevalence each year. Terminations due to annuitizations, death, or disability rose modestly during this period.

Table 23 – Fixed Retail Products: Contract Activity By Year, 2002 through 2004

	2002	2003	2004
Full surrender	4.3%	4.2%	5.8%
Partial withdrawal	16.6	18.1	18.8
Annuitization	0.2	0.3	0.3
Death	1.6	1.7	1.9
No activity	77.3	75.7	73.3
Total	**100.0%**	**100.0%**	**100.0%**
Number of contracts	**2,414,869**	**2,509,327**	**2,548,999**

Based on a constant group of 17 companies.

Except for analyses of multi-year trends, the remainder of this chapter will report surrender rates for calendar year 2004, representing up to 2.9 million fixed retail contracts.[14]

SURRENDER CHARGES

As with variable retail annuities, most fixed retail products charge some penalty for surrenders or certain partial withdrawals that occur within a specified period. For most, the surrender charge schedule is based on the number of years since the contract was issued, but almost 20 percent of the fixed periodic premium products had surrender charges that were based on years since deposit (excluding those products that had penalties based on age of owner, or no surrender charges at all). The same criteria described in the previous chapter were applied in order to determine whether to include these contracts in surrender charge analyses.

[14] Based on 22 companies.

Surrender charges were strongly associated with persistency among fixed retail annuities. The year following surrender charge expiration, contract and cash value surrender rates exceeded 20 percent (Table 24). Thereafter, rates were generally higher than was the case for contracts still in the surrender charge period.

Table 24 – Fixed Retail Products: Full Surrender Rates by Time Remaining In Surrender Charge Period

Years remaining	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
3 or more	57.2%	59.4%	3.4%	3.0%
2	3.8	4.2	12.2	15.0
1	3.9	4.2	6.1	5.5
0	4.3	4.4	20.8	23.3
-1	5.4	5.9	6.2	5.2
-2	4.7	4.4	6.0	6.3
-3 or more	20.7	17.6	7.3	9.0
Total	**100.0%**	**100.0%**	**5.7%**	**5.8%**

Contract exposure: 1,495,512; cash value exposure: $60,438,415,283.

Length of surrender charge period

Surrender rate patterns tend to reflect surrender charge schedules. The most common surrender charge length, present on about one third of the fixed products in this study, involves a seven-year period, during which surrender charges gradually decrease until reaching zero by the end of the seventh contract year. For contracts with this schedule, the 8th year marks the beginning of the period in which surrenders and withdrawals can be done penalty-free. As might be expected, it also marks a significant jump in surrender activity (Table 25). Years 9, 10, 11 or later generally have higher surrender rates than those in years 1 through 7. [15]

[15] The jump in surrender rates in year 6 likely reflects surrender activity among book-value and market-value-adjustment (MVA) products with 5-year MVA rates.

Table 25 – Fixed Retail Products: Full Surrender Rates by Contract Year for Contracts With 7-Year Surrender Charge Schedule

Contract year	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
1	10.8%	11.8%	1.9%	1.8%
2	10.1	10.5	3.1	2.4
3	5.5	6.1	3.8	2.8
4	3.2	4.1	4.5	4.1
5	4.1	5.3	4.3	4.6
6	2.8	2.7	10.4	14.8
7	3.4	3.2	5.5	5.6
8	5.9	5.9	21.0	26.0
9	8.5	9.5	5.8	4.7
10	8.0	7.2	6.1	7.1
11 or more	37.7	33.7	7.7	9.9
Total	**100%**	**100%**	**6.6%**	**7.4%**

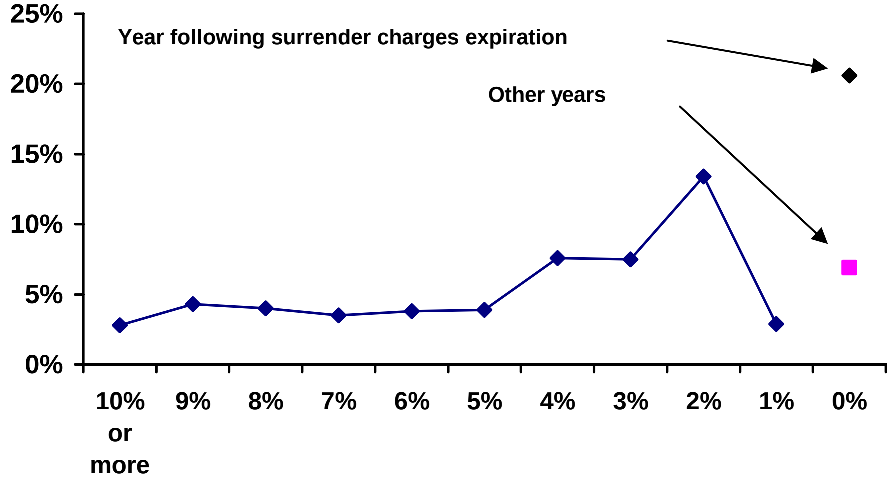
Contract exposure: 754,559; cash value exposure: $26,857,471,702.

Other fixed products – particularly equity index annuities (EIAs) – have surrender charge schedules that can last 10 years or more. These products also have surrender rates that track their charge schedules; however, sampling limitations prevent reporting their results separately.

Amount of charges

Retail fixed annuity surrender rates were not strongly associated with surrender charges of 5 percent or more (Figure 5). With lower rates, surrender activity tended to increase, with the exception of contracts with 1 percent surrender rates. This unusual pattern – which was observed among nearly all companies – may have resulted from reluctance for owners to surrender older products with more generous minimum interest rates, and the low prevailing interest rates for new issues in 2004.

Figure 5
Fixed Retail Products: Full Contract Surrender Rates by Amount of Surrender Charge



Note: Contract exposure: 1,485,792.

As with retail VAs, contracts in the year following surrender charge expiration had a much higher surrender rate than contracts that had exited the charge period one or more years earlier.

Free Full Surrender Provisions

Approximately one in ten fixed retail contracts had some type of free full withdrawal provision and were still within the surrender charge period. Full contract surrender rates among products with bailout or window provisions were comparable to those of products without any free full withdrawal provision (Table 26). Bailouts were associated with slightly higher full cash value surrender rates (4.6 percent vs. 3.9 percent).

Table 26 – Fixed Retail Products: Full Surrender Rates by Presence of Free Full Withdrawal Provision

Credited interest rate	Percent of contracts	Percent of cash value	Contract surrender rate		Cash value surrender rate		
			Full	Partial	Full	Partial	Total
In surrender charge period							
No bailout or window	57.2%	58.5%	4.2%	18.1%	3.9%	2.2%	6.1%
Bailout	2.4	3.1	4.0	21.5	4.6	2.2	6.8
Window	8.8	9.4	4.3	18.9	3.8	1.8	5.6
Out of surrender charge period							
All	31.6%	29.0%	8.7%	23.5%	9.9%	3.1%	13.0%
Total	**100.0%**	**100.0%**	**5.6%**	**19.9%**	**5.7%**	**2.4%**	**8.1%**

Contract exposure: 1,763,844; cash value exposure: $71,572,980,378.

Fixed Product Types

Two thirds of the fixed retail annuities examined in this study were book value products, in which the account balance is credited with a stated minimum interest rate for a set period of time, such as one year. Because this rate is "locked in" during the interest guarantee period and cannot be altered by the insurer in response to interest rate conditions, owners have less incentive to surrender their contracts if current interest rates offered within newly-issued annuities (or alternative investments, such as bank CDs) are lower than those they are guaranteed to receive in their annuity. In contrast, if current interest rates are much higher than their currently-earned rate, owners may have more incentive to surrender or exchange their contracts.

Approximately half of the remaining third of the fixed retail annuities consisted of market value adjusted annuities (MVAs) and equity index annuities (EIAs).

- MVAs have surrender values that fluctuate depending on changes in the interest rate market in relation to the product's guaranteed interest rate. This feature, which allows insurers to offer a slightly higher interest rate in exchange for the client to take on interest rate risk, offsets the incentive to surrender or exchange contracts when interest rates on new issues exceed those within existing contracts. Owners can often allocate premium into several interest guarantee periods, ranging from 1 to 10 years.
- EIAs – sales of which increased dramatically during the study timeframe (2002 through 2004) – have guaranteed principal and minimum rates of interest with additional returns that are tied to a specific index, generally the S&P 500, over the course of a specified term. Surrender penalty periods for EIAs tend to be lengthier than those of other products. Also,

depending on the contract, surrenders that occur prior to the end of the term might not be credited with any index-linked interest.

Overall surrender rates for book value fixed annuities were generally lower than those of MVAs or EIAs (Table 27). Contract and cash value surrender rates increased with contract year, peaked around the time of surrender charge expiration, and then fell slightly. MVAs had much higher surrender rates than book value products in later contract years. They also showed a sharp increase after year 5, which represented the expiration of 5-year interest guarantees. EIAs had a similar persistency pattern to that of book value products except for an extremely high surrender rate in the eighth contract year, which coincided with the expiration of surrender charges for almost 90 percent of the contracts.[16] Because so few EIA contracts were sold in the 1990s, there were very few that had reached the end of their surrender penalty period.

Table 27 – Fixed Retail Products: Full Surrender Rates by Type of Fixed Product

	Percent of contracts			Percent of cash values		
Contract Year	**Book Value**	**Market Value Adjusted**	**Equity Index**	**Book Value**	**Market Value Adjusted**	**Equity Index**
1	2.0%	0.7%	0.6%	1.4%	0.6%	0.4%
2	3.2	2.0	2.2	2.7	1.5	2.1
3	3.5	1.9	2.8	3.1	1.8	2.5
4	3.7	6.8	4.6	3.1	5.0	4.3
5	4.6	3.8	5.9	4.5	4.1	6.7
6	12.0	25.2	11.7	14.1	26.3	11.5
7	6.0	19.3	5.1	6.2	22.3	4.5
8	7.3	24.7	73.2	7.7	27.4	79.3
9	5.3	17.0	--	4.3	19.5	--
10 or more	5.0	26.1	--	4.3	31.4	--
All contracts	**4.7%**	**11.2%**	**5.0%**	**4.2%**	**11.5%**	**4.5%**

Contract exposure: 1,850,224; cash value exposure: $73,236,320,303.

Removing EIAs, the remaining retail fixed products (i.e., book-value and MVA contracts) have an association with surrender charge period expiration that is similar to the association based on all fixed retail products (Table 28). However, the "shock lapse" rate during the year following surrender charge expiration is lower (see Table 24).

[16] When surrender rates were calculated for each company and then averaged, the EIA results in contract year 8 were essentially unchanged (80% of contracts surrendered, 84% of cash value surrendered). However, because these results were based on only four companies, they should be interpreted with caution.

Table 28 – Fixed Retail Products: Full Surrender Rates by Time Remaining In Surrender Charge Period, EIAs removed

Years remaining	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
3 or more	49.7%	50.5%	3.7%	3.2%
2	4.4	5.2	12.3	15.1
1	4.3	4.8	6.3	5.7
0	4.6	4.9	14.2	16.3
-1	6.4	7.3	6.1	5.1
-2	5.6	5.4	5.9	6.3
-3 or more	24.9	22.0	7.3	9.0
Total	**100.0%**	**100.0%**	**5.8%**	**6.2%**

Contract exposure: 1,240,688; cash value exposure: $48,240,557,618.

The surrender activity pattern for book-value and MVA products with 7-year surrender charge schedules strongly resembles the surrender activity pattern based on all fixed retail products (see Table 25), except that the "shock lapse" is shallower, making the jump in year 6 relatively more pronounced (Table 29).

Table 29 – Fixed Retail Products: Full Surrender Rates by Contract Year for Contracts With 7-Year Surrender Charge Schedule, EIAs Removed

Contract year	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
1	10.7%	11.7%	2.0%	1.8%
2	10.1	10.5	3.1	2.4
3	5.6	6.3	3.8	2.8
4	3.2	4.1	4.5	4.1
5	4.1	5.4	4.2	4.5
6	2.6	2.6	10.2	15.1
7	2.8	2.5	6.2	6.7
8	5.2	5.0	11.1	14.0
9	8.7	9.8	5.7	4.6
10	8.2	7.5	6.1	7.1
11 or more	38.8	34.6	7.7	9.9
Total	**100.0%**	**100.0%**	**6.0%**	**6.7%**

Contract exposure: 734,295; cash value exposure: $26,044,796,598.

DISTRIBUTION CHANNEL

Overall surrender rates for retail fixed annuities sold by career agents, independent agents, and banks were comparable (Table 30). Stockbroker-sold business had significantly worse persistency, with surrender rates exceeding 12 percent of cash value. This result is partly due to the relatively-high proportion of stockbroker-sold contracts that have exited their surrender charge periods; the share of fixed annuities sold through stockbroker channels has declined over the past 10 years.[17]

Table 30 – Fixed Retail Products: Full Surrender Rates by Distribution Channel

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
Career agent	37.7%	31.9%	4.4%	3.7%
Independent agent	14.8	18.8	5.9	5.3
Stockbroker*	6.3	9.4	11.4	12.2
Bank	36.2	36.5	5.0	4.7
Direct	4.2	2.0	--	--
Other	0.8	1.3	14.0	--
Total	**100%**	**100%**	**5.4%**	**5.4%**

Contract exposure: 2,368,650; cash value exposure: $89,274,728,574.

*Includes contracts sold through wirehouse and independent financial planner / broker-dealer channels

There were wide disparities in surrender activity across channel for contracts that had exited the surrender charge period (Table 31). While career agent-sold and bank-sold contracts had out-of-charge surrender rates that were 2 to 3 times the with-charge rate, independent agent-sold and stockbroker-sold contracts had out-of-charge surrender rates that were 4 to 10 times the with-charge rates. This pattern may reflect the commission structure on products – particularly EIAs – sold by independent agents, most of which have high first-year commissions and no trailed compensation.

[17] For example, in 1995 fixed annuity sales through stockbrokers were $4.9 billion (10 percent of all fixed sales). In 2004, stockbroker-sold fixed annuity sales were approximately $5.2 billion (less than 6 percent of all fixed sales).

Table 31 – Fixed Retail Products: Full Surrender Rates by Distribution Channel and Surrender Charge

	Percent of contracts	Percent of cash value	Contract surrender rate*	Cash value surrender rate*
With surrender charge				
Career agent	25.4%	21.0%	3.6%	2.5%
Independent agent	24.5	30.2	3.7	3.5
Stockbroker**	2.5	3.5	3.6	3.6
Bank	8.4	8.6	3.9	2.6
Out of surrender charge				
Career agent	32.8%	29.6%	10.6%	10.8%
Independent agent	1.9	1.8	38.9	43.3
Stockbroker**	2.7	3.5	17.7	18.3
Bank	1.8	1.7	13.3	16.2

Contract exposure: 1,207,768; cash value exposure: $48,610,262,209.

*Based on averaged surrender rates calculated for each company

**Includes contracts sold through wirehouse and independent financial planner / broker-dealer channels

INTEREST RATES

Interest Guarantee Periods

Upon expiration of the initial interest rate guarantee period (IGP), book-value fixed annuities are exposed to an elevated risk of surrender if current market rates exceed the renewal rate.[18] However, because surrender rates are usually tied to the number of years the contract has been in force, the impact of IGP expiration may be muted for recently-issued contracts. Contracts with IGPs that last for several years might have a greater chance of surrender due to lower surrender charges.

Across all contract years, contract surrender rates were higher for retail fixed annuities whose IGPs expired during the observation year than for retail fixed annuities still within their IGP (Table 32). As expected, there was a larger difference in surrender rates among contracts issued 4 or more years earlier.

[18] The risk can be further increased by the presence of window or bailout provisions. Contracts with these free full surrender provisions were removed from analysis for this section.

Table 32 – Fixed Retail Products: Full Surrender Rates by Year Interest Guarantee Period Expires

Contract Year	Year IGP Expires		Years Before IGP Expires	
	Contract surrender rate	Cash value surrender rate	Contract surrender rate	Cash value surrender rate
1	1.6%	0.5%	0.7%	0.6%
2	2.8	2.0	2.7	2.7
3	4.1	2.9	3.1	3.1
4	11.2	10.5	3.0	2.9
5	5.4	4.6	3.8	3.8
6 or more	7.5	5.7	4.1	5.4
All contracts	**6.3%**	**4.8%**	**3.2%**	**3.4%**

Contract exposure: 1,104,666; cash value exposure: $43,032,404,141.

Interest Rate Amounts

Controlling for the presence of surrender charges, lower credited interest rates were linked to poorer persistency among fixed retail annuities (Table 33). Contracts with interest rates below 3.5 percent had significantly higher surrender rates than contracts with higher interest rates. This relationship between interest rates and surrenders was particularly strong for business without surrender charges.

Table 33 – Fixed Retail Products: Surrender Rates by Interest Rate

Credited interest rate	Percent of contracts	Percent of cash value	Contract surrender rate: Full	Contract surrender rate: Partial	Cash value surrender rate: Full	Cash value surrender rate: Partial	Cash value surrender rate: Total
With surrender charge							
Up to 3.5%	22.4%	22.0%	2.5%	17.3%	2.5%	2.2%	4.7%
3.5% to 4.49%	24.4	22.4	2.2	16.2	1.5	2.5	4.0
4.50% or higher	16.7	21.4	1.4	20.6	1.0	2.2	3.2
Total	**63.5%**	**65.8%**	**2.1%**	**17.7%**	**1.7%**	**2.3%**	**4.0%**
Year surrender charge expired							
Up to 3.5%	1.8%	1.7%	19.3%	21.9%	22.6%	3.0%	25.6%
3.5% to 4.49%	2.5	2.6	9.8	19.4	10.3	2.7	13.0
4.50% or higher	0.2	0.3	16.5	26.0	13.6	3.4	17.0
Total	**4.5%**	**4.6%**	**13.9%**	**20.7%**	**15.1%**	**2.9%**	**18.0%**
One year or more after surrender charge expired							
Up to 3.5%	4.3%	4.0%	4.9%	31.9%	4.5%	5.7%	10.2%
3.5% to 4.49%	25.0	21.8	3.1	22.8	2.7	2.8	5.5
4.50% or higher	2.7	3.8	2.6	24.8	1.9	3.5	5.4
Total	**32.0%**	**29.6%**	**3.3%**	**24.2%**	**2.8%**	**3.3%**	**6.1%**

Contract exposure: 1,252,490; cash value exposure: $48,085,207,279.

In-Force vs. New Market Rates

As economic conditions change, fixed annuity owners may choose to surrender their contracts in response to other investment opportunities. To the extent that expected returns for new products are higher than interest rates offered within their annuity, the incentive to surrender increases.

The three years examined in this study were marked by major swings in the equities and bonds markets. During 2002, the Standard and Poor's (S & P) 500 Index fell by over 20 percent; by the end of 2004, the index had returned to early 2002 levels. Short-term interest rates fell in response to repeated cuts in the Federal Funds rate through 2003 by the Federal Reserve, which then began to raise rates in 2004. Longer-term interest rates also decreased during this time period. Because of the stock market volatility and dropping interest rates, fixed annuity owners generally did not have significant incentives to surrender.

Interest rates offered within newly-purchased fixed annuities were also relatively low and fell during the 2002 through 2004 time period (Table 34).

Table 34 – Market Conditions, 2002 through 2004, By Quarter

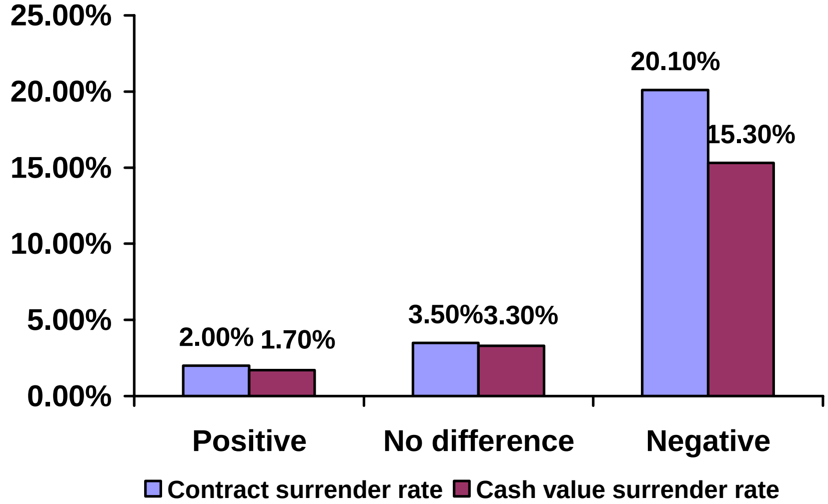
Quarter and Year	S&P 500 Index	10-Year Treasury	Market Interest Rates
1q2002	1,132	5.08	4.97%
2q2002	1,071	5.10	5.02
3q2002	895	4.26	4.61
4q2002	886	4.01	4.19
1q2003	861	3.92	3.95
2q2003	938	3.61	3.73
3q2003	1,000	4.23	3.80
4q2003	1,056	4.27	3.84
1q2004	1,133	3.99	3.52
2q2004	1,123	4.58	3.73
3q2004	1,104	4.29	3.51
4q2004	1,163	4.17	3.44

S&P 500 Index = average index value during quarter; 10-year Treasury = average yield during quarter; Market interest rates = Industry average rates on newly-issued annuities, from *U.S. Individual Annuities* quarterly surveys, 2002 through 2004, LIMRA International.

Though the difference between rates offered on in force contracts and new issues in 2004 was not large, even small discrepancies appeared to play a significant role in persistency results. When the difference was negative (i.e., market rates were higher than in-force rates) surrenders were much higher than when the difference was positive, or when no difference existed (Figure 6). However, such contracts represented less than one percent of all fixed retail business, most likely because market rates were at or near guaranteed minimum rates. Contracts with positive interest rate spreads were associated with slightly better persistency than contracts with zero spread.[19]

[19] Due to sampling limitations, it was not possible to calculate interest rate spreads net of surrender charges in effect.

Figure 6
Fixed Retail Products: Full Surrender Rates by Interest Rate Spread



Note: Interest rate spread = Credited rate – New market rates. Contract exposure: 1,528,180; cash value exposure: $55,233,277,343.

Interest rate spreads were larger in 2002 and 2003, and a greater proportion of contracts had negative spreads in 2003. As with 2004 experience, negative spreads were strongly related to lower persistency for both 2002 and 2003, while positive spreads were related to modestly better persistency (Table 35).

Table 35 – Fixed Retail Products: Full Surrender Rates by Interest Rate Spread, 2002 and 2003

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
2002				
Positive spread	4.8%	4.3%	1.1%	0.9%
No difference	81.5	76.9	2.0	1.8
Negative spread	13.7	18.8	4.7	4.7
Total	**100.0%**	**100.0%**	**2.0%**	**1.8%**
2003				
Positive spread	0.3%	0.2%	1.6%	1.2%
No difference	74.4	68.4	2.6	2.3
Negative spread	25.3	31.4	18.3	17.1
Total	**100.0%**	**100.0%**	**2.4%**	**2.0%**

2002 contract exposure: 919,508; 2002 cash value exposure: $30,844,766,022.
2003 contract exposure: 1,399,250; 2003 cash value exposure: $47,284,592,120.

Note: Interest rate spread = Credited rate – New market rates.

Bonuses

Bonuses, in the form of higher first-year interest rates[20], appear to help persistency. Products with bonuses had much lower surrender rates during the contract years that immediately preceded (and the year that coincided with) the expiration of surrender charges for most products (Table 36). Beyond this point, however, bonus-rate products had higher surrender rates than products without bonuses.

Table 36 – Fixed Retail Products: Full Surrender Rates by First-Year Bonus

	First-Year Bonus Rate		No Bonus	
Contract year	**Contract surrender rate**	**Cash value surrender rate**	**Contract surrender rate**	**Cash value surrender rate**
1	1.8%	1.2%	2.1%	1.0%
2	2.8	2.4	2.1	1.0
3	3.4	2.9	1.5	0.6
4	3.2	3.0	2.1	1.4
5	3.4	3.0	4.0	3.8
6	4.6	4.6	9.3	12.6
7	4.2	4.3	4.5	5.0
8	8.2	9.8	14.7	16.4
9	4.8	5.4	2.8	2.0
10 or more	3.9	4.1	3.8	3.4
Total	**3.7%**	**3.4%**	**3.9%**	**3.5%**

Contract exposure: 1,327,159; cash value exposure: $49,262,937,687.

Bonuses appear to be particularly helpful in improving persistency for fixed products with low credited interest rates (Table 37).

Table 37 – Fixed Retail Products: Full Surrender Rates by First-Year Bonus and Interest Rate

	First-Year Bonus Rate		No Bonus	
Credited Interest Rate	**Contract surrender rate**	**Cash value surrender rate**	**Contract surrender rate**	**Cash value surrender rate**
Up to 3.5%	4.6%	4.9%	9.7%	9.8%
3.5% to 4.49%	3.8	3.6	3.6	3.3
4.50% or higher	1.6	1.1	2.2	1.7
Total	**3.7%**	**3.4%**	**3.9%**	**3.5%**

Contract exposure: 1,327,159; cash value exposure: $49,262,937,687.

[20] With few exceptions, the initial bonus interest rate was an additional 1.0 percent.

OWNER CHARACTERISTICS

Age

In terms of overall full surrender rates, the attained age of the annuity owner did not have a strong relationship with persistency. The percent of contracts surrendered ranged from 4.7 (among owners aged 50 to 54) to 6.6 percent (among owners aged 85 or older) (Table 38). However, partial withdrawal activity was clearly associated with the owner's age, with sharply increased rates after age 60 and age 70.

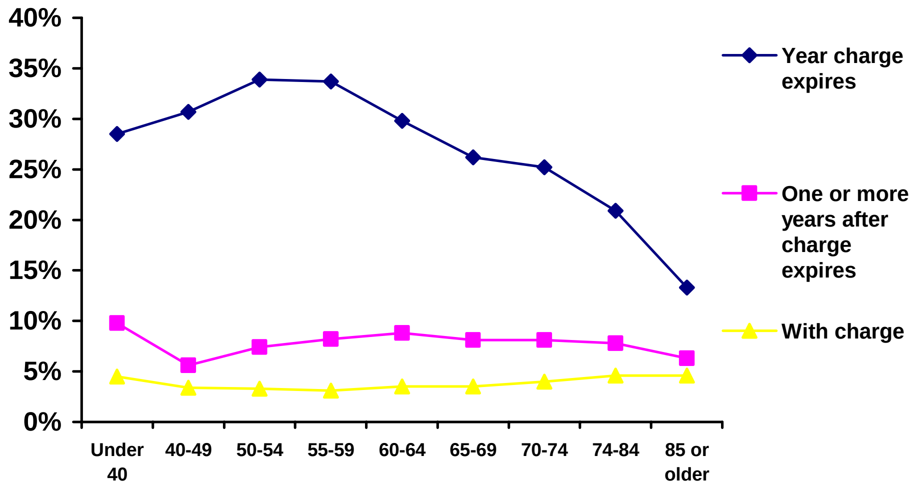
Table 38 – Fixed Retail Products: Surrender Rates by Age

			Contract surrender rate		Cash value surrender rate		
Owner age	**Percent of contracts**	**Percent of cash value**	**Full**	**Partial**	**Full**	**Partial**	**Total**
Under 40	4.9%	1.3%	5.8%	3.9%	6.3%	2.6%	8.9%
40-49	9.0	4.1	4.8	4.5	4.5	2.3	6.8
50-54	7.4	4.7	4.7	5.0	5.0	2.0	7.0
55-59	9.3	7.6	4.9	6.0	5.0	1.9	6.9
60-64	10.6	10.8	5.8	12.0	5.5	2.6	8.1
65-69	11.8	13.6	5.8	16.3	5.6	2.5	8.1
70-74	13.3	16.1	6.2	34.7	6.3	2.9	9.2
75-84	24.9	29.9	6.3	31.2	6.5	2.6	9.1
85 or older	8.7	1.3	6.6	23.8	5.8	2.4	8.2
Total	**100.0%**	**100.0%**	**5.8%**	**19.8%**	**5.9%**	**2.5%**	**8.4%**

Contract exposure: 1,616,449; cash value exposure: $62,677,769,486.

For contracts still in the charge period, or those that have exited the charge period one or more years earlier, age of owner appears to have little impact on surrender rates. It is only among contracts for which surrender charges have recently expired that any age differences are shown: owners in their 50s are significantly more likely than older owners to surrender their contracts upon charge expiration (Figure 7).

Figure 7
Fixed Retail Products: Full Cash Value Surrender Rates by Surrender Charge and Age

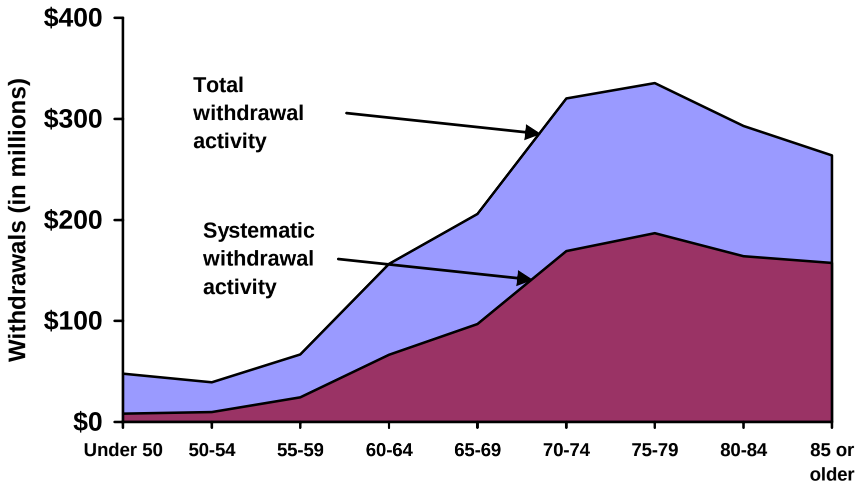


Systematic withdrawal activity

Partial withdrawals become more frequent with age, and have become more frequent over the past several years (see Tables 2a through 2c). To what extent do these partial withdrawals reflect systematic programs?

Across all ages, about 74 percent of contracts with any partial withdrawal activity had at least some systematic withdrawal activity. As a percentage of all money withdrawn, systematic withdrawals increase steadily with age, growing from less than 20 percent among people under age 50 to 60 percent among people aged 85 or older (Figure 8).

Figure 8
Fixed Retail Products: Partial and Systematic Withdrawal Activity by Age



Figures based on 379,859 contracts in which partial and systematic withdrawal information was available.

Gender

Compared to men, women who owned fixed retail annuities had slightly higher surrender rates (5.8 percent vs. 5.5 percent, respectively). Almost of all of the gender difference occurs in the year that surrender charges expire (Table 39).

Table 39 – Fixed Retail Products: Full Surrender Rates by Gender and Surrender Charge

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With surrender charge				
Men	29.8%	32.9%	4.2%	3.9%
Women	35.8	35.2	4.2	4.0
Total	**65.6%**	**68.1%**	**4.2%**	**3.9%**
Year surrender charge expired				
Men	1.7%	1.9%	17.4%	20.8%
Women	2.5	2.5	22.8	25.1
Total	**4.2%**	**4.4%**	**20.6%**	**23.3%**
One year or more after surrender charge expired				
Men	13.3%	12.6%	6.9%	8.1%
Women	16.9	14.9	6.8	7.4
Total	**30.2%**	**27.5%**	**6.9%**	**7.7%**

Contract exposure: 1,537,909; cash value exposure: $61,453,848,133.

COMPENSATION

Commission Amounts

As with retail VAs, there was a positive relationship between first-year commission amounts and persistency, but this association was not observed across all commission levels or contract years. Fixed annuities paying commissions above 7.5 percent of premium tended to have the highest surrender rates (Table 40). Also, for contracts out of the surrender penalty period, surrender rates and commission amounts were directly related.

Table 40 – Fixed Retail Products: Full Surrender Rates by First-Year Commission Amount and Presence of Surrender Charge

Amount of first-year commission	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With surrender charge				
3.5% or less	23.7%	24.7%	4.8%	4.4%
>3.5 to 5.5%	18.6	13.6	3.3	2.3
>5.5 to 7.5%	17.5	19.5	3.1	2.6
Over 7.5%	25.0	30.0	5.7	5.8
Without surrender charge				
3.5% or less	4.4%	3.3%	11.5%	15.3%
>3.5 to 5.5%	8.1	6.6	6.9	6.9
>5.5 to 7.5%	0.7	0.6	21.2	22.2
Over 7.5%	1.9	1.6	34.7	43.4
All contracts*				
3.5% or less	27.9%	27.9%	5.8%	5.7%
>3.5 to 5.5%	27.1	20.3	4.5	3.9
>5.5 to 7.5%	18.1	20.1	3.8	3.2
Over 7.5%	26.9	31.7	7.7	7.7
Total	**100.0%**	**100.0%**	**5.6%**	**5.4%**

*Includes contracts for which the presence of surrender charges could not be established.

Contract exposure: 852,320; cash value exposure: $34,720,803,866.

Less than 10 percent of retail fixed annuities paid additional commissions (either premium- or asset-based) after the first contract year. These contracts had markedly lower surrender rates than contracts without additional commissions (Table 41). Persistency was superior among contracts in their 2nd through 7th contract years, as well as among contracts in their 8th or later years.

Table 41 – Fixed Retail Products: Full Surrender Rates by Presence of Commission

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
Contract years 2 through 7				
Commission paid	8.5%	6.4%	1.8%	0.5%
No commission paid	65.4	73.7	4.8	4.5
Total	73.9%	80.1%	4.4%	4.2
Contract years 8 or more				
Commission paid	1.9%	1.5%	4.9%	3.9%
No commission paid	24.2	18.4	10.4	12.5
Total	26.1%	19.9%	10.0%	11.8%

Contract exposure: 751,340; cash value exposure: $32,186,892,390.

Producer Persistency Bonuses and Chargebacks

The presence of a persistency bonus on certain products was not clearly associated with decreased surrender activity. In their third or later contract years, annuities with persistency bonuses did have lower contract and cash value surrender rates than those without bonuses, but the difference was very small (0.3 percentage points) (Table 42).

Table 42 – Fixed Retail Products: Full Surrender Rates by Persistency Bonus

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With persistency bonus				
First year	1.2%	1.4%	0.8%	0.7%
Second year	2.5	2.8	3.5	3.3
Third or later	7.4	6.8	6.3	6.5
Total	**11.1%**	**11.0%**	**5.1%**	**4.9%**
Without persistency bonus				
First year	9.1%	10.3%	1.5%	0.9%
Second year	14.1	15.8	2.7	2.3
Third or later	65.7	62.9	6.6	6.8
Total	**88.9%**	**89.0%**	**5.5%**	**5.3%**

Contract exposure: 1,477,729; cash value exposure: $56,430,571,139.

Most fixed retail contracts had first-year commission chargebacks provisions. In both their first year and in later contract years, these had lower surrender rates than contracts without commission chargebacks (Table 43).

Table 43 – Fixed Retail Products: Full Surrender Rates by First-Year Commission Chargeback

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With commission chargeback				
First year	12.1%	13.3%	1.4%	0.9%
Second year	18.8	20.5	2.9	2.4
Third or later	52.6	50.7	6.8	7.0
Total	**83.5%**	**84.5%**	**5.2%**	**4.9%**
Without commission chargeback				
First year	0.3%	0.4%	2.0%	1.3%
Second year	0.9	1.1	3.5	3.8
Third or later	15.3	14.0	9.8	9.9
Total	**16.5%**	**15.5%**	**9.3%**	**9.2%**

Contract exposure: 1,151,722; cash value exposure: $46,072,906,692.

CASH FLOWS

As with retail VAs, retail fixed annuities are generally purchased with a single payment, usually a transfer from another financial product. However, owners of fixed annuities were more likely than owners of VAs to add premium after the first year. More than one quarter of retail fixed annuities that funded IRAs (and were sold in 2003 or earlier) received additional premium in 2003 and 2004 (Table 44). After removing owners aged 70 or older, the proportion of IRA annuities with additional premiums rose to almost one third. Cash flows into nonqualified annuities in their second or later contract years were less common.

Table 44 – Fixed Retail Annuities: Percent of Contracts With Premiums in Both the Current (2004) and Prior (2003) Year

Contract year	IRA, All ages	IRA, Age 70 or older removed	Nonqualified	All
2	28.3%	32.5%	14.2%	20.6%
3	18.9	23.4	5.7	11.5
4	25.0	30.5	6.6	14.6
5	28.3	35.0	5.7	15.3
6	26.0	31.3	5.8	13.8
7	40.8	45.6	6.7	25.1
8	59.8	66.6	7.4	35.1
9	71.2	75.6	9.2	49.5
10	44.0	49.9	9.7	28.1
11	34.6	43.3	9.6	21.7
12	25.1	33.1	10.2	16.9
13	18.8	25.2	9.6	13.4
14	20.7	25.5	11.0	15.4
15 or more	17.7	20.9	12.1	16.2
All years	**26.5%**	**32.0%**	**9.4%**	**18.7%**
Number of contracts	**396,618**	**316,746**	**337,420**	**734,038**

Based on contracts sold in 2003 or earlier.

Among contracts that had premiums in the current and previous years, current premiums tended to be slightly smaller than prior-year premiums, especially for nonqualified contracts (Table 45). For IRA annuities in their fourth or later contract years, current and prior year premiums were nearly identical.

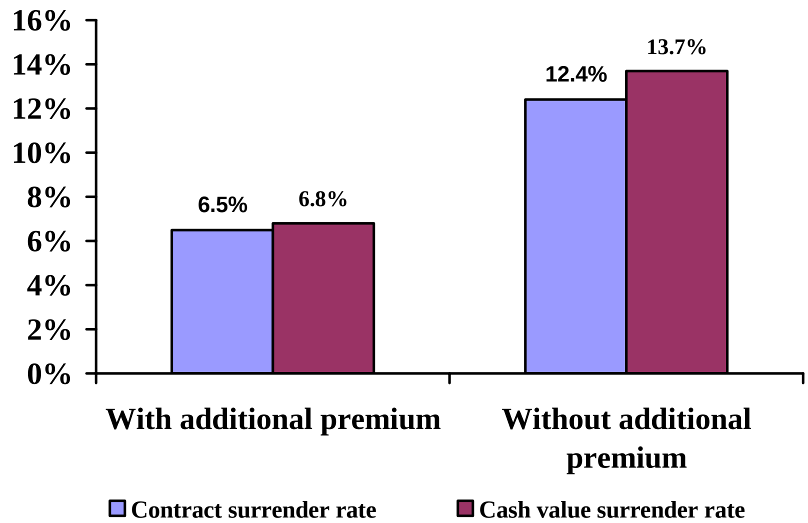
Table 45 – Fixed Retail Annuities: Ratio of Current Premium to Prior Year's Premium by Plan Type

For Contracts With Premiums in Both Years

Contract year	IRA	Nonqualified	All
2	0.56	0.76	0.69
3	0.80	0.89	0.85
4	0.98	1.00	0.99
5	0.97	0.82	0.90
6	1.00	0.95	0.98
7	1.00	0.99	0.99
8	1.00	0.90	0.98
9	0.99	0.87	0.97
10	1.00	0.85	0.95
11	1.00	0.87	0.93
12	1.04	0.91	0.96
13	0.98	0.88	0.91
14	1.03	1.01	1.02
15 or more	1.01	0.88	0.98
All years	**0.88**	**0.84**	**0.86**
Number of contracts	**105,229**	**31,729**	**136,598**

As was found for variable products, retail fixed annuities with additional cash inflows after the contract's first year had lower surrender rates than retail fixed annuities without additional cash inflows. Contract (cash value) surrender rates were 4.9 (5.5) percent for contracts that had additional premium since the first year, compared to 6.0 (5.9) percent for contracts that had no additional premiums. The difference in persistency was more apparent when contracts in their 8th or later years (which tend to have no surrender penalties) were examined (Figure 9).

Figure 9
Fixed Retail Products: Full Cash Value Surrender Rates by Additional Premium
Contracts in Their 8th or Later Contract Years



Based on contracts in their 8th or later contract years. Contract exposure: 11,900 with additional premium; 23,492 without additional premium. Cash value exposure: $312,931,292 with additional premium; $574,820,860 without additional premium.

For contracts with surrender charges based on years since deposit, additional premiums would extend the surrender penalty period. If so, then the impact of additional premiums on surrender rates should be more apparent for contracts with surrender charges based on years since deposit than for contracts with surrender charges based on years since issue. Based on unweighted surrender rates, there was a larger additional premium effect for contracts with deposit-based than issue-based surrender charges, though the effect was only present for contract surrender rates (Table 46).

Table 46 – Fixed Retail Products: Full Contract Surrender Rates
by Additional Premium and Surrender Charge Basis

	With Additional Premium		Without Additional Premium	
Surrender charge basis	**Contract surrender rate**	**Cash value surrender rate**	**Contract surrender rate**	**Cash value surrender rate**
Years since deposit	4.2%	3.4%	7.7%	3.8%
Years since issue	2.9	2.2	3.3	2.7
Total	**3.3%**	**2.4%**	**4.9%**	**3.3%**

Contract exposure: 371,135; cash value exposure: $12,767,772,391. Figures based on unweighted surrender rates.

Average contributions

Initial contributions to nonqualified fixed annuities or fixed annuities within IRAs averaged almost $43,000 (Table 47). During the next several contract years, average premiums fell sharply, but beginning in year 6 the average premium rose, peaking in year 8 for IRAs and year 13 for nonqualified. It is unclear why cash flows should take on this pattern; however, the larger premiums could coincide with rollovers from employer-sponsored retirement plans. Compared to all IRA owners, the average premium size was slightly lower among IRA owners under age 70.

Table 47 – Fixed Retail Annuities: Average Total Annual Contributions by Contract Year*

Contract year	IRA, All ages	IRA, Age 70 or older removed	Nonqualified	All
1	$ 34,258	$30,814	$48,988	$42,801
2	1,407	1,455	2,864	2,199
3	781	857	1,618	1,253
4	669	778	952	829
5	610	743	520	559
6	734	863	588	647
7	1,111	1,226	613	878
8	1,613	1,797	659	1,154
9	1,377	1,497	820	1,162
10	1,033	1,176	820	934
11	1,110	1,297	1,467	1,294
12	1,049	1,210	1,871	1,494
13	966	1,066	2,184	1,659
14	1,064	1,190	1,817	1,466
15 or more	886	942	1,401	1,010
All years	**$4,077**	**$3,905**	**$8,515**	**$6,144**
Number of contracts	**540,853**	**427,339**	**471,077**	**1,011,930**

* Premiums greater than $5 million were removed from calculations.

EMPLOYER-SPONSORED PLAN MARKETS

Variable and fixed products sold within employer-sponsored plan markets, such as 403(b), 401(k), 457, SEP-IRAs, or Keogh plans, represented 24 percent of the variable contracts and 15 percent of the VA assets in the study. Fixed annuities within employer-sponsored plans represent a small market segment, with only 11 percent of the fixed contracts and 9 percent of the fixed assets.

Surrender activity among annuities within employer-sponsored plans showed little change during the years 2002 through 2004. Around 85 percent of contracts, including those issued during the year, remained in force and experienced no withdrawal activity (Table 48). Full surrenders remained within a tight range, as did terminations due to annuitizations, death, or disability. The only activity that changed during this time period were partial withdrawals, which (like fixed and variable annuities sold in retail markets) increased in prevalence each year.

Table 48 – Employer-Sponsored Plan Annuities: Contract Activity By Year, 2002 through 2004

	2002	2003	2004
Full surrender	6.7%	6.8%	6.4%
Partial withdrawal	7.2	7.9	9.0
Annuitization	0.1	0.1	0.1
Death	0.3	0.3	0.3
No activity	85.7	84.9	84.2
Total	**100.0%**	**100.0%**	**100.0%**
Number of contracts	**1,769,252**	**1,853,903**	**1,879,965**

Based on a constant group of 21 companies.

Except for analyses of multi-year trends, the remainder of this chapter will report surrender rates for calendar year 2004, representing up to 2.4 million individual annuity contracts within employer-sponsored plans.[21]

PRODUCT TYPE

Employer-sponsored markets are dominated by variable annuity products. For 2004 observations, 84 percent of contracts and 86 percent of assets were variable annuities.

[21] Based on 23 companies.

One reason for the preponderance of VAs lies in the characteristics of the participants in employer-sponsored retirement plans: more than any other segment of the individual annuity market, younger people make up a sizeable share. Investment products with the potential for significant long-term growth, such as stocks, mutual funds, or variable annuities, tend to be favored over products that are more suited for more conservative investors who prefer guarantees over upside potential.

Variable products tended to have higher surrender rates than fixed products (Table 49). This difference could result from the same factors cited in earlier chapters that favored fixed annuity persistency, such as low market interest rates during 2004. It may also reflect higher employee turnover at employers who fund their retirement plans with VAs.

Table 49 – Employer-Sponsored Plan Annuities: Full Surrender Rates by Product Type

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
Variable	83.9%	85.7%	6.9%	6.6%
Fixed	16.1	14.3	4.8	4.5
Total	**100.0%**	**100.0%**	**6.6%**	**6.3%**

Contract exposure: 2,244,776; cash value exposure: $72,303,983,634.

MARKET TYPE

The employer-sponsored individual annuity market consists of several types of retirement plans.[22] SEP-IRAs and Keoghs tend to be established for self-employed individuals or small business owners. Educational, not-for-profit, and health care organizations predominate the 403(b) and 457 plan markets, while private businesses make up the bulk of 401(k) plans.

Variable annuities within 403(b) plans constitute the largest segment (over 53 percent) of the employer-sponsored plan market. Surrender rates for contracts within 403(b) plans were comparable to those within SEP-IRAs and other types of qualified plans (including 457 plans) (Table 50). Keogh and 401(k) plans had higher surrender rates, particularly for variable annuities.

[22] In some cases, employer-sponsored plans are funded with group annuities. If participants in these plans received personalized marketing efforts, individual certificates, and can perform activities associated with individual ownership, then their accounts were considered to be individual annuities for the purposes of this study (and for other LIMRA annuity research).

Table 50 – Employer-Sponsored Plan Annuities: Full Surrender Rates by Product Type and Market Type

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
Variable				
403(b)	53.7%	46.9%	7.0%	7.6%
SEP-IRA	6.5	5.6	6.8	6.3
401(k)	1.6	1.8	18.6	12.8
Keogh	0.4	0.6	10.8	10.6
Other (including 457)	21.7	30.7	5.9	4.7
Total	**83.9%**	**85.7%**	**6.9%**	**6.6%**
Fixed				
403(b)	8.9%	5.6%	4.7%	4.9%
SEP-IRA	1.1	0.7	5.8	5.2
401(k)	1.7	1.4	7.1	7.8
Keogh	0.2	0.2	6.3	7.0
Other (including 457)	4.2	6.5	3.8	3.2
Total	**16.1%**	**14.3%**	**4.8%**	**4.5%**
All contracts				
403(b)	62.6%	52.5%	6.6%	7.4%
SEP-IRA	7.6	6.3	6.6	6.2
401(k)	3.3	3.2	12.6	10.7
Keogh	0.6	0.8	9.6	9.8
Other (including 457)	25.9	37.2	5.5	4.5
Total	**100.0%**	**100.0%**	**6.6%**	**6.3%**

Contract exposure: 2,244,776; cash value exposure: $72,303,983,634.

SURRENDER CHARGE

Compared to surrender patterns of annuities sold in retail markets, surrender patterns of annuities in employer-sponsored plan markets show less association with surrender charges. Plan participants cannot withdraw their money unless they have separated from their employer or qualify for special exceptions (such as the purchase of a home), so the expiration of surrender penalties by itself during employment may have little impact on persistency. On the other hand, it may be disadvantageous for a plan participant who has separated from his or her employer to withdraw money before surrender charges expire.

The contract surrender rate for annuities that had exited the surrender penalty period during the previous 12 months was about twice that of contracts still in the penalty period (Table 51). Contracts in later years had contract and cash value surrender rates of 7.8 percent.

Table 51 – Employer-Sponsored Plan Annuities: Full Surrender Rates by Surrender Charge Expiration

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With surrender charge	77.6%	70.4%	6.3%	5.3%
Year surrender charge expired	4.0	4.0	13.0	15.6
One year or more after surrender charge expired	18.4	25.6	7.8	7.8
Total	**100.0%**	**100.0%**	**6.8%**	**6.3%**

Contract exposure: 1,596,760; cash value exposure: $50,289,682,876.

The relative impact of surrender charges versus the number of years the contract has been in force is shown in Table 52. Although surrender rates are higher for contracts without charges, surrender activity is spread across several contract years and less concentrated in one or two contract years than is the case for retail products.

Table 52 – Employer-Sponsored Plan Annuities: Full Surrender Rates by Surrender Charge and Years Since Issue

	With surrender charge		Without surrender charge	
Contract year	Contract surrender rate	Cash value surrender rate	Contract surrender rate	Cash value surrender rate
1	2.6%	1.2%	-	-
2	4.7	1.7	-	-
3	5.3	2.6	-	-
4	5.9	3.5	-	-
5	5.8	4.3	-	-
6	11.4	12.2	-	-
7	6.7	6.9	-	17.6%
8	7.0	7.0	11.8%	15.2
9	7.0	7.0	12.2	13.9
10	6.1	6.6	9.1	9.2
11	5.8	6.6	10.8	12.1
12 or more	7.1	13.2	7.8	7.5
Total	**6.3%**	**5.3%**	**8.7%**	**8.8%**

- Insufficient company representation and/or number of contracts. With charge contract exposure: 1,239,794; cash value exposure: $35,396,536,929. Without charge contract exposure: 356,994; cash value exposure: $14,894,166,144.

The presence of surrender charges is more strongly associated with surrender activity in certain employer-sponsored plans (Table 53). SEP-IRAs, 457 and other plans had relatively large differences in surrender rates between contracts with and without charges, while Keogh and 403(b) plans had relatively small differences.

Table 53 – Employer-Sponsored Plan Annuities: Full Surrender Rates by Surrender Charge and Market Type

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With surrender charge				
403(b)	46.5%	33.7%	6.6%	7.0%
SEP-IRA	6.2	5.1	5.5	3.8
401(k)	3.9	3.5	11.7	8.7
Keogh	0.4	0.4	8.4	6.1
Other (including 457)	20.6	27.7	4.7	3.1
Total	**77.6%**	**70.4%**	**6.3%**	**5.3%**
Without surrender charge				
403(b)	17.0	22.9%	8.3%	8.2%
SEP-IRA	1.9	1.8	9.1	9.8
401(k)	0.3	0.4	18.4	21.6
Keogh	0.2	0.4	10.8	9.8
Other (including 457)	2.9	4.1	10.1	10.6
Total	**22.4%**	**29.6%**	**8.7%**	**8.8%**

Contract exposure: 1,596,789; cash value exposure: $50,290,703,073.

Surrender rates for variable products were higher than rates for fixed products, regardless of the presence of surrender charges (Table 54). Interestingly, the ratio between surrender rates for business with charges and surrender rates for business without charges was almost identical for fixed and variable products.

Table 54 – Employer-Sponsored Plan Annuities: Full Surrender Rates by Surrender Charge and Product Type

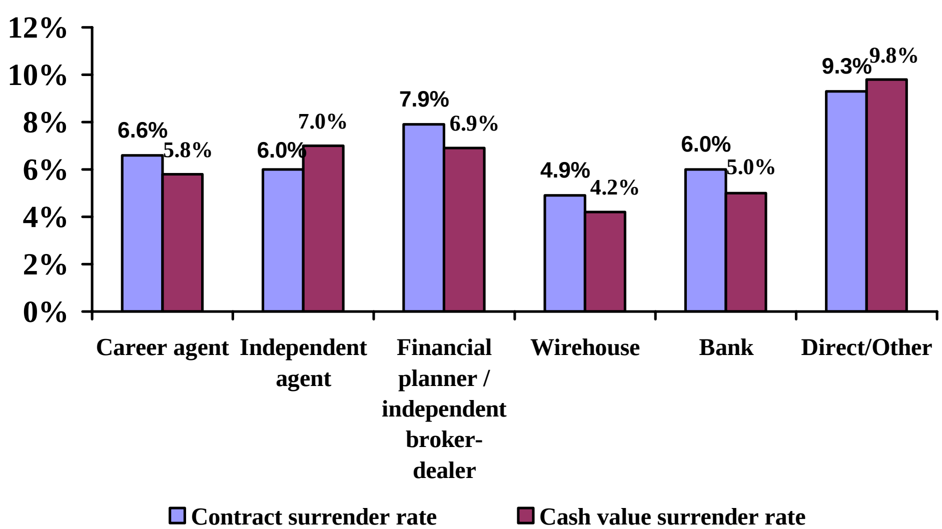
	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With surrender charge				
Variable	71.0%	63.3%	6.4%	5.5%
Fixed	6.7%	7.1%	4.8	3.6
Total	**77.7%**	**70.4%**	**6.3%**	**5.3%**
Without surrender charge				
Variable	16.3%	23.4%	9.5%	9.5%
Fixed	6.0	6.2	6.6	6.4
Total	**22.3%**	**29.6%**	**8.7%**	**8.8%**

Contract exposure: 1,596,788; cash value exposure: $50,290,703,073.

DISTRIBUTION CHANNEL

Within retail markets, the type of salesperson involved in the initial sale of the annuity is highly predictive of persistency after surrender charges expire. Within employer-sponsored markets, distribution channel and surrender patterns are associated, but the relationship is more difficult to measure because of uneven representation of out-of-charge contracts across channels (Figure 10).

Figure 10
Employer-Sponsored Plan Annuities: Full Surrender Rates by Distribution Channel



Contract exposure: 1,811,346; cash value exposure: $ 60,859,317,080.

There was virtually no difference between variable and fixed products in surrender patterns by channel (Table 55). For both product types, persistency was better for career agents than for independent agents and/or financial planner and independent broker-dealer channels.

Table 55 – Employer-Sponsored Plan Annuities: Full Surrender Rates by Distribution Channel and Product Type

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
Variable				
Career agent	51.9%	44.6%	6.8%	6.2%
Financial planner and independent broker-dealer*	23.8	26.5	8.2	7.2
Wirehouse	6.6	11.9	5.2	4.4
Bank	2.1	2.6	6.7	5.6
Direct / Other	0.1	0.1	--	--
Fixed				
Career agent	7.3%	7.5%	4.7%	3.6%
Independent agent	4.0	2.4	4.9	5.7
Financial planner and independent broker-dealer	1.6	1.5	5.8	4.5
Wirehouse	0.7	1.3	--	--
Bank	1.1	1.0	4.7	3.6
Direct / Other	0.8	0.6	--	--

Contract exposure: 1,811,346; cash value exposure: $ 60,859,317,080.

*Includes contracts sold through independent agent channels

-- Insufficient sample for analysis

Among contracts whose surrender charges have expired, annuities sold through wirehouse or financial planner and independent broker-dealer channels had the highest surrender rates (Table 56). However, the increase in surrender rates after surrender charge expiration was relatively higher for career agent-sold business than for financial planner-sold or bank-sold business.

Table 56 – Employer-Sponsored Plan Annuities: Full Surrender Rates by Distribution Channel and Surrender Charge

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
With surrender charge				
Career agent	48.5%	38.6%	5.4%	3.4%
Financial planner and independent broker-dealer*	18.2	16.4	7.3	5.7
Wirehouse	4.9	8.7	3.8	2.5
Bank	2.0	2.5	5.7	4.0
Without surrender charge				
Career agent	19.6%	25.1%	8.3%	8.2%
Financial planner and independent broker-dealer	5.8	16.4	10.2	10.3
Wirehouse	0.6	8.7	12.5	14.5
Bank	0.3	2.5	7.8	7.0

Contract exposure: 1,305,843; cash value exposure: $42,361,300,618.

*Includes contracts sold through independent agent channels

NUMBER OF FUNDS

Research on 401(k) participant behavior has suggested that rates of participation and the number of fund choices are inversely related; more choices lead to lower participation rates.[23] Does this relationship between the number of fund choices and *participation* in retirement plans relate to *persistency* within retirement plans?

Among 403(b) plans, 401(k) plans, and SEP-IRAs, a higher number of funds was associated with (marginally) higher surrender rates (Table 57). These findings support the theory that an overabundance of funds may lead to greater dissatisfaction.

[23] Sheena S. Iyengar, Wei Jiang, and Gur Huberman. "How Much Choice is Too Much?: Contributions to 401(k) Retirement Plans." Pension Research Council Working Paper (PRC WP 2003-10), The Wharton School, University of Pennsylvania, 2003.

Table 57 – Employer-Sponsored Plan Annuities: Full Surrender Rates by Number of VA Funds and Market Type

	Percent of contracts	Percent of cash value	Contract surrender rate	Cash value surrender rate
Up to 35 funds				
403(b)	22.6%	20.7%	6.6%	7.0%
SEP-IRA	3.9	3.6	7.3	6.9
401(k)	0.7	1.0	17.1	12.4
Keogh	0.4	0.6	11.7	11.3
Other (including 457)	6.6	5.5	9.4	9.9
Total	**34.2%**	**31.4%**	**7.5%**	**7.8%**
More than 35 funds				
403(b)	36.2%	28.5%	7.4%	7.3%
SEP-IRA	2.7	2.2	8.6	7.0
401(k)	1.6	1.3	19.9	15.3
Keogh	0.2	0.2	9.0	7.6
Other (including 457)	25.1	36.4	4.7	3.5
Total	**65.8%**	**68.6%**	**6.7%**	**5.4%**

Contract exposure: 1,596,789; cash value exposure: $50,290,703,073.

In contrast, within Keoghs, 457 and other qualified plans, persistency was better when more than 35 funds were available. The differences across market type may be indicative of differing levels of sophistication among plan participants. Among retail VAs, surrender rates were lower when more funds were available; it may be the case that retail VA owners and those who purchase VAs within Keoghs and other types of plans are less likely to be overwhelmed by greater fund selection.

OWNER CHARACTERISTICS

Age

Surrender rates vary with the attained age of the contract owner in a non-linear fashion; full surrender rates gradually decrease with age until the mid to late 50s, after which they rise slightly, then fall slightly (Table 58). This complex pattern reflects rollover activity during job change and retirement, as well as the expiration of tax penalties on withdrawals from qualified plans before age 59½. Partial withdrawal activity increases sharply at age 70, as owners meet mandatory distribution requirements.

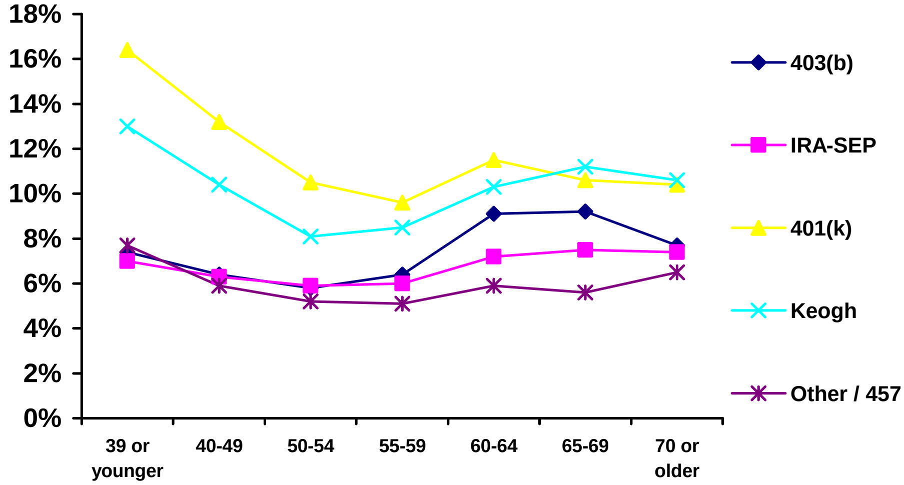
Table 58 – Employer-Sponsored Plan Annuities: Surrender Rates by Age

			Contract surrender rate		Cash value surrender rate		
Owner age	**Percent of contracts**	**Percent of cash value**	**Full**	**Partial**	**Full**	**Partial**	**Total**
Under 40	18.0%	5.6%	7.9%	2.6%	8.3%	2.8%	11.1%
40-49	25.7	16.3	6.6	2.8	7.0	1.2	8.2
50-54	17.0	16.6	5.9	3.2	6.2	1.3	7.5
55-59	16.6	21.4	6.2	4.3	6.1	1.6	7.7
60-64	10.9	17.3	8.3	8.8	7.1	2.3	9.4
65-69	6.0	11.1	8.1	12.0	7.2	2.3	9.5
70-74	3.2	6.6	7.7	43.5	6.7	3.3	10.0
75-84	2.4	4.6	6.0	49.1	6.0	3.8	9.8
85 or older	0.3	0.4	6.8	36.5	5.9	4.2	10.1
Total	**100.0%**	**100.0%**	**6.9%**	**7.4%**	**6.7%**	**2.0%**	**8.7%**

Contract exposure: 1,857,064; cash value exposure: $57,907,626,762.

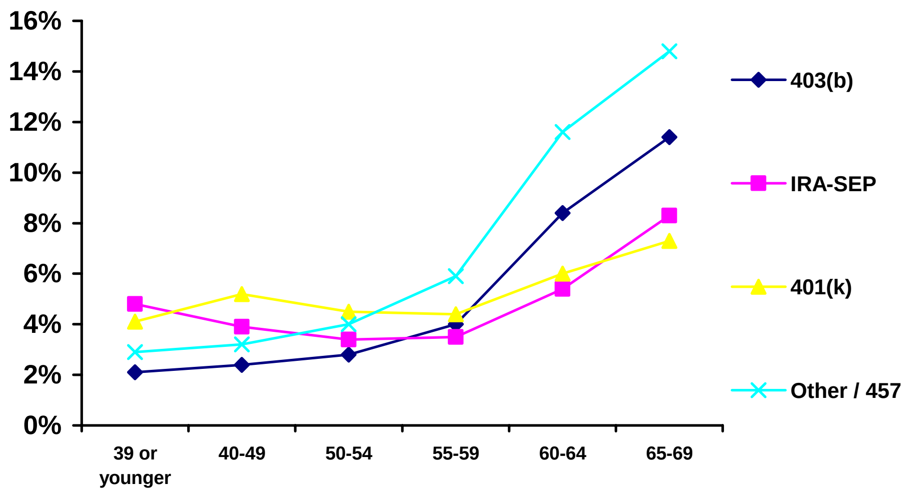
Separating the results by market type reveals that 401(k) and Keogh plans have higher full surrender rates across all ages, though the difference decreases for owners aged 60 and older (Figure 11A). However, partial withdrawals are slightly more likely among 403(b) or “other plan” owners in their 60s than among 401(k) owners (Figure 11b).

Figure 11A
Employer-Sponsored Plan Annuities: Full Contract Surrender Rates by Age and Market Type



Contract exposure: 403(b), 1,213,093; SEP-IRA, 158,652; 401(k), 72,356; Keogh, 10,788; Other / 457, 402,176.

Figure 11B
Employer-Sponsored Plan Annuities: Partial Contract Surrender Rates by Age and Market Type



Note: Keogh plan results not shown due to insufficient sample size. For visual clarity, the following partial contract surrender rates for owners aged 70 or older are not displayed in the figure: 403(b), 51%; IRA-SEP, 51%; 401(k), 45%; and Other/457, 36%.

Gender

Unlike retail annuities, women are much more likely to be the owners of annuity contracts within employer-sponsored plans. The predominance of female employees within educational and health care organizations is reflected in their disproportionate representation within the 403(b) market, which is the largest market segment within employer-sponsored plans funded by individual annuities.

Across all plan types, men were slightly more likely to surrender their contracts than women (7.2 percent versus 6.8 percent, respectively). The widest disparity in surrender activity occurred among 401(k) plans, in which 14.6 percent of contracts owned by men and 10.9 percent of contracts owned by women were surrendered. IRA-SEPs had almost no gender difference in contract surrender rates (6.5 percent for men vs. 6.6 percent for women).

CASH FLOWS

Within their first five years, ongoing premium contributions are the norm for annuities in employer-sponsored plans (Table 59). After year 5, the proportion of contracts with premiums in two consecutive years begins to drop, eventually reaching 25 percent. Perhaps because of longer tenures at employers offering 403(b)s, these plans had higher rates of cash flow than other plan types.

Table 59 – Employer-Sponsored Plan Annuities: Percent of Contracts With Premiums in Both the Current (2004) and Prior (2003) Year

Contract year	403(b)	Other qualified	All
2	74.8%	39.8%	51.6%
3	54.3	58.9	56.3
4	54.8	61.9	57.2
5	51.6	56.9	53.6
6	49.9	43.5	47.9
7	47.5	35.3	44.1
8	45.5	33.1	42.5
9	42.0	29.4	38.5
10	38.5	27.5	35.7
11	36.4	23.0	33.0
12	34.4	25.4	32.0
13	30.6	21.3	28.5
14	30.0	18.6	27.3
15 or more	25.0	17.1	23.5
All years	**42.6%**	**39.2%**	**41.5%**
Number of contracts	**818,693**	**399,214**	**1,217,907**

Based on contracts sold in 2003 or earlier.

Among 403(b) contracts with premiums in 2004 and 2003, the 2004 premium amount usually represented a slight increase over the previous year for most contract years (Table 60). This pattern can be understood in terms of plan participants who are contributing through payroll deductions; assuming that their deferral rates remain constant, the increases would represent annual salary increases. Current-to-prior year changes are more sporadic among other qualified retirement plans, but tend to be around 100 percent of prior-year contributions.

Table 60 – Employer-Sponsored Plan Annuities: Ratio of Current Premium to Prior Year's Premium by Plan Type

For Contracts With Premiums in Both Years

Contract year	403(b)	Other qualified	All
2	0.59	0.45	0.49
3	0.95	0.98	0.97
4	0.99	0.97	0.98
5	1.01	1.03	1.02
6	1.02	1.02	1.02
7	1.01	0.98	1.00
8	1.01	0.98	1.00
9	1.01	1.00	1.01
10	1.03	0.99	1.02
11	1.07	1.00	1.05
12	1.01	1.10	1.03
13	1.03	0.99	1.02
14	1.04	1.04	1.04
15 or more	1.04	0.92	1.01
All years	**0.94**	**0.70**	**0.82**
Number of contracts	**349,035**	**156,419**	**505,454**

Average contributions

Initial contributions to annuities within retirement plans averaged almost $29,000 in 2004 (Table 61). For non-403(b) plans, average first-year contributions were much higher than those of 403(b) plans. This difference may be due to the much higher incidence of rollover activity in non-403(b) plans, especially 401(k) plans.

Table 61 – Employer-Sponsored Plan Annuities: Average Total Annual Contributions by Contract Year*

Contract year	403(b)	Other qualified	All
1	$15,059	$39,830	$28,837
2	3,288	5,161	4,420
3	2,447	2,674	2,574
4	1,992	2,107	2,041
5	1,670	2,079	1,839
6	1,958	1,704	1,870
7	1,566	1,326	1,487
8	1,492	1,317	1,443
9	1,498	1,265	1,433
10	1,396	1,373	1,390
11	1,453	1,140	1,377
12	1,379	1,252	1,350
13	1,384	1,233	1,357
14	1,612	1,261	1,560
15 or more	1,243	1,285	1,251
All years	**$2,380**	**$6,705**	**$3,920**
Number of contracts	**1,321,732**	**730,550**	**2,052,282**

* Premiums greater than $5 million were removed from calculations.

APPENDIX A – COMPARISON WITH LIMRA'S *U.S. ANNUITY PERSISTENCY* QUARTERLY SURVEY

Since 2000, LIMRA has conducted a quarterly survey of deferred annuity persistency. Participating companies provide summarized contracts and cash value in force as of the end of each quarter, along with contracts and cash value surrendered during the quarter. Surrender rates are calculated separately by product type, market type, distribution channel, and presence of surrender charge (as well as several combinations of these factors).[24]

Because the current study describes persistency results during a time period that overlaps with the quarterly survey (i.e., 2002 through 2004), it is useful to compare annual trends between the two data sources. Accordingly, surrender rates based on a constant group of 23 companies from the current study was compared with surrender rates based on a constant group of 40 companies that had participated in the U.S. Annuity Persistency survey from first quarter 2002 through fourth quarter 2004. These results are presented separately for variable, fixed, and total contracts in Table A-1.

[24] See *U.S. Annuity Persistency, Second Quarter, 2006.* LIMRA International, 2006 for a full description of the survey methodology.

Table A-1 – Surrender Rates, 2002 through 2004

	Variable		Fixed		Total	
	Contract surrender rate	**Cash value surrender rate**	**Contract surrender rate**	**Cash value surrender rate**	**Contract surrender rate**	**Cash value surrender rate**
2002						
Current study						
Simple rate	6.3%	6.2%	4.3%	3.9%	5.7%	5.7%
Actuarial rate	6.7	6.7	4.7	4.4	6.1	6.2
U.S. Annuity Persistency survey	**8.3%**	**6.9%**	**5.3%**	**4.5%**	**7.5%**	**6.3%**
2003						
Current study						
Simple rate	5.5%	4.9%	4.4%	3.8%	5.2%	4.6%
Actuarial rate	5.9	5.5	4.5	4.0	5.5	5.1
U.S. Annuity Persistency survey	**7.4%**	**6.1%**	**4.6%**	**3.9%**	**6.6%**	**5.5%**
2004						
Current study						
Simple rate	5.6%	5.0%	5.7%	5.7%	5.7%	5.1%
Actuarial rate	6.0	5.4	5.9	6.1	6.0	5.6
U.S. Annuity Persistency survey	**7.8%**	**6.4%**	**5.3%**	**4.8%**	**7.1%**	**6.0%**

U.S. Annuity Persistency survey results represent 4th quarter year-to-date surrender rates, based on a constant group of 40 companies. 2002: 17.4 million contracts and $535.7 billion in force. 2003: 18.2 million contracts and $593.0 billion in force. 2004: 19.1 million contracts and $709.1 billion in force.

Surrender rates from the current study are presented using two alternative methods. The first ("actuarial rate") is based on the methodology used for all other surrender rates described in this report, and weights each contract according to its exposure to surrender. The second ("simple rate"), is based on the number of contracts that surrendered divided by the number of contracts in force, with no weighting by exposure. This simple rate is displayed because the survey surrender rates are based on aggregated rather than seriatim data, so individual contract exposures are not directly calculable.

In general, the current study and the U.S. Annuity Persistency survey yielded equivalent annual trends. For both data sources, VA surrender rates dropped in 2003 from 2002 levels, followed by a slight increase in 2004 from 2003 levels (however, the 2004 rate was slightly lower than the 2003 level for actuarial rates). Also, both data sources showed a decrease in fixed surrender rates between 2002 and 2003 (except for simple rates) and a significant increase between 2003 and 2004.

APPENDIX B – FACTORS EXPLAINING SURRENDER ACTIVITY

Logistic regression models (binary logit) were created to predict full surrenders in 2004, based on product, annuitant, and distribution channel characteristics for fixed retail, variable retail, and employer-sponsored markets.[25] These models were designed to establish which factors best explain surrender activity, controlling for the influence of other factors. The results are displayed in Tables B-1 through B-3, which rank the factors in descending order of importance.

The importance of each factor is based on odds ratios, which measure the frequency of surrender vs. non-surrender under different conditions. For example, if the conditional odds of surrender are 200 to 10 (200 surrenders/10 non-surrenders = 20) in condition A and the conditional odds of surrender are 100 to 50 (100 surrender/50 non-surrenders = 2) in condition B, then the odds ratio would be 10.0 (20 divided by 2), which would indicate that the odds of a surrender occurring are 10 times as likely in condition A as in condition B. An odds ratio above 1 indicates a positive association among variables (as one variable increases, so does the other variable); in Tables B-1 through B-3, these associations have a positive direction of effect (+). An odds ratio below 1 indicates a negative association (as one variable increases, the other variable decreases). To show positive and negative odds ratios on a consistent basis, in Tables B-1 through B-3, each odds ratio below 1 was converted by taking its reciprocal and by indicating the direction of effect as negative (–). The tables also display Wald chi-squares, which denote the statistical significance of each logistic regression coefficient used to compute each odds ratio.

The c statistic measures the discriminatory power of logistic models and ranges from 0.5 (no discriminatory power) to 1.0 (perfect discrimination). Across the three models, c statistics ranged from .61 to .70. Therefore, although the model can explain surrender patterns to a certain extent, other factors unique to contract owners/annuitants and companies play a major role in determining whether a given contract will be surrendered.

[25] Menard, Scott (2002). *Applied logistic regression analysis, 2nd Edition*. Thousand Oaks, CA: Sage Publications. Series: Quantitative Applications in the Social Sciences, No. 106. First ed., 1995.

Table B-1 – Variable Retail Products: Factors Explaining Surrender

Factor	Odds ratio	Wald chi-square	Direction of effect
Year surrender charge expired	2.10	6,830.5	+
Plan has free full surrender provision	1.37	581.9	+
Amount of surrender charge	1.18	5,965.0	–
Sold by independent agent	1.17	20.6	+
IRA market	1.05	70.8	+
Years in force	1.04	1,234.9	+
Sold by bank	1.03	12.0	+
Female owner	1.03	19.0	–

Model c statistic = .68. All Wald chi-squares significant, *p*s < .001. Number of contracts, weighted by exposure (0 to 1) = 2,698,227. Stepwise variable selection used (*p* < .01 for entry). Did not enter model and/or had odds ratios of 1.0: Large account balance; Sold by career agent; Sold by stockbroker; Older owner age.

Table B-2 – Fixed Retail Products: Factors Explaining Surrender

Factor	Odds ratio	Wald chi-square	Direction of effect
Sold by independent agent	3.93	1,853.0	+
Year surrender charge expired	2.84	3,682.4	+
Sold by bank	2.07	529.9	+
Sold by career agent	1.38	100.9	–
IRA market	1.35	616.8	+
Positive interest rate spread (credited rate less market rate)	1.19	111.7	–
Female owner	1.19	224.0	+
Amount of surrender charge	1.18	5,864.5	–
Plan has free full surrender provision	1.17	74.8	+
Years in force	1.03	342.9	–

Model c statistic = .70. All Wald chi-squares significant, *p*s < .001. Number of contracts, weighted by exposure (0 to 1) = 1,099,248. Stepwise variable selection used (*p* < .01 for entry). Did not enter model and/or had odds ratios of 1.0: Large account balance; Sold by stockbroker; Older owner age.

Table B-3 – Employer-Sponsored Markets: Factors Explaining Surrender

Factor	Odds ratio	Wald chi-square	Direction of effect
Year surrender charge expired	2.15	2,566.0	+
Sold by independent agent	1.94	223.3	+
Sold by career agent	1.50	162.0	–
Plan has free full surrender provision	1.44	821.1	–
Sold by bank	1.33	37.3	–
Sold by stockbroker	1.25	46.6	–
Female owner	1.07	66.0	–
Years in force	1.05	1,106.7	+
Amount of surrender charge	1.01	13.9	+

Model c statistic = .61. All Wald chi-squares significant, *p*s < .001. Number of contracts, weighted by exposure (0 to 1) = 1,021,479. Stepwise variable selection used (*p* < .01 for entry). Did not enter model and/or had odds ratios of 1.0: Large account balance; Older owner age.

Participating Companies

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AEGON

Ameriprise Financial

AmerUS

AXA Equitable

Farm Bureau Life of Michigan

Farm Family Life

Guaranty Income Life

Hartford Life

Horace Mann Life

ING

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MassMutual

MetLife

Midland National / North American Company of Life and Health

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Thrivent Financial for Lutherans

Western-Southern Life

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This report examines factors related to annuity lapsation. Data were collected on a contract-level basis, and over one million records were analyzed.

http://www.limra.com/abstracts/3816.asp

Conserving Annuity Assets (2006)

With total individual annuity assets of $1.8 trillion, the need is higher than ever for companies to retain business and prevent it from being transferred to competitors. Based on information received from 53 companies, this report updates and expands a survey conducted in 2000 by describing what companies are doing to conserve annuity business.

http://www.limra.com/members/abstracts/5421.aspx

U.S. Annuity Persistency, 2nd Quarter, 2006 (2006)

This survey tracks both contract and cash value annuity persistency. It measures surrender rates in total and by all combinations of market, product type, distribution channel, and presence of surrender charge.

http://www.limra.com/members/abstracts/5397.aspx

Database Marketing Company Practices (2006)

This study examines the database marketing practices that companies have developed, based on a survey to individual carriers and on focus groups with producers. It includes discussion of how companies use database technology to identify potential lapsers and the proactive steps taken to prevent lapse.

http://www.limra.com/members/abstracts/4842.aspx

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