# Variable Annuity Guaranteed Living Benefits Utilization

## 2013 EXPERIENCE

A Joint Study Sponsored by the Society of Actuaries and LIMRA

SOCIETY OF ACTUARIES

LIMRA Secure Retirement INSTITUTE™

A 2015 REPORT

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# About the Study

Few product innovations have transfigured the variable annuity (VA) industry as much as guaranteed living benefits (GLBs). Evolving from simple income benefits over a decade ago, they are now offered in a variety of forms on the vast majority of VA products sold today.

**LIMRA Secure Retirement Institute Variable Annuity Guaranteed Living Benefit Utilization Study (VAGLBUS) — 2013 Experience** is an annual update of earlier investigations, conducted since 2006.

The study examines the GLB utilization of over 4.7 million contracts that were either issued during or in force as of 2013. Twenty insurance companies participated in this study. These 20 companies make up 68 percent of all GLB sales in 2013 and 74 percent of assets at year-end, and thus provide a substantial representation of this business.

Products with guaranteed lifetime withdrawal benefits (GLWBs), guaranteed minimum withdrawal benefits (GMWBs), guaranteed minimum income benefits (GMIBs), guaranteed minimum accumulation benefits (GMABs), and combinations of these benefits comprised 68 percent of new VA sales in 2013, according to LIMRA's Election Tracking Survey.[1] The LIMRA Secure Retirement Institute estimates that GLB assets were $789 billion, constituting 39 percent of total VA assets as of year-end 2013.

Research on GLBs generally focuses on sales and elections rather than on how annuity owners actually use their benefits. However, knowing more about benefit utilization — as well as the intermediate behaviors involving step-ups, cash flow, and persistency — can assist insurers with assessing and managing the long-term risks of these GLBs.

1 *Variable Annuity Guaranteed Living Benefits Election Tracking, 4th Quarter 2013,* LIMRA Secure Retirement Institute, 2014.

# Executive Summary

Based on eight years of studying VA GLBs, we have identified some trends and key determinants that describe how VA owners with lifetime payout riders (GLWBs and GMIBs) utilize their GLB riders, which provide important insights into how these owners may behave in the future. We have found relationships among characteristics like age, source of funding (qualified or nonqualified), and withdrawal methods (systematic withdrawal programs (SWPs) or non SWPs). Certain owner withdrawal characteristics influence surrender rates. An analysis of these elements enables us to understand withdrawal risk for different segments of GLB owners — how many will start their withdrawals by age and source of funding, how many are likely to utilize withdrawal riders or provisions for life, what methods of withdrawals will they use, how many are likely to stay on the book of business for long time, and how many are likely to surrender and when. These GLWB and GMIB contracts account for 88 percent of all in-force GLBs in our study.

Withdrawal and surrender behaviors of GLWB and GMIB owners can be reviewed in four inter-connected relationships:

**Starting Withdrawals**

- Source of funding (i.e., qualified or nonqualified) and age are the two most important influences on when owners start withdrawals.
  - Before age 70, there is no perceptible difference between percentages of owners who take withdrawals either from their qualified or nonqualified annuities.[2]
  - However, a large percentage of owners with qualified annuities start taking their withdrawals at age 71 and 72 to meet their required minimum distributions (RMDs); and the percentage of qualified owners taking withdrawals rises with age. Currently, around two thirds of VA contracts with lifetime payout riders are funded with qualified money.
  - In contrast, the number of owners who take withdrawals from nonqualified contracts shows an incremental and steady increase. For nonqualified contracts, age and contract duration are the principal drivers for withdrawals.
  - The size of the contracts, deferral incentives, duration of contracts, and the channels through which the customer bought the annuity also have an impact on how customers take withdrawals, but these factors are not as significant as age and source of money.
  - Contract benefits being in-the-money was not a major driver of withdrawal behavior for GLWB owners who started withdrawals in 2013.

2 Unless otherwise specified, throughout this report, owner age is defined as the age of the owner/annuitant as of year-end 2013.

**Method of Withdrawals**

- A majority of owners take withdrawals through systematic withdrawal plans (SWPs). Use of SWPs can be interpreted as confirmation that these owners plan to utilize the lifetime withdrawal provisions in their riders.
- Once owners start to take withdrawals, they are likely to continue withdrawals, irrespective of their funding sources.
- As a result, these owners are less likely to surrender their contracts any time soon.
- Older owners are more likely to take withdrawals through SWPs.

**Percentage of Benefit Maximum Withdrawn**

- When owners use SWPs, they are likely to make withdrawals within the maximum amount allowed in their contracts.
- In general, younger owners are more likely to take withdrawals greater than the maximum amount allowed, particularly those under age 60. For IRA owners over age 70½, some excess withdrawals are due to RMDs. Most withdrawals in excess of 125 percent of the annual benefit maximum amount come from occasional or non-systematic withdrawals.
- Owners of VAs with higher contract values are less likely than those with lower contract values to take withdrawals that significantly exceed the benefit maximum.

**Surrender Rates**

- The surrender rates among GLWB and GMIB owners, particularly among the bulk of older owners, are low. The surrender rates among owners using SWPs as methods of withdrawals are lower compared with owners who take occasional or non-systematic withdrawals.
- The surrender rate among owners under age 65 who have not started taking withdrawals is very low, and it appears that they will likely use the rider benefits.
- Though duration and surrender charge rates present in the contracts influence persistency, customers under age 60 who take withdrawals are more likely to surrender their contracts.
- The surrender rates among owners aged 65 and over who take withdrawals are relatively low.
- Surrender rates are also low for GLWB owners aged 65 and older not taking withdrawals; GMIB owners aged 65 and older not taking withdrawals experience increasing surrender rates with age.

- The surrender rates show a U-shaped relationship to percent of benefit maximum withdrawn — those with very low and very high ratios of withdrawals to maximum allowed have higher surrender rates than those in the middle categories. The percentage of benefit maximum withdrawn is impacted by the owner's age and method of withdrawal (SWPs vs. non-SWPs).
- Any withdrawal behavior significantly out of line with maximum annual withdrawal benefit amounts can indicate increased surrender behavior of GLWB owners.
- In general, surrender rates are lower when the contracts are in-the-money.

**Action Steps and Issues to Consider**

- **There is a strong indication that most annuity owners plan to take advantage of the lifetime guaranteed income benefit allowed in their contracts, and many are sticking to that plan.** Two thirds of buyers used qualified money to purchase their GLWBs. Most of these qualified annuity buyers used a portion of their 401(k) or IRA savings to purchase a GLB rider that provides the ability to create a guaranteed income stream, safe from market risk. Many will activate the guaranteed withdrawal provisions at RMD age 70½.
- **Infusion of qualified money causes special challenges to insurers.** The increasing mix of qualified money into the insurer's book of business poses a challenge in terms of managing this risk accordingly. As more and more qualified contract owners approach age 70½, an increasing percentage of them will begin withdrawals. It is important for companies to look at their business and evaluate how their customer mix can impact risk and cash flow. There is more risk from customer withdrawal behavior on assets funded with qualified money than from a nonqualified block of business.

- **Insurance companies can assess surrender rates and their strong relationship to owner withdrawal behavior when managing the risk associated with their book of business.** Understanding the withdrawal behavior of GLB owners is important since withdrawal activity — particularly withdrawals that exceed the benefit maximum — can be an early indicator of increased surrender activity for a book of business. In addition, when younger owners take withdrawals, they are more likely to take occasional withdrawals. These younger owners may be taking partial surrenders. Younger owners who took withdrawals in 2013 were more likely to fully surrender their contracts.
- **Companies can evaluate how their own customers behave compared with the industry, and re-assess their assumptions as needed.** Measuring, modeling, and predicting policy and contract owner behavior emerges as a central challenge for insurers seeking to optimize their product development and management efforts. Understanding these issues will allow anyone participating in or following this market to better assess the underlying dynamics of withdrawal and surrender behavior, which will assist them in measuring and projecting the long-term risks associated with withdrawals and surrenders. Most critical is that these analyses can help to gauge how many owners are using their rider to create guaranteed lifetime income in retirement. All VAs with GLBs are experiencing lower persistency compared with ordinary VAs; this will have an impact on the company's assets and reserves, reflecting the fact that a larger number of contract owners may ultimately receive benefits over the life of their contracts.

# Guaranteed Lifetime Withdrawal Benefits (GLWBs)

*Results based on 2,504,205 contracts issued by 18 companies*

### Owner Profiles

- The average age of GLWB buyers in 2013 was 63 years. More than 7 out of 10 new GLWB buyers in 2013 were Baby Boomers, aged 49 to 67.
- Rollover dollars are a growing source for GLWB funding. Seven out of ten 2013 buyers under age 70 used qualified money (i.e., IRAs) to buy a GLWB annuity. This trend reflects broader industry trends that LIMRA tracks in the total annuity market, where annuities are increasingly being funded with tax-qualified money, the bulk of which likely comes from rollovers by younger investors.
- The average premium received in GLWB contracts issued in 2013 was $128,700 — 12 percent higher than the $114,600 received in 2012. The average contract value of GLWB contracts was $135,322 at the end of 2013 for all in-force contracts.
- Roughly half of GLWBs are bought by males and the other half by females. However, the average premium from contracts bought by males is 20 percent higher than the average premium from contracts purchased by females.

### Benefit Base

- At the beginning of 2013, 79 percent of contracts with GLWBs issued before 2013 had benefit bases that exceeded contract values (i.e., were "in-the-money"). Most of these were still recovering from heavy market losses experienced in late 2008. Of these contracts, the average difference between the benefit base and contract value was approximately $12,200.
- At year-end, 57 percent of contracts had benefit bases exceeding the contract values. The gap between the average contract value and the average benefit base decreased to $6,300. The average contract value stood at $134,200 while the average benefit base was $140,600 at year-end 2013.

### Withdrawal Activity

- Overall utilization rates have gradually increased for contracts that were in force for an entire year. Twenty-three percent of contracts had at least some withdrawal activity during 2013. For 3 out of 4 contracts, these were systematic withdrawals.
- Once owners start to take withdrawals, they are likely to continue withdrawals. Ninety-five percent of GLWB customers who purchased their contracts in 2012 and took withdrawals that year also took withdrawals in 2013.

- Contract benefits being in-the-money appeared to have little influence on withdrawal behavior for GLWB owners in 2013.
- The median amount withdrawn was $5,800, representing 6.4 percent of the average beginning-of-year (BOY) median contract value of $91,000.
- Just over 2 out of 3 VA GLWB owners over age 70 took withdrawals from annuities purchased with qualified money. Nearly 45 percent of older owners take withdrawals from their nonqualified annuities.
- The withdrawal amount for just 1 in 8 owners aged 60 or over took withdrawals of 150 percent or more of the maximum withdrawal amount allowed. In general, younger owners are more likely to take withdrawals more than the maximum amount allowed. Some IRA owners over age 70½ took withdrawals to satisfy RMDs.
- Most withdrawals that exceed 125 percent of the annual benefit maximum amount come from non-systematic withdrawals.
- Three in 10 GLWB contracts had payouts based on joint lives. Overall, the percent of owners taking withdrawals from joint lives contracts is slightly lower than the percent of owners taking withdrawals from single life contracts.

## Additional Premium and Net Flows

- Five percent of contracts issued in 2012 or earlier received additional premium in 2013. Contracts issued in 2012 were more likely than contracts issued in earlier years to have additional premium. Owners rarely add premium after the second year of owning a GLWB.
- Younger owners were more likely to add premium than older owners.
- At the beginning of 2013, assets in GLWB contracts amounted to $271.7 billion. Premium from newly issued and existing contracts was $45.6 billion while investment gains hit $35.1 billion. Outflows from partial withdrawals, full surrenders, deaths, and annuitizations amounted to $13.5 billion. By the end of 2013, GLWB assets reached $338.9 billion.

## Persistency

- Surrender rates are extremely low for VAs with GLWBs. Across all contracts, only 3 percent surrendered during 2013.
- The contract surrender rate was 9.5 percent for owners under age 60 who took withdrawals in 2013. The contract surrender rate was only 2.5 percent among owners under age 60 who did not take any withdrawals in 2013.

- The contract surrender rate (2.8 percent) among owners aged 60 or older who took withdrawals in 2013 was a bit lower than the surrender rate (3.2 percent) for owners aged 60 or older who did not take withdrawals in 2013.
- The surrender rates were quite high among the owners who either took withdrawals below 75 percent of the maximum allowed in the contracts (7.1 percent) or whose withdrawal amounts were 200 percent or more of the maximum allowed (10.1percent). The surrender rate among owners who took withdrawals between 75 percent to 110 percent of the maximum amount allowed in the contracts is the lowest, only 1.0 percent.
- GLWB contract surrender rates were 6.4 percent among owners who took non-systematic withdrawals compared with 2.0 percent for owners who took systematic withdrawals in 2013.
- Surrender rates were lower for contracts that were in-the-money at the beginning of year.

## Product and Benefit Characteristics

- The average buyer in 2013 paid about 230 basis points for a VA with a GLWB, as a percentage of contract value, VA subaccounts, or benefit base values.[3]
- On average, owners who purchased contracts in 2013 can take lifetime benefits as early as age 54 and can elect the GLWB until they reach age 84. However, some contracts allow lifetime withdrawal benefits to begin as early as age 50 or as late as age 99.
- In just over 3 out of 4 contracts issued in 2013, benefit bases are reduced in proportion to the amount of the excess withdrawal (i.e., the ratio of the excess withdrawal to the contract value before the excess is withdrawn). One in five reduced the benefit bases on a dollar-for-dollar basis (usually up to the annual growth of the benefit base). All contracts issued in 2013 allowed excess withdrawals to satisfy RMDs.
- In 2013, just under half of the GLWB contracts issued had maximum payouts of 4 percent or lower.

3 Note that average costs do not include fund management fees or costs associated with other benefits such as guaranteed minimum death benefits.

## Guaranteed Minimum Withdrawal Benefits (GMWBs)

*Results based on 211,372 contracts issued by 13 companies*

### Owner Profiles

- Almost half (48 percent) of the in-force GMWB owners are aged 70 or older.

### Benefit Base Balance

- At the beginning of the year, 53 percent of contracts with GMWBs issued before 2013 had benefit base balances that exceeded contract values. At the end of the year, 32 percent of contracts had contract values that were below the benefit base balance values, principally due to equity market gains in 2013.
- For GMWBs, the ratio of contract value to benefit base balance increased from 93 percent at the beginning of 2013 to 102 percent by year-end.
- The average contract value increased from $108,300 at the beginning of 2013 to $119,900 at the end of 2013. At the end of 2013, the average benefit base balance stood at $117,800, with a gap of $2,000 compared to the average account value.

### Withdrawal Activity

- Forty-seven percent of GMWB contracts had at least some withdrawal activity during 2013 — the highest overall withdrawal activity for any of the GLBs. Seven in ten withdrawals were through SWPs.
- The median withdrawal amount in GMWB contracts in 2013 was $6,000.
- The percent of owners taking withdrawals approached 90 percent in older ages, for annuities purchased with qualified money. More than 50 percent of older owners took withdrawals from their nonqualified annuities.
- GMWB owners aged 60 or older are more likely to take their withdrawals through SWPs; and younger owners, particularly under age 60, are more likely to take withdrawals on a lump-sum or occasional basis.
- Seventy-four percent of owners that took withdrawals in 2013 withdrew within 110 percent of the maximum withdrawal amount allowed in the contract.
- Once owners start to take withdrawals, they are likely to continue withdrawals.
- A contract benefit being in-the-money appeared to have no major influence on withdrawal behavior of GMWB owners in 2013.

## Additional Premium and Net Flows

- Among contracts issued in 2013 or earlier, only 2 percent received additional premium in 2013.
- At the beginning of 2013, assets in GMWB contracts amounted to $25 billion. Gains due to premium received ($0.5 billion) and equity market growth ($3.4 billion) were offset by outflows from partial withdrawals, full surrenders, deaths, and annuitizations ($3.5 billion). End-of-year (EOY) 2013 GMWB assets remained relatively flat at $25.5 billion.

## Persistency

- Surrender rates in 2013 for GMWB contracts issued before 2013 were 8.2 percent for both the contract surrender rate and cash value surrender rate.
- High surrender rates are associated with older owners not taking withdrawals in 2013 and younger owners, particularly those under age 60, who took withdrawals before in 2013.
- The contract surrender rate in 2013 was 3.3 percent for contracts with surrender charges and almost six times that amount (18.3 percent) for contracts that exited the surrender penalty period in 2013. Among contracts that exited the surrender penalty period in 2012 or earlier, the contract surrender rate was 9.4 percent.
- There was a 2 percent surrender rate for owners who took withdrawals between 75 percent to less than 200 percent of the maximum withdrawal amount allowed in the contracts.
- GMWB contract surrender rates were 6.3 percent among owners who took non-systematic withdrawals vs. 4.2 percent among owners who took systematic withdrawals in 2013.
- GMWB owners appear to be sensitive to the degree of in-the-moneyness when deciding whether to surrender their contracts.

## Product and Benefit Characteristics

- The total charge for GMWB contracts (including M&E charges and rider fees) was around 2.13 percent of contract value for contracts issued in 2013.
- Unlike GLWB contracts, most GMWB contracts do not offer an automatic increase in benefit base balance in case the withdrawals are not taken immediately. Also, most GMWB contracts do not have caps on benefit base balances.
- All offered annual step-up options.

# Guaranteed Minimum Income Benefits (GMIBs)

*Results based on 1,558,789 contracts issued by 15 companies*

## Owner Profiles

- The average age of GMIB owners was 63, as of year-end 2013. Just over one quarter were aged 70 or older.
- Six out of ten of the GMIB contracts were funded from qualified sources of money.
- The average contract value for contracts in force at the end of 2013 was $124,000.
- B-share contracts were by far the most common cost structure in 2013, capturing 3 out of every 4 contracts.

## Benefit Base

- At the beginning of the year, 5 out of 6 GMIB contracts issued before 2013 had benefit bases that exceeded contract values. At the end of 2013, this proportion declined to two thirds.
- On average, the ratio of contract value to benefit base increased slightly from 83 percent at the beginning of 2013 to 88 percent by year-end.
- The average contract value increased from $111,300 at the beginning of 2013 to $124,700 at the end of 2013. Also at year-end, the average benefit base stood at $141,200, about $16,500 higher than the average contract value.
- At year-end, 15 percent of the contracts had benefit bases that exceeded the contract values by 110 to less than 125 percent and 29 percent had BB/CV ratios of 125 percent or more.
- Almost all GMIB contracts that were issued before 2013 had GMIB benefits that were based on the roll-up or higher of ratchet or roll-up calculation methods; 86 percent of the roll-up rates ranged from 5 percent to less than 7 percent of the benefit base per year; only 11 percent were 7 percent or higher.

## In-the-Moneyness

- A measure of in-the-moneyness was developed, based on a comparison of a) the hypothetical payout from GMIBs, applying rider-specific actuarial present value factors to the year-end benefit bases, with b) immediate annuity payouts available in the market at year-end (applying contract values). On average, GMIB payouts exceeded immediate annuity payouts by 11 percent.

- Average GMIB-payout to immediate-annuity-payout ratios exceeded 1.0 across gender, age, and payout type (life-only or life with 10-year period certain). Ratios were highest for contracts owned by older individuals.
- Only 1 in 5 contracts had reached the end of the waiting period to exercise the GMIB benefit by EOY 2013. Most GMIB contracts did not have the ability to activate the GMIB feature.

### Annuitization

- Of those contracts that reached their benefit maturities in 2013 and were in force as of the beginning of 2013, approximately 2.2 percent annuitized their contracts in 2013. The overall 2013 annuitization rate for all in-force contracts at the beginning of 2013 was only 0.3 percent.
- Older owner ages, larger contract sizes, and higher benefit base to contract value ratios were associated with higher rates of annuitization. For example, looking at the breakdown by age: over half of all annuitants were between ages 65 and 74 and three out of 10 contracts ages 75 and over annuitized while less than 4 percent of the annuitants were under age 60.

### Withdrawal Activity

- Twenty-seven percent of GMIB contracts had at least some withdrawal activity during 2013.
- Seven out of 10 of all GMIB withdrawal activity was in the form of systematic withdrawals.
- As observed for other GLB types, withdrawal activity was much more common among IRA contracts owned by customers aged 70 or older. The percent of owners with withdrawals approached 80 percent in older ages for IRA annuities purchased with qualified money. Withdrawal activity among nonqualified contracts is very low, reaching just over 30 percent for owners around age 80.
- The median withdrawal amount in 2013 was $6,000.
- Eighty-three percent of owners that took withdrawals in 2013 withdrew within 110 percent of the maximum withdrawal amount allowed in the contract.
- Once owners start to take withdrawals, they are likely to continue withdrawals. For example, for 2008 IRA contracts that took withdrawals, nearly 80 percent continued to take withdrawals in all subsequent years.
- A contract benefit being in-the-money appeared to have little influence on withdrawal behavior of GMIB owners in 2013.

### Additional Premium and Net Flows

- Two percent of contracts issued in 2012 or earlier received additional premium in 2013.
- Younger owners were more likely to add premium than older owners.
- Premiums received for newly issued and existing contracts were below the outflows associated with withdrawals, surrenders, deaths, and annuitizations — $9.6 billion and $10.8 billion, respectively. The total number of GMIB in-force contracts remained relatively unchanged during 2013. At EOY 2013, GMIB assets were $193.3 billion, 13 percent higher than the $170.6 billion at BOY 2013.

### Persistency

- Among all GMIB contracts issued before 2013, 3.9 percent were surrendered in 2013.
- For B-share contracts that still had a surrender charge in 2013, the surrender rate was 2.5 percent. For B-share contracts where the surrender charges expired in 2013, the contract surrender rate was 7.5 percent. The surrender rate was 6.9 percent for contracts where surrender charges expired in previous years.
- The contract surrender rate among owners under age 60 who took withdrawals in 2013 was 7.2 percent, compared with only 3.5 percent among owners under age 60 who did not take any withdrawals. The surrender rate for owners aged 60 or older who took withdrawals was 2.7 percent, slightly lower than those who did not take withdrawals (4.6 percent).
- Contract surrender rates among owners who took withdrawals below 90 percent of the maximum allowed in the contracts and the owners who took more than 110 percent of the maximum allowed are higher than those closer to the maximum withdrawal amount.
- The contract surrender rate among owners who took non-systematic withdrawals in 2013 was 4.8 percent while the surrender rate among owners who withdrew systematically was only 2.0 percent.
- Controlling for withdrawal activity, higher in-the-moneyness is linked to lower surrender activity.

# Guaranteed Minimum Accumulation Benefits (GMABs)

*Results based on 262,464 contracts issued by 11 companies*

## Owner Profiles

- GMAB owners are typically younger than any other GLB buyers, with an average age of 59 years in 2013; one quarter of GMAB owners were under age 50.
- Seven out of 10 of the in-force GMAB contracts were funded from qualified sources of money.
- The average contract value for GMAB contracts at end of year 2013 was $93,200.

## Benefit Base

- At the beginning of the year, 18 percent of GMAB contracts issued before 2013 had benefit bases that exceeded contract values. At the end of 2013, 10 percent of contracts had contract values lower than the benefit bases.
- For average GMABs, the ratio of contract value to benefit base changed from 107 percent at the beginning of 2013 to 119 percent by year-end.
- The average contract value increased from $84,600 at the beginning of 2013 to $92,100 at the end of 2013. At the end of 2013, the average benefit base stood at $77,600, about $14,500 lower than the average contract value.
- Nearly all (88 percent) of the GMABs have benefit bases that are determined based on total premiums received, without any roll-up or ratcheting mechanisms.

## Benefit Maturity

- Most GMAB contracts issued before 2013 (88 percent) have maturity dates in 2014 or later. Over half (53 percent) of in-force GMAB contracts will mature between 2014 and 2018.

## Withdrawal Activity

- Seventeen percent of GMAB contracts had at least some withdrawal activity during 2013.
- Withdrawal activity was much more common among qualified contracts owned by customers aged 70 or older. The percent of owners with withdrawals approached 80 percent in older ages for annuities purchased with qualified money.

- The percent of GMAB owners using systematic withdrawals (47 percent) is much lower than owners using systematic withdrawals in other GLB products.
- The median withdrawal amount in 2013 was $7,000.

### Additional Premium and Net Flows

- At the beginning of 2013, assets in GMAB contracts amounted to $23.6 billion. Year-end assets reached $24.5 billion.

### Persistency

- With an overall surrender rate of 10.9 percent, GMABs have the highest surrender rate of all GLBs.
- Surrender rates were also quite high for GMAB contracts issued in 2006 or before (16.4 percent), as the contracts came out of surrender charges.
- For contracts where surrender charges expired in 2013 the surrender rate was 28.1 percent. The surrender rate was 15.2 percent for contracts where surrender charges expired in previous years. For contracts still under surrender charges, the surrender rate was 7.0 percent.
- There appears to be no significant impact of in-the-moneyness on surrender activity.

### Product and Benefit Characteristics

- Among GMAB contracts issued in 2013, the average total charge (M&E and rider fee) was 2.22 percent.
- Almost all GMAB contracts issued in 2013 guaranteed 100 percent of premium at benefit maturity.
- All contracts issued in 2013 had a waiting period of 10 years or longer.

# Chapter One

2013 EXPERIENCE

# Guaranteed Lifetime Withdrawal Benefits

# Chapter One: Guaranteed Lifetime Withdrawal Benefits

Since their introduction in 2004, guaranteed lifetime withdrawal benefits (GLWBs) continue to be the most popular type of guaranteed living benefit (GLB) in the variable annuity (VA) market. With the purchase of a GLWB, owners can take lifetime withdrawals, guaranteed up to a maximum percent of the benefit base every year, regardless of the investment performance of funds in their annuity. Typically, GLWB owners have flexibility in deciding when to start their withdrawals, can retain control over their assets; and, unlike guaranteed minimum income benefit (GMIB) riders, owners are not obligated to annuitize their contracts to receive guaranteed lifetime income payments. In many contracts, the buyers may also select — at the time of purchase — whether the lifetime withdrawals are based on a single life or should cover joint lives of the owner/annuitant and his or her spouse.

The benefit base for older GLWBs was typically the sum of premium payments. Many later versions enhanced the growth of the benefit base to include investment growth, or guaranteed growth. Many of the GLWB riders currently offered have a "roll-up" feature that typically applies a set growth percentage to the benefit base for a predetermined number of years or until lifetime withdrawals start. More recent GLWB riders also include "step-up benefits," where an owner can lock in investment earnings gains, typically on a contract anniversary. Owners can usually take withdrawals immediately after purchasing their contracts, but may wait for several years — or even skip years — to benefit from guaranteed growth in the benefit base that determines a higher amount of guaranteed withdrawals. Such flexibility and varying withdrawal options can make VAs more attractive than other equity-based investment options that do not offer lifetime guarantees on future withdrawal values.

In 2013, new GLWB sales reached $61.6 billion, accounting for four fifths of all GLB sales premiums. In 2013, sales of GLWBs were virtually unchanged from the prior year. GLWBs posted the highest election rates of any GLB type, when any GLB was available. GLWB election rates ranged from 65 percent (first and fourth quarter) to 66 percent (second and third quarters) in 2013.[4] Assets in VAs with GLWBs grew 27 percent from $389 billion at end-of-year (EOY) 2012 to $493 billion at EOY 2013.

4 *Variable Annuity Guaranteed Living Benefits Election Tracking, 4th Quarter 2013,* LIMRA Secure Retirement Institute, 2014.

This chapter provides important insights about GLWB buyers in 2013 and the behavior of existing owners who bought their GLWBs before 2013. LIMRA's GLWB database contains a comprehensive and representative sample of GLWB contracts. The 2013 study is based on 2,504,205 GLWB contracts issued by 18 companies. Of these contracts, 2,181,880 were issued before 2013 and remained in force at EOY 2013, while 322,325 contracts were issued in 2013 and remained in force at EOY 2013. The assets of in-force contracts in the study totaled $339 billion at EOY 2013, representing 69 percent of total industry GLWB assets from a total of 204 GLWB riders.

## Buyer and Owner Profiles

In 2013, the average age of GLWB buyers was 63 years, an increase from the average age of 61 years in 2012. In 2011 and 2010, the average age of GLWB buyers was 61 years and 60 years, respectively (Table 1-1). Although the average age in the lower and upper quartile range shifted downward from 2007 to 2009, that trend changed in 2010. By 2013, the average lower quartile age increased to age 57 and the average upper quartile age was 67. GLWBs remain popular with the leading edge of Baby Boomers (aged 58 to 67) who purchased half of the contracts in 2013 (Figure 1-1).

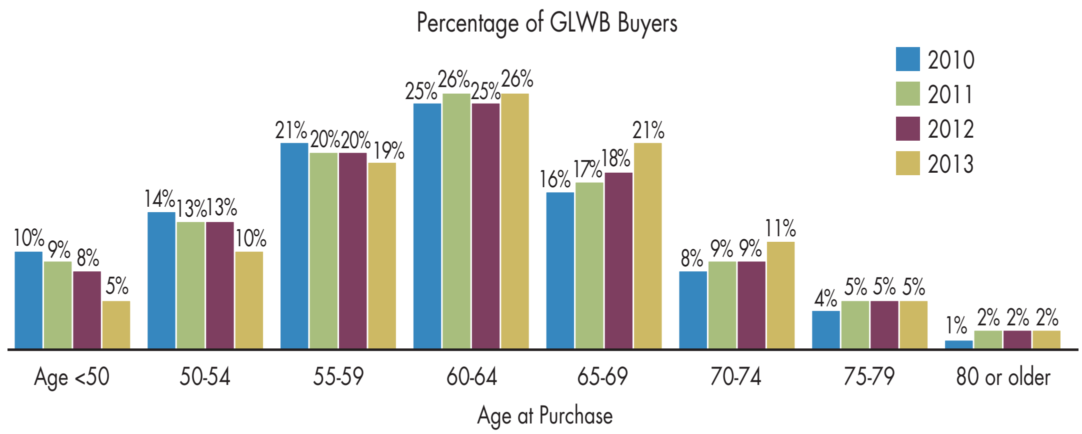
The average age of GLWB buyers in 2013 was **63** years.

**Table 1-1:** GLWB Average Age of Buyers

| Contract Year Issued | Mean Age | Average Age in Lower Quartile | Median Age | Average Age in Upper Quartile |
|---|---|---|---|---|
| 2007 | 61 | 56 | 61 | 67 |
| 2008 | 61 | 55 | 61 | 66 |
| 2009 | 60 | 54 | 60 | 65 |
| 2010 | 60 | 55 | 60 | 66 |
| 2011 | 61 | 55 | 61 | 66 |
| 2012 | 61 | 56 | 61 | 66 |
| 2013 | 63 | 57 | 62 | 67 |

Note: Based on 2,304,473 contracts issued between 2007 and 2013 and still in force at EOY 2013.

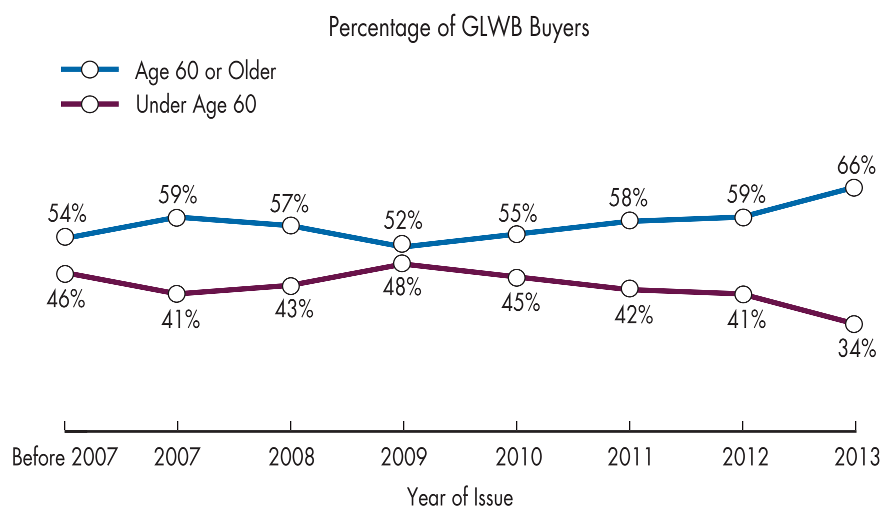
**Figure 1-1:** GLWB Buyers by Age at Time of Purchase, 2010–2013




Note: Based on 1,444,026 contracts issued between 2010 and 2013, and still in force at EOY 2013.

GLWBs remain popular among pre-retirees for a couple of reasons. First, pre-retiree owners can take advantage of the deferral bonus of the non-withdrawal provision in GLWBs if they do not need immediate income, and can grow the benefit base to maximize their retirement income. Insurance companies have focused on marketing messages that highlight these benefits, and how GLWBs address the need for securing guaranteed lifetime income in the future. Second, pre-retiree investors exposed to turbulent markets can get the upside market potential of the VA contract while benefiting from protection of the lifetime income guarantee as a floor.

**Figure 1-2:** Percentage of GLWB Buyers Over and Under Age 60 at Time of Purchase




Note: Based on 2,504,204 contracts issued and still in force at EOY 2013.

Since 2009, the percentage of buyers aged 60 and older has been increasing (Figure 1-2). This can be attributed to a few factors, such as companies focusing their marketing efforts toward individuals nearing retirement. Some companies have also changed their products to carefully manage risk, and this includes increasing their minimum purchase ages, and reducing withdrawal percentages for younger consumers. These factors have all contributed to the average buyer age increasing in 2013.

Some Baby Boomers have become interested in annuities that can guarantee a part of their retirement income. This demand will continue to increase as more Baby Boomers enter retirement without employer-sponsored pension plans. In addition, pre-retirees are increasingly concerned about the uncertainty of Social Security and health care benefits like Medicare. Insurance companies have been successful in marketing guaranteed lifetime withdrawal or income benefit features, as more retirees and pre-retirees have been forced to take personal responsibility for ensuring stable retirement income from their savings/investments.

Insurance companies carefully manage their mix of new and existing VA GLWB business to control their overall risk exposure.

Increasingly, advisors consider protecting against longevity risk to be one of their most valuable services. More advisors recognize that annuities are one of the few retirement products that provide a guaranteed lifetime income stream to mitigate part or all of this risk for their clients. In addition, the vast majority of GLWBs provide built-in flexibility so that clients can begin receiving income at any point — now or in the future. Despite changes and the shifting focus on these riders, GLWBs continue to play an important role in clients' retirement portfolios.

However, companies can carefully examine:

- Whether their customer mix deviates from that of the industry.
- How they manage the risks associated with providing a guarantee to younger buyers — both short- and long-term. A particular company's risk in providing guarantees may stem from issues such as potential growth in benefit bases, depending on customers' actual deferral periods before taking withdrawals; the source of funds used to purchase the annuity; what percentage of customers begin to take withdrawals due to the required minimum distribution (RMD) rule; and the persistency of their contracts.
- If the contract is 'in-the-money'[5] — where market volatility and the asset allocation models offered have had an impact on the account value in the contract.
- The competitiveness of the payout rates that are typically set by age bands.

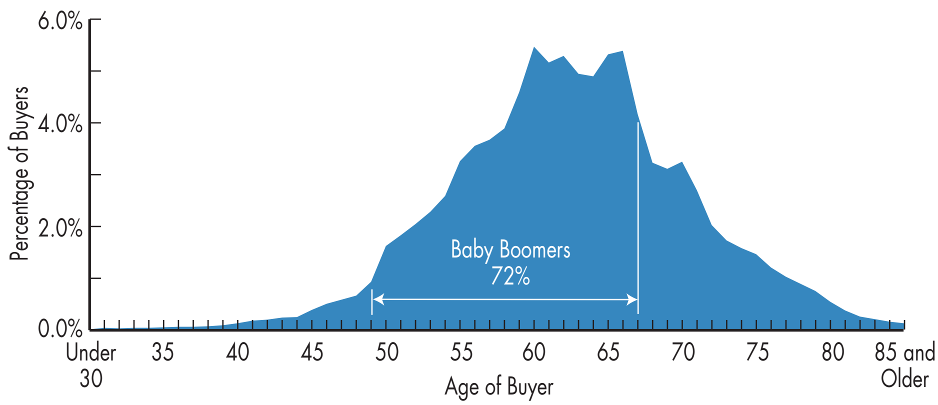
Each year, customer behavior adds another layer of uncertainty that may change the dynamics of a company's in-force book of business. They may have different withdrawal patterns based on their age, sources of funding, and enhanced longevity risk. These factors have an impact on the pricing of the riders, long-term profitability, and asset management, as well as the overall risk management.

5 There are multiple ways to measure in-the-moneyness. One method is to compare the benefit base to the account value. Another method is to calculate the actuarial present value of withdrawals of the in-force block of business. Unless otherwise stated, in this report, we will use the benefit base to account value ratio as the measure of in-the-moneyness.

### Buyers by Age

The percent of new GLWB buyers in 2013 increases starting at age 45 and reaches its highest points at age 60 — an important life-stage retirement inflection point for many retirees and pre-retirees (Figure 1-3). The percent of new buyer's starts to diminish after age 66, with each increase in year of age. Seven in ten (72 percent) of GLWB buyers in 2013 were Baby Boomers (aged 49–67). Half of the buyers were from the leading-edge Boomers (aged 58–67). Only 18 percent were ages 70 or above.

**Figure 1-3:** New GLWB Buyers in 2013 by Age




Note: Based on 322,325 GLWB contracts issued in 2013.

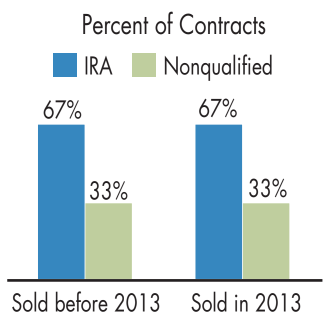
**72%** of GLWB buyers in 2013 were Baby Boomers.

If a company has a different mix of buyers than the industry, it can assess if this is what it planned for, and examine a number of issues. First, is the company attracting buyers from its target market segments? The company may consider changing its features, pricing, and marketing messages to attract prospects from segments where there is growth and opportunity. Second, companies could study their own customer mix to assess potential customer behavior with issues like withdrawals and surrenders. They can also assess the longevity of customer portfolios (if they are in withdrawal mode, or potentially could be in withdrawal mode), the impact of market volatility, the efficiency of asset allocation models, the payout rates, and the influence of rider features like step-ups — in order to evaluate risk and pricing impact on their books of business, including capital reserve requirements. It is encouraging that younger customers are buying GLWBs, but these demographics drive behavior, and companies will need to manage their evolving risks.

## Source of Funds

In 2013, 67 percent of contracts were funded from qualified sources of money, part of a trend where a greater share of GLWB contracts are funded from qualified sources rather than nonqualified sources (Figure 1-4). This trend reflects broader industry developments that LIMRA has tracked in the total VA market, where VAs are increasingly being funded with tax-qualified money, the bulk of which is from rollovers.

**Figure 1-4:** GLWB Contracts by Source of Funds




Note: Based on 2,504,177 GLWB contracts still in force at EOY 2013.

More rollover dollars are significant to insurance companies for two reasons. First, LIMRA studies show that rollover dollars are a growing source of VA funding.[6] As Boomers start to retire or plan for retirement income, their use of qualified savings will play an increasingly important role.

Boomers are using a portion of their savings from employer-sponsored plans or individual retirement accounts (IRAs) to purchase products that can provide a guarantee on a portion of income in retirement, if needed. The use of qualified savings for annuity purchases may be influenced by the recognition that these savings must be withdrawn as the buyers reach the RMD age of 70½. The distinction is important for multiple reasons:

**67%** of GLWB sales in 2013 were from IRAs. GLWBs attract rollover dollars, allowing companies to organically grow their business.

- The use of qualified funds for GLWB purchase by younger buyers fits with similar behaviors of younger buyers of immediate income annuities. A 2010 LIMRA study of immediate income annuity buyers demonstrates that buyers under age 70 are more likely to use qualified money to purchase an income annuity.[7] There are other similarities. One third of immediate annuity buyers who funded their income annuity with qualified savings were at ages 62, 65–67, and 70–71 — important age-based retirement decision points. We see a similar trend among GLWB buyers, with peaks at ages 60 and 65.

6 *Retirement Income Reference Book, 2012* LIMRA, 2012

7 *Guaranteed Income Annuities*, LIMRA, 2010.

- It appears that consumers intend to use their nonqualified savings for other investment or planning needs. Advisors and sales representatives can build relationships with prospective buyers before they reach these key retirement decision ages, to assess their income needs.
- The inclination of buyers to use qualified savings provides an incentive for advisors to ask about rollover assets as well as to offer comprehensive retirement income planning that may result in the purchase of a variety of retirement income products, thereby garnering greater wallet share. LIMRA research suggests that a recommendation from a financial planner or advisor influences rollover decisions. When a financial planner or advisor influences the decision, a majority of retirees and pre-retirees roll their money out from the plan.

A second reason rollover dollars hold such significance for companies — according to LIMRA research — is that as companies attract more rollover dollars, they will experience higher withdrawal rates from qualified funds by owners aged 70½ and over, since they are required to withdraw funds subject to IRS RMDs.

Table 1-2 shows the mean, median, and quartile age of 2013 GLWB buyers by demographic and contract characteristics. The data show variations in average purchase age by contract features such as nonqualified buyers who were two and a half years older than IRA buyers. Joint lives contracts are more appealing to slightly older investors. The average buyer age increases with larger premium contracts. Compared with other distribution channels, buyers at full-service national broker-dealers and in banks are a bit older.

**Table 1-2:** GLWB Buyers Average Age Analysis by Characteristics

| | Average Age | | | |
|---|---|---|---|---|
| | Mean | For Lower Quartile | Median | For Upper Quartile |
| **Gender** | | | | |
| Male | 63 | 58 | 62 | 67 |
| Female | 63 | 57 | 62 | 68 |
| **Market type** | | | | |
| IRA | 62 | 57 | 62 | 66 |
| Nonqualified | 64 | 58 | 64 | 70 |
| **Share class** | | | | |
| B-share | 62 | 56 | 62 | 67 |
| L-share | 63 | 58 | 63 | 69 |
| O-share | 65 | 61 | 64 | 68 |
| C-share | 64 | 59 | 64 | 69 |
| **Single-joint** | | | | |
| Single | 62 | 57 | 62 | 67 |
| Joint | 63 | 58 | 63 | 67 |
| **Asset allocation restrictions** | | | | |
| Forced assets allocations | 61 | 56 | 61 | 66 |
| Managed volatility/dynamic asset allocations | 63 | 57 | 62 | 67 |
| **Average premium size** | | | | |
| Under $25,000 | 59 | 54 | 59 | 65 |
| $25,000 to $49,999 | 62 | 56 | 62 | 67 |
| $50,000 to $99,999 | 63 | 57 | 63 | 68 |
| $100,000 to $249,999 | 63 | 58 | 63 | 68 |
| $250,000 to $499,999 | 63 | 59 | 63 | 67 |
| 500,000 or higher | 63 | 59 | 63 | 68 |
| **Distribution channel** | | | | |
| Career agent | 62 | 57 | 61 | 66 |
| Independent agent/ independent B-D | 62 | 57 | 62 | 67 |
| Full Service National B-D | 64 | 59 | 64 | 68 |
| Bank | 63 | 58 | 63 | 69 |

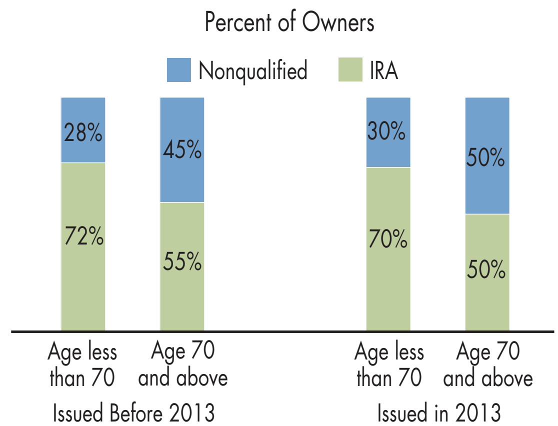
Note: Based on 322,325 GLWB contracts issued in 2013 and still in force at EOY 2013.

We have not shown some measures to preserve confidentiality and avoid revealing company-specific information as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

## Ownership of Qualified and Nonqualified Annuities

There is a distinct shift taking place in ownership of GLWB annuities (Figure 1-5). As younger investors purchase VAs with qualified funds, there is a gradual but significant change in the mix of GLWB ownership.

**Figure 1-5:** GLWB Ownership by Sources of Funds and Age Groups




Note: Based on 2,504,176 GLWB contracts still in force at EOY 2013.

Individuals under age 70 who use qualified savings emerge as the primary market segment for GLWBs. In 2013, 70 percent of owners under age 70 funded their annuities with qualified money. In contrast, half of owners aged 70 or older funded contracts with qualified sources in 2013, yet there was a higher use of qualified savings for contracts issued before 2013.

As we will see later, the source of funds used to purchase the VA and the age of the VA owner are perhaps the most important factors in determining what percent of owners will take withdrawals from their GLWB contracts. The shift toward qualified annuity ownership will have a major impact on how many customers will withdraw from their VAs in the future, and when they will start their withdrawals.

## GLWB Owner and Contract Characteristics

Table 1-3 provides a summary of GLWB owner and contract characteristics at EOY 2013.

**Table 1-3:** GLWB Owner and Contract Characteristics

| | Issued before 2013 | Issued in 2013 | All Contracts in Force | Average Premium (for Contracts Issued in 2013) |
|---|---|---|---|---|
| **Age of Owner** | | | | |
| Age 59 & under | 28% | 34% | 29% | $114,494 |
| 60 to 64 | 22% | 26% | 23% | $136,340 |
| 65 to 69 | 22% | 21% | 22% | $137,856 |
| 70 to 74 | 14% | 11% | 14% | $133,359 |
| 75 to 79 | 8% | 5% | 7% | $132,840 |
| 80 or older | 5% | 2% | 5% | $138,248 |
| **Average age** | 64 years | 62 years | 64 years | |
| **Gender** | | | | |
| Male | 50% | 50% | 50% | $140,381 |
| Female | 50% | 50% | 50% | $116,988 |
| **Market type** | | | | |
| IRA | 67% | 67% | 67% | $126,375 |
| Nonqualified | 33% | 33% | 33% | $133,395 |
| **IRA by age** | | | | |
| Age 59 & under | 30% | 36% | 32% | $108,364 |
| 60 to 64 | 24% | 28% | 24% | $137,113 |
| 65 to 69 | 23% | 22% | 23% | $138,827 |
| 70 to 74 | 14% | 10% | 13% | $133,843 |
| 75 to 79 | 6% | 3% | 6% | $129,123 |
| 80 or older | 3% | 1% | 2% | $125,771 |
| **Nonqualified by age** | | | | |
| Age 59 & under | 24% | 30% | 24% | $129,338 |
| 60 to 64 | 19% | 22% | 19% | $134,329 |
| 65 to 69 | 20% | 21% | 21% | $135,865 |
| 70 to 74 | 16% | 15% | 16% | $132,750 |
| 75 to 79 | 11% | 9% | 11% | $135,665 |
| 80 or older | 10% | 3% | 9% | $145,006 |

**Table 1-3:** GLWB Owner and Contract Characteristics *(continued)*

| | Issued Before 2013 | Issued in 2013 | All Contracts in Force | Average Premium (for Contracts Issued in 2013) |
|---|---|---|---|---|
| **Distribution channel** | | | | |
| Career agent | 20% | 20% | 20% | $120,185 |
| Independent agent/ independent B-D | 46% | 47% | 46% | $128,561 |
| Full Service National B-D | 18% | 16% | 17% | $147,413 |
| Bank | 16% | 17% | 16% | $125,867 |
| **Cost structure** | | | | |
| B-share | 57% | 64% | 58% | $126,139 |
| L-share | 28% | 23% | 28% | $144,988 |
| O-share | 3% | 11% | 4% | $106,024 |
| C-share | 2% | 1% | 2% | $133,194 |
| **Contract value, EOY 2013 as percent of contracts issued** | | | | |
| Under $25,000 | 12% | 9% | 11% | N/A |
| $25,000 to $49,999 | 16% | 14% | 16% | N/A |
| $50,000 to $99,999 | 26% | 26% | 26% | N/A |
| $100,000 to $249,999 | 34% | 37% | 34% | N/A |
| $250,000 to $499,999 | 10% | 10% | 10% | N/A |
| $500,000 or higher | 3% | 3% | 3% | N/A |
| **Contract value, EOY 2013 as percent of contract value** | | | | |
| Under $25,000 | 1% | 1% | 1% | N/A |
| $25,000 to $49,999 | 4% | 4% | 4% | N/A |
| $50,000 to $99,999 | 14% | 14% | 14% | N/A |
| $100,000 to $249,999 | 38% | 41% | 39% | N/A |
| $250,000 to $499,999 | 25% | 25% | 25% | |
| $500,000 or higher | 17% | 15% | 17% | |
| **Average contract value, EOY 2013** | $135,346 | $135,162 | $135,322 | N/A |
| **Median contract value, EOY 2013** | $91,634 | $100,462 | $92,657 | N/A |
| **Average premium received in 2013** | N/A | $128,719 | N/A | $128,719 |

Note: Percentages are based on number of contracts unless stated otherwise. Based on contracts still in force at EOY 2013. "Issued before 2013" based on 2,181,879 GLWB contracts, "Issued in 2013" based on 322,325 GLWB contracts, and "All contracts in force" based on 2,504,204 GLWB contracts.

## Key Findings

- B-share contracts are the most common cost structures (64 percent) while L-share contracts made up 23 percent of new issues in 2013.
- By EOY 2013, 1 in 4 in-force contracts with GLWBs had account values between $50,000 and $99,999, one third between $100,000 and $249,999, and 1 in 8 had account values of $250,000 or more. Although 50 percent of the contracts issued in 2013 had contract values of $100,000 or more, these contracts constituted 81 percent of GLWB account values at EOY.
- The average contract value for all GLWB contracts remained very attractive — $135,322 at EOY 2013. The average GLWB contract value at EOY for contracts issued in 2013 was $135,162. The average premium for 2013 issues was $128,719.
- The average premium from contracts bought by males was 20 percent higher than from contracts purchased by females. The largest contracts were for older males who purchased nonqualified contracts through the full-service national B-D channel.

**$128,719** was the average premium for GLWB contracts issued in 2013. The median premium was **$97,536.**

- The average nonqualified GLWB premium was $133,395, almost 6 percent higher than qualified GLWB contracts, largely due to higher premium received from older buyers who tend to buy more nonqualified contracts.

## Benefit Base

Calendar year 2013 was a banner year for the equity markets. The equity markets began the year strong, despite personal income tax increases at the beginning of the year and the gridlock in the U.S. Government, which caused a deadlock with the federal budget and a mandated 10 percent across-the-board cut in federal spending. Solid corporate earnings, reduced unemployment figures, and a rebound in housing continued to fuel the equity market returns throughout the year, with the S&P 500 posting gains of just under 30 percent (and in excess of 32 percent if you include dividends) in 2013 (Figure 1-6). The S&P 500 closed the year at a record high of 1,848. There were a few temporary declines in equity growth in 2013. For example, when outgoing Federal Reserve Chairman, Ben Bernanke, announced that the quantitative easing (QE) bond buying program would end by mid-2014, as well as when political gridlock caused a temporary shutdown of the U.S. Government at the start of the fourth quarter. However, despite these slight setbacks, the equity markets experienced very good growth in 2013.

**Figure 1-6:** S&P 500 Index, January – December 2013


Note: *Yahoo Finance,* December 2014

GLWBs are complex products and insurers are exposed to the risk that the underlying investments may underperform before or during the withdrawal period, and that the account balances in the contracts may be insufficient to cover the lifetime withdrawal guarantee. With a guarantee of lifetime benefit option — particularly on joint lives — insurers also are exposed to longevity risk. The performance of underlying investments may remain vulnerable to the complex mixture of risk arising from equity, interest rates, and the correlation thereof.

Over the last few years, insurance companies have worked to better manage the volatility of the subaccounts by restricting the funds that GLWB owners can invest into. This has evolved from asset allocation funds to automatic asset transfer programs to, most recently, managed volatility funds.

When analyzing the benefit bases of GLWBs, it is important to understand the details behind the equity market growth and volatility of 2013 as well as the withdrawal behavior of GLWB owners in that economic environment. The benefit bases in many GLWB riders are guaranteed to roll up for owners that delay taking their first withdrawal.

At BOY 2013, 79 percent of contracts with GLWBs issued before 2013 were in-the-money. At BOY, the average difference between the benefit base and the contract value was approximately $12,200 for these contracts. On average, contract values were around 91 percent of the benefit bases across all contracts (Table 1-4). The median contract value was roughly $8,300 lower than the median benefit base.

**Table 1-4:** GLWB Benefit Bases and Contract Values, at BOY 2013

| | Benefit Base | Contract Value | |
|---|---|---|---|
| | Amount | Amount | Percent of Benefit Base |
| Sum | $269,177,973,924 | $244,241,825,899 | 90.7% |
| Average | $131,823 | $119,612 | 90.7% |
| Median | $89,193 | $80,858 | 90.7% |
| Percent of contracts where benefit base was greater than contract value | | 79% | |

Note: Based on 2,041,970 GLWB contracts issued before 2013 with GLWB benefit bases as of BOY and EOY 2013. Excludes contracts for which the GLWB benefit bases could not be determined.

The ratio of contract value to benefit base at EOY 2013 was **96%** — up from **91%** at BOY.

With the equity market growing more than most benefit base roll-up amounts after expenses, the percentage of contracts that were in-the-money declined significantly in 2013. At BOY, 79 percent of GLWB contracts were in-the-money; while by EOY 2013 only 57 percent of the contracts were in-the-money (Table 1-5).

**Table 1-5:** GLWB Benefit Bases and Contract Values, at EOY 2013

| | Benefit Base Amount | Contract Value | |
|---|---|---|---|
| | | Amount | Percent of Benefit Base |
| Sum | $287,050,536,649 | $274,090,653,866 | 95.5% |
| Average | $140,575 | $134,229 | 95.5% |
| Median | $95,036 | $90,484 | 95.2% |
| Percent of contracts where benefit base was greater than contract value | | 57% | |

Note: Based on 2,041,970 GLWB contracts issued before 2013 with GLWB benefit bases as of BOY and EOY 2013. Excludes contracts for which the GLWB benefit bases could not be determined.

Overall account values were roughly 96 percent of the benefit bases at EOY 2013.This ratio of benefit base to account value has increased from EOY 2008 (after the market plunge) when account values were 73 percent of the benefit base amounts.[8]

At EOY 2013, the average benefit base stood at $140,600 for all GLWB contracts. The average difference between the benefit base and contract value was $6,350, almost half the difference from BOY 2013. The average difference between the median benefit base and median contract value declined to $4,600 by EOY.

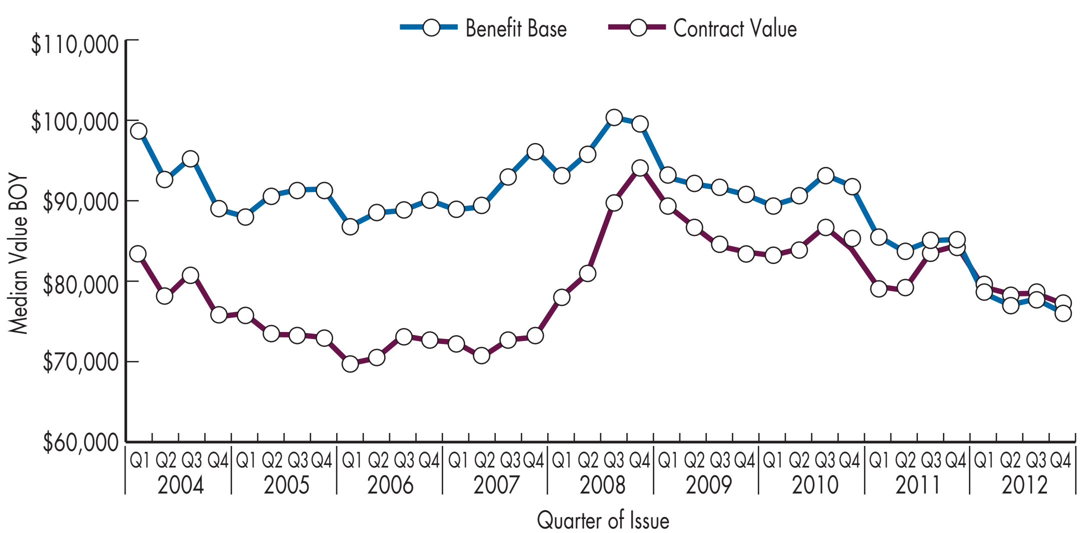
## Benefit Base by Quarter and Year of Issue

When a contract is issued has an impact on if — and how much — a contract is in-the-money. Some contracts have experienced considerable market volatility — involving both gains in the early periods of 2005–2007, deep losses during the market crisis in 2008–2009, moderate gains in 2010, a flat return in 2011, and then improvements in 2012–2013.

8 *Guaranteed Living Benefits Utilization — 2008 Data,* LIMRA Secure Retirement Institute, 2009.

The contracts issued in 2004, for example, experienced robust market gains in 2006–2007; and, as a result had less of a setback during the market plunge in 2008 and subsequent market changes (Figure 1-7). Conversely, contracts issued between 2006 and early 2008 had less time to realize gains or suffered significant losses, making the gap between the benefit base and contract value wider as of BOY 2013. Contracts issued in the second half of 2007 were impacted the most by market losses and automatic benefit base roll-ups, resulting in a considerable gap between the contract value and benefit base. However, contracts issued in the last quarters of 2008 through early 2011 had a very similar gap between contract values and benefit bases as gains in contract values were similar to the increase due to benefit-based roll-ups. For contracts issued in late 2011 and into 2012, the average contract value and average benefit base were similar given that they had little time for any changes.

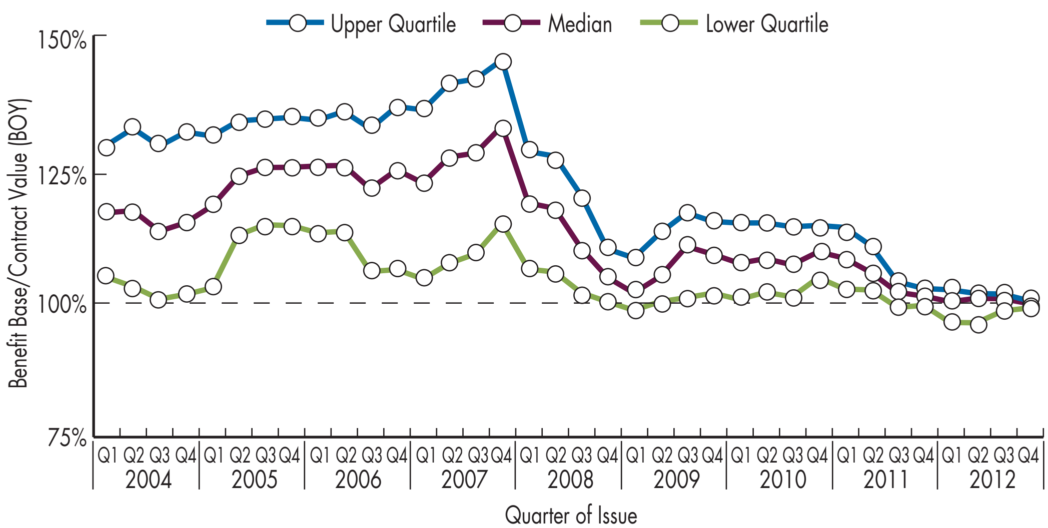
**Figure 1-7:** GLWB Median Contract Value vs. Benefit Base, BOY 2013




Note: Based on 2,030,735 GLWB contracts issued between 2004 and 2012. Excludes contracts for which the GLWB benefit bases could not be determined.

Looking at the quartile ranges of the benefit base to contract value (BB/CV) ratios, contracts issued before 2008 had the greatest deviations in contract value to benefit base ratios (Figure 1-8).

**Figure 1-8:** GLWB Benefit Base to Contract Value, BOY 2013



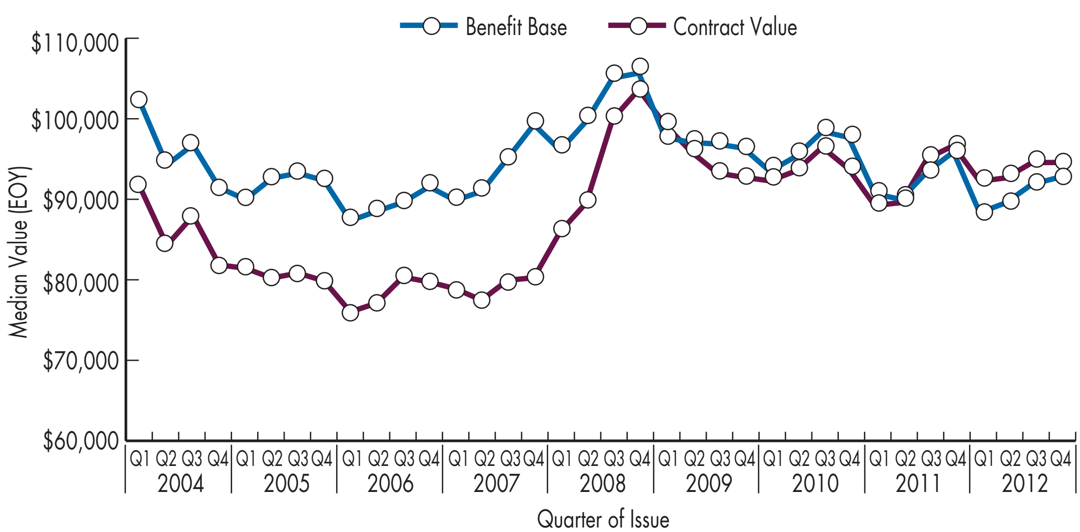

Note: Based on 2,030,735 GLWB contracts issued between 2004 and 2012. Excludes contracts for which the GLWB benefit bases could not be determined.

The upper and lower quartiles refer to the distribution of BB/CV ratios at BOY 2013, not the distribution of contract values. The inter-quartile range gives a sense of how widely (or narrowly) the ratios are distributed. At BOY 2013 the median of contract value to benefit base ratios issued from Q1-2004 through Q4-2007 ranged from 114 to 134 percent.

In addition, one quarter of contracts issued between 2004 and 2007 had ratios that were 126 percent or more, and one quarter had ratios that were 118 percent or less. As one would expect, the inter-quartile range narrows with decreasing duration (more recently issued contracts tend to have a tighter distribution) because there has been less time for any group of contracts to pull far ahead (or fall far behind) the rest of the pack in terms of performance.

By EOY 2013, the relative relationship between benefit base and contract value was much closer when compared to BOY (Figure 1-9). The median contract value increased from $80,900 at BOY 2013 to $90,500 at EOY, a gain of 11.9 percent. At the same time, the median benefit bases increased 6.6 percent from $89,200 at BOY to $95,000 at EOY.

**Figure 1-9:** GLWB Median Contract Value vs. Benefit Base, EOY 2013

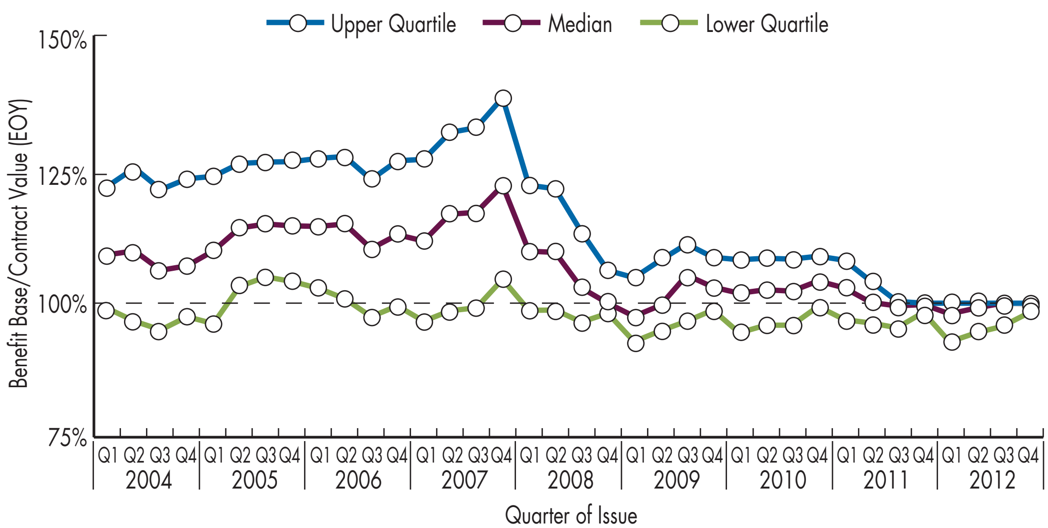



Note: Based on 2,091,230 GLWB contracts issued between 2004 and 2012. Excludes contracts for which the GLWB benefit bases could not be determined.

Strong equity growth throughout 2013 helped reduce the difference between the median benefit base and the median contract value. However, for contracts issued prior to Q4 2008, the gap remained substantial. One main reason is that contracts issued before Q4 2008 enjoyed richer benefit and roll-up features compared with contracts issued after the market crisis, where most benefits and roll-up rates were adjusted down considerably.

The inter-quartile analysis at EOY 2013 shows a decline in BB/CV ratios compared to BOY (Figure 1-10). The median ratios of benefit bases to contract values in contracts issued from Q1-2004 through Q4-2007 ranged from 106 percent to 122 percent at EOY.

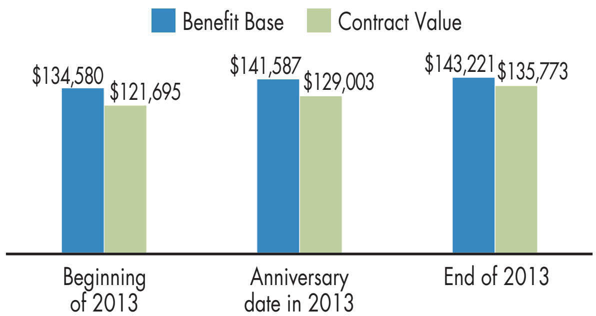
**Figure 1-10:** GLWB Benefit Base to Contract Value, EOY 2013




Note: Based on 2,091,230 GLWB contracts issued between 2004 and 2012. Excludes contracts for which the GLWB benefit bases could not be determined.

Comparing average contract values and benefit base amounts at BOY, on the anniversary date, and at EOY, we find that the average contract value grew from $121,700 at BOY to $135,800 at EOY 2013, registering a growth of 11.6 percent (Figure 1-11). During this time, the average benefit base grew 6.4 percent from $134,600 to $143,200. On the contract anniversary date, the benefit base registered an increase of 5.2 percent from $134,600 at BOY to $141,600 on the anniversary date, mainly driven by deferral bonuses for non-withdrawals. At EOY 2013, there was a difference of $ 7,500 between the average contract value and average benefit base.

**Figure 1-11:** GLWB Average Contract Values and Benefit Bases at BOY, on Anniversary Date, and at EOY 2013




Note: Based on 1,683,392 GLWB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GLWB benefit bases (as of BOY, the contract's anniversary date, or EOY) could not be determined.

Across these 1.7 million contracts, the benefit bases totaled $241.1 billion as of EOY 2013, compared with contract values of $228.6 billion. Three quarters of the $12.5 billion difference between benefit bases and contract values reflects contracts with account balances of $100,000 or more, even though they represent only 47 percent of all contracts.

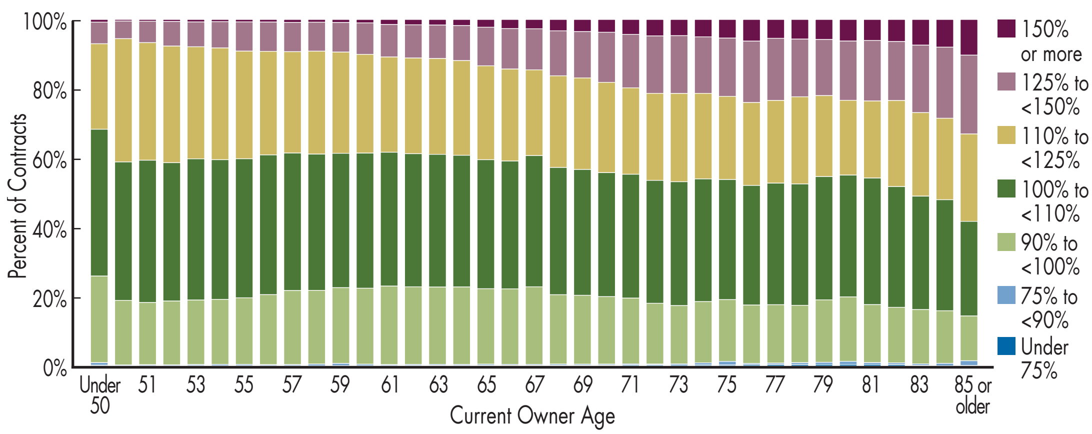
## Benefit Base to Contract Value Ratios by Age

The analysis of BB/CV ratios can be expanded to include age or age cohorts to see how the withdrawal risks from a particular age or age cohort can be linked to benefit base to account value ratios. The BB/CV ratios are impacted by forces like the duration of contracts and the impact of market returns on the account values, infusion of new contracts in the book by age groups, richness of in-force contract features like automatic roll-up percentages, and impact of withdrawals on the account values and benefit base. This analysis can offer insurance companies helpful indications of withdrawal risks associated with each age or age cohort, and comparisons with the industry. Our analysis shows that BB/CV ratios differ by age. The bands defining BB/CV ratios have been revised from previous years' analyses as BB/CV ratios have increased due to improving market returns, which necessitated looking at BB/CV ratios around the central tendency of 100 percent.

**6 in 10** contracts had a BB/CV ratio between **90 and 110%** at BOY.

Figure 1-12 shows the BB/CV ratios by age at BOY 2013. At the BOY, for in-force contracts issued before 2013, only 20 percent of contracts had BB/CV ratios of 90 to less than 100 percent and very few contracts had a ratio below 90 percent. Six in 10 contracts (58 percent) had a BB/CV ratio of 90 to less than 110 percent. This clustering around 100 percent was due to increased market performance in the prior year and the tendency of the benefit base to move in unison with the contract value due to step-ups for contracts that had no withdrawals. In addition, 27 percent of the contracts had benefit bases exceeding contract values by 110 to less than 125 percent. One seventh of the contracts had BB/CV ratios of 125 percent or more.

**Figure 1-12:** GLWB Benefit Base to Contract Value Ratios by Age — at BOY 2013




Note: Based on 2,041,946 GLWB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GLWB benefit bases or contract values could not be determined.

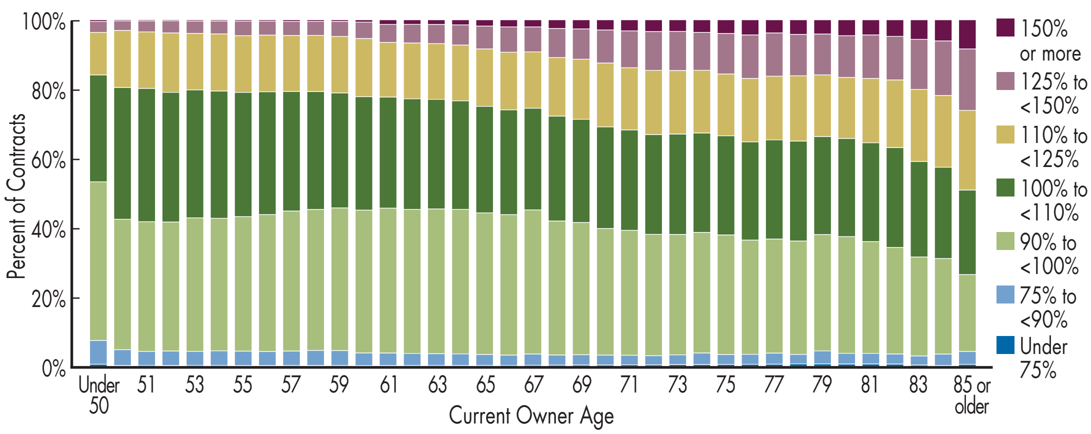
However, owners aged 70 or older had comparatively more contracts with BB/CV ratios of 125 percent or more (similar to what we have seen in past years). One in five (21 percent) contracts with owners aged 70 to 79, and more than a quarter (27 percent) of the contracts with owners aged 80 or older, had BB/CV ratios of 125 percent or more. Though owners aged 70 or older constituted only a quarter of all contract owners, over 40 percent of all contracts with BB/CV ratios of 125 percent or more were within this age cohort. Older owners hold comparatively more contracts with higher BB/CV ratios because:

- They are more likely to own contracts for a longer duration of time. So these contracts are likely to have suffered increased ups and downs from the market volatility.
- Older owners — particularly those aged 70 or older — are more likely to take withdrawals over a longer period of time. If their withdrawal amounts remain within the maximum amount offered in the contract, their contract values may diminish due to the withdrawals while the benefit bases are likely to remain level and relatively high.

- They may also have had their contracts for more years in deferred withdrawal mode prior to withdrawals, while annual roll-up features pushed up their benefit base amounts automatically.

Figure 1-13 shows the distribution of BB/CV ratios by age at EOY 2013. The contracts with BB/CV ratios (less than 100 percent) have increase from 21 percent at BOY to 42 percent by EOY.

**Figure 1-13:** GLWB Benefit Base to Contract Value Ratios by Age — at EOY 2013




Note: Based on 2,041,946 GLWB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GLWB benefit bases or contract values could not be determined.

At the end of the year, 70 percent of the contracts had a BB/CV ratio of 90 to less than 110 percent. The biggest increase from the BOY in the BB/CV ratio was in the 90 to less than 100 percent range. The ratio doubled from 20 percent in the beginning of the year to 39 percent by the end of the year. There was also an increase for contracts with a BB/CV ratio at or above 110 percent. The ratio for these contracts declined from 42 percent at the beginning of the year to 26 percent at the end of the year.

**7 in 10** contracts had a BB/CV ratio between **90 and 110%** at EOY.

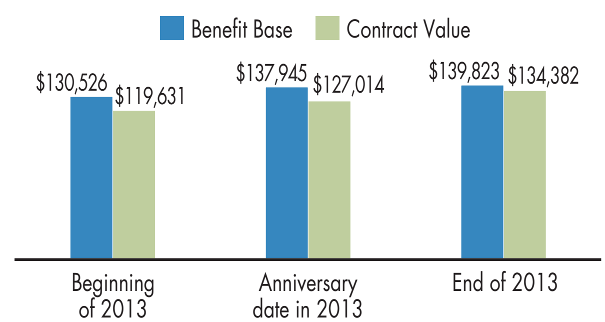
In addition, 38 percent of contracts held by owners aged 60 or younger had BB/CV ratios of 110 percent or above at BOY; the percentage of such contracts had decreased to 20 percent by year end. At BOY, the BB/CV ratios of 46 percent of contracts held by owners aged 70–79 were at 110 percent or higher; at EOY 2013, the BB/CV ratios of 33 percent of their contracts remained at that high level. For owners aged 80 or older, the percentage of contracts with BB/CV ratios of 110 percent or higher was 50 percent at BOY, and decreased to 40 percent by EOY.

## Benefit Base for Contracts With Withdrawals vs. Without Withdrawals

When the benefit base remains close to the account value — at least when owners start taking withdrawals — companies run very little risk in managing their business, providing the owners are not very young. These owners have a long lifetime of withdrawals, and the risk of sequence of returns could have an impact on them. We can further expand our benefit base analysis to look at those contracts that had withdrawals compared with those that did not have withdrawals in 2013. When withdrawals are made from GLWB riders, in most cases, the benefit base remains unaffected, while account values are reduced by the withdrawal amounts. One risk that exists with the contracts that utilize guaranteed withdrawal riders is that the account values in these contracts will decline — absent any market growth. In these cases, the contract may eventually run out of money. This could be expedited if negative returns happen early in the withdrawal phase, due to the impact of the sequence of returns.

For in-force contracts issued before 2013 that did not have withdrawals in 2013, the benefit base rose steadily from $130,500 to $137,900 on the contract anniversary date to $139,800 by year end, registering a 7.1 percent increase (Figure 1-14). This increase can be attributed mainly to auto-increases and step-ups of benefit bases for contracts with non-withdrawals. The average contract value of these contracts was $119,600 at BOY 2013 which increased to $134,400 by EOY, a gain of 12.3 percent for the year. The difference between the benefit base and account value at BOY was $10,900, but declined to $5,400 by EOY, representing just 4 percent of the EOY contract value.

**Figure 1-14:** GLWB Average Contract Values and Benefit Bases for Contracts Without Withdrawals



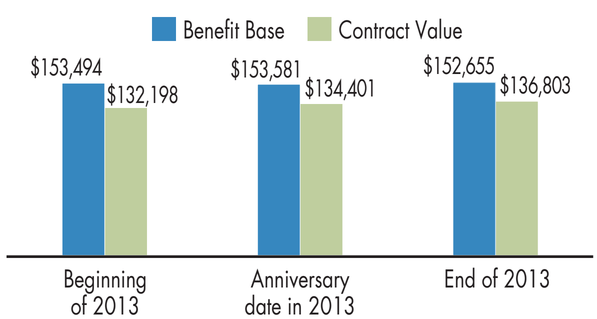

Note: Based on 1,246,198 GLWB contracts issued before 2013 and still in force at EOY 2013 where there were no withdrawals made or current-year premium received. Excludes contracts for which the GLWB benefit bases or contract values could not be determined.

The difference between the benefit base and account values was more prominent among contracts that incurred withdrawals in 2013 (Figure 1-15). However, the average benefit base amount declined in 2013, driven in part by younger owners taking excess withdrawals. The average benefit base fell 0.5 percent from $153,500 at BOY to $152,700 at EOY. The market gains were more than enough to offset the amount withdrawn, on average leading to an increase in the contract value. The average contract value increased 3.5 percent from $132,200 at BOY to $136,800 by EOY. The difference between the benefit base and the account value at BOY was $21,300 but dropped during 2013. By EOY 2013, the gap had shrunk to $15,900 or 12 percent of the ending contract value.

The difference between the average benefit base and average account value for contracts without withdrawals was **4%** at EOY.

The difference between the average benefit base and average account value for contracts with withdrawals was **12%.**

**Figure 1-15:** GLWB Average Contract Value and Average Benefit Base for Contracts With Withdrawals in 2013




Note: Based on 368,132 GLWB contracts issued before 2013 and still in force at EOY 2013 where there were withdrawals made, but no current-year premium received. Excludes contracts for which the GLWB benefit bases or contract values could not be determined.

# Withdrawal Benefit Utilization

## Utilization

Determining whether a contract owner has actively "used" a GLWB during the year is straightforward. If partial withdrawals have occurred, then benefit utilization has occurred. However, determining whether contract owners will continue to take withdrawals up to the maximum allowed under the terms of the benefit, or whether they will take benefits for life, is less obvious. However, owners' inclinations to take lifetime withdrawals are more obvious when they take withdrawals from a systematic withdrawal plan (SWP).

> Owners are effectively utilizing the GLWB benefits if they take withdrawals on a continuous basis through SWPs, and withdrawal amounts remain within the maximum allowed.

Much of the present study is based on a single calendar year. However, in some sections we analyzed withdrawal activity over time. To try and assess overall withdrawal behavior, we asked companies to provide cumulative total withdrawals prior to 2013 (not all companies could provide this information). In addition, some companies found it difficult to distinguish systematic withdrawals — which are more likely to be associated with utilization of GLWBs — from non-systematic withdrawals. So, LIMRA defined "utilization" of GMWBs and GLWBs as the presence of partial withdrawals during the year, with the caveat that benefit "use" may occur in other ways.

In this report, we emphasize five key determinants that will guide companies in understanding the intention of owners to use withdrawals as a lifetime income stream:

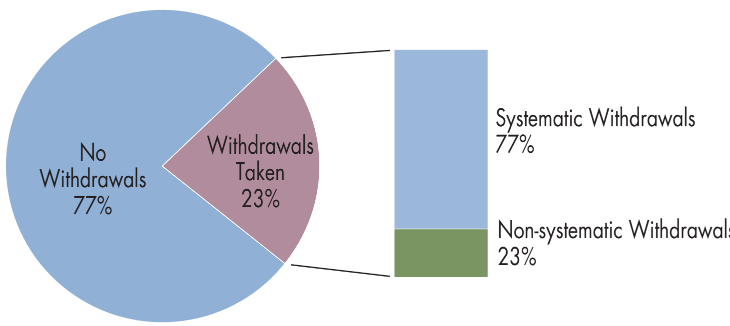
- Age of customers taking withdrawals — At what ages are owners likely to take withdrawals and how many are likely to take withdrawals?
- Source of funding for their annuities and how this impacts withdrawal behavior.
- When are they taking their first withdrawals? Are they likely to continue withdrawals once they start?
- Method for withdrawals — Are the customers taking withdrawals through an SWP or through occasional withdrawals?
- Amount of withdrawals — Are withdrawal amounts within the maximum annual income amount allowed in their contracts?

If customers take withdrawals on a continuous basis through SWPs, and withdrawal amounts remain within the maximum allowed, it is very likely they are utilizing the GLWB in their contracts. Our findings suggest that most are.

## Overall Utilization for Contracts Issued Before 2013

For 2,182,000 VA contracts with GLWBs issued before 2013 and still in force at EOY 2013, only 23 percent had some withdrawal activity during 2013 (Figure 1-16). Three out of 4 of those were systematic withdrawals.

**Figure 1-16:** GLWB Overall Utilization of Withdrawals




Note: Based on 2,181,880 GLWB contracts issued before 2013 and still in force at EOY 2013.

For contracts issued before 2013 and with withdrawals in 2013:

- The total withdrawal amount from GLWBs was $5.1 billion, or 1.9 percent of assets in force at BOY.
- Among contracts with partial withdrawals, the median amount withdrawn was $5,788, representing 6.4 percent of the median BOY contract value of $90,985 in contracts that had withdrawals.
- The average withdrawal amount for contracts issued before 2013 that incurred withdrawals in 2013 was $10,245. The average withdrawal rate was 7.8 percent based on the average BOY contract value of $132,080. This average is impacted by younger owners that withdraw amounts that significantly exceed their withdrawal benefit maximum. A larger than normal percentage of these owners who take partial surrenders may eventually surrender their contracts.

**23%** of all contracts had some withdrawal activity during 2013; **3 out of 4** used systematic withdrawals.

**$5,800** was the median GLWB withdrawal amount in 2013.

- Withdrawal activity in two consecutive years is a more reliable indicator of a contract owner's intention to make ongoing withdrawals. For contracts issued in 2012 with withdrawal activity in that year, 95 percent continued withdrawals in 2013. Our previous annual studies also found that a high percent of owners who start withdrawals continue those withdrawals in the following year — a strong indication that owners who commence withdrawals are likely to continue withdrawing for their lifetimes.
- The median systematic withdrawal amount was $5,300, which amounts to 5.6 percent based on a BOY account value of $94,932.

Overall utilization rates have gradually increased for contracts in force for an entire year.

**95%** of GLWB customers who purchased their contracts in 2012 and took withdrawals in 2012 also made withdrawals in 2013. Owners who commence withdrawals are likely to continue withdrawing for their lifetime.

Based on a constant group of 13 companies that participated in LIMRA's VAGLB Utilization Study from 2009–2013, overall utilization rates have gradually increased for contracts in force for an entire year. Utilization rates in 2009 were 17 percent for contracts issued before 2009 and remaining in force that year; utilization rates in 2010 were 21 percent for contracts issued before 2010 and remaining in force that year; utilization rates in 2011 were 22 percent for contracts issued before 2011 and remaining in force in 2011. The GLWB utilization rates were 23 percent for contracts issues before 2012 and remaining in force that year. The GLWB utilization rates in 2013 were 26 percent for contracts issued before 2013 and remaining in force at EOY 2013.[9] In 2009, the overall utilization rate was slightly lower because of relaxation of RMD rules that year due to economic hardship.

However, we found that the source of funds and age of owners are the two main influences on withdrawal activity in GLWB riders. The size of the contracts, deferral incentives, duration of contracts, and the channels through which the customer bought the annuity also have an impact on how customers take withdrawals, but these factors are not as significant as age and source of money. Understanding how these factors influence withdrawals will help companies to measure their own risk compared with the industry.

9 Some of the increase in withdrawal activity over the past several years can be attributed to the aging of the GLWB block of business, as new issues to younger buyers has slowed. Using the same constant group of companies, the average age of GLWB owners increased from 62 in 2009 to 64 in 2013; the proportion of owners age 70 or older increased from 20.5% in 2009 to 25.9% in 2013.

We also need to emphasize that GLWBs are the most popular annuity products for younger individuals who want to guarantee a portion of their future income. Identifying who is making the withdrawals and when is important in understanding the withdrawal behavior of GLWB owners.

To address the need for guaranteed lifetime income, insurance companies have focused on two areas — products that provide income in the future when the client may need it, depending upon the buyer preferences; and guaranteed income for immediate use. In other words, is the individual looking for 'income later' or 'income now'. Both product types help the customer to achieve the same goal — securing a guaranteed lifetime income in retirement.

A GLWB or a GMIB rider addresses the need for income later, and is suitable for younger investors and pre-retirees. In addition to offering a guaranteed lifetime income, these riders also provide built-in flexibilities that owners can trigger to receive income at any point in the future. As we showed earlier, a majority of GLWB buyers are under age 65, and at or near retirement. The traditional immediate income annuity typically attracts older investors (with an average age of 73 years) who are focused on maximizing guaranteed income that starts immediately.[10]

The overall utilization rate for GLWB contracts over the past few years has slowly increased, with 2013 utilization up to 23 percent. However, this is only one of several measures and this statement alone without the context of the other factors we have mentioned is misleading. The next few pages will address some of the other factors that have an impact on GLWB owner withdrawal behavior.

10 *Guaranteed Income Annuities* — LIMRA Secure Retirement Institute, 2010.

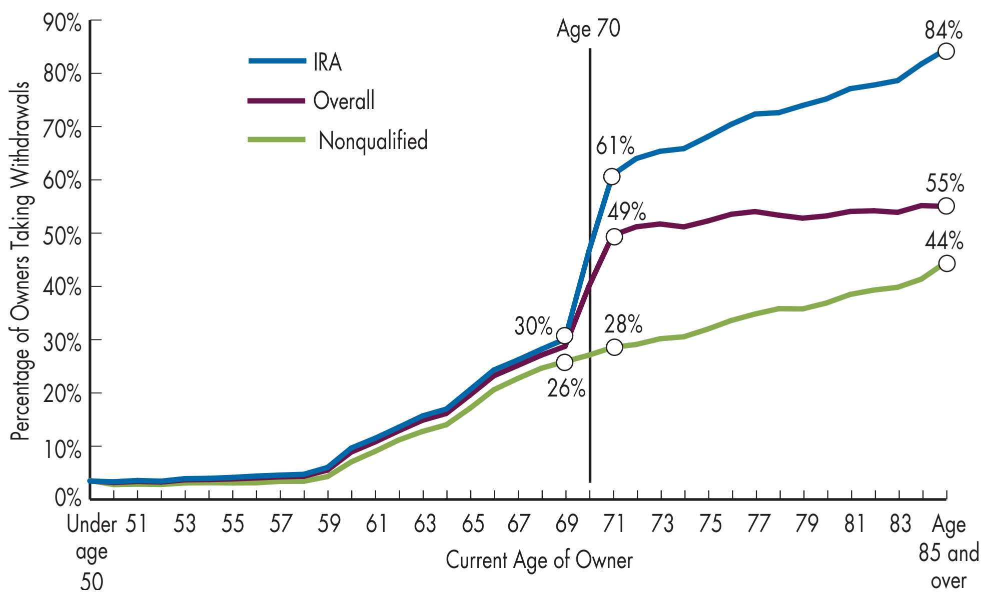
## Withdrawal Activity by Source of Funds

Just over **2 out of 3** VA GLWB owners over age 70 are taking withdrawals from their qualified annuities.

The source of funds is one of the most important factors in understanding customer withdrawal behavior.

Examining withdrawal activity by source of funds and customer age shows that the 2013 GLWB utilization rate is quite high for older customer segments (Figure 1-17).

**Figure 1-17:** GLWB Utilization by Source of Funds and Age of Owners




Note: Based on 2,181,851 GLWB contracts issued before 2013 and still in force at EOY 2013.

The withdrawal behavior of GLWB owners can be categorized into three life stages: pre-retirement, entering-in-retirement, and RMD. Up to age 60, when most owners are not retired, withdrawal rates for customers who use either qualified or nonqualified money to buy their contracts remains low, under 5 percent. Withdrawals for both types of owners do not start to rise until they reach age 60 or later, when some of the owners enter the retirement phase. In this phase, the percent of customers taking withdrawals rises steadily in parallel for both qualified and nonqualified owners. In many GLWBs, owners become eligible to withdraw starting at age 60. However, between the ages of 60 and 70 — sometimes termed as the transition ages in retirement — few customers are fully utilizing the withdrawal benefits.

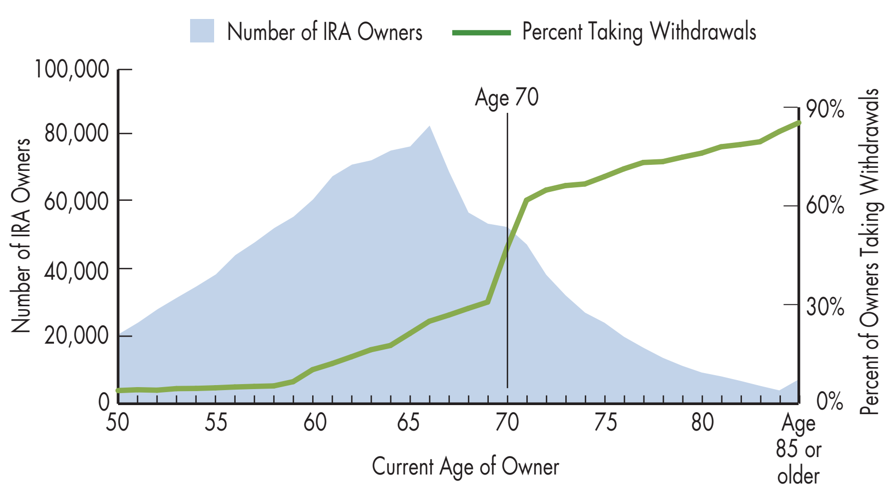
After age 70½, qualified annuities force owners to take RMD withdrawals. As a result, the percent of customers with withdrawals quickly jumps to 64 percent by age 72 and slowly rises to over 80 percent after age 85. Sixty-eight percent of VA GLWB owners over age 70 take withdrawals from their qualified annuities.

Owners are more likely to refrain from using lifetime withdrawal benefits if they bought the annuity with nonqualified money. Nonetheless, there is a steady increase in the proportion of owners who make withdrawals as they advance in age. Over 40 percent of these customers take withdrawals after age 85.

The overall percent of older owners taking withdrawals is closer to the percent of customers withdrawing from nonqualified annuities, since more customers aged 70 or over own a nonqualified annuity (and the majority of them are not taking withdrawals). However, this pattern will change as more customers with qualified annuities age and start to withdraw due to RMDs (Figure 1-18). While 72 percent of contracts issued before 2013 that are owned by individuals under age 70 were funded with qualified money, almost half (45 percent) of the contracts owned by customers age 70 or above are nonqualified.

A shift will take place as **47%** of owners (aged 60–69 today) with qualified annuities will have to take withdrawals over the next decade due to RMDs.

**Figure 1-18:** GLWB Utilization by IRA Owners




Note: Based on 1,465,846 GLWB contracts, funded by IRA money, issued before 2013 and still in force at EOY 2013.

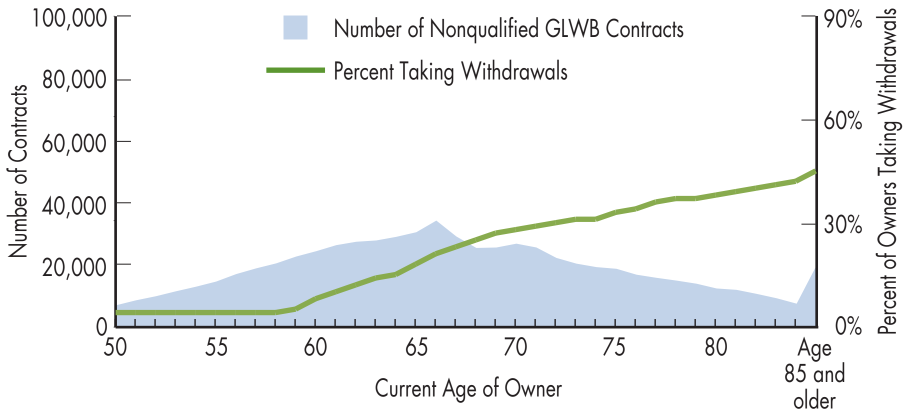
The distinction between qualified and nonqualified sources of funds is important for several reasons.

- Overall withdrawal activity, even the composite withdrawal activity by age cohort, is not a reliable measure of actual risk. The measure is particularly skewed downward because the majority of current GLWB owners are under age 70, and most of them have not yet started withdrawals.
- In the 2013 study, only 324,000 GLWB owners aged 70 or over funded their contracts with qualified money. They represent only 22 percent of all GLWB owners who funded their annuities with qualified savings. In the next decade, another 47 percent of owners (more than 688, 000) currently between ages 60 and 69 will reach age 70 and a majority of them will take withdrawals from their contracts to meet RMDs.
- In 2013, almost two thirds (64 percent) of owners aged 70 or older, who funded their GLWB contracts with qualified savings, took withdrawals. In comparison, only 25 percent of IRA owners aged 65–69 took withdrawals. The need to take RMDs will essentially drive withdrawal behavior for contract owners, and the more a company's customer mix is weighted with qualified contract owners, the more carefully it needs to manage its book of business.

In 2013, only **22%** of current qualified owners were aged 70 or above and **over two thirds** of them took withdrawals. In the next 5 years, another **23%** will reach RMD age.

In comparison, 37 percent of nonqualified annuity owners were aged 70 or above. The percent of nonqualified owners taking withdrawals in this age group was 33 percent in 2013, roughly half of the percentage of owners withdrawing from their qualified annuity (Figure 1-19).

**Figure 1-19:** GLWB Utilization by Owners With Nonqualified Funds




Note: Based on 716,005 GLWB contracts, funded by nonqualified savings, issued before 2013 and still in force at EOY 2013.

Today, sizeable proportions of retirees also have access to defined benefit pension plans and may not need to use the guaranteed withdrawal benefits from their annuities. However, in the future, withdrawal activity will likely increase considerably — particularly among the Baby Boomers — since fewer will have defined benefit pensions as a source of guaranteed income.

### Taking First Withdrawals

One of the important value propositions for GLWB annuities is the ability to create guaranteed lifetime income. To better understand owners' inclinations to take lifetime withdrawals, we have analyzed owner withdrawal behavior by considering at what age or in what year of annuity ownership the owner is likely to initiate their first withdrawal. We also look at how many will continue taking withdrawals once they start doing so. Extending that logic, we might expect to find corollary relationships among other variables, like when owners decide to take their first withdrawals, whether their withdrawal amounts remain within or around the prescribed withdrawal maximum amount allowed in the contract, or whether the persistency of these contracts differs from contracts that have not had withdrawals or excess withdrawals.

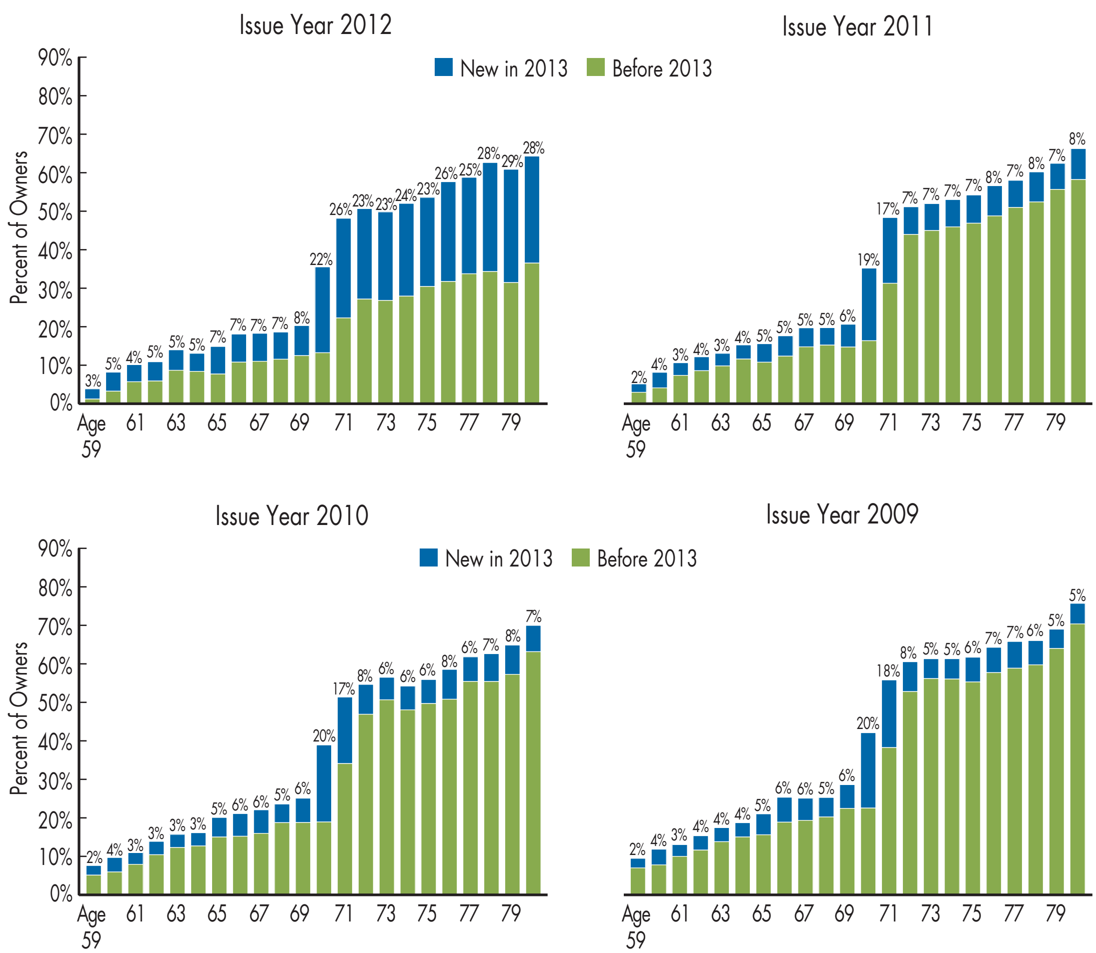
Analysis of when owners are likely to take first withdrawals provides important information on withdrawal risks of these contracts. These findings can help insurance companies to assess risk more precisely by identifying clusters of owners who are likely to start withdrawals in their 1st year, 2nd year, etc. after the purchase. The first-withdrawal activity analysis can be done in two ways: First, we can determine the percentage of owners who initiated their first withdrawals in 2013, by age, source of money and issue year, to provide various trends and relationships. Second, we can analyze the first withdrawal history for owners from a particular issue year, and track how age and sources of money influence their first withdrawals. Finally, we will extend this analysis for owners who take withdrawals through SWPs.

### Taking First Withdrawal From IRA Annuity in 2013

For IRA contracts issued in 2012, **1 in 4 owners** aged 70 and older took their first withdrawals in 2013.

There is a distinct pattern of withdrawal behavior from IRA-funded GLWB annuities, principally driven by age and the need to take RMDs. Figure 1-20 shows the percent of owners taking their first withdrawals in 2013 by each of the last four issue years from 2009 to 2012.

**Figure 1-20:** GLWB First Withdrawals in 2013 (IRA Contracts Only)




Note: Based on 650,602 IRA GLWB contracts issued from 2009 to 2012 and remaining in force at EOY 2013. Blue portion on top of each column represents percent of owners taking withdrawals in 2013 for the first time; green represents cumulative percent of owners who took withdrawals before 2013. The overall column height represents percent of all owners who took withdrawals to date.

The upper left corner of the chart shows withdrawal activity in contracts issued in 2012. The Y-axis shows the percent of customers who took withdrawals before 2013 and in 2013, combined. The green bar for each age shows the cumulative percent of customers who took their withdrawals before 2013 and the blue bar shows the percent of owners taking their first withdrawals from the contracts in 2013.

For many of the 2012 buyers, 2013 was the first complete year they owned their annuities and also the first year of their withdrawals. Only a small percent of the 2012 buyers under age 70 took their first withdrawals in 2013. The percent of owners taking withdrawals rose slightly with each age increment; it remained within a range of 2 to 8 percent. However, just under one quarter (22 percent) of these owners who turned age 70 in 2013 took their first withdrawals. Another 26 percent of owners who turned ages 71, and 23 percent of owners who turned age 72 also took a withdrawal in 2013. Nearly one quarter or more of owners aged 73 or over took withdrawals in 2013. The reason more owners over age 70 took withdrawals in 2013 is that many IRA annuity owners deferred their RMD withdrawals in 2012, because they may have already taken RMD withdrawals before purchasing the contracts or funded RMDs from other qualified investments. The first distribution for RMDs must be made no later than April 1 in the year following an owner turning age 70½. Each year after that, the RMD must be taken no later than December 31.

**17 to 26%**
of qualified owners turning 70 or 71 are taking withdrawals.

However, owners who bought their annuities in 2011 had at least two full years to take withdrawals — 2012 and 2013. For owners under age 70, we see almost identical behavior as for 2012 buyers — marginal increments ranging from 2 to 6 percent — of those who took withdrawals for the first time in 2013. Similar to 2012 buyers, 19 percent of the 2011 buyers who turned age 70 in 2013 took withdrawals. Seventeen percent of owners who turned age 71 took their first withdrawals in 2013, while 7 to 8 percent of 2011 buyers aged 72 or older took their first withdrawals in 2013.

Owners who bought their annuities in 2010 had at least three years to take withdrawals. The marginal increases in the percentage of owners taking their first withdrawals followed a very consistent pattern for owners aged 70 or under — a range of 2 to 6 percent — rising with age. However, similar to contracts issued in other years, 20 percent of owners who reached age 70 and 17 percent of owners who reached age 71 respectively took first withdrawals from their contracts in 2013. Eight percent of owners who turned age 72 took withdrawals. Afterwards, only 6 to 8 percent of 2010 buyers aged 73 or over took their first withdrawals in 2013. We witnessed an almost identical trend in owner withdrawal behavior for IRA annuity contracts issued in 2009.

Many insurance companies provide tools to assist GLWB buyers who take withdrawals, particularly to satisfy RMDs on or before a particular date when they turn age 70½, so that RMDs are not treated as excess withdrawals. If the annual RMD amount exceeds the annual guaranteed income amount, most companies will not treat it as an excess withdrawal. Also, nearly all companies administer programs to calculate RMD amounts and offer SWPs to receive RMDs.

To summarize: for IRA contracts, age and the need to take RMDs are the principal drivers for withdrawals (Table 1-6). The overall average percent of customers turning ages 70, 71, or 72 taking withdrawals are 20, 19, and 11 percent respectively. Before age 70, the percent of customers taking their first withdrawals ranges from 2 to 8 percent consistently across different years of issue.

**Table 1-6:** GLWB Percentage of Owners Taking First Withdrawal in 2013 (IRA)

| Turning Age | Contracts Issued in 2009 | Contracts Issued in 2010 | Contracts Issued in 2011 | Contracts Issued in 2012 |
|---|---|---|---|---|
| **Duration** | **4 – 4.9 years** | **3 – 3.9 years** | **2 – 2.9 years** | **1 – 1.9 year** |
| Age 59–69 | 2% – 6% | 2% – 6% | 2% – 6% | 3% – 8% |
| Age 70 | 20% | 20% | 19% | 22% |
| Age 71 | 18% | 17% | 17% | 26% |
| Age 72 | 8% | 8% | 7% | 23% |
| Age 73 and over | 5% – 7% | 6% – 8% | 7% – 8% | 23% – 29% |

Note: Based on 650,602 IRA GLWB contracts issued from 2009 to 2012 and remaining in force at EOY 2013.

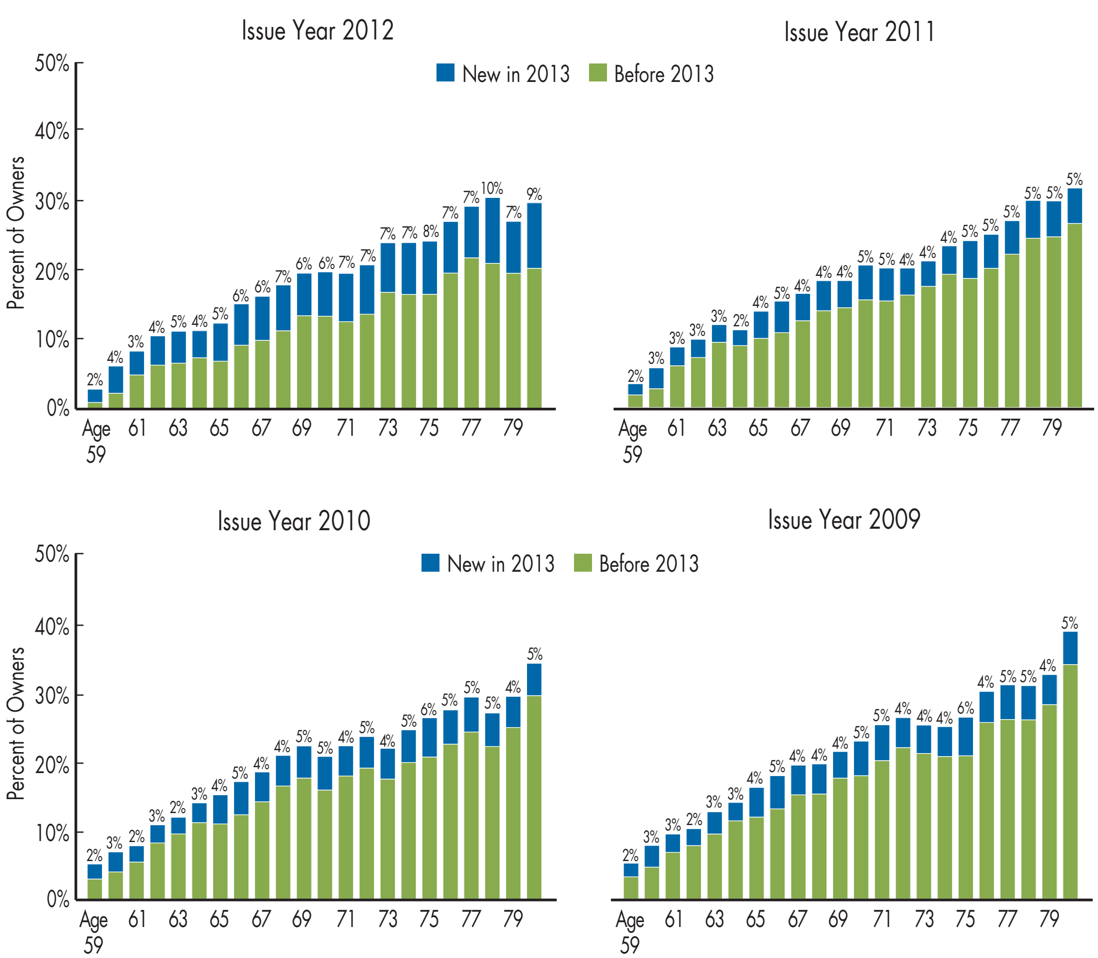
- The percent of owners under age 70 taking their first withdrawals in 2013 for contracts issued in each of the last four years are nearly identical: a range of 2 to 8 percent.
- The percent of qualified owners turning ages 70 or 71 taking withdrawals ranges from 17 to 26 percent.
- Contracts in their first full year of ownership (1–1.9 years) experienced 23 to 29 percent of owners taking their first withdrawals to satisfy RMDs.
- For older contracts, 7 to 8 percent of owners took withdrawals at age 72. For owners aged 73 and older, 5 to 8 percent took first withdrawals in 2013.

When we did the same analysis in 2012, the percent of owners taking their first withdrawals at each age was very similar, particularly for older contracts.

### Taking First Withdrawal From Nonqualified Annuity in 2013

The percent of nonqualified annuity owners taking their first withdrawals in 2013 reflects more streamlined withdrawal behavior. Figure 1-21 shows the percent of nonqualified owners taking withdrawals in 2013 by individual issue years from 2009 to 2012.

**Figure 1-21:** GLWB First Withdrawals in 2013 (Nonqualified Contracts Only)

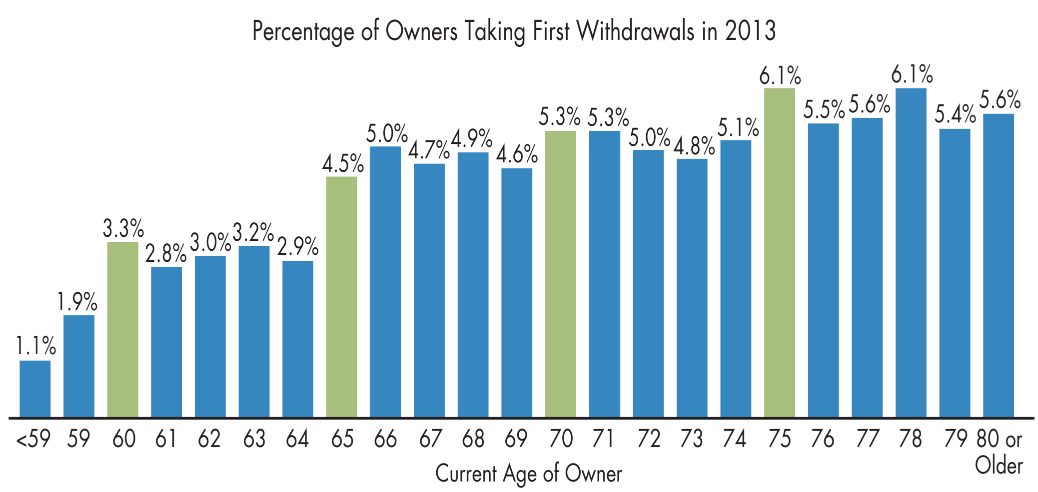



Note: Based on 313,457 nonqualified GLWB contracts issued from 2009 to 2012 and remained in force at EOY 2013. Blue portion on top of each column represents percent of owners taking withdrawals in 2013 for the first time; green represents cumulative percent of owners who took withdrawals before 2013. The overall column height represents percent of all owners who took withdrawals to date.

Because there is no need to take RMDs, the percent of nonqualified owners taking first withdrawals increases in a slow, linear way based on age. Only a small percent of owners aged 70 or under took their first withdrawals in 2012. The percent of owners taking withdrawals rises slightly with each increment in age; however, it remains within a range of 2 to 7 percent, similar to the behavior we saw with IRA owners under age 70.

More GLWB contracts offer age-banded withdrawal rates that increase based on the age of the client at first lifetime withdrawal. Typically these age bands are in five-year increments. The pattern in Figure 1-22 suggests some nonqualified owners wait until the next step-up in the annual withdrawal percentage before taking withdrawals, usually at ages 60, 65, 70, and 75. There are noticeable increases at each step-up when owners begin taking their first withdrawals — though some are small. The percentage of owners taking their first withdrawals tends to remain relatively stable within the age bands. For example, the percentage of owners aged 65 to 69 taking their first withdrawals ranges from 4.5 percent to 5.0 percent.

**Figure 1-22:** Percentage of Nonqualified Owners Taking First Withdrawal




Note: Based on 400,945 nonqualified GLWB contracts issued from 2009 to 2012 and remaining in force at EOY 2013.

The rate of increase of the percent of customers taking their first withdrawals from nonqualified annuities is somewhat lower for contracts issued before 2012. The percent of 2012 buyers who have completed at least one full year of annuity ownership took their first withdrawals in a range of 2 to 10 percent, rising slowly from age 59 to age 80 (Table 1-7). Many of these owners may already have decided to take withdrawals when they purchased the contracts. The percent of 2011, 2010, and 2009 buyers who took their first withdrawals ranges from 2 to 6 percent.

Only 24 percent of 2012 and 2011 buyers aged 75 took any withdrawals from their nonqualified annuity. Among the 2010 and 2009 buyers, 26 percent aged 75 have withdrawn since the contracts were issued.

**Table 1-7:** GLWB Percentage of Owners Taking First Withdrawal in 2013 (Nonqualified)

| Turning Age | Contracts Issued in 2009 | Contracts Issued in 2010 | Contracts Issued in 2011 | Contracts Issued in 2012 |
|---|---|---|---|---|
| **Duration** | **4 – 4.9 years** | **3 – 3.9 years** | **2 – 2.9 years** | **1 – 1.9 year** |
| Age 59–69 | 2% – 5% | 2% – 5% | 2% – 5% | 2% – 7% |
| Age 70 and over | 4% – 6% | 4% – 6% | 4% – 5% | 6% – 10% |

Note: Based on 313,457 nonqualified GLWB contracts issued from 2009 to 2012 and remaining in force at EOY 2013.

To summarize: for nonqualified contracts, age and contract duration are the principal drivers for withdrawals. A small percent of customers, in the single digits, take their first withdrawals every year.

## First Withdrawal Activity for IRA Contracts Issued in 2007

In order to get a clear and consistent picture of when owners first start to take withdrawals, and how many start to take their first withdrawals in the following years, we followed 2007 VA GLWB buyers and tracked their withdrawal behaviors. Table 1-8 shows the withdrawal behavior of 2007 IRA buyers aged 57 to 75 from 2007 to 2013 (7 years of withdrawal history), and what percent of those buyers began taking their first withdrawals from 2007 to 2013.

**Table 1-8:** GLWB First Withdrawals for 2007 Buyers (IRA)

| Withdrawals started at | Age at Purchase: Age 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | All Ages* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age 57 | 3% | | | | | | | | | | | | | | | | | | | |
| Age 58 | 2% | 2% | | | | | | | | | | | | | | | | | | |
| Age 59 | 3% | 4% | 5% | | | | | | | | | | | | | | | | | |
| Age 60 | 6% | 7% | 6% | 7% | | | | | | | | | | | | | | | | |
| Age 61 | 5% | 5% | 5% | 6% | 8% | | | | | | | | | | | | | | | |
| Age 62 | 5% | 5% | 5% | 6% | 6% | 10% | | | | | | | | | | | | | | |
| Age 63 | 5% | 5% | 5% | 5% | 5% | 7% | 10% | | | | | | | | | | | | | |
| Age 64 | | 4% | 4% | 5% | 5% | 5% | 7% | 10% | | | | | | | | | | | | |
| Age 65 | | | 7% | 8% | 8% | 9% | 7% | 8% | 12% | | | | | | | | | | | |
| Age 66 | | | | 7% | 8% | 7% | 9% | 8% | 9% | 14% | | | | | | | | | | |
| Age 67 | | | | | 6% | 7% | 7% | 8% | 7% | 8% | 14% | | | | | | | | | |
| Age 68 | | | | | | 5% | 6% | 6% | 7% | 6% | 7% | 15% | | | | | | | | |
| Age 69 | | | | | | | 5% | 6% | 6% | 8% | 7% | 8% | 17% | | | | | | | |
| Age 70 | | | | | | | | 19% | 19% | 20% | 23% | 9% | 26% | 27% | | | | | | |
| Age 71 | | | | | | | | | 17% | 18% | 20% | 32% | 9% | 33% | 33% | | | | | |
| Age 72 | | | | | | | | | | 5% | 6% | 9% | 20% | 5% | 28% | 34% | | | | |
| Age 73 | | | | | | | | | | | 4% | 5% | 6% | 8% | 4% | 27% | 33% | | | |
| Age 74 | | | | | | | | | | | | 4% | 4% | 6% | 8% | 4% | 28% | 38% | | |
| Age 75 | | | | | | | | | | | | | 3% | 4% | 5% | 9% | 5% | 25% | 35% | 10% |
| Age 76 | | | | | | | | | | | | | | 4% | 5% | 5% | 8% | 4% | 28% | 9% |
| Age 77 | | | | | | | | | | | | | | | 3% | 4% | 5% | 9% | 5% | 5% |
| Age 78 | | | | | | | | | | | | | | | | 3% | 5% | 5% | 8% | 7% |
| Age 79 | | | | | | | | | | | | | | | | | 3% | 5% | 6% | 6% |
| Age 80 | | | | | | | | | | | | | | | | | | 3% | 4% | 6% |
| Age 81 | | | | | | | | | | | | | | | | | | | 3% | 5% |
| Cumulative | 30% | 32% | 38% | 44% | 45% | 50% | 50% | 64% | 78% | 81% | 80% | 82% | 84% | 87% | 87% | 85% | 87% | 88% | 89% | 48% |
| Percent of owners taking withdrawals in all subsequent years | 70% | 73% | 74% | 77% | 79% | 82% | 82% | 84% | 88% | 89% | 89% | 89% | 83% | 76% | 74% | 77% | 75% | 76% | 74% | 78% |

First Withdrawals in 1st Year — 2007
First Withdrawals in 2nd Year — 2008
First Withdrawals in 3rd Year — 2009
First Withdrawals in 4th Year — 2010
First Withdrawals in 5th Year — 2011
First Withdrawals in 6th Year — 2012
First Withdrawals in 7th Year — 2013

Note: Based on a constant group of 121,860 IRA contracts issued in 2007 and still in force at EOY 2013. The percent of owners taking withdrawals in all subsequent years is based on contracts where the first withdrawal occurred between 2007 and 2012, and withdrawals continued every year through 2013.

*All-ages analysis includes all ages reported, including ages not shown in the chart.

Overall, the above table analyzes seven years of first withdrawal history of 2007 owners, and shows some important insights:

- Overall, 1 in 10 owners of 2007 initiated their withdrawals in the same year they purchased their annuity. In the first year, the percent of owners taking withdrawals rises 1 to 3 percent with each increment in age from age 57 to age 69.
- When owners reach ages 70 and 71 — the RMD obligation age, we see four to six in 10 owners start their first withdrawals from qualified annuities at age 70 and 71.
- The percentages of owners taking their first withdrawals in subsequent years are typically lower than in the first year, as the number of owners who have not taken withdrawals diminishes.
- Once owners initiate withdrawals, nearly 80 percent continue to take withdrawals in all subsequent years.
- More than 85 percent of 2007 owners aged 70 or above have taken withdrawals from their annuities in the last seven years. Across all ages, nearly half of 2007 owners (48 percent) have taken withdrawals. This is particularly noteworthy because half of the 2007 owners were age 60 or below in 2013 and a majority of them are not yet in or near retirement.
- Contract benefits being in-the-money (benefit bases exceed account values) has very little impact on first withdrawal behavior (addressed later in this chapter). From 2009 to the beginning of 2012, nearly all GLWB contracts were in-the-money. However, the percentage of owners taking withdrawals from their contracts does not show any deviation from the general trend, by any particular age or age groups. Even in 2009, when almost all contracts were in-the-money and the IRS restriction on RMDs was eased, we see the lowest percentage of owners taking their first withdrawals in that year.

***First Year — 2007***

- Only 2 to 5 percent of owners aged 57–59 took withdrawals during their first year of purchase. For owners aged 60–69, the percent ranged from 7 to 17 percent, changing by 1 to 2 percent with each age increment.
- Over a quarter (27 percent) of owners aged 70 in 2007 took withdrawals in the first year. A third of owners aged 71 in 2007 took withdrawals in the same year the purchase was made, to satisfy their RMDs.
- More than one third of owners between ages 72 and 75 also took withdrawals in their first contract year.

***Second Year — 2008***

- In their second year of holding a GLWB annuity, the percent of owners aged 60–69 in 2008 taking their first withdrawals from their annuity was lower than the percent of owners who took withdrawals in the first year.
- However, a quarter of owners who turned age 70 took their first withdrawals in 2008, their second year of holding. Interestingly, 27 percent of owners aged 70 in 2007 took withdrawals that year. One third of owners aged 70 at purchase, and 71 in their second year, took their first withdrawals in 2008. The same percentage of owners aged 71 took withdrawals in 2007.
- More than a quarter of owners aged 72 and over took withdrawals in their second year, in addition to more than one third of owners who started their withdrawals in year one.

***Third Year — 2009***

- In 2009 the RMD rules were eased and the percent of owners who took their first withdrawals was much lower across all ages.

***Fourth Year — 2010***

- The fourth year of ownership shows a similar pattern of owners taking first withdrawals. Owners who turned ages 60–69 in 2010 and took their first withdrawals remained within a range of 5 to 9 percent, very close to the behavior that we saw in 2008.
- Almost the same percentage of owners who turned ages 70 and 71 in 2010 took first withdrawals, 23 percent and 32 percent respectively. Twenty percent of owners who turned 72 (at purchase they were 69) took their first withdrawals in 2010. From age 73 and over, 8 to 9 percent of owners took their first withdrawals, at an almost uniform rate, in their fourth year of ownership.

***Fifth Year — 2011***

- In their fifth year of ownership, 20 percent of owners who turned ages 70 and 71 took their first withdrawals.
- Nine percent of owners who turned age 72 took their first withdrawals in their fifth year, and after that around 5 percent to 6 percent of 2007 owners started their first withdrawals in 2011.

***Sixth Year — 2012***

- In their sixth year of ownership, 19 and 18 percent of owners who turned ages 70 and 71, respectively, took their first withdrawals.
- Six percent of owners who turned age 72 in their sixth year took their first withdrawals. Afterwards, only 4 to 5 percent of 2007 owners started their first withdrawals in 2012. The pool of IRA owners who have not yet taken their RMDs is shrinking. The percent of older owners taking their first withdrawals is expected to go down in future years.

***Seventh Year — 2013***

- In their seventh year of ownership, 19 and 17 percent of owners who turned ages 70 and 71 took their first withdrawals.
- Only 5 percent of owners who turned age 72 in the seventh year took their first withdrawals. After age 72, only 3 to 4 percent of 2007 owners started their first withdrawal.

If we avoid the anomaly in 2009, there is a consistent owner withdrawal behavior, defined by age and the need to take RMDs. We have already established that withdrawals from IRA annuities are significantly driven by the need to take RMDs.

The last row of Table 1-8 provides the percent of owners taking withdrawals in all subsequent years based on contracts where the first withdrawal occurred between 2007 and 2012, with withdrawals continuing every year through 2013.

For example, 89 percent of 68-year-old owners who purchased their IRA annuities in 2007 took their first withdrawals between 2007 and 2012, and continued to take withdrawals every year through 2013. Overall, once the owners begin to take withdrawals, they are more likely to utilize the lifetime withdrawal benefit, provided they do not surrender their contracts in later years.

## First Withdrawal Activity for Nonqualified Contracts Issued in 2007

We see a similar first-year withdrawal pattern for nonqualified annuity owners, aged 57 to 69 (Table 1-9). For ages 70 or 71, we do not see a spike in withdrawals.

**Table 1-9:** GLWB First Withdrawals for 2007 Buyers (Nonqualified)

| | Age at Purchase | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Withdrawals started at | Age 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | All Ages* |
| Age 57 | 2% | | | | | | | | | | | | | | | | | | | |
| Age 58 | 2% | 2% | | | | | | | | | | | | | | | | | | |
| Age 59 | 3% | 2% | 3% | | | | | | | | | | | | | | | | | |
| Age 60 | 5% | 5% | 5% | 6% | | | | | | | | | | | | | | | | |
| Age 61 | 4% | 4% | 4% | 4% | 6% | | | | | | | | | | | | | | | |
| Age 62 | 5% | 4% | 4% | 5% | 5% | 7% | | | | | | | | | | | | | | |
| Age 63 | 4% | 5% | 4% | 4% | 4% | 5% | 8% | | | | | | | | | | | | | |
| Age 64 | | 3% | 4% | 4% | 4% | 4% | 5% | 7% | | | | | | | | | | | | |
| Age 65 | | | 6% | 7% | 7% | 7% | 6% | 8% | 11% | | | | | | | | | | | |
| Age 66 | | | | 6% | 7% | 6% | 7% | 6% | 8% | 12% | | | | | | | | | | |
| Age 67 | | | | | 5% | 6% | 5% | 6% | 6% | 7% | 12% | | | | | | | | | |
| Age 68 | | | | | | 5% | 5% | 5% | 6% | 6% | 8% | 13% | | | | | | | | |
| Age 69 | | | | | | | 4% | 5% | 5% | 6% | 6% | 7% | 15% | | | | | | | |
| Age 70 | | | | | | | | 4% | 5% | 5% | 6% | 6% | 6% | 14% | | | | | | |
| Age 71 | | | | | | | | | 5% | 5% | 5% | 6% | 6% | 8% | 15% | | | | | |
| Age 72 | | | | | | | | | | 4% | 5% | 5% | 7% | 6% | 7% | 16% | | | | |
| Age 73 | | | | | | | | | | | 4% | 4% | 5% | 6% | 6% | 9% | 17% | | | |
| Age 74 | | | | | | | | | | | | 4% | 5% | 4% | 5% | 6% | 8% | 18% | | |
| Age 75 | | | | | | | | | | | | | 4% | 4% | 4% | 6% | 5% | 7% | 17% | 9% |
| Age 76 | | | | | | | | | | | | | | 4% | 5% | 6% | 6% | 6% | 9% | 5% |
| Age 77 | | | | | | | | | | | | | | | 4% | 4% | 5% | 7% | 7% | 4% |
| Age 78 | | | | | | | | | | | | | | | | 4% | 4% | 5% | 4% | 5% |
| Age 79 | | | | | | | | | | | | | | | | | 4% | 4% | 4% | 4% |
| Age 80 | | | | | | | | | | | | | | | | | | 4% | 3% | 4% |
| Age 81 | | | | | | | | | | | | | | | | | | | 4% | 4% |
| Cumulative | 22% | 25% | 31% | 35% | 37% | 39% | 41% | 42% | 45% | 46% | 46% | 45% | 47% | 47% | 46% | 50% | 49% | 51% | 50% | 35% |
| Percent of owners taking withdrawals in all subsequent years | 71% | 73% | 74% | 80% | 80% | 82% | 80% | 82% | 81% | 82% | 80% | 81% | 84% | 84% | 81% | 80% | 81% | 78% | 78% | 78% |

- First Withdrawals in 1st Year — 2007
- First Withdrawals in 2nd Year — 2008
- First Withdrawals in 3rd Year — 2009
- First Withdrawals in 4th Year — 2010
- First Withdrawals in 5th Year — 2011
- First Withdrawals in 6th Year — 2012
- First Withdrawals in 7th Year — 2013

Note: Based on a constant group of 73,106 nonqualified contracts issued in 2007 and still in force at EOY 2013. The percent of owners taking withdrawals in all subsequent years is based on contracts where the first withdrawal occurred between 2007 and 2012, and withdrawals continued every year through 2013.

*All-ages analysis includes all ages reported, including ages not shown in the chart.

Overall, similar to IRA annuities, nearly 10 percent of owners initiate withdrawals from their non-qualified annuities in their first year of ownership.

- Also like IRA annuities, once non-qualified owners start taking withdrawals nearly 80 percent are very likely to continue withdrawals in all subsequent years.
- We also see no or little impact of contracts in-the-money on withdrawal behavior during the last four years after the market crisis when majority of contracts were in-the-money (discussed later in this chapter).

After the first year, approximately 4 to 9 percent of owners aged 60 and older take their first withdrawals in each year. The percent of owners taking first withdrawals does not vary significantly, and 2009 was not an anomaly for nonqualified owners. As a result, we see virtually the same withdrawal pattern of 2008 repeated in years 2009 through 2013. In 2013 the percent of owners across all ages, who took withdrawals, remained within a band of 3 to 6 percent, as the pool of owners who have not taken withdrawals so far shrinks. Obviously, we expect the percent of owners taking their first withdrawals in the following years to be lower, as more and more owners start taking lifetime withdrawals. Note that most of these owners use SWPs to receive their regular withdrawals.

Tables 1-10 and 1-11 show the history of first withdrawals of 2008 buyers over the last six years. These tables confirm the conclusions we reached with 2007 buyers, and illustrate that source of funds and age are the two most important drivers of GLWB owner withdrawal behavior.

**Table 1-10:** GLWB First Withdrawals for 2008 Buyers (IRA)

| Withdrawals started at | Age at Purchase: Age 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | All Ages* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age 57 | 2% | | | | | | | | | | | | | | | | | | | |
| Age 58 | 2% | 2% | | | | | | | | | | | | | | | | | | |
| Age 59 | 3% | 3% | 4% | | | | | | | | | | | | | | | | | |
| Age 60 | 5% | 5% | 5% | 5% | | | | | | | | | | | | | | | | |
| Age 61 | 4% | 4% | 4% | 5% | 5% | | | | | | | | | | | | | | | |
| Age 62 | 4% | 4% | 5% | 4% | 5% | 8% | | | | | | | | | | | | | | |
| Age 63 | | 5% | 4% | 5% | 4% | 5% | 8% | | | | | | | | | | | | | |
| Age 64 | | | 4% | 4% | 4% | 5% | 5% | 7% | | | | | | | | | | | | |
| Age 65 | | | | 6% | 7% | 6% | 5% | 6% | 11% | | | | | | | | | | | |
| Age 66 | | | | | 7% | 7% | 7% | 6% | 7% | 12% | | | | | | | | | | |
| Age 67 | | | | | | 6% | 6% | 6% | 5% | 7% | 11% | | | | | | | | | |
| Age 68 | | | | | | | 6% | 6% | 6% | 5% | 7% | 12% | | | | | | | | |
| Age 69 | | | | | | | | 6% | 6% | 7% | 5% | 7% | 15% | | | | | | | |
| Age 70 | | | | | | | | | 20% | 20% | 22% | 21% | 9% | 24% | | | | | | |
| Age 71 | | | | | | | | | | 19% | 21% | 22% | 29% | 12% | 29% | | | | | |
| Age 72 | | | | | | | | | | | 6% | 8% | 11% | 21% | 11% | 32% | | | | |
| Age 73 | | | | | | | | | | | | 5% | 6% | 9% | 17% | 12% | 30% | | | |
| Age 74 | | | | | | | | | | | | | 6% | 6% | 9% | 15% | 13% | 35% | | |
| Age 75 | | | | | | | | | | | | | | 5% | 6% | 9% | 16% | 12% | 33% | 9% |
| Age 76 | | | | | | | | | | | | | | | 5% | 7% | 9% | 17% | 12% | 5% |
| Age 77 | | | | | | | | | | | | | | | | 4% | 6% | 8% | 17% | 6% |
| Age 78 | | | | | | | | | | | | | | | | | 5% | 6% | 7% | 6% |
| Age 79 | | | | | | | | | | | | | | | | | | 5% | 7% | 6% |
| Age 80 | | | | | | | | | | | | | | | | | | | 5% | 6% |
| **Cumulative** | **21%** | **23%** | **26%** | **29%** | **32%** | **36%** | **37%** | **37%** | **56%** | **69%** | **72%** | **75%** | **76%** | **77%** | **76%** | **79%** | **78%** | **82%** | **80%** | **38%** |
| **Percent of owners taking withdrawals in all subsequent years** | **64%** | **67%** | **69%** | **75%** | **77%** | **80%** | **79%** | **81%** | **85%** | **88%** | **92%** | **89%** | **90%** | **86%** | **82%** | **83%** | **83%** | **84%** | **81%** | **79%** |

- First Withdrawals in 1st Year — 2008
- First Withdrawals in 2nd Year — 2009
- First Withdrawals in 3rd Year — 2010
- First Withdrawals in 4th Year — 2011
- First Withdrawals in 5th Year — 2012
- First Withdrawals in 6th Year — 2013

Note: Based on a constant group of 152,232 IRA contracts issued in 2008 and still in force at EOY 2013. The percent of owners taking withdrawals in all subsequent years is based on contracts where the first withdrawal occurred between 2007 and 2012, and withdrawals continued every year through 2013.

*All-ages analysis includes all ages reported, including ages not shown in the chart.

**Table 1-11:** GLWB First Withdrawals for 2008 Buyers (Nonqualified)

| Withdrawals started at | Age at Purchase: Age 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | All Ages* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age 57 | 1% | | | | | | | | | | | | | | | | | | | |
| Age 58 | 1% | 1% | | | | | | | | | | | | | | | | | | |
| Age 59 | 2% | 2% | 2% | | | | | | | | | | | | | | | | | |
| Age 60 | 3% | 3% | 4% | 4% | | | | | | | | | | | | | | | | |
| Age 61 | 4% | 3% | 3% | 4% | 6% | | | | | | | | | | | | | | | |
| Age 62 | 3% | 4% | 3% | 3% | 4% | 6% | | | | | | | | | | | | | | |
| Age 63 | | 4% | 3% | 3% | 3% | 5% | 7% | | | | | | | | | | | | | |
| Age 64 | | | 3% | 3% | 3% | 3% | 4% | 7% | | | | | | | | | | | | |
| Age 65 | | | | 5% | 5% | 4% | 4% | 5% | 8% | | | | | | | | | | | |
| Age 66 | | | | | 6% | 6% | 6% | 5% | 6% | 10% | | | | | | | | | | |
| Age 67 | | | | | | 5% | 5% | 5% | 4% | 5% | 11% | | | | | | | | | |
| Age 68 | | | | | | | 5% | 5% | 5% | 4% | 5% | 12% | | | | | | | | |
| Age 69 | | | | | | | | 4% | 5% | 5% | 5% | 6% | 13% | | | | | | | |
| Age 70 | | | | | | | | | 6% | 5% | 5% | 4% | 7% | 13% | | | | | | |
| Age 71 | | | | | | | | | | 5% | 6% | 6% | 4% | 7% | 13% | | | | | |
| Age 72 | | | | | | | | | | | 4% | 5% | 5% | 5% | 7% | 18% | | | | |
| Age 73 | | | | | | | | | | | | 5% | 5% | 5% | 4% | 7% | 16% | | | |
| Age 74 | | | | | | | | | | | | | 5% | 5% | 5% | 5% | 6% | 17% | | |
| Age 75 | | | | | | | | | | | | | | 4% | 5% | 5% | 4% | 8% | 18% | 8% |
| Age 76 | | | | | | | | | | | | | | | 4% | 5% | 5% | 5% | 7% | 5% |
| Age 77 | | | | | | | | | | | | | | | | 3% | 6% | 5% | 4% | 3% |
| Age 78 | | | | | | | | | | | | | | | | | 5% | 4% | 5% | 4% |
| Age 79 | | | | | | | | | | | | | | | | | | 5% | 5% | 4% |
| Age 80 | | | | | | | | | | | | | | | | | | | 4% | 4% |
| Cumulative | 15% | 18% | 18% | 23% | 26% | 29% | 31% | 31% | 33% | 35% | 36% | 39% | 39% | 38% | 39% | 43% | 42% | 44% | 42% | 28% |
| Percent of owners taking withdrawals in all subsequent years | 65% | 69% | 73% | 72% | 79% | 80% | 79% | 80% | 82% | 80% | 82% | 80% | 84% | 81% | 84% | 83% | 84% | 83% | 83% | 79% |

- First Withdrawals in 1st Year — 2008
- First Withdrawals in 2nd Year — 2009
- First Withdrawals in 3rd Year — 2010
- First Withdrawals in 4th Year — 2011
- First Withdrawals in 5th Year — 2012
- First Withdrawals in 6th Year — 2013

Note: Based on a constant group of 50,147 nonqualified contracts issued in 2008 and still in force at EOY 2013. The percent of owners taking withdrawals in all subsequent years is based on contracts where the first withdrawal occurred between 2007 and 2012, and withdrawals continued every year through 2013.

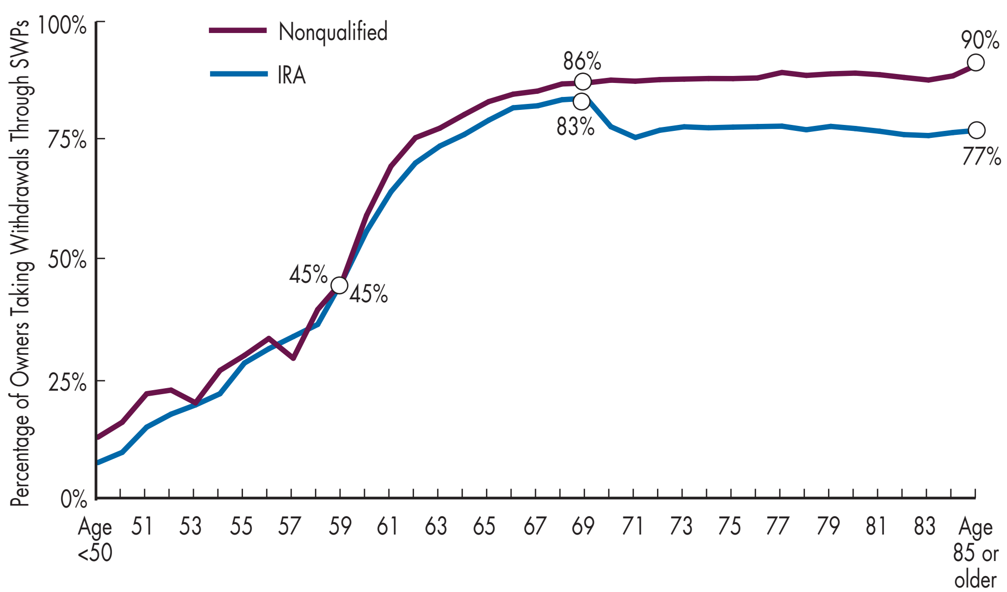
*All-ages analysis includes all ages reported, including ages not shown in the chart.

## Systematic Withdrawal Activity

One predictor that can help determine if GLWB owners are likely to take withdrawals to generate a lifetime income stream is how regularly they take withdrawals — either through SWPs or occasional withdrawals. All insurance companies allow GLWB owners to use SWPs, and typically categorize those withdrawals as lifetime withdrawals under the benefit. In general, withdrawals through SWPs are a customer's affirmation to take withdrawals on a continuous basis, and strongly indicate that customers are utilizing the GLWB in their contracts.

Overall, 77 percent of owners took withdrawals using an SWP (Figure 1-23).[11] Seventy-four percent of IRA owners, and 84 percent of nonqualified owners who took withdrawals in 2013, used an SWP. At age 50, only 9 percent of IRA owners and 16 percent of nonqualified owners who took withdrawals in 2013 used SWPs. The rest of the owners took occasional withdrawals.

**Figure 1-23:** GLWB Withdrawals With SWPs




Note: Based on 383,280 GLWB contracts that were issued before 2013, still in force at EOY 2013, and that took withdrawals in 2013.

11 The main reason for the slight drop in the percentage of IRA owners taking withdrawals through SWPs involves the classification of RMDs. Some companies did not consider RMD withdrawal activity to be a type of systematic withdrawal.

Older owners are more likely to take withdrawals through SWPs, and younger owners — particularly those under age 60 — are more likely to take occasional withdrawals.

- Roughly one quarter of owners under age 60 who took withdrawals, either from qualified or nonqualified GLWBs, used an SWP. Almost half of the owners aged 59 used SWPs.
- From ages 60 to 69, 77 percent of qualified owners and 81 percent of nonqualified owners used SWPs for withdrawals in 2013.
- After age 69, the owners were very likely to use SWPs — 77 percent of qualified owners and 88 percent of nonqualified annuity owners. The percent of nonqualified owners using SWPs reached more than 90 percent for owners in their mid-80s.

The median withdrawal amount in a SWP was **$5,314** vs. **$6,833** when taken on a non-systematic basis.

The median withdrawal amount for those taking just an SWP in 2013 was $5,314 and the average was $7,951. Table 1-12 shows the average and median withdrawal amount for owners who took only SWP withdrawals in 2013 for both qualified and nonqualified contracts. Though the average withdrawal amount should vary by the benefit base amount and the age when withdrawals are first taken, it appears that average withdrawal amounts for owners aged 70 or older most likely remain within the maximum income amount allowed. The median withdrawal amounts for both qualified and nonqualified owners aged 60 and older are within expectations, while those under age 60 were influenced by owners who were likely taking partial surrenders. This is a very small percentage of the overall contracts that had withdrawals.

**Table 1-12:** GLWB Average Withdrawal Amount by SWP and by Source of Funds

| | Systematic Withdrawals Average Withdrawal Amount | | Systematic Withdrawals Median Withdrawal Amount | |
|---|---|---|---|---|
| Age | IRA | Nonqualified | IRA | Nonqualified |
| Under age 60 | $11,236 | $12,227 | $7,592 | $6,832 |
| Age 60–69 | $9,194 | $8,542 | $6,392 | $5,444 |
| Age 70 or older | $6,859 | $7,981 | $4,595 | $5,316 |
| **Total** | **$7,834** | **$8,216** | **$5,288** | **$5,377** |

Note: Based on 383,282 contracts issued before 2013 and still in force at EOY 2013, with withdrawals in 2013 through an SWP. Represents contracts taking only systematic withdrawals.

For those contracts with only occasional or non-systematic withdrawals, the median amount in 2013 was $6,833 and the average was $15,180. For owners under age 60, particularly nonqualified, taking occasional withdrawals, the median withdrawal amount was unusually high, and they are more likely to intend to partially surrender the contracts (Table 1-13).

**Table 1-13:** GLWB Occasional Withdrawal Amount by Source of Funds

| | Occasional Withdrawals Average Withdrawal Amount | | Occasional Withdrawals Median Withdrawal Amount | |
|---|---|---|---|---|
| **Age** | **IRA** | **Nonqualified** | **IRA** | **Nonqualified** |
| Under age 60 | $22,447 | $32,529 | $12,000 | $14,703 |
| Age 60–69 | $18,322 | $20,701 | $9,708 | $9,132 |
| Age 70 or older | $8,402 | $17,590 | $4,592 | $7,515 |
| **Total** | **$13,672** | **$21,165** | **$6,391** | **$9,000** |

Note: Based on 114,410 contracts issued before 2013 and still in force at EOY 2013 with withdrawals in 2013 on an occasional or nonsystematic basis. Represents contracts taking only non-systematic or occasional withdrawals.

A small percentage of owners took both SWPs and occasional withdrawals. For these owners, the median withdrawal amount was $11,400 for IRAs and $12,200 for nonqualified contracts.

Table 1-14 provides the distribution of withdrawals for those owners taking only occasional withdrawals, only systematic withdrawals, and those who took both occasional and systematic, based on the dollar amount of their withdrawals.

**Table 1-14:** GLWB Withdrawal Amount as Percentage of Total Withdrawal Amount

| | Only Occasional Withdrawals | | Only Systematic Withdrawals | | Both Systematic and Occasional Withdrawals | | |
|---|---|---|---|---|---|---|---|
| **Age** | **IRA** | **Nonqualified** | **IRA** | **Nonqualified** | **IRA** | **Nonqualified** | **Total** |
| Under age 60 | 6% | 2% | 1% | 0 | 0 | 0 | 9% |
| Age 60–69 | 10% | 3% | 18% | 6% | 4% | 1% | 42% |
| Age 70 or older | 8% | 3% | 21% | 12% | 3% | 1% | 48% |
| **Total** | **24%** | **8%** | **40%** | **18%** | **7%** | **2%** | **100%** |

Note: Based on 522,188 GLWB contracts issued before 2013 and remained in force at EOY 2013 with withdrawals in 2013. Values may not sum to 100 percent due to rounding.

## First Withdrawals Through SWPs

Initiating an SWP may indicate an owner's desire to utilize the lifetime guaranteed withdrawal rider in the contract. It will benefit companies active in this market to examine when owners initiate SWPs for their first withdrawal, and how many continue to use SWPs. Reviewing trends in SWP behavior will allow companies to better frame and focus on the withdrawal risk and gauge owner inclination to utilize the rider at different age bands depending upon the qualified or non-qualified sources of funding.

We have constructed a step chart based on historical SWP withdrawal behaviors in order to get a clear picture of three important considerations regarding SWP behaviors: first, at what age are owners likely to first initiate an SWP withdrawal; second, how many rely on their SWP withdrawals in all following years once they have initiated SWPs; and third, how many owners initiate their first withdrawals through an SWP during the contract duration or holding period. As we saw in previous analyses, we need to examine the SWP withdrawal behaviors by of sources of funds — qualified and non-qualified dollars separately. Table 1-15 provides SWP behavior for 2007 IRA buyers aged 57 to 75 during 2007 to 2013 (7 years of SWP withdrawal history). The percentage of owners in this table represents only owners who initiated their withdrawals through an SWP and continued to take SWP withdrawals in all the following years once they started their withdrawals through SWPs.

**Table 1-15:** GLWB First SWP Withdrawals (and Continued Thereafter) for 2007 Buyers (IRA)

| Withdrawals started at | Age at Purchase: Age 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | All Ages* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age 57 | 2% | | | | | | | | | | | | | | | | | | | |
| Age 58 | 1% | 2% | | | | | | | | | | | | | | | | | | |
| Age 59 | 2% | 2% | 4% | | | | | | | | | | | | | | | | | |
| Age 60 | 4% | 4% | 3% | 5% | | | | | | | | | | | | | | | | |
| Age 61 | 3% | 3% | 3% | 3% | 5% | | | | | | | | | | | | | | | |
| Age 62 | 4% | 4% | 4% | 4% | 3% | 8% | | | | | | | | | | | | | | |
| Age 63 | 3% | 4% | 3% | 4% | 3% | 4% | 7% | | | | | | | | | | | | | |
| Age 64 | | 3% | 3% | 3% | 4% | 3% | 4% | 7% | | | | | | | | | | | | |
| Age 65 | | | 6% | 7% | 5% | 7% | 5% | 5% | 9% | | | | | | | | | | | |
| Age 66 | | | | 6% | 6% | 5% | 7% | 5% | 6% | 11% | | | | | | | | | | |
| Age 67 | | | | | 5% | 6% | 5% | 6% | 5% | 5% | 10% | | | | | | | | | |
| Age 68 | | | | | | 4% | 5% | 4% | 6% | 4% | 4% | 11% | | | | | | | | |
| Age 69 | | | | | | | 4% | 5% | 5% | 6% | 5% | 5% | 12% | | | | | | | |
| Age 70 | | | | | | | | 14% | 14% | 13% | 15% | 6% | 14% | 14% | | | | | | |
| Age 71 | | | | | | | | | 14% | 14% | 14% | 20% | 6% | 19% | 16% | | | | | |
| Age 72 | | | | | | | | | | 6% | 6% | 7% | 14% | 4% | 15% | 16% | | | | |
| Age 73 | | | | | | | | | | | 4% | 5% | 5% | 8% | 3% | 15% | 16% | | | |
| Age 74 | | | | | | | | | | | | 4% | 4% | 4% | 9% | 3% | 16% | 18% | | |
| Age 75 | | | | | | | | | | | | | 4% | 4% | 4% | 8% | 4% | 14% | 16% | 6% |
| Age 76 | | | | | | | | | | | | | | 3% | 4% | 4% | 9% | 5% | 17% | 5% |
| Age 77 | | | | | | | | | | | | | | | 4% | 3% | 4% | 9% | 4% | 3% |
| Age 78 | | | | | | | | | | | | | | | | 4% | 4% | 4% | 8% | 5% |
| Age 79 | | | | | | | | | | | | | | | | | 3% | 3% | 4% | 4% |
| Age 80 | | | | | | | | | | | | | | | | | | 3% | 3% | 4% |
| Age 81 | | | | | | | | | | | | | | | | | | | 5% | 4% |
| Cumulative | 18% | 20% | 25% | 31% | 32% | 37% | 37% | 47% | 57% | 59% | 58% | 58% | 59% | 58% | 55% | 54% | 56% | 55% | 57% | 32% |

First SWP in 1st Year — 2007
First SWP in 2nd Year — 2008
First SWP in 3rd Year — 2009
First SWP in 4th Year — 2010
First SWP in 5th Year — 2011
First SWP in 6th Year — 2012
First SWP in 7th Year — 2013

Note: Based on a constant group of 121,251 IRA contracts issued in 2007 and still in force at EOY 2013. The percent of owners taking withdrawals in all subsequent years is based on contracts where the first withdrawal occurred through SWP between 2007 and 2013, and SWP withdrawals continued every year through 2013 once they are initiated.

*All-ages analysis includes all ages reported, including ages not shown in the chart.

Comparing the above table to Table 1-8 emphasizes the relationship between owners initiating their first withdrawals in each year of ownership, and those using SWPs to take the first withdrawals. There are some issues worth noting;

- Older owners, particularly owners aged 65 or above, are more likely to take advantage of SWPs for their first withdrawals from their annuities when they initiate the withdrawals and to continue their withdrawals through SWPs. The percentage of owners taking SWPs goes up with each age increment.
- On average, 6 percent of all owners initiated withdrawals in their first year of ownership (2007) through SWPs, and continued in all the following 6 years.
- In their second year of ownership (2008), another 5 percent of owners started withdrawals using SWPs. In all of the following years, the percent of owners initiating withdrawals through SWPs remains stable, 4 to 5 percent, except in 2009 when RMDs were waived.
- There is a perceptible increase in the percentage of owners using SWPs for their first withdrawals around age 60 and 65, which typically denote the starting age for age bands that allow higher guaranteed payout rates.
- Overall, 32 percent of 2007 owners have initiated withdrawals in the last 7 years through an SWP program and continued to take withdrawals in all the following years. This trend allows the company to estimate withdrawal activities of SWP users who are considered core users of GLWB riders.

## First Withdrawal Through SWPs for Nonqualified Contracts Issued in 2007

For nonqualified annuity owners, aged 57 to 69, a similar first-year withdrawal pattern exists for SWPs (Table 1-16). However there is no spike in withdrawals for ages 70 or 71.

**Table 1-16:** GLWB First Withdrawals (and Continued Thereafter) for 2007 Buyers (Nonqualified)

| | Age at Purchase | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Withdrawals started at | Age 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | All Ages* |
| Age 57 | 1% | | | | | | | | | | | | | | | | | | | |
| Age 58 | 1% | 1% | | | | | | | | | | | | | | | | | | |
| Age 59 | 1% | 1% | 2% | | | | | | | | | | | | | | | | | |
| Age 60 | 3% | 3% | 3% | 4% | | | | | | | | | | | | | | | | |
| Age 61 | 3% | 2% | 2% | 2% | 4% | | | | | | | | | | | | | | | |
| Age 62 | 4% | 3% | 3% | 3% | 2% | 5% | | | | | | | | | | | | | | |
| Age 63 | 3% | 4% | 3% | 3% | 3% | 3% | 5% | | | | | | | | | | | | | |
| Age 64 | | 2% | 3% | 3% | 3% | 2% | 3% | 5% | | | | | | | | | | | | |
| Age 65 | | | 5% | 6% | 5% | 5% | 4% | 4% | 7% | | | | | | | | | | | |
| Age 66 | | | | 5% | 6% | 5% | 5% | 4% | 4% | 9% | | | | | | | | | | |
| Age 67 | | | | | 4% | 5% | 5% | 5% | 3% | 4% | 8% | | | | | | | | | |
| Age 68 | | | | | | 4% | 4% | 5% | 4% | 3% | 4% | 8% | | | | | | | | |
| Age 69 | | | | | | | 3% | 4% | 5% | 4% | 3% | 4% | 11% | | | | | | | |
| Age 70 | | | | | | | | 4% | 4% | 5% | 5% | 4% | 3% | 10% | | | | | | |
| Age 71 | | | | | | | | | 4% | 4% | 4% | 4% | 4% | 5% | 10% | | | | | |
| Age 72 | | | | | | | | | | 4% | 4% | 4% | 5% | 4% | 4% | 10% | | | | |
| Age 73 | | | | | | | | | | | 3% | 3% | 4% | 6% | 4% | 4% | 10% | | | |
| Age 74 | | | | | | | | | | | | 3% | 4% | 4% | 4% | 3% | 5% | 11% | | |
| Age 75 | | | | | | | | | | | | | 3% | 3% | 4% | 6% | 3% | 4% | 11% | 6% |
| Age 76 | | | | | | | | | | | | | | 3% | 4% | 5% | 6% | 3% | 5% | 3% |
| Age 77 | | | | | | | | | | | | | | | 4% | 3% | 4% | 7% | 4% | 2% |
| Age 78 | | | | | | | | | | | | | | | | 3% | 3% | 3% | 4% | 4% |
| Age 79 | | | | | | | | | | | | | | | | | 3% | 3% | 4% | 3% |
| Age 80 | | | | | | | | | | | | | | | | | | 3% | 3% | 3% |
| Age 81 | | | | | | | | | | | | | | | | | | | 3% | 3% |
| Cumulative | 15% | 16% | 21% | 25% | 27% | 29% | 30% | 32% | 33% | 31% | 32% | 35% | 33% | 35% | 34% | 35% | 34% | 35% | 34% | 24% |

- First SWP in 1st Year – 2007
- First SWP in 2nd Year – 2008
- First SWP in 3rd Year – 2009
- First SWP in 4th Year – 2010
- First SWP in 5th Year – 2011
- First SWP in 6th Year – 2012
- First SWP in 7th Year – 2013

Note: Based on a constant group of 72,799 nonqualified contracts issued in 2007 and still in force at EOY 2013. The percent of owners taking withdrawals in all subsequent years is based on contracts where the first withdrawal occurred through SWP between 2007 and 2013, and SWP withdrawals continued every year through 2013 once they are initiated.

*All-ages analysis includes all ages reported, including ages not shown in the chart.

In the first year, approximately 4 to 11 percent of owners aged 60 and older took their first withdrawals through SWPs. The percent of non-qualified owners taking first withdrawals through SWPS are not influenced at age 70 or 71 by RMD-related issues. The percent of owners taking withdrawals in the very first year of ownership is higher than in subsequent years for owners aged 65 or above and 2009 was not an anomaly for nonqualified owners.

Overall, 24 percent of nonqualified 2007 owners initiated their first withdrawals through an SWP and continued to use SWPs in all the following years once they started their withdrawals.

### Percentage of Benefit Maximum Withdrawn

For percentage of benefit maximum withdrawn, we looked at the relationship of customers' actual withdrawal amounts in calendar-year 2013 to the maximum withdrawal amounts allowed in the contracts. Given that our study is done on a calendar-year basis, there is some imprecision in measuring the maximum annual withdrawal amounts because benefit bases can vary under certain circumstances during the year (e.g., if additional premium is received) and most benefit base increases occur on a contract anniversary. Accordingly, we used a conservative measure of excess withdrawals — if partial withdrawals exceeded the maximum annual withdrawal as of BOY by at least 10 percent, then we considered the contract to have exceeded the benefit maximum.

GLWBs provide a specified maximum withdrawal amount annually for life, through periodic withdrawals from annuity contracts, thus ensuring protection against adverse market performance. However, if the owner withdraws more than the maximum allowed in a contract year, they have taken an excess withdrawal. Excess withdrawals trigger an adjustment of the benefit's guaranteed amount, which reduces the benefit base.

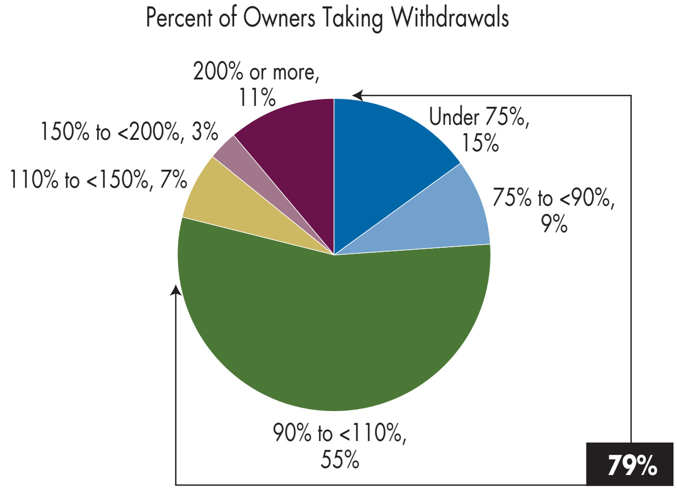
We asked participating companies to provide this allowed maximum amount as of BOY 2013. If companies did not provide the maximum withdrawal amount but provided the benefit base as well as the maximum percentage of this base that could be withdrawn each year, then we calculated an estimate of the percent of maximum annual benefit withdrawn in the following manner:

- If company provided BOY maximum withdrawal amount, then it equals partial withdrawals divided by this amount.

- If company did not provide BOY maximum withdrawal amount, then the percent of maximum annual benefit = (partial withdrawals divided by BOY maximum withdrawal percentage) x (BOY benefit base).
- If company did not provide BOY maximum withdrawal amount or BOY maximum withdrawal percentage, the percent of maximum annual benefit = (partial withdrawals divided by maximum withdrawal percentage from rider specs) x (BOY benefit base).

Figure 1-24 shows the degree to which withdrawals were higher or lower than maximum withdrawal amounts allowed in the contract.

**Figure 1-24:** GLWB Actual Withdrawals as a Percentage of Annual Benefit Maximum



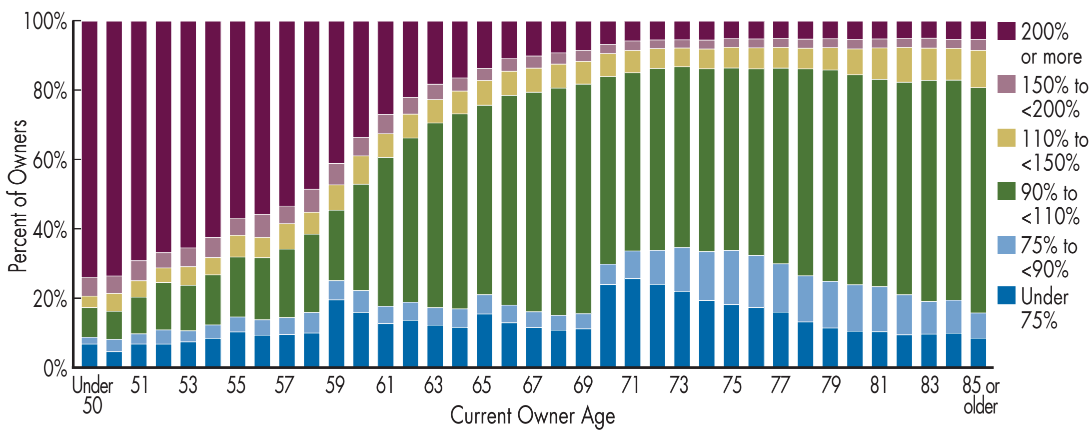

Note: Based on 460,434 GLWB contracts issued before 2013 and remaining in force at EOY 2013 with withdrawals in 2013.

The bands in Figure 1-24 have been revised from prior years' reports to allow for better analysis of the relationship between the withdrawal amount and the benefit maximum allowed in the contract.

Overall, 79 percent of owners who took withdrawals in 2013 withdrew income that was below or close to the maximum amount calculated — up to 110 percent. Seven percent of owners withdrew 110 to less than 150 percent of the maximum amount allowed. Some of these customers, if older, may have remained within the withdrawal limit allowed because of higher RMDs from their IRA annuities. However, 14 percent of the owners took withdrawals that exceeded the maximum withdrawal amount by 50 percent or more.

When we look at the age of owners and their withdrawal amount in relation to maximum amounts allowed, we see that younger owners are more likely to take 150 percent or more of the maximum amount allowed (top two bars of Figure 1-25).

**Figure 1-25:** GLWB Withdrawals as a Percentage of Maximum Annual Benefit Amount by Age




Note: Based on 460,434 GLWB contracts issued before 2013, still in force at EOY 2013, and with withdrawals in 2013.

There are some salient insights in the above chart:

- The majority of owners taking withdrawals, as we have seen in previous sections, are typically age 65 or older. There are very few instances where these older owners break the benefit maximum rule.
- Younger owners, particularly under age 60, are more likely to take 200 percent or more of the benefit maximum allowed in the contract.
- There is a noticeable increase at ages 70 and 71 in the percentage of owners taking withdrawals less than 90 percent of the benefit maximum. This can be explained by the need to take minimum withdrawals under RMDs, which are typically at a lower withdrawal rate.

Seventy percent of owners who took withdrawals in 2013 took amounts within 75 to 150 percent of the benefit maximum allowed in their contracts (Table 1-17). One sixth (16 percent) and 11 percent of owners' withdrawal amounts were either below 75 percent or exceeded 200 percent or more of the benefit maximum allowed in the contracts respectively. Only 3 percent of owner withdrawals fall within 150 to less than 200 percent of the maximum withdrawals allowed.

Only **1 in 8** owners aged 60 or over took withdrawals of 150 percent or more of the maximum amount allowed; some possibly due to RMDs.

Six in 10 owners under age 60 and taking withdrawals exceeded 150 percent or more of the benefit maximum; with most of them taking 200 percent or more. It's likely that many of these individuals are partially surrendering their contracts as opposed to taking regular withdrawals under the terms of the GLWB. On the other hand, only 12 percent of owners aged 60 or over and taking withdrawals exceeded 150 percent or more of the benefit maximum. In addition, many benefits will not penalize IRA annuity owners over age 70½ for taking excess withdrawals if they are doing so to satisfy IRS RMDs.

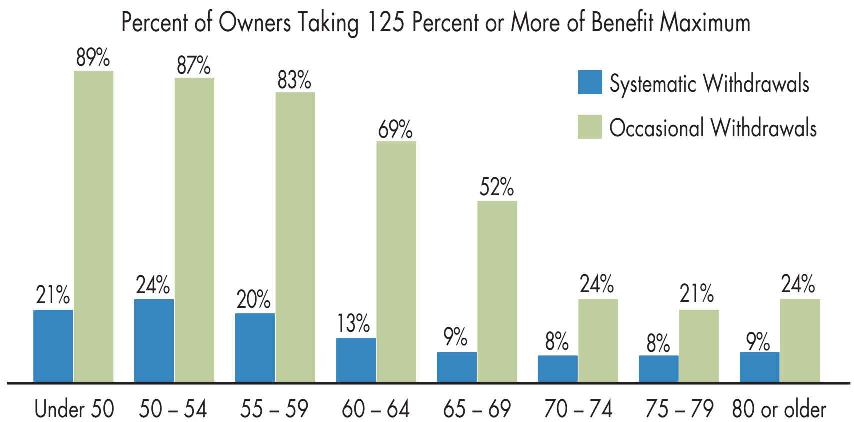
**Table 1-17:** Percentage of GLWB Owners Taking Withdrawals as Percentage of Benefit Maximum

| | Withdrawal Amount as Percent of Benefit Maximum Allowed in the Contract | | | | | |
|---|---|---|---|---|---|---|
| **Age** | **Under 75%** | **75% to <90%** | **90% to <110%** | **110% to <150%** | **150% to <200%** | **200% or more** |
| Under 50 | 7% | 2% | 9% | 3% | 5% | 74% |
| 50 to 54 | 7% | 4% | 13% | 5% | 5% | 67% |
| 55 to 59 | 13% | 5% | 20% | 7% | 6% | 50% |
| 60 to 64 | 13% | 5% | 49% | 7% | 5% | 22% |
| 65 to 69 | 12% | 5% | 62% | 7% | 3% | 10% |
| 70 to 74 | 23% | 10% | 53% | 6% | 3% | 6% |
| 75 to 79 | 16% | 14% | 56% | 6% | 3% | 5% |
| 80 to 84 | 10% | 12% | 62% | 9% | 3% | 5% |
| 85 or older | 8% | 7% | 65% | 11% | 3% | 5% |
| **All ages** | **16%** | **9%** | **55%** | **7%** | **3%** | **11%** |

Note: Based on 460,434 GLWB contracts issued before 2013 with withdrawals in 2013.

The method used for withdrawal — systematic or occasional — is a strong indicator of whether owners are likely to exceed the benefit maximum. Most withdrawals that exceed 125 percent of the annual benefit maximum amount are occasional (Figure 1-26).

**Figure 1-26:** GLWB Withdrawals to Annual Benefit Maximum Amount by Age




Note: Based on 355,761 GLWB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

Fifty-eight percent of contracts with excess withdrawals (125 percent or more of the benefit maximum) came from occasional withdrawals. Nearly half of all occasional withdrawals (44 percent) exceed 125 percent or more allowed in the contract. On the other hand, only 9 percent of contracts using SWPs exceed 125 percent or more of the maximum annual income allowed in the contract. Owners using SWPs remaining at or below the benefit maximum are quite consistent across all age groups. Even withdrawals between 110 to less than 125 percent of benefit maximum account for only another 4 percent of SWP users. Over 3 in 4 owners take withdrawals through an SWP; and, when most of them withdraw amounts within the benefit maximum, they no doubt are utilizing the GLWB rider.

There is no difference between male and female contract owners, or between IRA and nonqualified owners, in their likelihood to take excess withdrawals.

We also examined how the proportion of the benefit maximum withdrawn varies by contract size. We might expect larger contract sizes to be linked to wealthier and more sophisticated owners who are more likely to work with financial advisors and less inclined to exceed the GLWB benefit maximum, which could result in a reduction of the annual benefit maximum in future years. They might also be less likely to take out an amount well below the maximum, thereby passing up a potential opportunity to maximize the value of the benefit. Taking out more or less than the benefit maximum could represent an "inefficient" (or sub-optimal) utilization of the guarantee.

Figures 1-27, 1-28, and 1-29 illustrate the proportion of owners taking withdrawals by age and contract size.

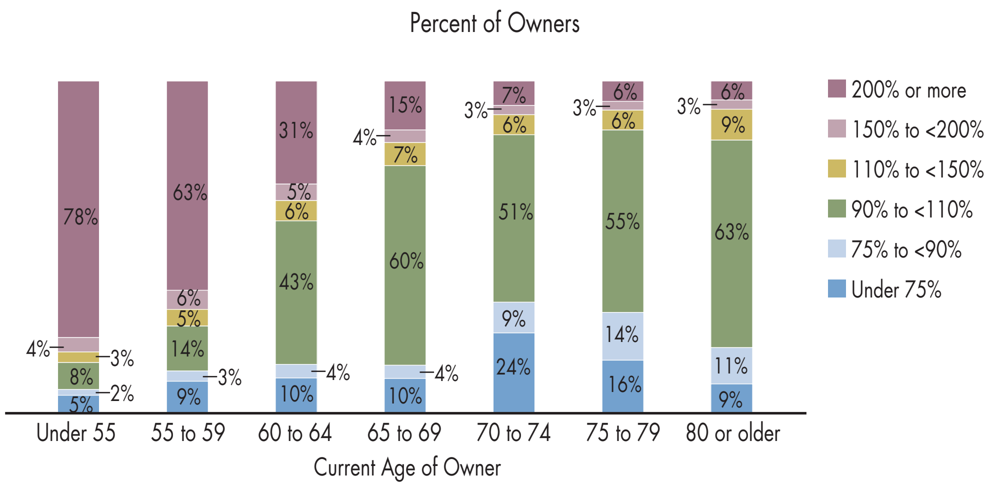
Owners under age 60 with contract sizes under $100,000 at BOY 2013 were not as likely to take withdrawals that were less than 90 percent of the maximum annual amount. For example, 3 percent of owners aged 55–59 with contract sizes under $100,000 who took withdrawals, took between 75 and less than 90 percent of their maximum allowed amount, compared with 7 percent and 9 percent for those with contract values of $100,000 — $250,000 and $250,000 or more, respectively.

However, we see the opposite when looking at those taking withdrawals of 200 percent or more. Two thirds of owners aged 55–59 with contract sizes below $100,000 took withdrawals of 200 percent of more of their maximum amount, compared with 39 percent and 24 percent of owners aged 55–59 with contract values of $100,000 – $249,999 and $250,000 or more, respectively.

As noted earlier, the relationship between efficiency and contract size is limited to owners under age 60; and even among this group, the greatest difference across contract sizes is not the increasing proportion taking amounts close to the benefit maximum, but rather the proportion of owners with contract sizes below $100,000 taking amounts well above the benefit maximum. In short, owners of VAs with higher contract values, especially younger owners, are less likely than those with lower contract values to significantly exceed the benefit maximum.

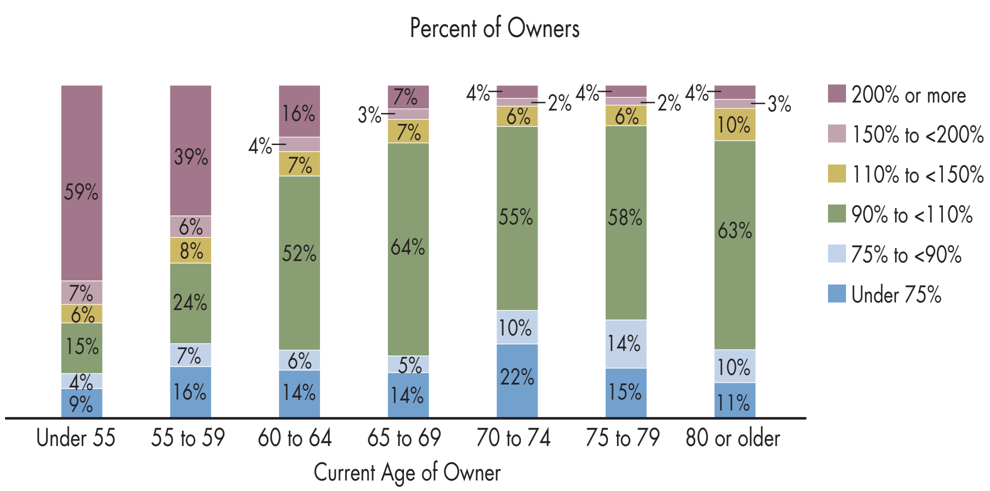
Owners of VAs with higher contract values, especially among younger owners, are less likely than those with lower contract values to significantly exceed the benefit maximum.

**Figure 1-27:** GLWB Withdrawals to Benefit Maximum Amount by Age, Contract Sizes Under $100,000



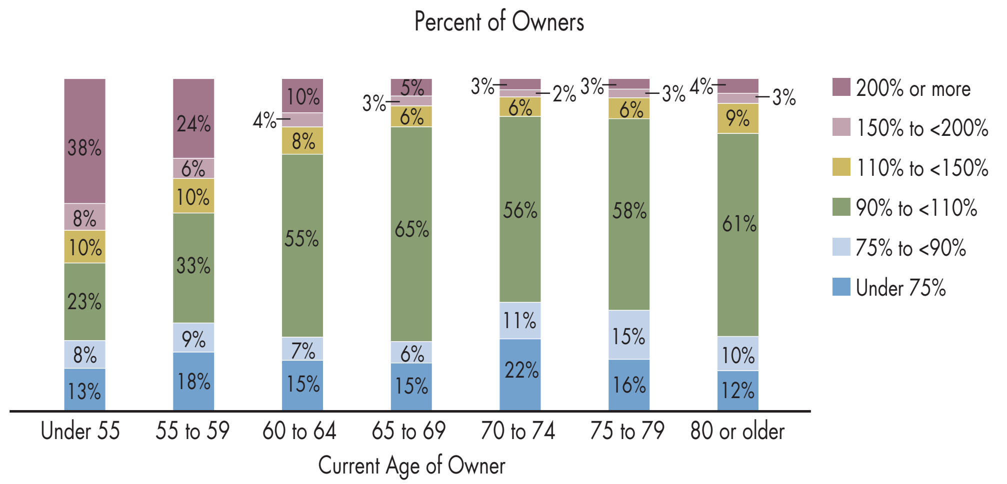

Note: Based on 252,389 GLWB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

**Figure 1-28:** GLWB Withdrawals to Benefit Maximum Amount by Age, Contract Sizes $100,000 to $249,999




Note: Based on 150,634 GLWB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

**Figure 1-29:** GLWB Withdrawals to Benefit Maximum Amount by Age, Contract Sizes $250,000 or More



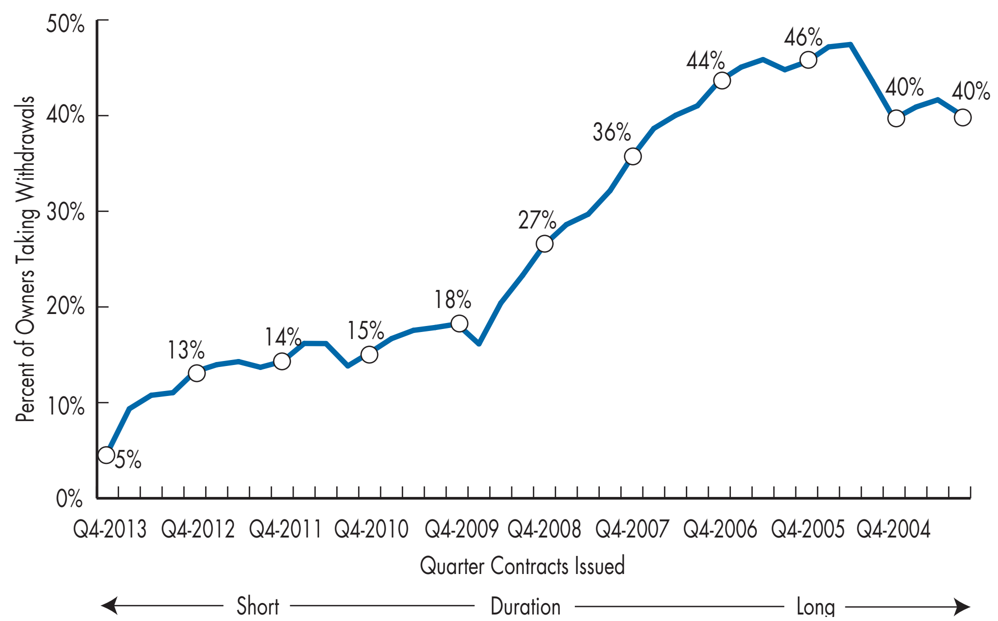

Note: Based on 57,410 GLWB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

## Withdrawal Activity by Duration

Contract duration (i.e., the number of years since contract purchase) is an important measure in determining what proportion of new buyers or existing owners take withdrawals from their annuities. In some cases, immediate utilization of the GLWB is appropriate for certain customers' retirement income needs, but there are also circumstances in which delaying withdrawals makes sense. By comparing their own withdrawal activity by contract duration to that of the industry, companies can assess the extent to which their customers' usage patterns match both their own expectations and the experience of other VA companies. The comparison will also facilitate internal forecasts by estimating when and how many of the GLWB customers will likely take withdrawals, and the resulting cash flow needed for the book of business.

Owners who bought their GLWB annuity in Q4 2013 had only 3 months maximum to set up withdrawals and receive payments. Only 5 percent of these owners took withdrawals from their annuities (Figure 1-30). As the contract duration increases, withdrawal activity increases, reaching nearly 13 percent among customers who owned the contract for one full year (as of EOY 2012). The overall utilization rate on a full-year basis rises to 14 percent for 2-year-old contracts, 15 percent for 3-year-old contracts, and more than 25 percent for 5- to 6-year-old contracts (Table 1-18).

**Figure 1-30:** GLWB Overall Utilization Rates by Contract Duration




Note: Based on 2,489,180 GLWB contracts issued from 2004 through 2013 and still in force at EOY 2013.

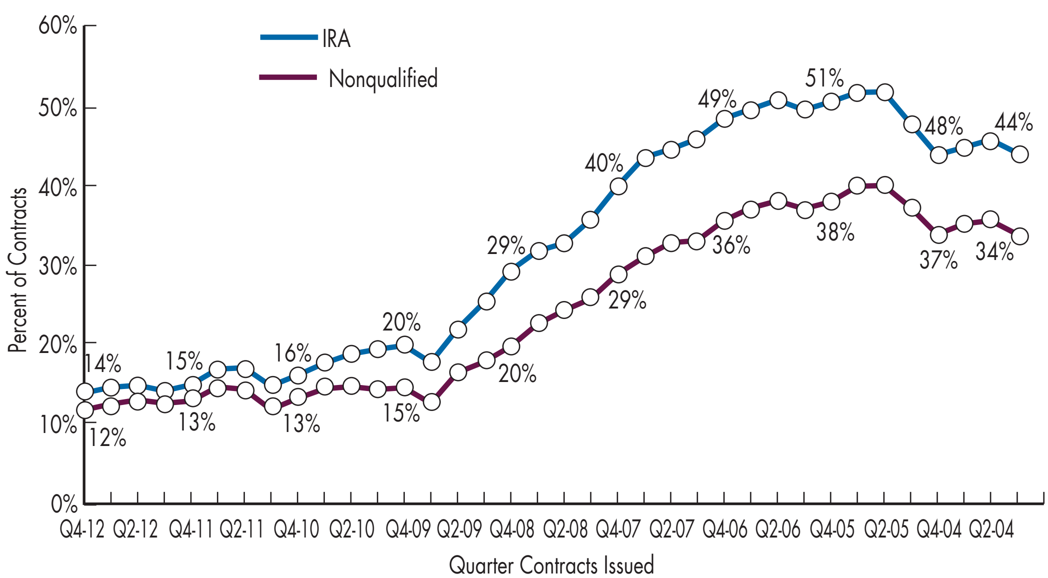
**Table 1-18:** GLWB Overall Percentage of Contracts With Withdrawals by Year of Issue

| Year of Issue | Overall Percent of Contracts With Withdrawals in 2013 |
|---|---|
| 2004 | 40.8% |
| 2005 | 46.4% |
| 2006 | 44.9% |
| 2007 | 38.7% |
| 2008 | 29.3% |
| 2009 | 19.3% |
| 2010 | 16.8% |
| 2011 | 15.1% |
| 2012 | 13.9% |
| 2013 | 9.2% |

Note: Based on 2,489,180 GLWB contracts issued in 2004 through 2013 and remaining in force at EOY 2013.

How do the overall utilization rates by contract duration periods differ between qualified and nonqualified contracts? A consistent pattern of withdrawal activity emerges: as contracts age, more owners decide to withdraw, regardless of whether the annuity was funded with qualified or nonqualified sources, though the percent of owners taking withdrawals from IRA annuities is higher than that from nonqualified annuities (Figure 1-31).

**Figure 1-31:** GLWB Overall Utilization Rates by Contract Duration and Source of Funds



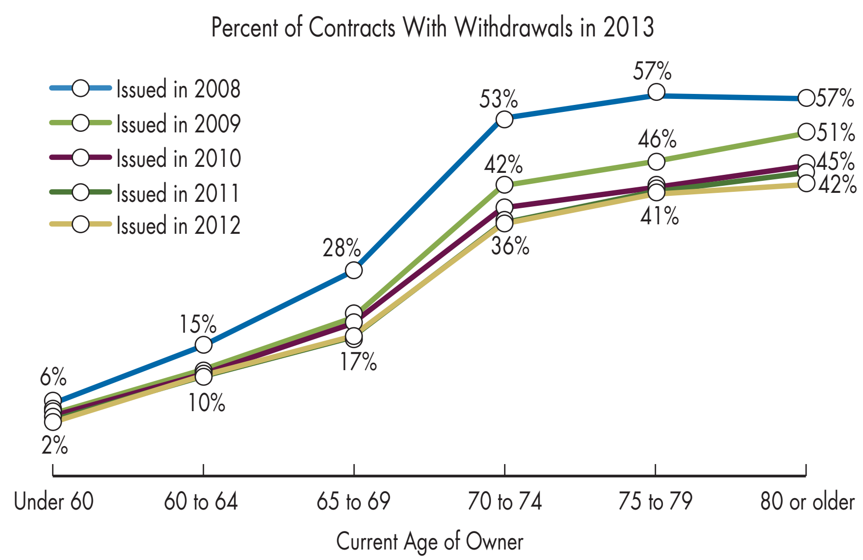

Note: Based on 2,166,828 GLWB contracts issued from 2004 to 2013 and still in force at EOY 2013.

The increase in the percent of customers taking withdrawals is similar to the rates displayed in Figure 1-30. In general, just over 10 percent of customers take withdrawals in their first year of ownership. After that, the rate of owners commencing their withdrawals grows incrementally at 5 to 10 percent per year until it levels off with contracts issued in 2006 and earlier. However, this generalization assumes that most customers will maintain their withdrawal behavior, and applies to the short-run estimation only. In the long run, the changing customer mix, as well as the need to satisfy RMDs, will significantly influence the slope of the withdrawal rates by duration.

## Withdrawal Activity by Duration and Age

We also analyzed withdrawal activity by contract duration and owner age (Figure 1-32). For contracts purchased by individuals under age 60, the overall utilization rate is fairly stable across different issue years. Withdrawals among these younger age groups are uncommon.

**Figure 1-32:** GLWB Overall Utilization Rates by Contract Duration and Current Owner Age




Note: Based on 1,750,522 GLWB contracts issued between 2008 and 2013, and still in force at EOY 2013.

From age 60 and up, withdrawal activity increases, as owners begin to retire or need to make withdrawals to satisfy RMDs. For example, among contracts issued in 2012 that were in force for at least a year, the overall withdrawal rate among owners between ages 65 and 69 was 17 percent. However, for contracts issued in 2008 and owned for at least five years, the overall withdrawal rate among owners between ages 65 and 69 rose to 28 percent.

For older age groups (70–74 and 75–79), the marginal increase in withdrawal utilization by contract duration is smaller. However, the source of funds used to purchase the annuity remains the underlying force for these incremental increases. Therefore, mapping the duration of contracts by age groups can result in a better understanding of a company's GLWB customer withdrawal behavior.

Mapping the duration of contracts with age group can improve understanding of GLWB customer withdrawal behavior.

## Withdrawals in Contracts With Non-Withdrawal Incentives

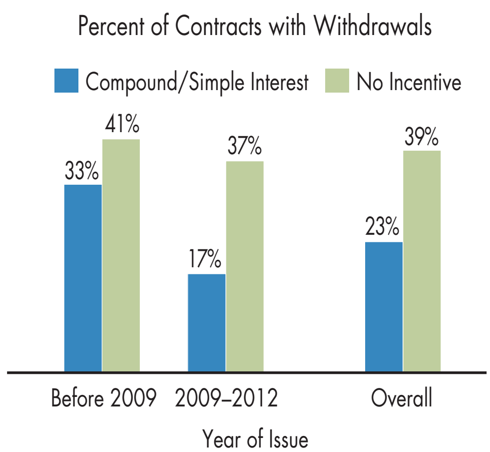
Withdrawal activity can vary depending on whether a contract offers incentives for owners to defer withdrawals. To attract younger investors, many GLWB offerings include "roll-ups," or deferral bonuses, that increase the benefit base by a certain percent — typically 5 percent or more a year for a certain period — typically 10 years or until the first withdrawal, whichever comes first.

For example, a generous roll-up of 7 percent per year, growing on a simple basis, may ensure that a 55-year-old customer investing $100,000 in 2013 would have a guaranteed benefit base of $170,000 in 2023, on the condition that he or she took no withdrawals during the period. At the end of 10 years, the owner would be entitled to an income of say, 5 percent of the benefit base each year, or approximately $ 8,500. Under GLWBs, the benefit base amounts are always protected from market declines.

Many companies offer a step-up or deferral bonus at a compound or a simple interest rate, if the owner does not take withdrawals for a certain period after purchase. The non-withdrawal bonus or incentive can attract younger customers who may be looking for a guaranteed larger benefit base to withdraw more income in later years, regardless of market volatility.

When we examined more than 1,207,000 contracts from 10 companies that offer both a deferral bonus and no increase to the benefit base when an owner defers withdrawals, we found that withdrawal activity is lower when a contract had incentives for non-withdrawals (Figure 1-33). Even among longer-duration contracts, a larger percent of owners take withdrawals when no incentive is present. Among contracts with no incentives, the percent of owners taking withdrawals in 2013 was 39 percent.

**Figure 1-33:** GLWB Withdrawal Activity in Contracts With/Without Non-Withdrawal Incentives




Note: Based on 1,207,445 GLWB contracts issued by 10 insurance companies which offer both types — bonus for non-withdrawals or no bonus. All contracts were issued before 2013 and still in force at EOY 2013.

**23%** of owners took withdrawals when deferral incentives were available — much lower than the **39%** of owners who took withdrawals when no incentives were available.

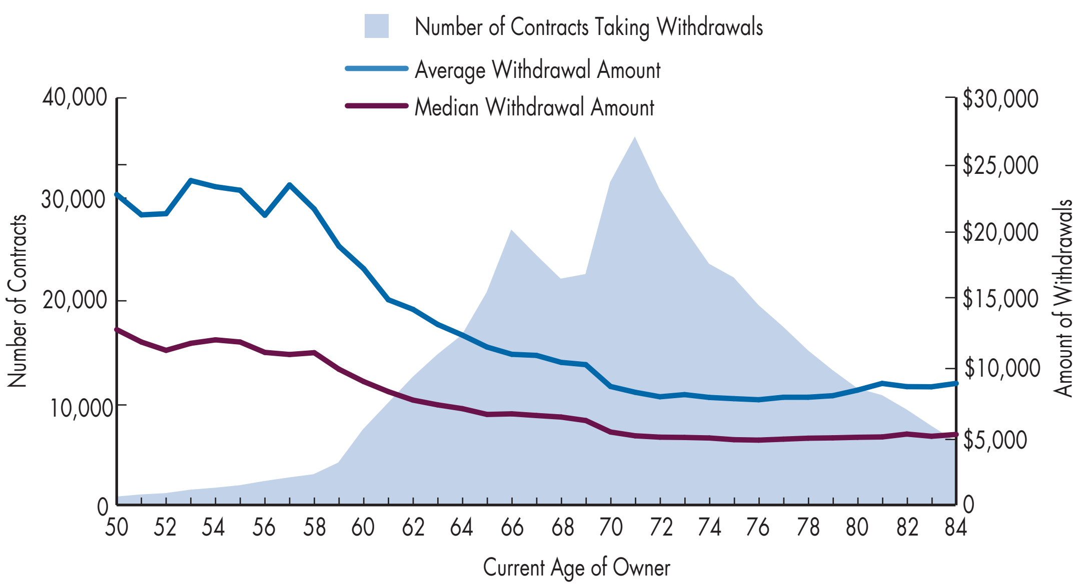
These findings suggest that pre-withdrawal benefit base growth does provide incentives for owners to postpone withdrawals. It is likely that owner expectations of when to take withdrawals are set during the purchase process.

## Average Withdrawal Amounts

The median withdrawal amount was $5,788 in 2013 for contracts issued before 2013 that were in force at EOY 2013.

Owners aged 60 and under took median withdrawals ranging from $9,000 to $13,000 while the average withdrawals ranged from $17,400 to $23,900 (Figure 1-34). However, these owners constituted only 6 percent of all contracts with withdrawals in 2013. Given the high average withdrawal amounts, it is likely that these contracts were partially surrendered.

**Figure 1-34:** GLWB Amount of Withdrawals by Current Owner Age




Note: Based on 482,144 GLWB contracts issued before 2013, still in force at EOY 2013 that had partial withdrawals in 2013.

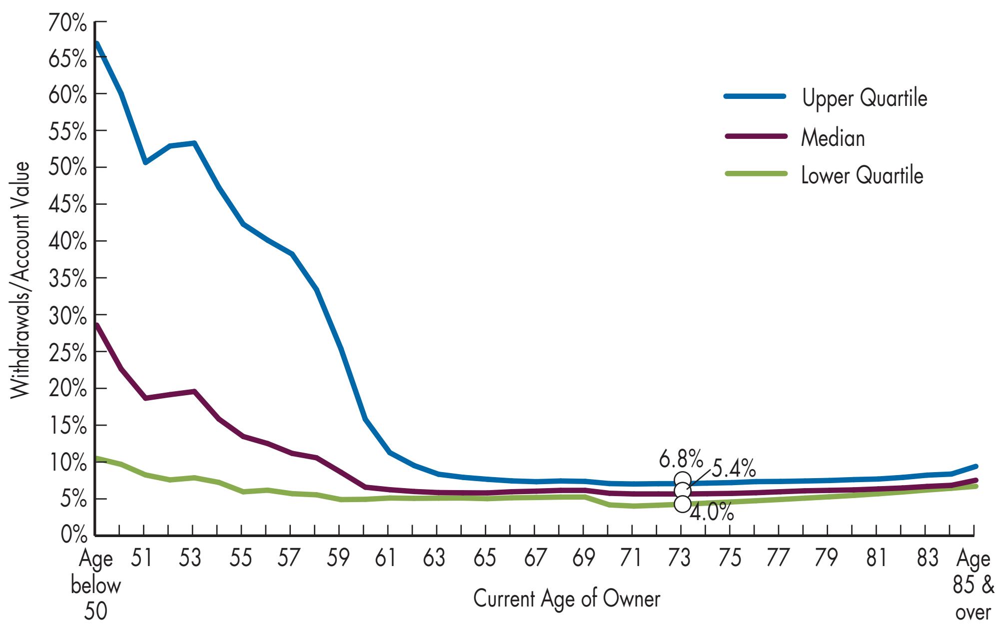
However, an increasing number of owners over age 60 took withdrawals in more sustainable withdrawal patterns and amounts. The median withdrawal amount at various ages ranges from $4,800 to $8,400 and the average withdrawal amount ranges from $7,800 to $15,100 per contract. As owners start to retire, the volume of withdrawals rises considerably. Average withdrawal amounts for owners over age 70 are commensurate with the maximum withdrawal amount typically supported by the GLWB benefit base and guaranteed withdrawal rates offered to respective age bands.

**$5,788** was the median withdrawal amount for contracts with withdrawals in 2013.

## Withdrawals as a Percentage of Contract Value and Benefit Base

In order to provide some context, we assessed the withdrawal amount in relation to both contract value and the benefit base. Figure 1-35 shows the median withdrawal amount for all ages and also the quartile distribution of the withdrawal amounts in 2013.

**Figure 1-35:** GLWB Withdrawals to Average Contract Value Ratio (For Contracts With Withdrawals Only)

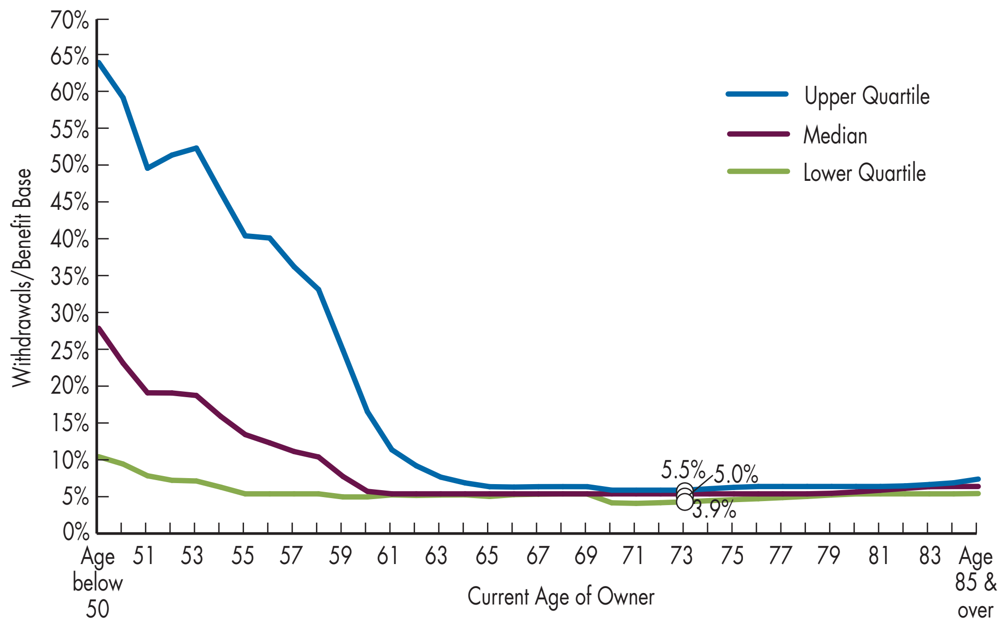



Note: Based on 500,215 GLWB contracts issued before 2013, still in force at EOY 2013 with partial withdrawals in 2013. Percent of average account value (AV) withdrawn is calculated for every contract as partial withdrawals divided by (BOY AV + EOY AV)/2.

The distribution of the withdrawals as a percent of average account value withdrawn shows that, for owners aged 65 or over, the median, the upper quartile, and the lower quartile values are almost identical. The pattern also indicates that the majority of older owners taking withdrawals do so at similar ratios from their account values; for example, for owners at age 73, around 5.5 percent. For owners under age 60, the median of the ratios is higher than that of older owners, ranging between 8 to 28 percent, and gets higher with younger owners. Also there is a wide difference between the median and the upper quartile values, indicating that the majority of these owners are taking more than the maximum allowed in the contracts. Only a small number of owners under age 60 — mostly below the lower quartile line — are withdrawing a sustainable rate without impairing the benefit base.

The distribution of withdrawal amount to the average benefit base ratio supports the same conclusion that we reached earlier: that the withdrawal amount is unduly weighted by very large withdrawals taken by a few younger owners (Figure 1-36). The distribution of ratios of withdrawal amount to benefit base shows that the median, the upper quartile, and the lower quartile values are almost identical for owners aged 65 or over. The ratios also indicate that the majority of older owners taking withdrawals do so at a rate of around 5 percent of their benefit base values — a typical GLWB maximum payout rate for this age.

**Figure 1-36:** GLWB Withdrawals to Average Benefit Base Ratio (For Contracts With Withdrawals Only)

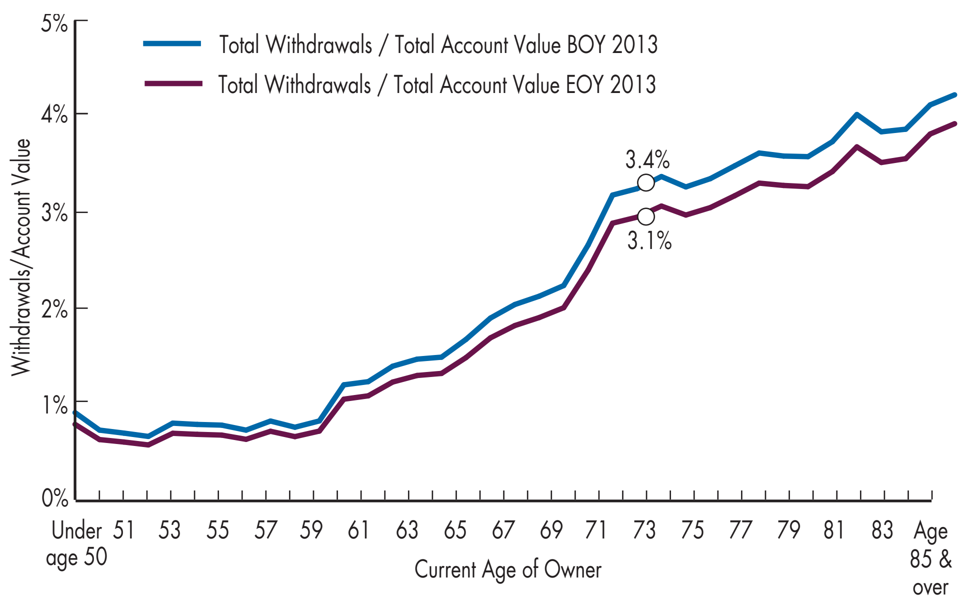



Note: Based on 500,215 GLWB contracts issued before 2013, still in force at EOY 2013 with partial withdrawals in 2013. Percent of average benefit base (BB) withdrawn is calculated for every contract: as partial withdrawals divided by (BOY BB + EOY BB)/2.

## Total Withdrawal Amount vs. Total Contract Value

By comparing the ratio of total withdrawal amount to contract values at BOY and the ratio of total withdrawal amount to EOY contract values, we can ascertain another measure of GLWB risk originating in customer behavior. We calculate this measure at two levels. First, total withdrawals during 2013 can be divided by total contract values at BOY and EOY, for all contracts in force. Second, the same ratio can be computed for only the subset of contracts that experienced withdrawals in 2013. The first measure provides a view of risk from withdrawals in terms of the total book of business, while the second provides an estimation of risk from withdrawals among the contracts that are in withdrawal mode.

**Figure 1-37:** GLWB Total Withdrawals to Total Contract Value (All Contracts)




Note: Based on 2,181,879 GLWB contracts issued before 2013 and in force at EOY 2013.

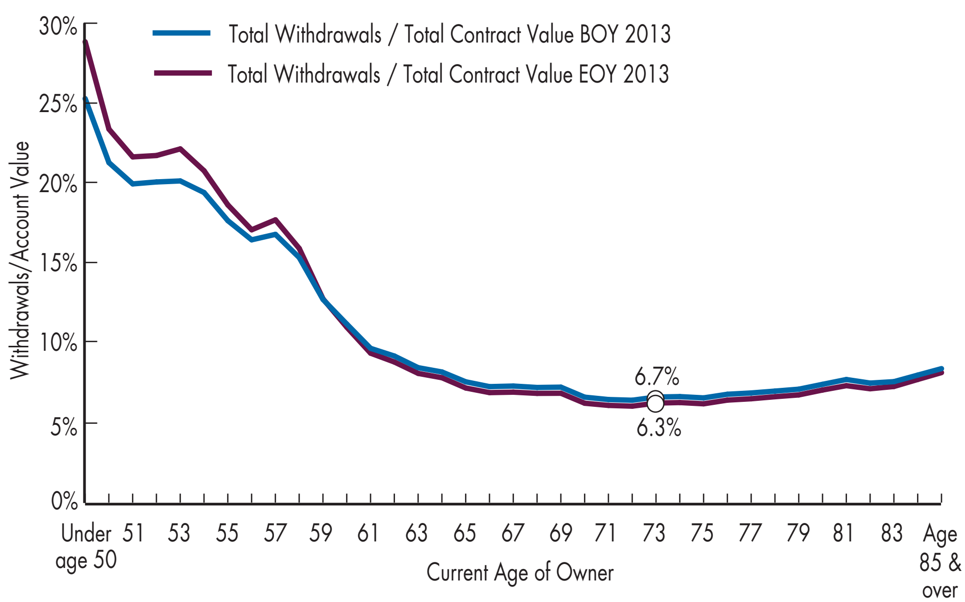
With improving equity markets and gains in fixed-income funds in 2013, the ratio of total withdrawals to total contract values fell during the year, thus reducing the overall risk.

For all contracts in force in 2013, the ratio of total withdrawals to BOY contract values was 1.95 percent (in other words, the outflow from beginning assets was at a rate of 1.95 percent). However, the ratio declined to 1.74 percent when we compare total withdrawals to total assets at EOY. The higher ratio was due to the growing equity market and gains in fixed-income funds in 2013. The ratio at BOY was higher than the corresponding ratio for EOY contract values across all ages (Figure 1-37). When the ratio of total withdrawal amounts to account values at EOY is lower than the ratio calculated at BOY, it means that the total contract values have increased sufficiently due to investment gains despite reductions due to withdrawals. The lower ratio during the year reduces some of the risk exposure for the companies, in terms of withdrawal provisions in the GLWB rider.

For example, customers aged 73 held $6.5 billion in 52,739 contracts at BOY. The total withdrawal amount taken by these customers during 2013 was $220.8 million, and the ratio of total withdrawals to contract values at BOY was 3.4 percent. However, during the year the contract values rose to $7.2 billion, after the withdrawals that had occurred. The ratio of withdrawal amounts to contract values for 73-year-old owners thereby declined from 3.4 percent at BOY to 3.1 percent at EOY.

Insurance companies can also examine the risks associated with the subset of contracts with withdrawals in 2013. Given the growing equity market and gains in fixed-income funds in 2013 and the withdrawal effect, the ratio of withdrawals to contract value declined for most contracts with withdrawals (Figure 1-38). For example, among owners aged 73 who made withdrawals in 2013, the ratio went from 6.7 percent of the contract value at BOY to 6.3 percent at EOY. For all the contracts that had withdrawals in 2013, there was an increase of 4.8 percent in the aggregate account values, after withdrawals.

**Figure 1-38:** GLWB Total Withdrawals to Total Contract Value (For Contracts With Withdrawals Only)




Note: Based on 467,813 GLWB contracts issued before 2013, in force at EOY 2013, with partial withdrawals in 2013.

### Withdrawal Activity in Single- and Joint-Lives Contracts

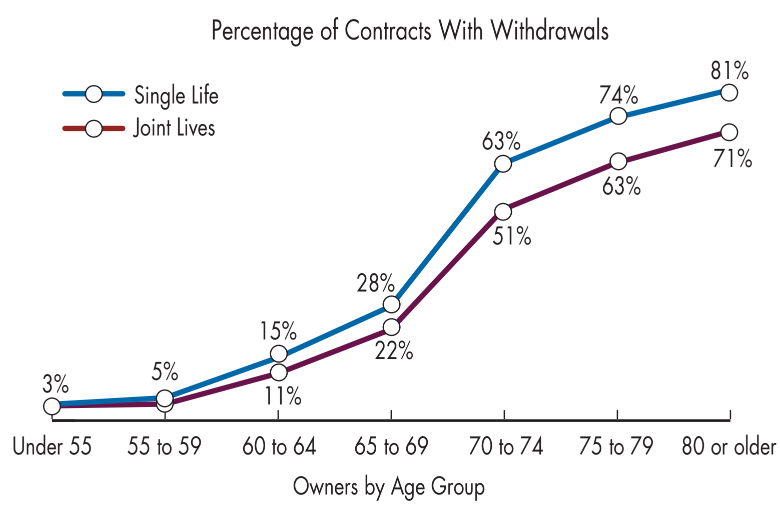
Some GLWB contracts offer guaranteed lifetime withdrawals on joint lives, allowing the withdrawals to continue as long as one of the annuitants is alive. Typically, the payout or guaranteed withdrawal rates for joint-lives contracts are lower than single-life contracts. Three in 10 GLWB contracts had payouts based on joint lives in 2013.

**30%** of GLWB contracts had payouts based on joint lives.

Overall, 22 percent of IRA owners take withdrawals from joint-lives contracts, slightly lower than the 26 percent of owners who take withdrawals from single-life contracts. This could be due to the fact that most joint-lives payouts are newer contract features, and that joint-lives payout rates are typically lower.

For GLWB contracts funded with qualified savings, issued before 2013 and still in force at EOY 2013, the percent of owners taking withdrawals was higher for single-life contracts even among owners age 70 or older. (Figure 1-39).

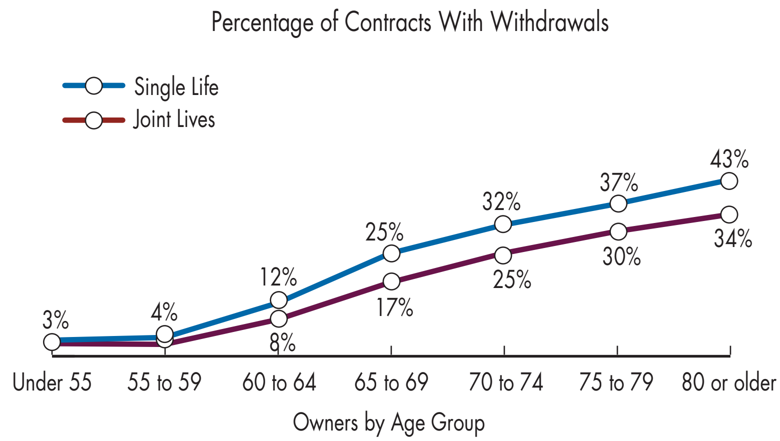
**Figure 1-39:** GLWB Withdrawal Rates for Single- and Joint-Lives Contracts (IRA)




Note: Based on 1,418,348 GLWB qualified contracts issued in or before 2013 and still in force at EOY 2013. Percentages refer to the number of contracts in each category that had partial withdrawals during 2013.

For almost all age groups, the percent of owners of nonqualified GLWBs taking withdrawals is lower in joint-lives contracts than in single-life contracts (Figure 1-40).

**Figure 1-40:** GLWB Withdrawal Rates for Single- and Joint-Lives Contracts (Nonqualified)




Note: Based on 691,641 GLWB nonqualified contracts issued in or before 2013 and still in force at EOY 2013. Percentages refer to the number of contracts in each category that had partial withdrawals during 2013.

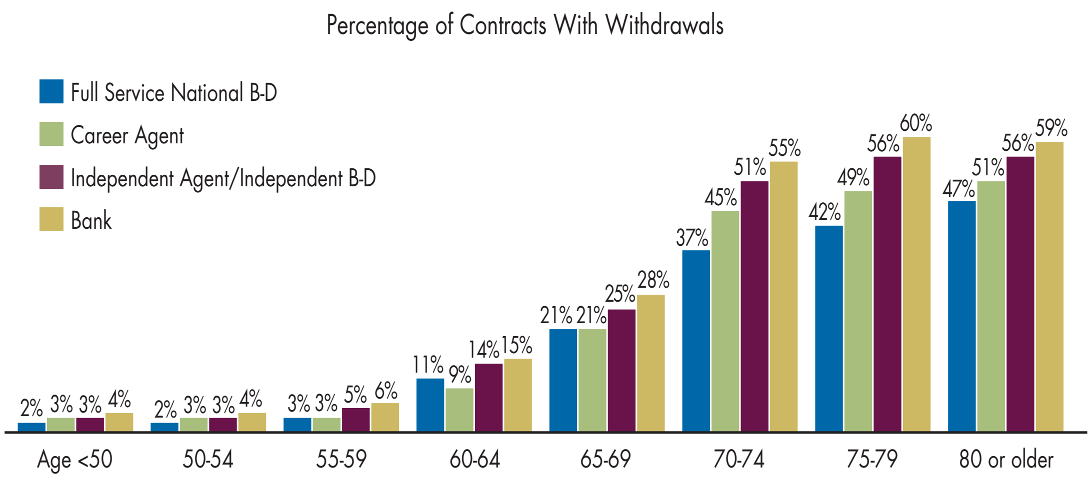
Lower payout rates in joint-lives and newer designs may be reasons why owners are taking fewer withdrawals from joint-lives contracts than from single-life contracts.

## Withdrawal Activity by Channel

> The percent of GLWB owners aged 65 or over who took withdrawals in 2013 was highest in the bank channel.

If we look at distribution channels, we find that more bank GLWB owners took withdrawals in 2013 than in any other channel (Figure 1-41). Overall, 27 percent of bank channel owners took withdrawals, four percentage points higher than the independent B-D channel (23 percent). Full-service national B-D and career agent channels both had 20 percent of owners taking withdrawals.

**Figure 1-41:** GLWB Withdrawal Rates by Distribution Channels




Note: Based on 2,111,933 GLWB contracts issued before 2013 and still in force at EOY 2013. Percentages refer to the number of contracts in each category that had partial withdrawals during 2013. We have not shown other measures like percent of owners taking withdrawals in direct response channels to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

Withdrawal behavior by individual age and distribution channel shows the same pattern that we have already seen — the percent of owners taking withdrawals remains modest up to age 69; increasing at age 70 and over due to RMDs. Differences in withdrawal activity across channel can be partly explained by the different mix of qualified and non-qualified business. While 16% of bank channel business were IRA contracts owned by individuals age 70 or older (and therefore are likely to be taking RMDs), 14% of full service national B-D business were IRA contracts owned by individuals age 70 or older.

## In-the-Money Analyses

The equity market meltdown from 2008–2009 and the financial uncertainties of a weak economy that followed could have encouraged more GLWB owners to start lifetime withdrawals from their contracts. This incentive to exercise their option to receive guaranteed lifetime withdrawals from their contracts was particularly compelling when the majority of GLWB contracts were in-the-money (benefit base greater than account value at BOY).

From the perspective of in-the-money analysis the GLWBs are, in essence, owners' options to receive lifetime income. Naturally as the value of the contract declines with market losses, the value of the guarantee increases.

In order to understand the impact of contracts' 'in-the-moneyness' on withdrawal activities, we need to give proper consideration to the severity and spread of in-the moneyness among owners by age and by duration of contracts. We must also consider many other factors like market performance, investor confidence in the market, market volatility, the state of the economy, and confidence in the financial strength of financial service providers. *In order to conclude that contracts being in-the-money influence owner withdrawal activity, we would expect to see increased withdrawal activities irrespective of age.*[12]

There are multiple ways to measure in-the-moneyness. One method is to compare the benefit base to the account value. Another method is to calculate the actuarial present value of withdrawals of the in-force block of business. In this chapter, the latter method can be found in the "GLWB Actuarial Present Value of Future Payments" section.

Contracts' benefits being in-the-money was not a major driver of withdrawal behavior for GLWB owners in 2013.

12 Additional analysis found no significant difference in the withdrawal pattern for contracts that were in-the-money compared to those not in-the-money when looking at withdrawal amounts that were above, at, or below the benefit maximum.

## Withdrawal Activity for Contracts In-the-Money or Not-in-the-Money

After the market crisis of 2008–2009, a majority of GLWB contracts remained in-the-money for a number of years. Previous LIMRA studies[13] are helpful in understanding the context of the association between benefits being in-the-money and owner withdrawal activity (Table 1-19).

**Table 1-19:** GLWB Historical Trends of Benefit Base vs. Contract Value at BOY

| Calendar Year: | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|
| Percent of Contracts where Benefit Bases > Contract Values at BOY | 93% | 73% | 62% | 92% | 79% |
| Number of Contracts Issued before Calendar Year | .89 million | 1.25 million | 1.45 million | 1.89 million | 2.04 million |

Examining the GLWB contracts issued before 2013, it is also evident that:

- Older duration contracts are more likely to be in-the-money (Figure 1-7). The older duration contracts are also more likely to have older owners than newer duration contracts.
- At the beginning of 2013, benefit bases in-the-money were not widely spread across all age groups due to improvement in contract values from positive market returns in 2012 (Figure 1-12). In fact, contracts owned by investors aged 70 or older are more likely to be deeper in-the-money than younger owners. This is because a large numbers of older owners with older duration contracts initiated withdrawals in previous years and continued taking withdrawals from their contracts in all following years.
- Older owners — particularly those aged 70 or older — are more likely to take and continue withdrawals over a longer period of time. Since their withdrawal amounts typically remain within the maximum amount offered in the GLWB contracts, their contract values are likely to decline over a period (unless they experience large growth due to market growth) while their benefit bases are likely to remain level causing the in-the-money amount to grow as the withdrawals continue.

13 *Guaranteed Living Benefits Utilization – 2009 Data,* LIMRA, 2011, *Guaranteed Living Benefits Utilization – 2010 Data,* LIMRA, 2012 and *Variable Annuity Guaranteed Living Benefits Utilization – 2011 Experience,* LIMRA-SOA, 2013

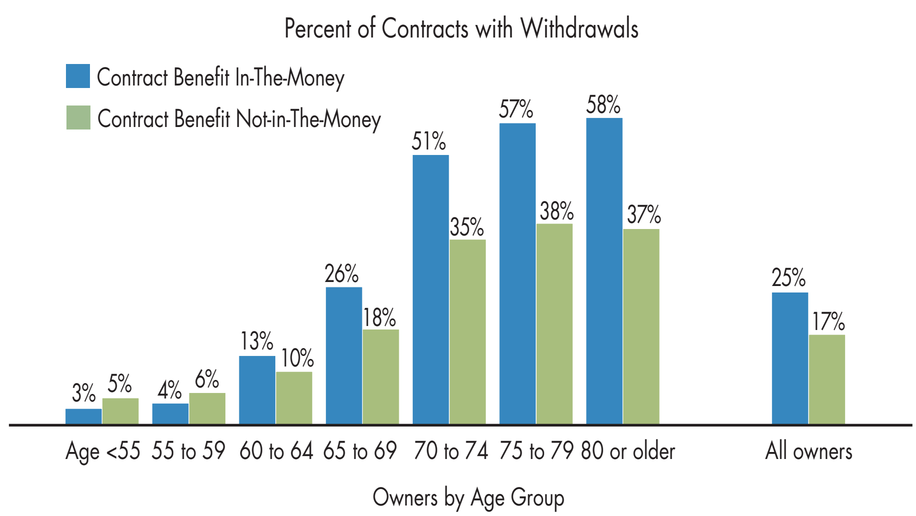
As a result, we expect that the percentages of owners taking withdrawals by the degree of in-the-moneyness will be skewed by current age and duration of contracts. We can also expect that the gap between the percentage of owners taking withdrawals in a particular year for contracts in-the-money vs. not in-the money may grow in the future.

Our findings indicate that given the ups and downs in equity-market returns over the last few years, and increased market instability, 8 out of 10 contracts were in-the-money at the beginning of 2013 with 1 in 4 having withdrawals, compared with 17 percent of contracts that were not-in-the-money. Later in this section we will assess other factors that are key drivers of this withdrawal behavior.

Among contracts not-in-the-money, a slightly higher percentage of owners under age 60 took withdrawals in 2013 compared with owners in the same age group whose contracts were in-the-money (Figure 1-42). We should note that the number of contracts held by owners under age 60 represents 28 percent of all in-force GLWB contracts issued before 2013. Many of the contracts held by this age group, that were not-in-the-money, were likely issued in recent years.

The overall utilization rate for contracts in-the-money at BOY was **25%,** compared with **17%** for contracts not-in-the-money.

**Figure 1-42:** GLWB Withdrawal Rates for Contracts In-the-Money vs. Not In-the-Money




Note: Based on 2,044,270 GLWB contracts issued before 2013 and still in force at the end of 2013. Percentages refer to the number of contracts in each category with partial withdrawals during 2013. In-the-money = benefit base greater than account value at BOY.

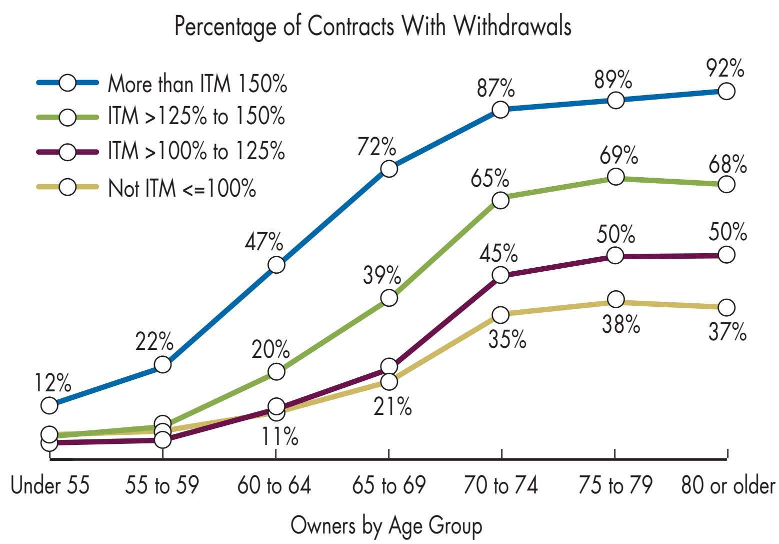
However, the percent of owners aged 60 or older who took withdrawals in 2013 was higher among contracts in-the-money than for those not in-the-money. Also this gap increases with age. For example, the percentage of owners aged 60 to 64 who took withdrawals in 2013 from in-the money contracts was slightly higher at 13 percent compared with 10 percent among owners of contracts not-in-the-money. Fifty-eight percent of owners aged 80 or older, with contracts in-the-money took withdrawals, compared with 37 percent of owners not-in-the money.

As shown earlier in this chapter, the percentage of owners taking withdrawals is linked closely with owners reaching age 70½ and the need to meet RMDs. So the overall increased withdrawal activity among owners aged 70 or older is mostly due to their taking withdrawals from contracts with longer durations — those most likely to be in-the-money. If in-the-moneyness were a forceful reason for taking withdrawals, owners aged 60 to 69 would have been more active in taking withdrawals and we would have seen a wider gap between the percentage of owners taking withdrawals from in-the-money contracts versus those not-in-the-money, or a sudden jump in withdrawal activity compared with previous years

The overall utilization rate for contracts with benefits that were in-the-money at the beginning of the year was eight percentage points higher, 25 percent compared with 17 percent for contracts with benefits that were not-in-the-money. This gap of 8 percent between in-the-money and not-in-the-money withdrawal rates for 2013 is higher than the 2 to 3 percent gap we saw in 2011 and 2012. We expect this gap to grow as contracts with withdrawals (particularly in older duration contracts with older owners) are more likely to remain in-the-money than contracts recently issued or contracts held by owners that have not taken withdrawals.

*Looking at contracts being in-the-money by their magnitude and age, in isolation, may not provide a complete picture.* Figure 1-43 shows increased levels of withdrawal activity with increasing levels of in-the-moneyness. For example, a higher percentage of owners took withdrawals from contracts with benefit bases more than 150 percent of the contract value, compared with those whose benefit base was between 100 and 125 percent of the contract value.

**Figure 1-43:** GLWB Withdrawal Rates for Contracts by Degree of In-the-Money vs. Not In-the-Money




Note: Based on 2,044,270 GLWB contracts issued before 2013 and still in force at the end of 2013. Percentages refer to the number of contracts in each category that had partial withdrawals during 2013. In-the-money = benefit base divided by account value at BOY.

While 89 percent of owners aged 70 or above took withdrawals in 2013 from their contracts where the benefit base was more than 150 percent of the contract values, only 63 percent of owners aged 60–69 — and 18 percent of owners under age 60 — took withdrawals, despite the apparent enticement to utilize in-the-money withdrawal riders.

Table 1-20 illustrates that primarily age, not benefits being in-the-money, drives owner withdrawal behavior, though there may be a small in-the-moneyness effect, mainly driven by withdrawals among younger owners. Though in-the-moneyness, particularly where benefit base exceeds contract values by more than 150 percent, appears to impact withdrawals among owners aged 60 to 69, the effect is not substantial where in-the-moneyness ranges between >100 percent to 125 percent. The effect is less significant among contract owners under age 60.

**Table 1-20:** GLWB Percentage of Owners Taking Withdrawals by Degree of In-the-Money (ITM)

| Degree of In-the-Moneyness | Below Age 60 | Age 60–69 | Age 70 or Older |
|---|---|---|---|
| ITM <=100% | 5% | 14% | 36% |
| ITM >100% to 110% | 3% | 16% | 47% |
| ITM >110% to 125% | * | * | 47% |
| ITM >125% to 150% | 6% | 31% | 67% |
| ITM >150% | 18% | 63% | 89% |

Note: Based on 1,625,478 GLWB contracts issued before 2013 and still in force at the end of 2013. Percentages refer to the number of contracts in each category with partial withdrawals during 2013.

*We have not shown certain measures to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

In a separate analysis of withdrawals by degree of in-the-moneyness — controlled for year of issue — we find the following:[14]

- More owners took withdrawals from older duration contracts. As more owners reach age 70½, they need to take withdrawals from their qualified contracts to satisfy RMDs. The analysis shows that the percentage of owners taking withdrawals decreases, irrespective of age and degree of in-the-moneyness, among shorter-duration contracts. For example, an analysis of contracts issued in 2007–2008 shows the percentages of owners taking withdrawals differ widely by levels of in-the-moneyness, which in turn shows a distinctive gap between owners taking withdrawals from contracts more than 150 percent in-the-money and owners with lower degrees of in-the-moneyness. Otherwise, there is no discernible difference among differing degrees of in-the-moneyness. Moreover, among contracts issued in 2009–2010, there is no such pattern between the percentage of owners taking withdrawals and degree of in-the-moneyness.

14 In a separate analysis, we controlled for year of issue and assessed the impact on the in-the-moneyness result. Some of these results based on age groups are based on small samples where a single company dominates the age-specific result and thus were unreportable; however, it is clear that year of issue (and indirectly, age) accounts for much of the "in-the-moneyness effect," though it can be argued that a relatively small effect may remain.

- The fact that the vast majority of owners who start withdrawals are likely to continue withdrawals in subsequent years also influences this trend. As they continue withdrawals, it is also likely these contracts will remain in-the-money even with the robust positive market performance of the last few years, as contract values decrease and benefit bases remain level. This is evident in the fact that owners aged 70 or older own more than half (56 percent) of the contracts where benefits were in-the-money by more than 150 percent above their contract values, though they constitute only a quarter of all in-force contracts.
- There is a small portion of owners under age 70 who start their withdrawals immediately or short time after their annuity purchase. Once they take their first withdrawals and continue to take withdrawals in subsequent years, many of these contracts are likely to remain in-the-money. Simply put, once owners start their withdrawals they are likely to continue withdrawals irrespective of the degree of in-the-moneyness.

As we have mentioned before, 8 out of 10 GLWB contracts were in-the-money at the beginning of 2013. If in-the-moneyness were a compelling reason to take withdrawals, we would have seen a bump in the percentages of owners taking their first withdrawals based on the degree of in-the-moneyness, but this did not occur.

> If in-the-moneyness were a compelling reason to take withdrawals, we would have seen a bump in the percentage of owners taking their first withdrawals based on the degree of in-the-moneyness and we did not see this occur.

Nearly 9 out of 10 contracts with withdrawals before 2013 continued to have withdrawals in 2013. However, there was only a slight difference in the percentage of owners taking withdrawals among age groups by levels of in-the-moneyness. It appears that the proportion of owners taking withdrawals with higher levels of in-the-moneyness are slightly lower among owners under age 65 and slightly higher among owners aged 65 or older, compared to owners with contracts where benefits are equal or less than 100 percent of their contract values. Such differences are likely caused by younger owners starting their withdrawals in recent years, and older owners taking withdrawals for longer periods of time, thus increasing the probability of contracts remaining in-the-money. However, the conclusion remains that, even among owners who started withdrawals earlier, owners kept taking withdrawals whether or not the contracts were in-the-money.

In addition, over the last few years we have seen very little support or evidence that benefits in-the-money is a principal driver for withdrawal activities:

- Our analysis of the timing of first withdrawals among contracts issued in 2007 and 2008 (Tables 1-8 through 1-11) provides further evidence that in-the-moneyness is not a strong determinant of withdrawal activity. Over a seven-year period, most of these contracts were exposed to different degree of in-the-moneyness, especially between years 2009 and 2012. Yet we did not observe any significant difference in the onset of withdrawal activity during these years. If in-the-moneyness were a major driver of the decision to begin taking withdrawals, we would have seen a jump in withdrawal activity in 2009, when the contracts' account values were likely to be well below their benefit bases following the major drop in values in 2008. The same can be said about 2012, when market volatility in late 2011 and low returns caused many contracts to start 2012 deep in-the-money. Instead, attained age and the need for RMDs for IRA contracts explained much of the pattern we observed.
- In 2009, the RMD restrictions were waived after the market crisis. Instead of heightened withdrawal activities, the percentage of IRA owners taking withdrawals dropped to its lowest level in all recent years.

We conclude from this analysis that contract benefits being in-the-money is not a major driver of withdrawal behaviors of GLWB owners.

## Withdrawal Activity for Contracts Issued in 2013

Withdrawal activity for contracts issued in 2013 (and still in force at EOY) was less common than for contracts issued before 2013 (Table 1-21). Overall, 9.2 percent of contracts issued in 2013 had some withdrawal activity; 7.8 percent had systematic withdrawals.

The lag between the issuance of the contract and the onset of withdrawals can be approximated by examining the proportion of contracts with withdrawal activity by year end. After two months (contracts issued in November), only 5 percent of contracts had withdrawals. After 11 months (contracts issued in February), 10 percent had withdrawal activity.

**Table 1-21:** GLWB Utilization by Month of Issue, Contracts Issued in 2013

| Month Issued | Percent With Partial Withdrawal | Percent of Premium Withdrawn | Median Amount Withdrawn | Median Amount Withdrawn, Annualized* |
|---|---|---|---|---|
| January | 12% | 5.7% | $5,037 | $5,037 |
| February | 10% | 5.3% | $4,810 | $5,247 |
| March | 11% | 4.6% | $4,363 | $5,236 |
| April | 11% | 4.2% | $3,783 | $5,044 |
| May | 11% | 3.8% | $3,533 | $5,300 |
| June | 10% | 3.5% | $3,044 | $5,218 |
| July | 10% | 3.0% | $2,500 | $5,000 |
| August | 10% | 2.5% | $2,288 | $5,491 |
| September | 9% | 2.1% | $1,711 | $5,133 |
| October | 7% | 1.6% | $1,253 | $5,012 |
| November | 5% | 1.3% | $833 | $4,998 |
| December | 1% | 1.5% | $588 | $7,056 |
| **Total** | **9%** | **3.7%** | **$3,162** | **$5,421** |

Note: Based on 29,689 contracts out of 322,325 contracts issued in 2013 that had partial withdrawals.

*Withdrawal amounts were annualized by multiplying them by 12 / (13 – months since BOY). Percent of premium withdrawn based on contracts issued in 2013 with withdrawal activity.

The median amount withdrawn during 2013 was $3,162; withdrawal amounts were highest among contracts issued early in the year. When the amounts withdrawn are annualized, the median values are generally between $5,000 and $5,500, which represent about 4 percent of current-year premium.

## Utilization by Selected Characteristics

Utilization of GLWBs varies substantially across a variety of owner, contract, and benefit characteristics for contracts issued before 2013 (Table 1-22). These patterns are relatively consistent across utilization measurements, such as the percent of contracts with systematic withdrawals or the withdrawal rate weighted by contract value.[9]

**Table 1-22:** GLWB Utilization by Selected Characteristics

| | Unweighted | | Weighted by BOY 2013 Contract Value | |
|---|---|---|---|---|
| | Partial Withdrawals | Systematic Withdrawals | Partial Withdrawals | Systematic Withdrawals |
| **Age of owner** | | | | |
| Under 50 | 3% | 0 | 4% | 1% |
| 50 to 54 | 3% | 1% | 4% | 1% |
| 55 to 59 | 4% | 2% | 5% | 3% |
| 60 to 64 | 13% | 9% | 16% | 12% |
| 65 to 69 | 24% | 20% | 27% | 23% |
| 70 to 74 | 48% | 38% | 48% | 38% |
| 75 to 79 | 53% | 43% | 52% | 41% |
| 80 or older | 54% | 44% | 51% | 41% |
| **Market type** | | | | |
| IRA | 25% | 18% | 27% | 21% |
| Nonqualified | 20% | 16% | 21% | 17% |
| **Gender** | | | | |
| Male | 22% | 17% | 25% | 20% |
| Female | 23% | 18% | 25% | 20% |
| **Distribution channel** | | | | |
| Career agent | 20% | 13% | 22% | 15% |
| Independent agent/ independent B-D | 23% | 19% | 26% | 22% |
| Full Service National B-D | 20% | 16% | 21% | 17% |
| Bank | 27% | 21% | 29% | 23% |

9 This measure of utilization should not be equated with the percentage of contract value withdrawn.

**Table 1-22:** GLWB Utilization by Selected Characteristics *(continued)*

| | Unweighted | | Weighted by BOY 2013 Contract Value | |
|---|---|---|---|---|
| | Partial Withdrawals | Systematic Withdrawals | Partial Withdrawals | Systematic Withdrawals |
| **Contract value, EOY 2013** | | | | |
| Under $25,000 | 20% | 12% | 27% | 15% |
| $25,000 to $49,999 | 23% | 17% | 26% | 18% |
| $50,000 to $99,999 | 24% | 18% | 26% | 20% |
| $100,000 to $249,999 | 23% | 19% | 25% | 20% |
| $250,000 to $499,999 | 24% | 20% | 26% | 21% |
| $500,000 or higher | 23% | 19% | 24% | 20% |

Note: Based on 2,181,879 GLWB contracts issued before 2013 and still in force at EOY 2013. Percentages refer to the number of contracts in each category that had partial (or systematic) withdrawals during the year. Systematic withdrawals represent a subset of all partial withdrawals. We have not shown measures related to asset allocation to preserve confidentiality and avoid revealing company-specific information as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

- Older owners are much more likely to take withdrawals, especially systematic withdrawals, than are younger owners. In part, this activity reflects RMDs from IRAs after age 70½. Overall utilization is only slightly higher among VA owners in IRAs (25 percent) than nonqualified VA owners (20 percent).
- Differences across channels in part reflect the age profiles of their customer bases. For example, a larger proportion of bank-issued contracts (with an older client base) take withdrawals compared to independent B-D issued contracts, 27 percent vs. 23 percent, respectively.
- Owners with larger VA contract values are slightly more apt to take withdrawals than are owners with smaller contract values.

## GLWB Actuarial Present Value of Future Payments

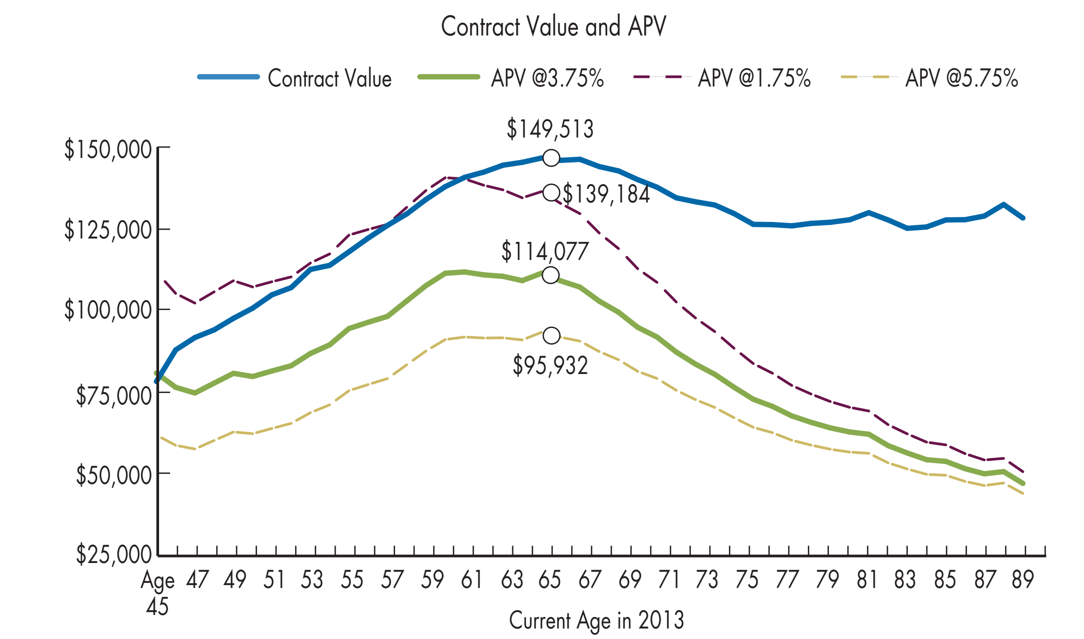
Figure 1-44 presents an actuarial present value (APV) analysis of benefit-maximum guaranteed withdrawals for the in-force block of business by age, and compares the average APV to average contract values at the end of 2013.

The analysis is based on the following assumptions:

- All contract owners eligible to take withdrawals as of year-end 2013 do so under the current terms of the riders. Withdrawals are taken at the beginning of each year of analysis, and contract owners are assumed to take the maximum guaranteed annual withdrawal amount, which equals the higher of a) the BOY 2013 maximum guaranteed annual withdrawal amount as specified by companies, or b) the BOY 2013 maximum annual withdrawal percentage multiplied by each contract's benefit base on its anniversary date or, if not available, as of the end of 2013. If companies did not specify the BOY annual withdrawal percentage at the contract level, we determined it based on the rider specifications, with appropriate adjustment to the contract owner's age.
- Annual withdrawals or payments continue until the owner's gender- and age-specific life expectancy, using the U.S. Annuity 2000 Basic Mortality Table with projection scale G.
- We did not consider contract surrender activity or payment of guaranteed death benefits.
- APV analysis is based on an interest rate of 3.75 percent.[15] We used two other interest rates at ±200 basis points from this valuation rate (i.e., 1.75 and 5.75 percent) to assess the sensitivity of interest rate changes.

15 *Prescribed U.S. Statutory and Tax Interest Rates for the Valuation of Life Insurance and Annuity Products,* Tower Watson, October 2014. The rate is for annuities issued in 2013, without cash settlements, issue year valuations, with or without interest guarantees on considerations, received more than one year after issue with guarantee duration of more than 10 years but not more than 20 years.

**Figure 1-44:** GLWB Average Actuarial Present Value (APV) vs. Average Contract Value by Age at EOY 2013

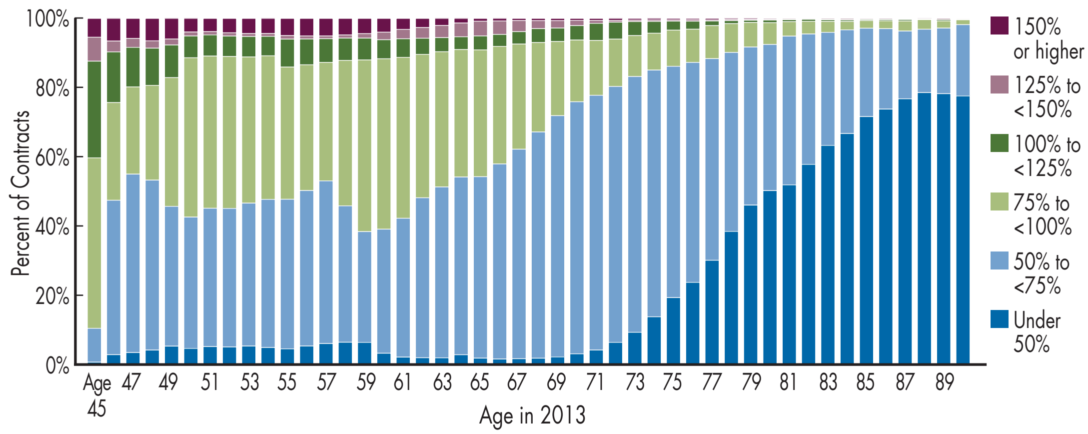



Note: Based on 2,183,631 GLWB contracts issued in 2013 or earlier and still in force at the end of 2013.

- We do not intend the industry to use this analysis as a measure of risk or efficiency of risk management in the industry, as we do not consider factors such as fees, lapse rates, effectiveness of hedging programs, asset allocation restrictions, and other related factors in the calculation.
- The results indicate that the average GLWB contract value for practically all ages exceeded the APV at the end of 2013. For example, the average contract value for all 65-year-old owners was $149,500, while the average APV of benefit-maximum payments was $114,100, using the interest rate assumption of 3.75 percent. The total APV of benefit-maximum withdrawals for 2.2 million GLWB contracts stood at $216 billion, 27 percent lower than total contract values at $298 billion at the end of 2013.

In aggregate, the APVs were close to account values among contracts owned by individuals in their early 50s or younger. In general, for customers aged 70 or over, the discounted cash outflows of guaranteed withdrawals was larger than EOY account values.

**Figure 1-45:** GLWB Ratio of APV at 3.75% to Contract Value Distribution by Age




Note: Based on 2,183,631 GLWB contracts issued in 2013 or earlier and still in force at the end of 2013.

Figure 1-45 shows that not all of the GLWB contract values exceed their APV. Eight percent of all GLWB contracts had APVs above their contract values.

- Thirteen percent of contracts owned by customers aged 45–59 had APVs higher than the account values. This age group held one quarter of all GLWB contracts at the end of 2013.
- Nine percent of owners aged 60 to 69 and only 5 percent of owners aged 70 to 79 had APVs greater than their contract values. For customers aged 80 or over, almost all of the contracts had larger APVs compared to contract values. However, the APV for 3 out of 10 contracts remained within the range of 75 to <100 percent of their contract values, possibly at risk to deteriorating interest rates or a volatile market.

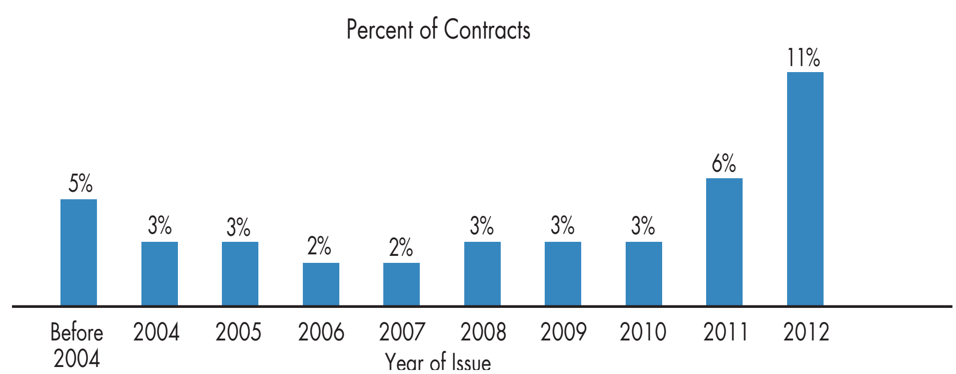
## Additional Premium and Net Flows

Many retail VAs allow owners to add premium after issue, though in practice most contracts do not receive ongoing deposits. For most GLWBs, the calculation of the benefit base incorporates premium received within a certain time period after contract issue. For contracts issued before 2013:

- Received nearly $4.0 billion in additional premium in 2013.
- Five percent received additional premium in 2013. Contracts issued in 2012 were more likely than contracts issued in earlier years to have additional premium (11 percent) (Figure 1-46).

- Younger owners are more likely to add premium than older owners. For example, 9 percent of owners under age 50 added premium, compared with 2 percent of owners aged 70 or older. Seven percent and 5 percent of owners aged 50–59 and aged 60–64 respectively added additional premium to their contracts in 2013.
- Fewer contracts (3.9 percent) with GLWBs whose benefit bases incorporate premium in all years received additional premium in contrast to contracts where the flexibility to add premium is constrained by a certain time limit (4.4 percent).

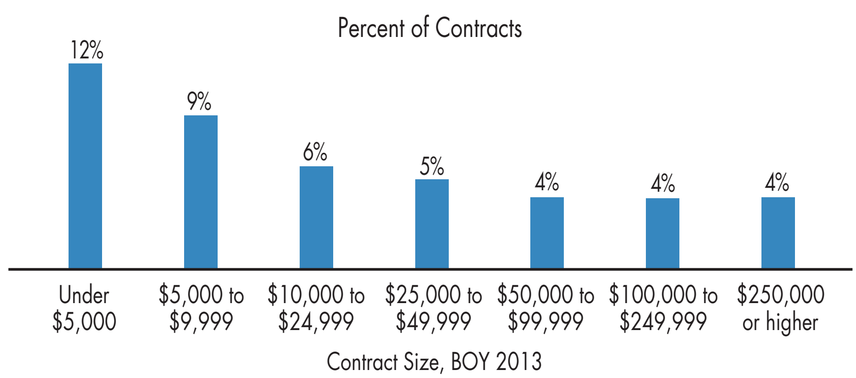
**Figure 1-46:** GLWB Percentage of Contracts Receiving Additional Premium




Note: Based on 2,181,830 contracts issued before 2013 and still in force at EOY 2013.

Nearly 1 in 8 (12 percent) contracts that had BOY contract values under $5,000 received additional premiums (Figure 1-47). The average additional premium received in 2013 was $39,103 (median of $11,200).

**Figure 1-47:** GLWB Percentage of Contracts Receiving Additional Premium by Size of Contract

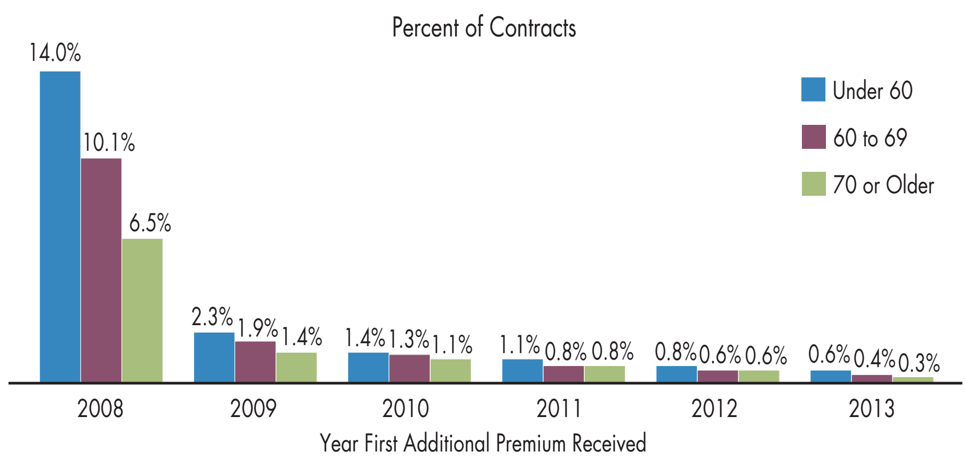



Note: Based on 2,181,830 contracts issued before 2013 and still in force at EOY 2013.

Owners rarely add premium after the second year of owning a GLWB contract.

Owners rarely add premium after the second year of owning a GLWB contract (Figure 1-48). Based on a constant group of contracts issued in 2007, 11.5 percent added premium in one of the calendar years after issue, and only 4.8 percent added premium two or more years after the year of issue. In addition, younger owners are more likely to put additional premiums into their contracts. In the first year, owners under age 60 were more than two times as likely to put additional money into their contracts as owners aged 70 or older. In the second and future years, owners under age 60 were only slightly more likely to contribute additional premiums than older owners. We found a very similar pattern for a constant group of contracts issued in 2008.

**Figure 1-48:** Additional Premium for Contracts Issued in 2007




Note: Based on 194,967 constant group of contracts in 2007 and still in force at EOY 2013.

Premiums received for newly issued and existing contracts far exceed outflows associated with withdrawals, surrenders, deaths, and annuitizations — $45.6 billion and $13.5 billion, respectively (Table 1-23). The total number of GLWB contracts in force grew by over 11 percent during 2013. At year-end, GLWB assets were $338.9 billion, 25 percent higher than $271.7 billion at BOY 2013.

**Table 1-23:** GLWB Net Flows

| | Dollars (Billions) | Contracts | Average Contract Size |
|---|---|---|---|
| **In-force, BOY 2013** | **$271.7** | **2,263,974** | **$119,997** |
| **Premium received** | | | |
| Newly issued contracts | $41.6 | 323,083 | $128,692 |
| Existing contracts | $4.0 | N/A | N/A |
| **Benefits paid** | | | |
| Partial withdrawals | $5.7 | N/A | N/A |
| Full surrenders | $6.2 | 68,680 | $90,430 |
| Annuitizations | $<0.1 | 766 | $120,890 |
| Death/Disability | $1.4 | 13,419 | $106,749 |
| **Investment growth** | $35.1 | N/A | N/A |
| **In-force, EOY 2013** | **$338.9** | **2,504,182** | **$135,322** |

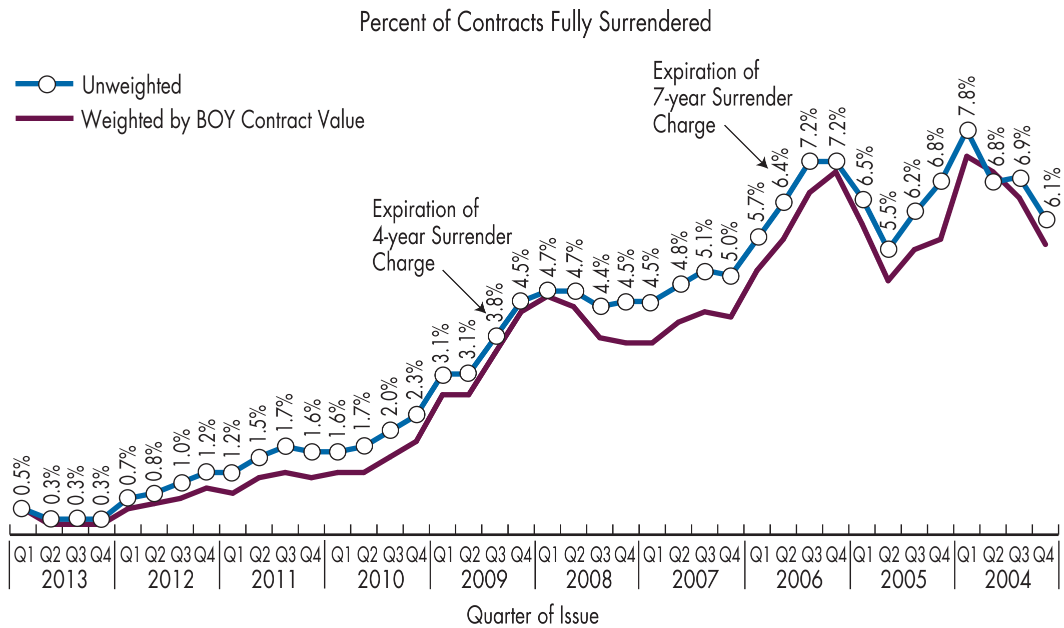
Note: Based on 2,587,057 GLWB contracts in the study. Dollar values for contracts issued before 2013 that terminated during the year were set equal to either the BOY contract value (if termination occurred before contract anniversary date) or the anniversary contract value (if termination occurred on or after the contract anniversary date). Dollar values for contracts issued in 2013 that terminated during the year were set equal to the current-year premium.

## Persistency

Surrender activity for VAs with GLWBs is a critical factor in measuring liability. If persistency is very high among contracts with benefits that are in-the-money or in contracts where the owners take withdrawals regularly, then insurers may have payouts that are larger or for longer durations than anticipated. The presence of living benefits on VAs may lead owners to keep their contracts beyond the surrender penalty period.

The 2013 GLWB contract surrender rate was **3%.**

**Figure 1-49:** GLWB Surrender Rate by Quarter of Contract Issue




Note: Based on 2,415,038 GLWB contracts issued in 2013 or earlier.

Surrender rates for VAs with GLWBs in 2013 were relatively low, even among contracts issued five years earlier (Figure 1-49). Across all contracts issued before 2013, 3.0 percent surrendered during 2013, just slightly higher than the surrender rates experienced in 2011 and 2012. The contract surrender rates in 2013 were higher than the 1.8 percent experienced in 2009. There is a noticeable increase in surrender rates at the expiration of the L-share and B-share surrender charge. For business issued before 2013, cash value surrender rates were 2.6 percent, suggesting that smaller size contracts were more likely to be surrendered. By comparison, the cash value surrender rate for all retail VA contracts still within the surrender charge period (i.e., including contracts without GLBs) was approximately 2.2 percent in 2013.[16]

## Surrender Activity by Share Class and Presence of Surrender Charge

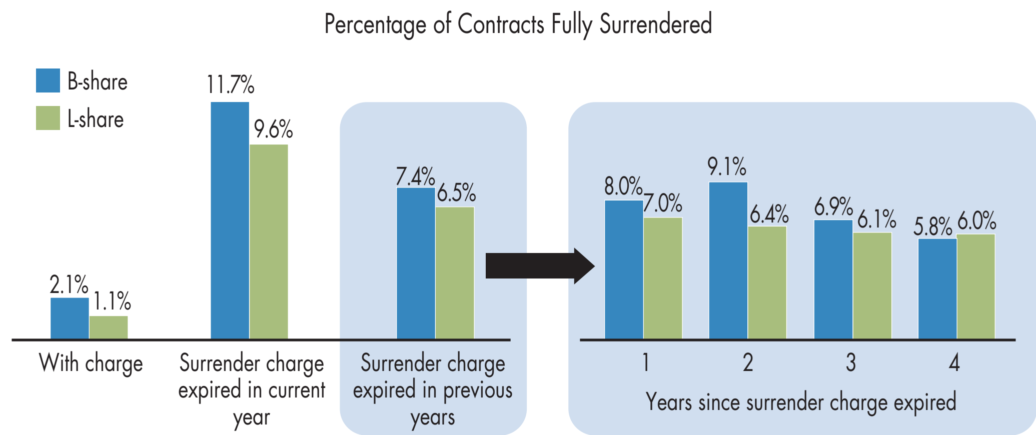
Looking at the surrender rates by the presence of surrender charges shows that persistency among contracts with surrender charges is higher than for contracts without surrender charges. Almost all (94 percent) of B-share contracts and 53 percent of the L-share contracts were within the surrender charge periods in 2013. Figure 1-50 shows contract surrender rates and Figure 1-51 shows cash value surrender rates for contracts by share classes.

- With B- and L-share combined, 81 percent of GLWB contracts were under surrender penalty.

16 Based on analysis of LIMRA's U.S. Annuity Persistency Survey Data

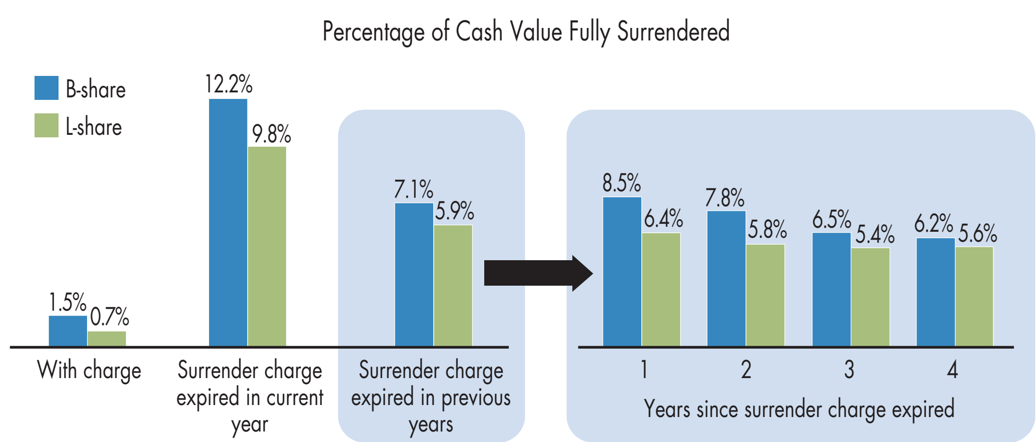
- The contract surrender rates for B-share and L-share contracts with a surrender charge are 2.1 percent and 1.1 percent, respectively.
- The overall contract surrender rate for B-share and L-share contracts that did not have surrender charges or came out of the surrender charge period was 7.9 percent compared with 1.9 percent for contracts that had surrender charges.

**Figure 1-50:** GLWB Contract Surrender Rates in 2013 by Share Classes




Note: Based on 1,919,780 B-share and L-share GLWB contracts issued before 2013.

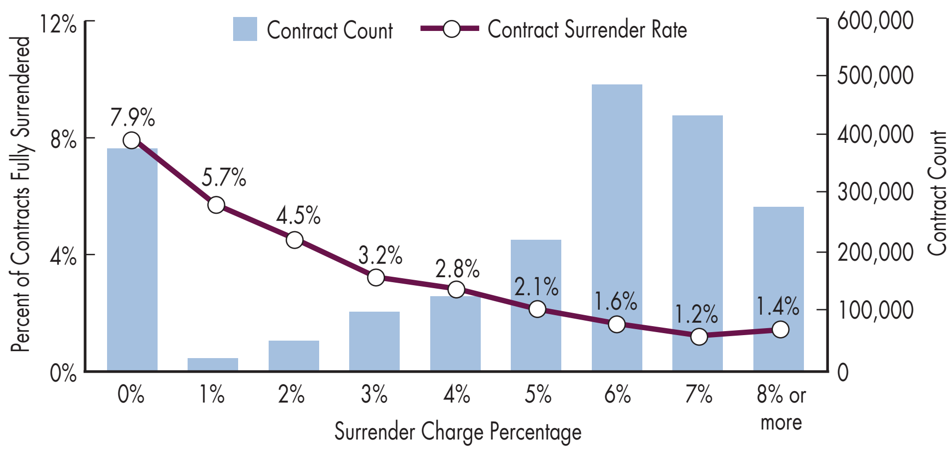
**Figure 1-51:** GLWB Cash Value Surrender Rates in 2013 by Share Classes




Note: Based on 1,919,780 B-share and L-share GLWB contracts issued before 2013.

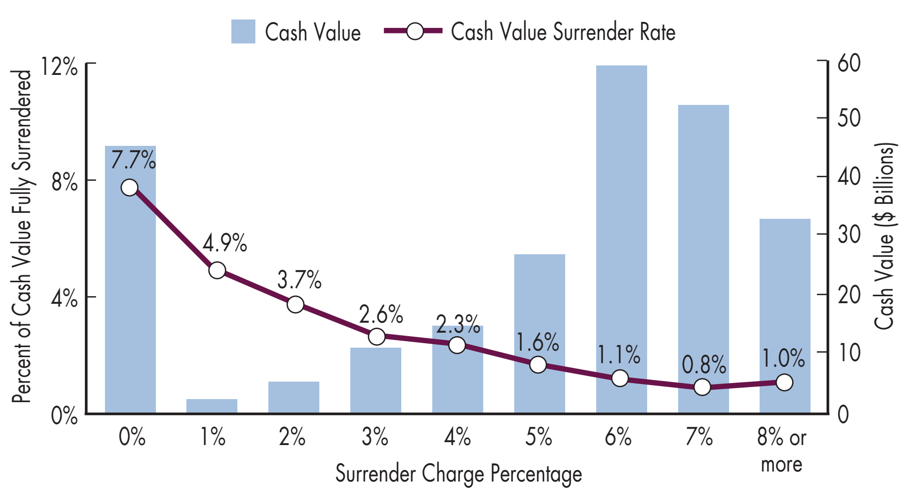
The surrender rates of GLWB contracts are also influenced by the surrender charge present in the contract. Naturally, contracts with high surrender charges have low surrender rates and vice versa (Figures 1-52 and 1-53). At EOY 2013, 74 percent of the contracts (over 1.5 million contracts) had surrender charges of 4 percent or more. Only 18 percent of the contracts (around 380,000 contracts) were free of surrender charges.

**Figure 1-52:** GLWB Contract Surrender Rate by Surrender Charge Percentage




Note: Based on 2,115,299 GLWB contracts issued before 2013. This analysis excludes C-share and other types of contracts that did not have any surrender charge schedule.

**Figure 1-53:** GLWB Cash Value Surrender Rate by Surrender Charge Percentage

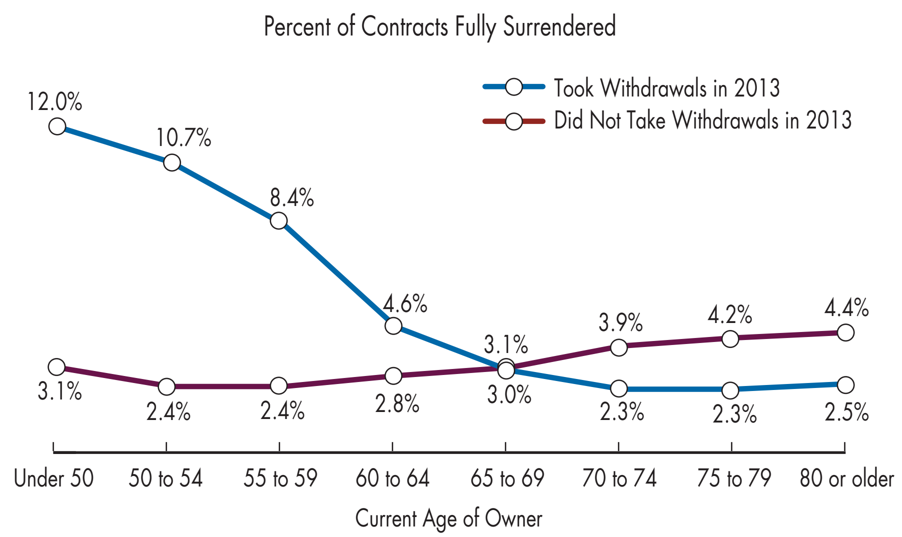



Note: Based on 2,115,299 GLWB contracts issued before 2013. This analysis excludes C-share and other types of contracts that did not have any surrender charge schedule.

## Surrender Activity of Owners Taking Withdrawals

Younger owners have higher surrender rates, particularly those under age 60 who took withdrawals before or in 2013. We have already shown that even though younger owners own a significant portion of GLWB contracts, most of them are not likely to take withdrawals. When some of these younger owners take withdrawals, they typically do so through occasional withdrawals. Moreover, their average withdrawal amount is much higher, and not likely to be supported by the guaranteed benefit base in their contracts. It is likely that these younger owners are really taking partial surrenders. Younger owners who took withdrawals in 2013 were also very likely to fully surrender their contracts (Figure 1-54).

**Figure 1-54:** GLWB Contract Surrender Rate by Owners Taking Withdrawals in 2013




See Appendix Table B1-1 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 2,261,533 GLWB contracts issued before 2013.

Twelve percent of owners under age 50, 11 percent of owners between ages 50 and 54, and 8 percent of owners between ages 55 and 59 who took withdrawals during 2013 subsequently surrendered their contracts by EOY. Some of these younger owners may have had emergency needs, others may have become dissatisfied with their contracts or been influenced by their advisors to surrender the contracts.

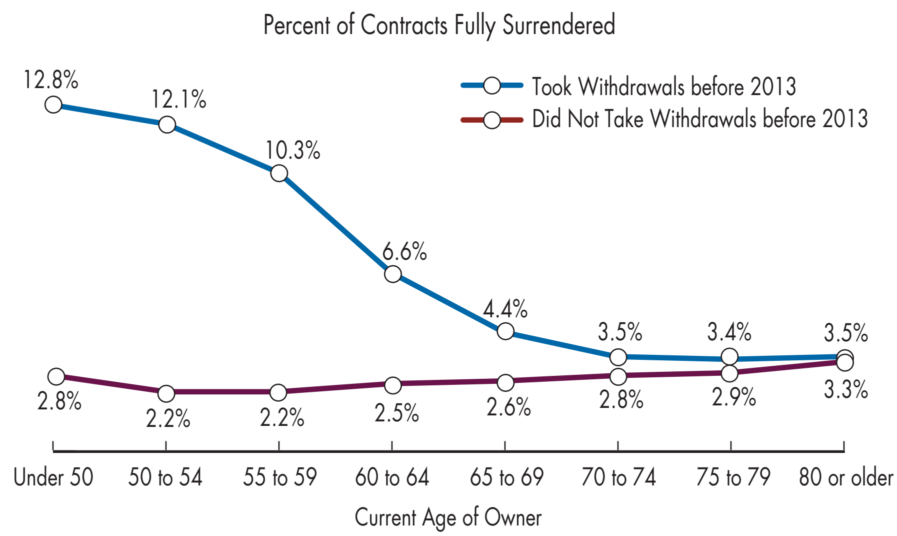
**9.5%** is the contract surrender rate among owners under age 60 who took withdrawals in 2013.

**2.5%** is the contract surrender rate among owners under age 60 who did not take any withdrawals in 2013.

The contract surrender rate among owners under age 60 who took withdrawals in 2013 was 9.5 percent. On the other hand, the surrender rate was only 2.5 percent among owners under age 60 who did not take any withdrawals in 2013. The surrender rate for owners aged 60 or older who took withdrawals in 2013 (2.8 percent) was slightly lower than those who did not take withdrawals (3.2 percent).

Past withdrawals can also indicate whether younger owners will fully surrender contracts in future. Figure 1-55 shows the surrender rate for owners who took withdrawals before 2013.

**Figure 1-55:** GLWB Contract Surrender Rate by Owners Taking Withdrawals Before 2013



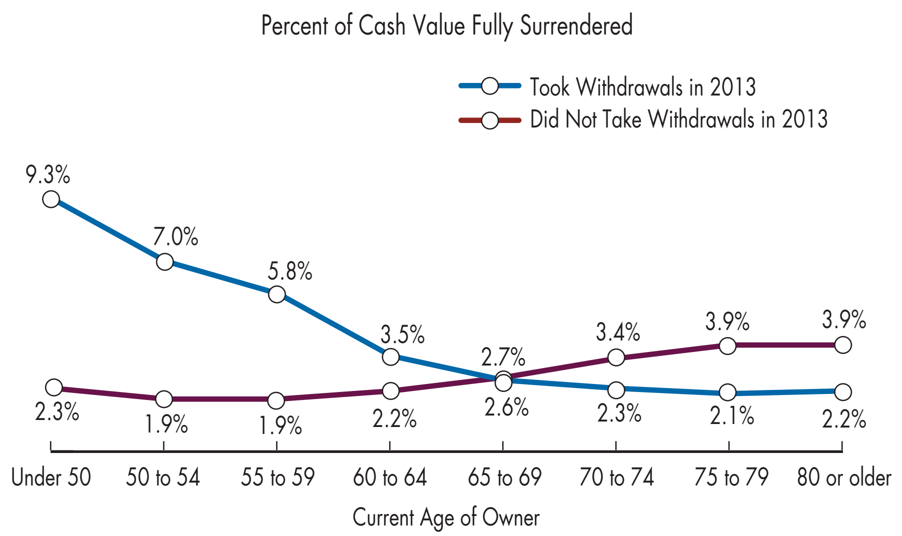

See Appendix Table B1-3 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 2,115,179 GLWB contracts issued before 2013

As we have seen, younger owners are the most likely to take withdrawals that exceed the benefit maximum. We believe that this activity represents an increased likelihood that their contracts will surrender. There was an increased likelihood of surrender for contracts where owners under age 60 took withdrawals, either in current or past years. However, this increased surrender activity did not occur for owners over age 60 who took withdrawals. For them, a withdrawal in one year did not necessarily signal a higher likelihood of surrender in the next year. In general, those who do not take withdrawals are not likely to surrender. Understanding this behavior is important since withdrawal activity, particularly withdrawals that exceed the benefit maximum can be an early indicator of increased surrender activity for a book of business.

In general, GLWB surrender rates are very low for those who do not take withdrawals, regardless of age.

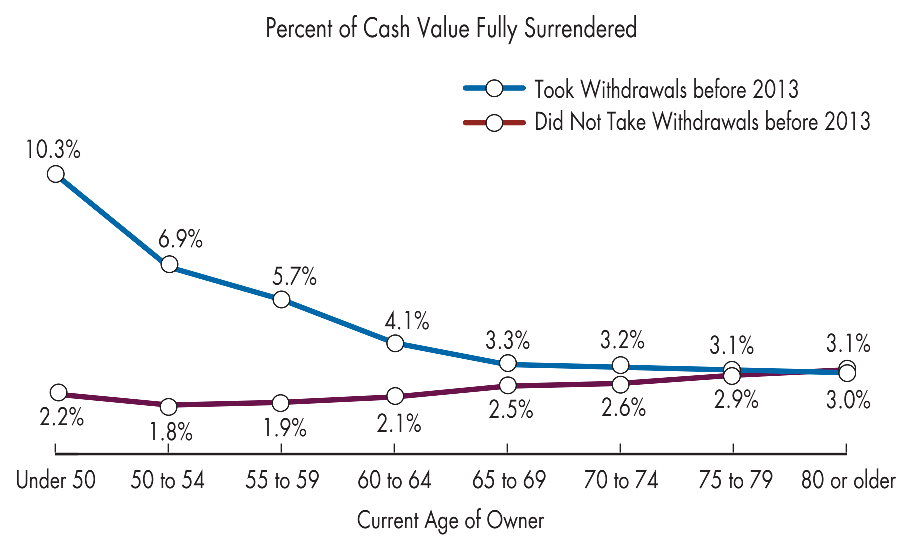
We also looked at the cash value surrender rates of contracts with withdrawals in 2013. The cash value surrender rates follow a similar pattern as the contract surrender rates except the cash value surrender rates are slightly lower, particularly for younger owners under age 70 who took withdrawals (Figures 1-56 and 1-57).

**Figure 1-56:** GLWB Cash Value Surrender Rate by Owners Taking Withdrawals in 2013




See Appendix Table B1-2 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 2,261,533 GLWB contracts issued before 2013.

**Figure 1-57:** GLWB Cash Value Surrender Rate by Owners Taking Withdrawals Before 2013

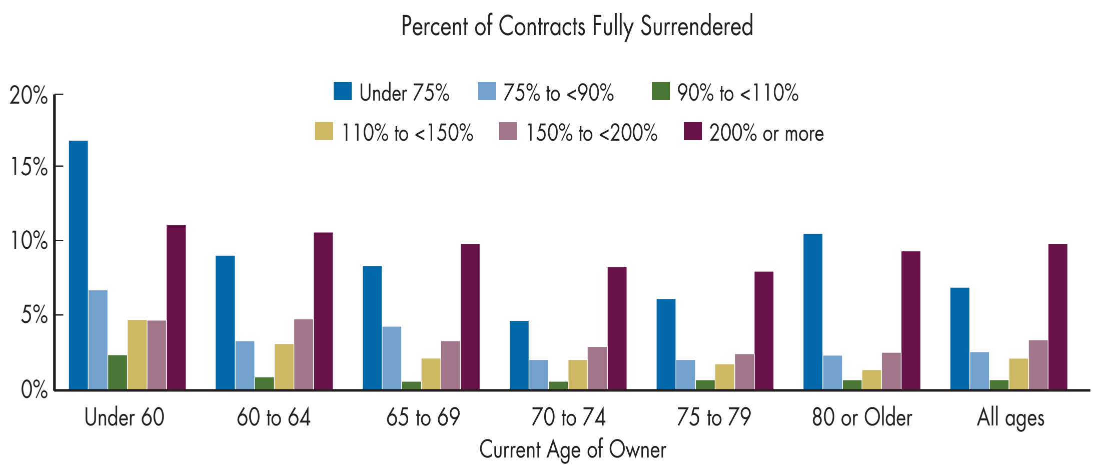



See Appendix Table B1-4 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 2,115,179 GLWB contracts issued before 2013.

## Surrender Activity by Percentage of Annual Benefit Maximum Withdrawn

Figure 1-58 shows the contract surrender rates for owners who took withdrawals in 2013, based on the percentage of annual benefit maximum withdrawn. Contract surrender rates for owners who took withdrawals under 75 percent of the maximum allowed in the contracts, and for owners who took 200 percent or more of the maximum allowed, are quite high.

**Figure 1-58:** GLWB Contract Surrender Rates by Owners Taking 2013 Withdrawals in Relation to Annual Benefit Maximum Allowed




See Appendix Table B1-5 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 479,394 GLWB contracts issued before 2013 that also had withdrawals in 2013.

The surrender rates show a U-shaped relationship to percent of benefit maximum withdrawn — those with very low and very high ratios of withdrawals to maximum allowed have higher surrender rates than those in the middle categories.

- Surrender rates among owners who took withdrawals of between 75 percent to less than 200 percent of the maximum withdrawal amount allowed in the contracts are relatively low. This is true across all age groups.
  - — This group of owners constitutes more than 72 percent of all owners who took withdrawals in 2013.
  - — As a group, the surrender rate among these owners is very low, only 1.2 percent.
  - — Surrender rate is the lowest (0.7 percent) among owners who took between 90 percent and <110 percent of the maximum benefit allowed.

The owners who withdrew between 110 percent and <150 percent of the maximum withdrawal amount are few, only 7 percent, and the surrender rate for them is also low at 2.2 percent.

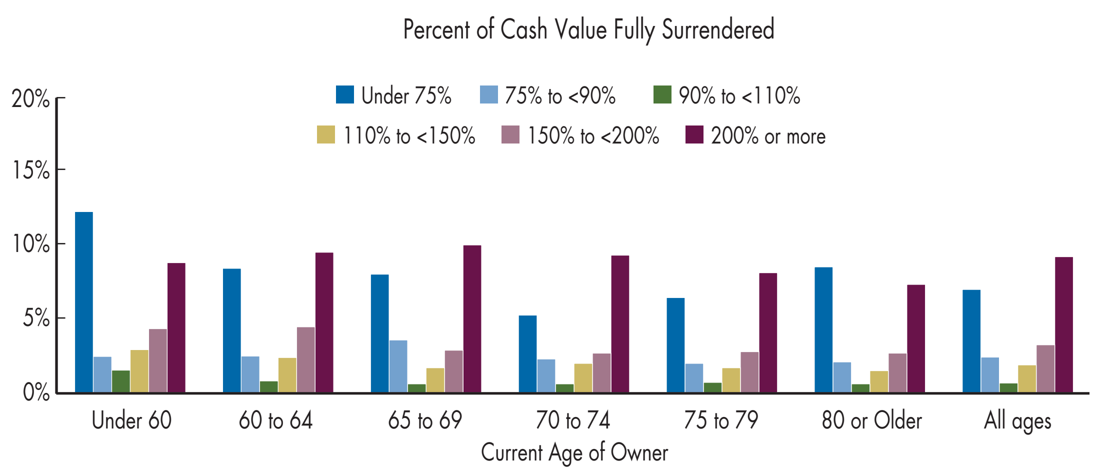
- One sixth of all owners who took withdrawals in 2013 took less than 75 percent of the maximum withdrawal amount allowed in the contract. Surrender rate for this group is relatively high at 7.1 percent and noticeably higher for these contract owners across all age groups. These contract owners may not be utilizing the maximum allowed guaranteed withdrawal benefit, as they are not taking advantage of the maximum withdrawal amount allowed in the contract.
- Twelve percent of GLWB owners took withdrawals of 200 percent or more of the maximum withdrawal amount allowed in their contracts. Surrender rates among these contracts are the highest across almost all age groups. Their withdrawals were likely partial surrenders of their contracts and most of them surrendered fully before the end of the year. These owners are responsible for nearly 37 percent of all GLWB contracts surrendered in 2013 and 28 percent of the cash surrender values in 2013.

**73%** of all contracts surrendered in 2013 came from owners who withdrew either less than 75 percent or 200 percent or more of the maximum withdrawal amount allowed in their contracts.

In summary, the GLWB owners in two extremes — those taking less than 75 percent or 200 percent or more of the maximum withdrawal amount allowed in their contracts accounted for nearly one third of all owners who took withdrawals in 2013. But they were responsible for 73 percent of contracts surrendered and 71 percent of cash surrender values in 2013.

The cash value surrender rates among owners who took withdrawals in 2013 by the percentage of benefit maximum withdrawn follow a very similar pattern to the contract surrender rates. The only difference is that cash value surrender rates are typically slightly lower, particularly for younger owners under age 60 taking withdrawals that are under 75 percent or 200 percent or more than the benefit maximum (Figure 1-59).

**Figure 1-59:** GLWB Cash Value Surrender Rates by Owners Taking 2013 Withdrawals in Relation to Annual Benefit Maximum Allowed



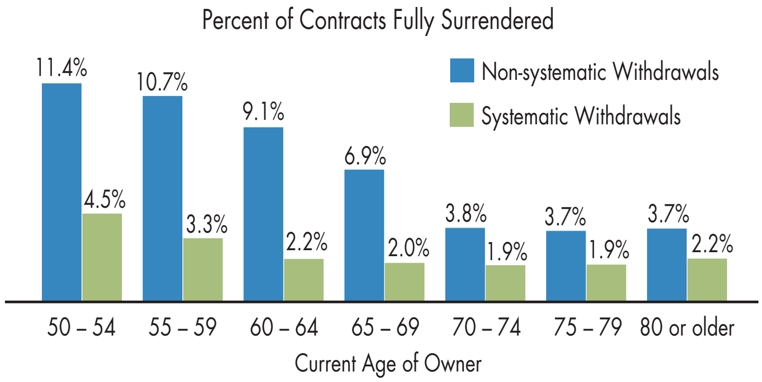

See Appendix Table B1-6 for a breakdown of the data in this Figure by presence of surrender charges.

Note: Based on 479,394 GLWB contracts issued before 2013 that also had withdrawals in 2013.

## Surrender Activity by Owners Taking Systematic Withdrawals

Another strong indicator of whether owners are likely to surrender their contracts is the method they use to take withdrawals — systematic or non-systematic (Figure 1-60). As we have seen, owners who use systematic withdrawals are less likely to take more than the benefit maximum, and most excess withdrawals are being made by younger owners.

**Figure 1-60:** GLWB Contract Surrender Rates by Withdrawal Methods




See Appendix Table B1-7 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 514,068 GLWB contracts issued before 2013 that also had withdrawals in 2013.

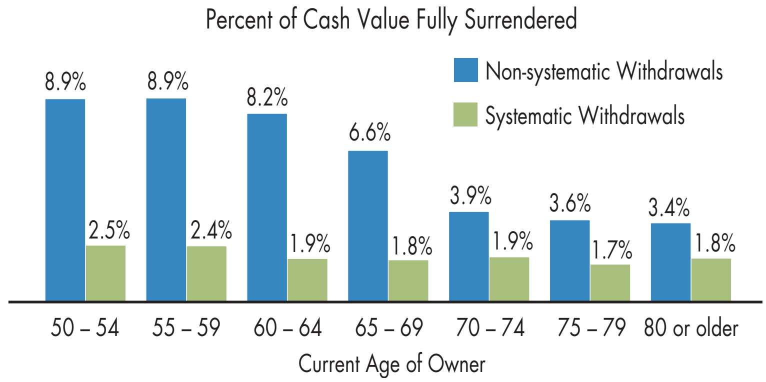
Overall, the contract surrender rate for owners who took non-systematic withdrawals in 2013 was 6.4 percent, while the surrender rate for owners who withdrew systematically was a very low 2.0 percent. Non-systematic withdrawals do not always maximize their benefit withdrawals.

Owners taking non-systematic withdrawals accounted for a quarter of all owners taking withdrawals; but, they account for half of all surrendered contracts and almost half of cash surrender values in 2013. Surrender rates among older owners who take non-systematic withdrawals are nearly double the surrender rates of older owners who take systematic withdrawals.

GLWB contract surrender rates are **6.4%** for owners who take non-systematic withdrawals, compared with **2.0%** for owners who took systematic withdrawals.

The cash value surrender rates by withdrawal methods follow a very similar pattern as the contract surrender rates except the cash value surrender rates are slightly lower, particularly for owners under age 65 taking non-systematic withdrawals (Figure 1-61).

**Figure 1-61:** GLWB Cash Value Surrender Rates by Withdrawal Methods

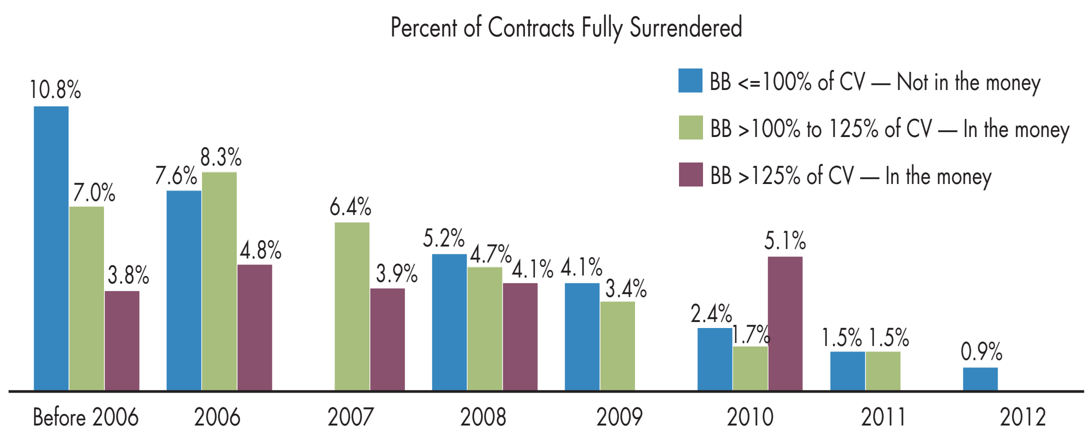



See Appendix Table B1-8 for a breakdown of the data in this Figure by presence of surrender charges."
Note: Based on 514,068 GLWB contracts issued before 2013 that also had withdrawals in 2013.

## Surrender Activity by Degree of In-the-Moneyness

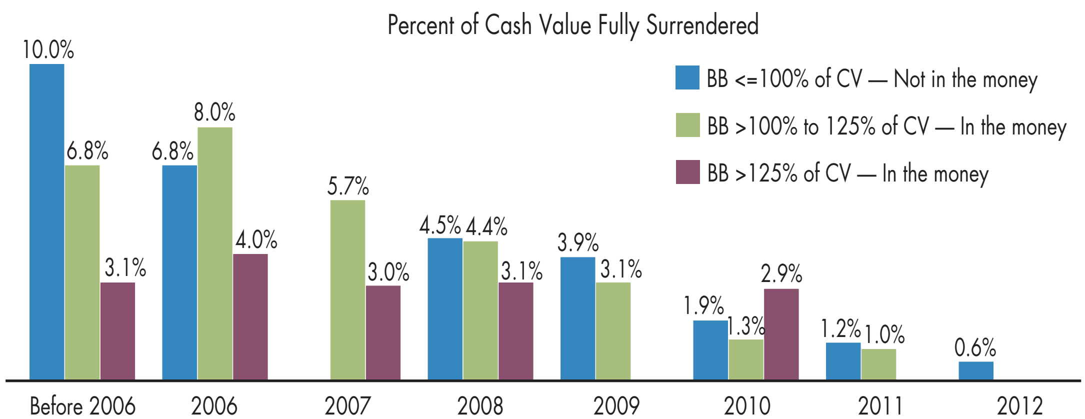
Another important analysis of surrender rates involves whether or not the contracts are in-the-money. Surrender rates for most issue years are lower when the contracts are in-the-money (Figures 1-62 and 1-63).

**Figure 1-62:** GLWB Contract Surrender Rate by Degree of in-the-Moneyness




Note: Based on 1,926,189 GLWB contracts issued before 2013. We have not shown some measures related to issue years 2007, 2009, 2011, and 2012 either because of low sample size or to preserve confidentiality and avoid revealing company-specific information as data in those characteristics were heavily weighted for one company or a very limited number of participating companies. In-the-money = benefit base greater than account value.

**Figure 1-63:** GLWB Cash Value Surrender Rate by Degree of in-the-Moneyness




Note: Based on 1,926,189 GLWB contracts issued before 2013. We have not shown some measures related to issue years 2007, 2009, 2011, and 2012 either because of low sample size or to preserve confidentiality and avoid revealing company-specific information as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

In-the-money = benefit base was greater than account value.

GLWB owners appear to be sensitive to the degree of in-the-moneyness when deciding whether to surrender their contracts.

However, looking at the surrender rates based only on the degree of in-the-moneyness may not completely address all issues when trying to understand the persistency risk. Owner surrender behavior is also closely connected with withdrawal behavior. Insurance companies assume more risk when the business left has more contracts that are in-the-money and surrender less. They need to fulfill their commitments on withdrawal guarantees if owners decide to start or continue withdrawals.

Insurance companies can look at surrender rates and their relationship to owner withdrawal behavior since there are some connections:

- The overall surrender rates for GLWB contracts are very low.
- Though duration and surrender charge rates present in the contracts influence persistency, it is customers under age 60, who take withdrawals, who contribute toward high surrender rates.
- Owners who take too little or too big a withdrawal amount compared with the benefit maximums allowed in the contract are likely to fully surrender the contract subsequently.
- The surrender rate among owners under age 65 who have not started taking withdrawals is very low, and they may use the rider benefits.
- Owners who are taking withdrawals through an SWP are likely to remain within benefit maximums and are less likely to surrender their contracts.
- The surrender rates among owners over age 65 who are either taking or not taking withdrawals are very likely to remain low. Some of them, particularly owners of nonqualified annuities, may delay withdrawals but hold the contracts for the income assurance in retirement.
- Surrender rates in contracts where the benefits are in-the-money are low.
- Although older owners are about as likely to surrender their contracts as younger owners, their contract values tend to be higher (Table 1-24). This situation results in relatively higher contract-value-weighted surrender rates for older age groups.
- Owners with contract values less than $25,000 have the highest surrender rates across the different bands of contract sizes (at BOY 2013).
- GLWBs issued through banks have the highest surrender rates by distribution channel.
- Nearly all contracts issued during 2013 remained in force at the end of that year (99 percent).

**Table 1-24:** GLWB Surrender Rates

| | Percent of Contracts Surrendered | Percent of Cash Value Surrendered |
|---|---|---|
| **All contracts issued before 2013** | 3.0% | 2.6% |
| **Year of issue** | | |
| Before 2004 | 4.3% | 4.2% |
| 2004 | 6.9% | 6.6% |
| 2005 | 6.2% | 5.6% |
| 2006 | 6.5% | 5.9% |
| 2007 | 4.8% | 4.1% |
| 2008 | 4.6% | 4.1% |
| 2009 | 3.5% | 3.2% |
| 2010 | 1.9% | 1.4% |
| 2011 | 1.5% | 1.1% |
| 2012 | 0.9% | 0.7% |
| **Age of owner** | | |
| Under 50 | 3.5% | 2.6% |
| 50 to 54 | 2.7% | 2.1% |
| 55 to 59 | 2.7% | 2.2% |
| 60 to 64 | 3.0% | 2.4% |
| 65 to 69 | 3.1% | 2.7% |
| 70 to 74 | 3.1% | 2.9% |
| 75 to 79 | 3.2% | 3.0% |
| 80 or older | 3.4% | 3.0% |
| **Contract value, BOY 2013** | | |
| Under $25,000 | 5.3% | 4.6% |
| $25,000 to $49,999 | 3.3% | 3.2% |
| $50,000 to $99,999 | 2.7% | 2.7% |
| $100,000 to $249,999 | 2.3% | 2.3% |
| $250,000 to $499,999 | 2.4% | 2.4% |
| $500,000 or higher | 2.7% | 2.8% |
| **Gender** | | |
| Male | 3.1% | 2.6% |
| Female | 3.0% | 2.5% |
| **Market type** | | |
| IRA | 3.0% | 2.5% |
| Nonqualified | 3.1% | 2.7% |

**Table 1-24:** GLWB Surrender Rates *(continued)*

| | Percent of Contracts Surrendered | Percent of Cash Value Surrendered |
|---|---|---|
| **Distribution channel** | | |
| Career agent | 2.0% | 1.4% |
| Independent agent/independent B-D | 3.4% | 2.9% |
| Full Service National B-D | 2.9% | 2.7 % |
| Bank | 3.7% | 3.1% |
| **Cost structure** | | |
| B-share | 2.6% | 2.0% |
| C-share/no load | 4.3% | 3.6% |
| L-share | 4.0% | 3.7% |
| O-share/level load | 1.5% | 1.3% |

Note: Based on 2,261,533 contracts issued before 2013. Percent of contracts surrendered = number of contracts fully surrendered/total number of contracts in force. Percent of contract value surrendered = sum of values of fully surrendered contracts/total contract value in force.

We have not shown some measures related to channels, asset allocation restrictions, and share classes to preserve confidentiality and avoid revealing company-specific information as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

# Product and Benefit Characteristics

Living benefits tend to have complex designs, which limit the ability to categorize and make comparisons across products and carriers. Nonetheless, these benefits can be grouped based on some of their basic features, including cost, age restrictions, and step-up options, as well as specific benefit features. For GLWBs, the key features are spousal payouts, increased benefit bases when withdrawals are delayed, and maximum annual withdrawal rates (Table 1-25).

**Table 1-25:** GLWB Product and Benefit Characteristics

| | Issued before 2006 | Issued in 2006 | Issued in 2007 | Issued in 2008 | Issued in 2009 | Issued in 2010 | Issued in 2011 | Issued in 2012 | Issued in 2013 |
|---|---|---|---|---|---|---|---|---|---|
| **Number of contracts:** | 72,968 | 141,399 | 245,558 | 308,886 | 350,640 | 370,382 | 398,803 | 373,558 | 322,988 |
| **Avg. mortality and expense charge** | 1.46% | 1.43% | 1.38% | 1.39% | 1.38% | 1.31% | 1.28% | 1.26% | 1.26% |
| **Average benefit fee** | 0.70% | 0.60% | 0.65% | 0.80% | 0.95% | 1.00% | 1.05% | 1.07% | 1.06% |
| **Average number of subaccounts** | 75 | 71 | 68 | 66 | 73 | 62 | 57 | 57 | 57 |
| **Product has fixed account** | | | | | | | | | |
| Yes | 86% | 85% | 87% | 88% | 95% | 98% | 97% | 96% | 95% |
| No | 14% | 15% | 13% | 12% | 5% | 2% | 3% | 4% | 5% |
| **Product still available as of 12-31-13** | | | | | | | | | |
| Yes | 26% | 27% | 33% | 33% | 33% | 69% | 86% | 92% | 95% |
| No | 74% | 73% | 67% | 67% | 67% | 31% | 14% | 8% | 5% |
| **Rider still available as of 12-31-13** | | | | | | | | | |
| Yes | 11% | 10% | 14% | 23% | 48% | 54% | 53% | 62% | 77% |
| No | 89% | 90% | 86% | 77% | 52% | 46% | 47% | 38% | 23% |
| **Cap on benefits** | | | | | | | | | |
| Yes | 16% | 27% | 39% | 36% | 33% | 35% | 40% | 50% | 67% |
| No | 84% | 73% | 61% | 64% | 67% | 65% | 60% | 50% | 33% |
| **Benefit fee basis** | | | | | | | | | |
| Account value | 21% | 37% | 17% | 4% | 4% | 5% | 6% | 9% | 10% |
| Benefit base | 45% | 38% | 70% | 91% | 95% | 94% | 65% | 51% | 66% |
| VA subaccounts | 32% | 23% | 11% | 4% | 0 | 0 | 29% | 39% | 23% |
| Other | 2% | 2% | 1% | 0 | 0 | 0 | 0 | 1% | 2% |

**Table 1-25:** GLWB Product and Benefit Characteristics *(continued)*

| | Issued before 2006 | Issued in 2006 | Issued in 2007 | Issued in 2008 | Issued in 2009 | Issued in 2010 | Issued in 2011 | Issued in 2012 | Issued in 2013 |
|---|---|---|---|---|---|---|---|---|---|
| **Average maximum age at election** | 90 | 87 | 85 | 85 | 85 | 88 | 85 | 84 | 84 |
| **Average minimum age at onset of lifetime benefits** | 57 | 59 | 58 | 57 | 53 | 53 | 53 | 53 | 54 |
| **Average maximum age at onset of lifetime benefits** | 98 | 98 | 98 | 97 | 96 | 96 | 97 | 97 | 98 |
| **Asset allocation restrictions** | | | | | | | | | |
| Forced asset allocation model | 32% | 38% | 32% | 28% | 21% | 18% | 23% | 18% | 16% |
| Limitations on fund selection | 12% | 13% | 9% | 6% | 8% | 11% | 13% | 9% | 13% |
| Other restrictions | 1% | 7% | 14% | 26% | 8% | 4% | 5% | 8% | 16% |
| None/may restrict allocations | 13% | 3% | 8% | 9% | 11% | 12% | 10% | 5% | 0% |
| Dynamic asset allocation | 40% | 39% | 37% | 31% | 51% | 55% | 49% | 48% | 26% |
| Managed volatility funds | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12% | 29% |
| **Step-up availability*** | | | | | | | | | |
| Quarterly or more frequently | 1% | 8% | 12% | 20% | 3% | 0 | 0 | 0 | 0 |
| Annually | 96% | 90% | 86% | 79% | 97% | 100% | 100% | 100% | 100% |
| Every 3 years | 1% | 1% | 1% | 0 | 0 | 0 | 0 | 0 | 0 |
| Every 5 years | 2% | 2% | 1% | 1% | 0 | 0 | 0 | 0 | 0 |
| **Benefit base automatically increases if withdrawals are deferred** | | | | | | | | | |
| Yes, based on simple interest | 34% | 34% | 27% | 26% | 20% | 26% | 32% | 23% | 29% |
| Yes, based on compound interest | 56% | 34% | 40% | 59% | 70% | 69% | 64% | 72% | 66% |
| No | 11% | 31% | 33% | 16% | 10% | 5% | 4% | 5% | 5% |
| **Payments can continue to spouse after owner's death** | | | | | | | | | |
| Yes | 23% | 36% | 52% | 63% | 59% | 61% | 65% | 57% | 68% |
| No | 77% | 64% | 48% | 38% | 41% | 39% | 35% | 43% | 32% |

**Table 1-25:** GLWB Product and Benefit Characteristics *(continued)*

| | Issued before 2006 | Issued in 2006 | Issued in 2007 | Issued in 2008 | Issued in 2009 | Issued in 2010 | Issued in 2011 | Issued in 2012 | Issued in 2013 |
|---|---|---|---|---|---|---|---|---|---|
| **Maximum annual withdrawal percent** | | | | | | | | | |
| 3% or under | 2% | 0 | 0 | 1% | 14% | 10% | 14% | 15% | 6% |
| >3% to 4% | 13% | 3% | 3% | 17% | 33% | 35% | 32% | 33% | 40% |
| >4% to 5% | 81% | 68% | 65% | 55% | 31% | 37% | 40% | 44% | 40% |
| >5% to 6% | 2% | 24% | 28% | 24% | 19% | 16% | 13% | 6% | 8% |
| >6% to 7% | 0 | 3% | 3% | 2% | 1% | 1% | 1% | 0 | 0 |
| >7% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Impact on benefit base if excess withdrawal are taken** | | | | | | | | | |
| Pro rata | 87% | 90% | 82% | 88% | 85% | 87% | 79% | 77% | 78% |
| Dollar-for-dollar | 3% | 17% | 18% | 11% | 20% | 18% | 29% | 23% | 18% |
| None if RMDs from IRA | 92% | 92% | 89% | 96% | 99% | 99% | 99% | 99% | 100% |
| Other | 14% | 22% | 32% | 29% | 33% | 25% | 38% | 45% | 53% |
| **Among contracts with maximum charge info provided** | | | | | | | | | |
| Standard rider charge | 0.70% | 0.60% | 0.66% | 0.79% | 0.95% | 1.02% | 1.09% | 1.09% | 1.07% |
| Maximum rider charge | 1.41% | 1.34% | 1.45% | 1.53% | 1.52% | 1.61% | 1.68% | 1.72% | 1.84% |

*Among contracts that allowed multiple step-ups

Note: Based on 2,587,080 GLWB contracts issued in 2013 or before.

## Key Findings

- The average buyer in 2013 paid about 230 basis points for a VA with a GLWB (M&E and rider fees, not including subaccount fees), as a percentage of contract value, VA subaccounts, or benefit base values.
- Two thirds of the 2013 contracts base the benefit fee on the value of the benefit base. A growing proportion of contracts base benefit fees on the higher of contract or benefit base values.
- Asset allocation restrictions are an important way to manage risk for the insurance companies. The biggest change in 2013 was with the managed volatility funds. Almost 3 in 10 contracts issued in 2013 require a managed volatility fund, which is more than double the previous year. Most of the increase came at the expense of dynamic asset allocation models which declined from 48 percent in 2012 to 26 percent in 2013.

- The average number of subaccounts for contracts issued in 2013 was 57, the same as in 2012 and 2011.
- Three out of four riders were still available as of EOY 2013. Only 62 percent of riders issued in 2012 are still available.
- On average, owners who bought contracts in 2013 can take lifetime benefits as early as age 54 and can elect the GLWB until they reach age 84. However, some allow lifetime benefits to begin as early as age 50 or as late as age 99.
- Options to step up the GLWB benefit base were once typically offered annually. More than 1 in 5 contracts issued in 2008 allowed quarterly step-up options, allowing owners to lock in market gains through more frequent step-ups. However, beginning in 2009, more contracts went back to a conservative annual step-up option.
- Two thirds of the 2013 contracts with GLWBs have spousal lifetime withdrawal privileges.
- Two thirds of 2013 GLWB contract designs offer compound interest growth of the benefit base if withdrawals are not taken.
- While 8 of 10 VAs with GLWB issued before 2009 allowed annual withdrawal maximums of more than 4 percent, companies began issuing a larger percentage of contracts with lower payout rates in 2009. By 2013, nearly half of the contracts issued had maximum payouts of 4 percent or lower.
- Withdrawals that exceed annual benefit maximums lead to reductions in benefit bases or loss of lifetime guarantees. Up until 2010, for roughly 9 in 10 contracts, benefit bases were reduced in proportion to the amount of the excess withdrawal (i.e., the ratio of the excess withdrawal to the contract value before the excess is withdrawn). By 2013, it had dropped to less than 8 in 10 contracts. Almost all contracts issued in 2013 allowed excess withdrawals to satisfy RMDs.

# Chapter Two

2013 EXPERIENCE

# Guaranteed Minimum Withdrawal Benefits

# Chapter Two: Guaranteed Minimum Withdrawal Benefits

Guaranteed minimum withdrawal benefits (GMWBs) were introduced in the early 2000s. Early GMWBs permitted annual withdrawals of a certain percentage of the benefit base balance until the guaranteed payments were exhausted, even if the contract value itself had already fallen to zero.[17] The benefit base was usually the sum of premium payments and there was no lifetime guarantee. Later versions enhanced the benefit base balance to include step-ups or bonuses prior to withdrawals, or optional step-ups to reflect investment growth after withdrawals have commenced.

Although GMWBs do not guarantee income for life, investors can use GMWBs effectively to provide period-certain payments, while keeping control of their assets and remaining invested in the market. Also, the maximum annual withdrawal amount (as a percentage of the benefit base balance) for a GMWB is generally higher than that of a GLWB.

During the last few years, there has been little innovation with GMWB riders. New sales for GMWB riders remain low. New sales of GMWBs in 2013 dropped to $1.1 billion, down from $1.4 billion in 2012 and $2.3 billion in 2011. GMWB election rates, when any GLB was available, remained low, around 1 to 2 percent.[18] In 2007, GMWBs enjoyed an election rate ranging from 7 to 9 percent. With lifetime withdrawal guarantees becoming more popular, the period-certain withdrawal guarantee has become almost nonexistent.

This chapter is based on $25.5 billion of annuity assets from 211,372 GMWB contracts issued by 13 companies. Of these contracts, 208,261 were issued before 2013 and were in force as of December 31, 2013. The LIMRA Secure Retirement Institute estimates that industry GMWB assets totaled $39 billion at end-of-year (EOY) 2013. This study represents two thirds of industry GMWB assets from a total of 29 GMWB riders (or hybrid with GMWB features) introduced between 2000 and 2013.

17 For GMWBs, the benefit base balance is the declining benefit base amount.

18 *Variable Annuity Guaranteed Living Benefits Election Tracking. 4th Quarter 2013*, LIMRA Secure Retirement Institute, 2014.

# GMWB Owner and Contract Characteristics

Table 2-1 provides a summary of GMWB owner and contract characteristics at EOY 2013.

**Table 2-1:** GMWB Owner and Contract Characteristics

| | All Contracts In Force |
|---|---|
| **Age of owner** | |
| Age 59 and under | 18% |
| 60 to 64 | 14% |
| 65 to 69 | 19% |
| 70 to 74 | 19% |
| 75 to 79 | 14% |
| 80 or older | 16% |
| **Average Age** | 69 |
| **Gender** | |
| Male | 48% |
| Female | 52% |
| **Market type** | |
| IRA | 57% |
| Nonqualified | 43% |
| **Distribution channel** | |
| Career agent | 30% |
| Independent agent/independent B-D | 37% |
| Full-service National B-D | 17% |
| Bank | 16% |
| **Cost structure** | |
| A-share | 3% |
| B-share | 62% |
| C-share/no load | 3% |
| L-share | 26% |
| O-share | 3% |
| Other | 3% |
| **Contract value, EOY 2013 as percent of contracts issued** | |
| Under $25,000 | 15% |
| $25,000 to $49,999 | 19% |
| $50,000 to $99,999 | 26% |
| $100,000 to $249,999 | 29% |
| $250,000 to $499,999 | 9% |
| $500,000 or higher | 2% |

| **Table 2-1:** GMWB Owner and Contract Characteristics *(continued)* | |
|---|---|
| | **All Contracts In Force** |
| **Contract value, EOY 2013 as percent of contract value** | |
| Under $25,000 | 2% |
| $25,000 to $49,999 | 6% |
| $50,000 to $99,999 | 16% |
| $100,000 to $249,999 | 37% |
| $250,000 to $499,999 | 24% |
| $500,000 or higher | 15% |
| **Average contract value, EOY 2013** | $120,598 |
| **Median contract value, EOY 2013** | $76,954 |

Note: Percentages are based on number of contracts unless stated otherwise. Based on 211,372 contracts still in force at EOY 2013.

## Key Findings

- Almost half (48 percent) of the in-force GMWB owners are age 70 or older.
- Two thirds of the contracts were issued by career agents or independent agent/independent broker-dealers (B-Ds).
- By EOY 2013, just over half of the in-force contracts with GMWBs had account values between $50,000 and $249,999.
- Although 40 percent of the in-force contracts had values of $100,000 or more, these contracts constituted 77 percent of GMWB account values at EOY.

## Benefit Base Balance

At beginning-of-year (BOY) 2013, 53 percent of contracts with GMWBs issued before 2013 had benefit base balances that exceeded contract values (i.e., were 'in-the-money'). Of these contracts, the average difference between the benefit base balance and contract value was approximately $8,600. On average, contract values were around 93 percent of the benefit base balances (Table 2-2).

**Table 2-2:** GMWB Benefit Base Balances and Contract Values, at BOY 2013

| | | Contract Value | |
|---|---|---|---|
| | Benefit Base Balance Amount | Amount | Percent of Benefit Base Balance |
| Sum | $22,429,438,479 | $20,772,804,458 | 93% |
| Average | $116,936 | $108,300 | 93% |
| Median | $73,608 | $69,136 | 94% |
| Percent of contracts where benefit base balance > contract value | | 53% | |

Note: Based on 191,809 contracts issued before 2013. Excludes contracts for which the GMWB benefit base balances could not be determined or did not have EOY benefit base balance amount.

**Less than a third (32%)** of contracts were in-the-money at EOY 2013.

In 2013, the S&P 500 index grew 32 percent, including dividends. As a result, less than a third (32 percent) of the GMWB contracts had a benefit base balance amount greater than the contract value at EOY 2013 (Table 2-3). The average account value increased to a level higher than the average benefit base balance. On average, contract values were around 102 percent of the benefit base balances, an increase from the BOY. At EOY 2013, the average benefit base balance and contract value stood at $117,800 and $119,900 respectively for all GMWB contracts.

**Table 2-3:** GMWB Benefit Base Balances and Contract Values, at EOY 2013

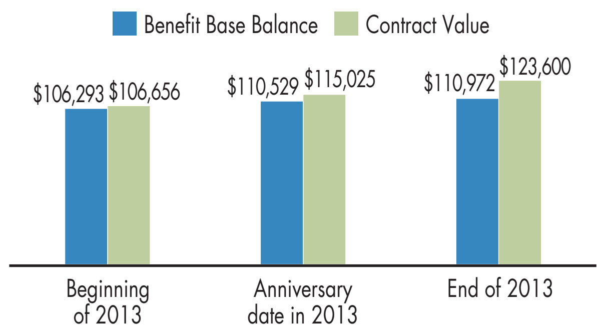
| | | Contract Value | |
|---|---|---|---|
| | Benefit Base Balance Amount | Amount | Percent of Benefit Base Balance |
| Sum | $22,601,670,336 | $22,989,092,360 | 102% |
| Average | $117,834 | $119,854 | 102% |
| Median | $73,543 | $76,229 | 104% |
| Percent of contracts where benefit base balance > contract value | | 32% | |

Note: Based on 191,809 contracts issued before 2013. Excludes contracts for which the GMWB benefit base balances could not be determined or did not have EOY benefit base balance amount.

## Benefit Base Balance for Contracts With Withdrawals vs. Without Withdrawals

For in-force contracts issued before 2013 that did not have withdrawals in 2013, the average benefit base balance rose slightly from $106,300 to $111,000 by EOY, up 4 percent (Figure 2-1). Such a minor increase in the benefit base balance is primarily because few GMWB riders offered an automatic increase of benefit base balances in case of non-withdrawals. On the other hand, the contract values, given the gains in the equity market and fixed-income funds in 2013, grew 16 percent by EOY.

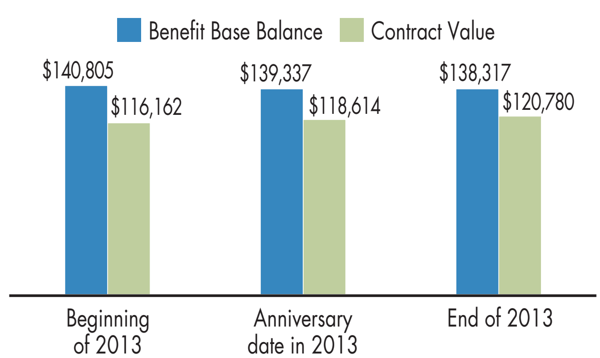
**Figure 2-1:** GMWB Average Contract Value and Benefit Base Balance for Contracts Without Withdrawals




Note: Based on 64,546 contracts issued before 2013 and still in force at EOY 2013 where there were no withdrawals made or current-year premium received. Excludes contracts for which the GMWB benefit base balances or contract values on anniversary days could not be determined.

For GMWB contracts that incurred withdrawals in 2013, the average benefit base balance dropped 2 percent from $140,800 at BOY to $138,300 at EOY. The average contract value increased 4 percent during the year, yet still lagged the benefit base balance by almost $18,000 (Figure 2-2).

**Figure 2-2:** GMWB Average Contract Value and Benefit Base Balance for Contracts With Withdrawals



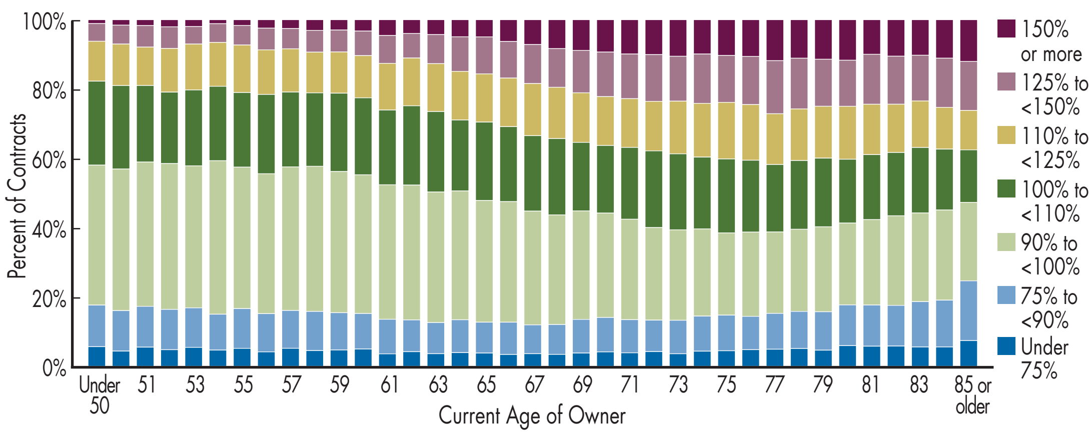

Note: Based on 67,412 contracts issued before 2013 and still in force at EOY 2013 that had withdrawals, but received no current-year premium. Excludes contracts for which the GMWB benefit base balances or contract values on anniversary dates could not be determined.

## Benefit Base Balance to Contract Value Ratios by Age

This analysis of benefit base balance to contract value (BB/CV) ratios drills down on age or age cohorts to see if a link exists between withdrawal risks and BB/CV ratios. The bands defining the BB/CV ratios have been revised from previous years' analyses as BB/CV ratios have increased due to increasing market returns, which necessitated looking at BB/CV ratios around the central tendency of 100 percent.

Figure 2-3 shows the BB/CV ratios by age at BOY. One in six in-force contracts issued before 2013 had BB/CV ratios below 90 percent at BOY; 1 in 3 had ratios between 90 and less than 100 percent; 21 percent had BB/CV ratios between 100 and less than 110 percent; and another 1 in 7 contracts had BB/CV ratios of 110 to less than 125 percent. Only 19 percent of the contracts had BB/CV ratios of 125 percent or more.

**Figure 2-3:** GMWB Benefit Base Balance to Contract Value Ratios by Age — at BOY 2013



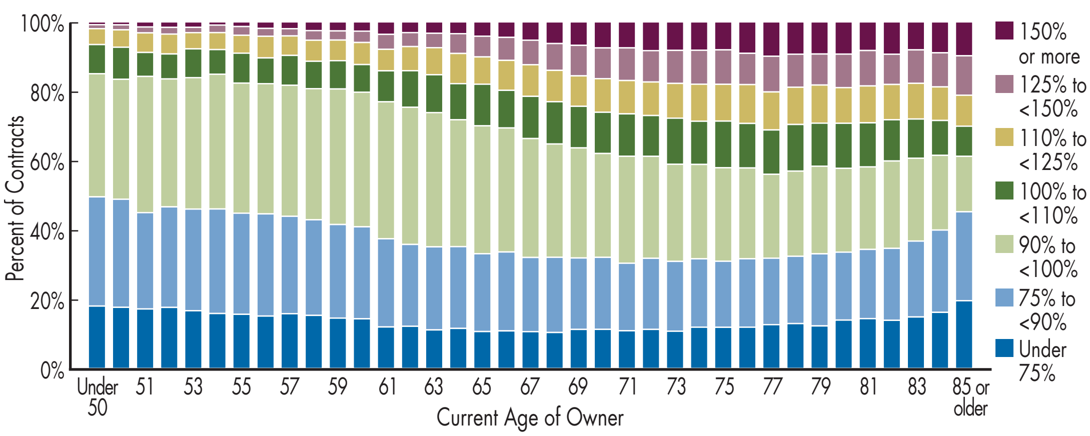

Note: Based on 191,808 GMWB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GMWB benefit base balances or contract values could not be determined.

Owners aged 70 or older have comparatively fewer contracts with BB/CV ratios below 100 percent and more contracts with BB/CV ratios at 125 percent or more. Forty percent of contracts with owners aged 70 to 79 and 45 percent of the contracts with owners aged 80 or older had BB/CV ratios below 100 percent. One quarter (24 percent) of contracts with owners aged 70 to 79 and owners aged 80 or older (25 percent) had BB/CV ratios of 125 percent or more.

Figure 2-4 shows the distribution of BB/CV ratios by age at EOY 2013. The contracts with BB/CV ratios (less than 100 percent) increased from 47 percent at BOY to just over two thirds (67 percent) by EOY; just over 1 in 3 contracts had BB/CV ratios below 90 percent. These changes were due to the significant market gains in 2013.

The percentage of contracts with BB/CV ratios less than 100% increased from 47% at BOY to over 67% at EOY.

**Figure 2-4:** GMWB Benefit Base Balance to Contract Value Ratios by Age — at EOY 2013




Note: Based on 191,808 GMWB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GMWB benefit base balances or contract values could not be determined.

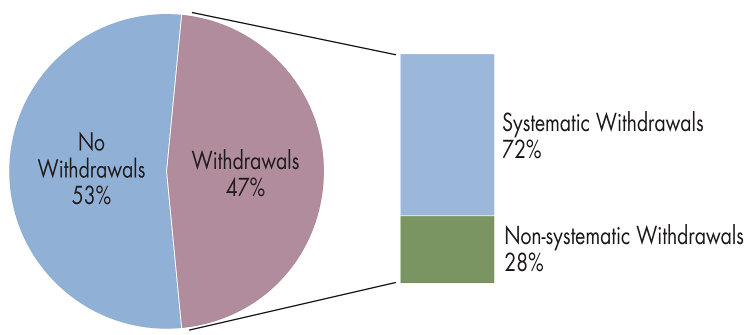
# Withdrawal Activity

## Overall Utilization for Contracts Issued Before 2013

**47%** of GMWB contracts had at least some withdrawal activity during 2013.

Forty-seven percent of contracts with GMWB riders issued before 2013 and still in force at EOY had at least some withdrawal activity during 2013 (Figure 2-5). Seventy-two percent of these contracts had systematic withdrawals.

**Figure 2-5:** GMWB Overall Utilization of Withdrawals




Note: Based on 208,261 GMWB contracts issued before 2013 and still in force at EOY 2013.

Based on 98,186 GMWB contracts issued before 2013 and remaining in force at EOY 2013, with withdrawals in 2013:

- Total withdrawals amounted to nearly $1.1 billion.
- The median withdrawal amount was $6,000 or around 7.9 percent of the median contract value of $76,300 at BOY. The average withdrawal amount was $10,900 or 9.3 percent based on the average BOY contract value of $116,400.
- The median systematic withdrawal amount was $6,000. The mean was $8,900.
- Among a constant group of companies with contracts taking systematic withdrawals in 2012 and 2013, the median amount withdrawn was $6,086, representing 7.9 percent of the median BOY contract value of $77,000.

**$6,000** was the median withdrawal amount from GMWB contracts in 2013.

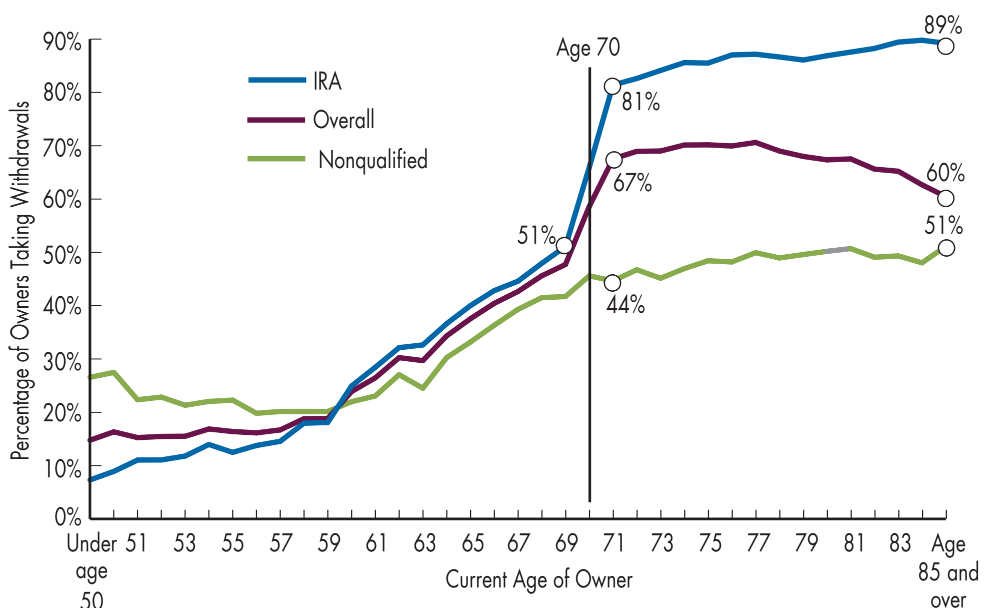
For the constant group of 13 companies that provided data for this study, overall utilization rates rose in 2013 for contracts that were in force for an entire year. The overall utilization rate among all GMWB owners with contracts sold before 2012 and who took withdrawals in 2012 was 44 percent. The overall utilization rate among all GMWB owners with contracts sold before 2013 and who took withdrawals in 2013 was 47 percent.

## Withdrawal Activity by Source of Funds

The analysis of withdrawals by GMWB owners based on the source of funds (i.e., whether the annuity was funded with qualified or nonqualified savings) gives a more accurate picture of the dynamics of withdrawal behavior among owners. Source of funds and age are the two most important factors that drive owner withdrawal behavior. The overall utilization rate for GMWB contracts was 47 percent in 2013. Examining withdrawal activity by source of funds and owner age shows that the 2013 GMWB utilization rate was in fact quite high for certain customer segments (Figure 2-6).

Close to **90%** of older GMWB owners took withdrawals from annuities purchased with qualified money.

**Figure 2-6:** GMWB Utilization by Source of Funds and Age of Owners




Note: Based on 208,261 GMWB contracts issued before 2013 and still in force at EOY 2013. Percentages refer to the number of contracts in each age that had partial withdrawals during 2013.

Withdrawal rates for customers under age 70 who used either qualified or nonqualified money to buy their contracts mostly remained under 50 percent. After age 70, the need for required minimum distributions (RMDs) from qualified GMWB annuities forces owners to take withdrawals and the withdrawal rate quickly jumps to over 80 percent by ages 71–72. The percent of these customers withdrawing then slowly rises to 89 percent by age 85.

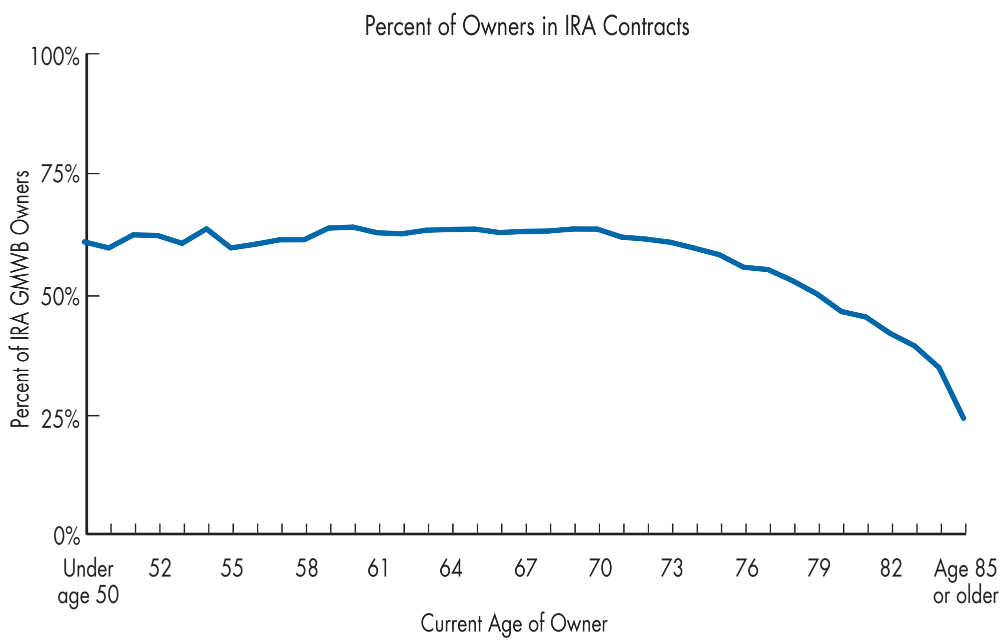
GMWB owners are less likely to take withdrawals if they use nonqualified money. Nonetheless, there is a steady increase in the proportion of owners who take withdrawals as they age. The percent of customers withdrawing at age 85 and older was just over 50 percent.

**57%** of all GMWB contracts were qualified by EOY 2013.

However, it helps to assess the withdrawal behavior in the context of the proportion of GMWB contracts that are qualified or nonqualified, by owner age. This analysis provides us with a withdrawal trend for future years, as the owner's age.

By EOY 2013, qualified GMWB contracts constituted 57 percent of all GMWB contracts while 43 percent of GMWB contracts were sourced from nonqualified savings. Qualified contracts are more likely to have owners under age 70 (Figure 2-7).

**Figure 2-7:** GMWB Contracts Funded by Qualified Savings

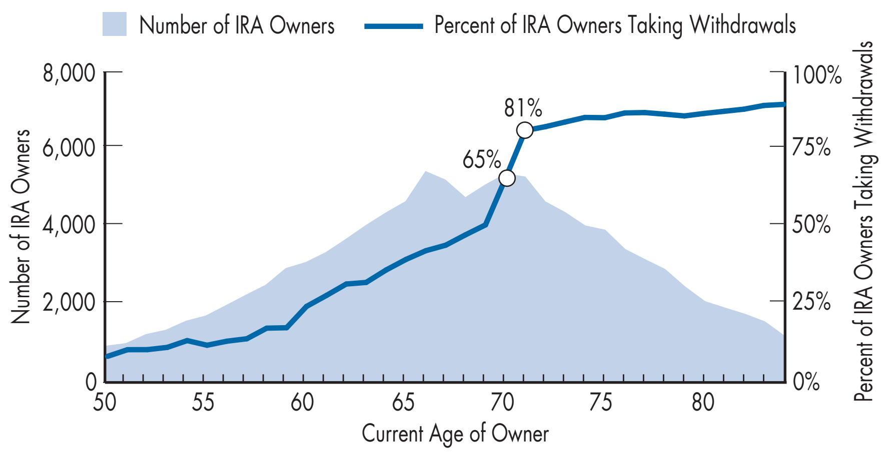



Note: Based on 208,261 GMWB contracts issued before 2013 and still in force at EOY 2013.

This reflects broader industry developments, with annuities increasingly being funded with qualified money — by younger owners using rollovers from retirement plans. Just under two thirds (61 percent) of owners under age 50 have funded their GMWB annuities with qualified money. Nearly two thirds of GMWB contracts (63 percent) are sourced by qualified funds, for owners aged 70 or younger. At EOY 2013, half of the GMWB owners over age 70 (39 percent of the total IRA owners) funded their contracts with qualified money. Half (52 percent) of all nonqualified GMWB owners were over age 70.

There are two distinct stages for IRA owner withdrawal patterns — before age 70 and after age 70 (Figure 2-8). While the percent of IRA owners aged 50 taking withdrawals was only 8 percent that number increases to 51 percent by age 69. The need to take RMDs drives the percent of owners taking withdrawals at ages 70 and 71, hitting 65 percent and 81 percent respectively. After that, the percent of owners taking withdrawals increased slowly to 89 percent by age 85.

**Figure 2-8:** GMWB Withdrawals by IRA Owners



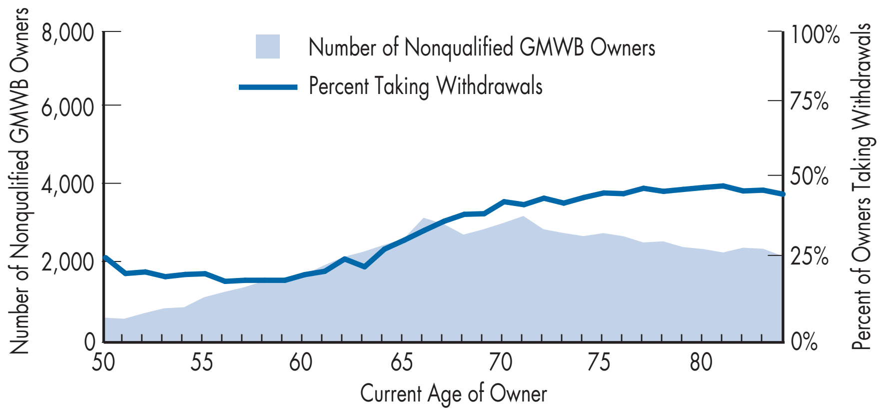

Note: Based on 110,310 GMWB IRA contracts issued before 2013 and still in force at EOY 2013.

The need to take RMDs from qualified GMWB contracts will continue to drive withdrawal behavior for these contract owners in the next few years. At EOY 2013, 37 percent of qualified GMWB owners were between ages 60 and 69. Many of these GMWB owners will be forced to take withdrawals in the next few years; and, as new sales in GMWB riders will likely remain very low, the overall utilization rate will increase in the absence of new contracts.

In contrast to the 39 percent of IRA GMWB owners over age 70, 52 percent of nonqualified GMWB annuity owners were over age 70. Forty-eight percent of nonqualified owners took withdrawals in this age group, significantly less than the 5 out of 6 owners withdrawing from their qualified annuity (Figure 2-9). Three in ten nonqualified GMWB owners were aged 60–69 and one third of these owners took withdrawals during the year.

Need to take RMDs drives the percent of owners taking withdrawals at ages 70 and 71 to **65%** and **81%** respectively.

**Figure 2-9:** GMWB Withdrawals by Nonqualified Owners




Note: Based on 75,467 GMWB contracts, funded by nonqualified savings, issued before 2013, and still in force at EOY 2013.

## Taking First Withdrawals

**52%** of nonqualified GMWB owners were over age 70 in 2013.

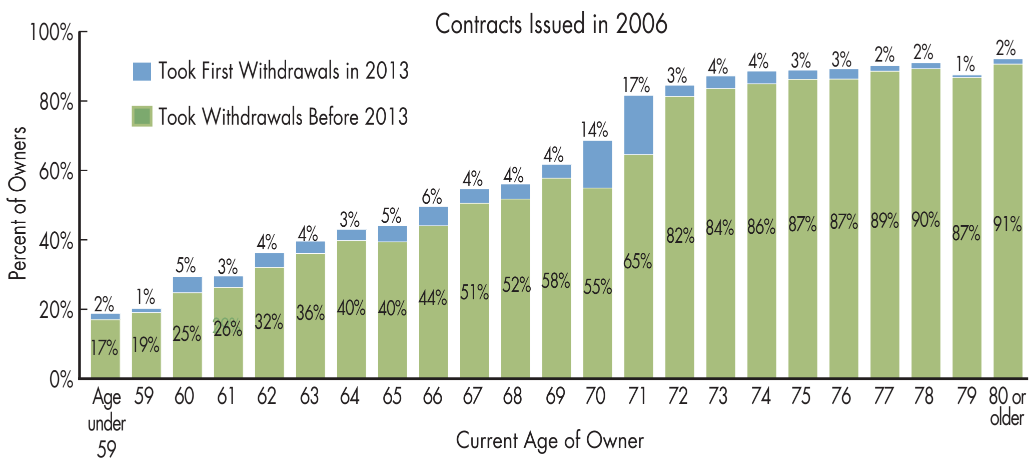
To better understand owners' inclinations to take withdrawals, we analyzed owner withdrawal behavior by considering at what age or in what year of the annuity ownership the owner is likely to initiate their first withdrawal. Also, once they start taking withdrawals, how many will continue taking withdrawals? Extending that logic, we might expect to find corollary relationships among other variables like when owners decide to take their first withdrawals, whether their withdrawal amounts remain within or around the prescribed withdrawal maximum amount allowed in the contract, or whether the persistency of these contracts is different from contracts that have not experienced withdrawals or experienced excess withdrawals.

Analysis of when owners are likely to take first withdrawals provides important information about withdrawal risk. These findings can help insurance companies to assess risks more precisely by identifying clusters of owners who are likely to start withdrawals in their first year, second year, etc., after purchase. There are two ways to analyze withdrawal activity: First, we can determine the percentage of owners who have initiated their first withdrawals in the current year (2013 for this report), by their age, and sources of money, to provide various trends and relationships. Second, we can analyze the first withdrawal history for owners from a particular issue year, and track how age and sources of money influence their first withdrawal activities.

## Taking First Withdrawal From IRA Annuity in 2013

There is a distinct pattern of withdrawal behavior from IRA-funded GMWB annuities, principally driven by age and the need to take RMDs. Figure 2-10 shows the percent of owners taking their first withdrawals in 2013 for GMWB contracts issued in 2006.[19]

**Figure 2-10:** GMWB First Withdrawals in 2013 (IRA Contracts Only)




Note: Based on 30,107 IRA contracts issued in 2006 and remaining in force at EOY 2013. The blue portion of each column represents percent of owners taking withdrawals in 2013 for the first time, green represents percent of owners who took withdrawals before 2013, and overall column height represents percent of all owners who took withdrawals to-date since issue. We have not shown other years of issue to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or due to a very limited sample size.

The Y-axis shows the cumulative percent of GMWB owners who took their withdrawals before 2013 and for the first time in 2013. The green bar represents percent of owners who took withdrawals before 2013 and the blue bars at the top for each age shows the percent of customers who took first withdrawals from their contracts in 2013.

This analysis — based on owners who bought their GMWB annuities in 2006 — gives us a much clearer picture of IRA owner withdrawal behavior. Owners who bought their annuities in 2006 had six to seven years to take withdrawals. The marginal increases in the percentage of owners taking their first withdrawals remain almost uniform for owners between ages 60 and 69 — within a close range of 3 to 6 percent — with the cumulative percent rising with age. In 2013, 14 percent of owners that turned age 70, and 17 percent of owners that turned age 71, took their first withdrawals. After age 71, the percent of owners taking their first withdrawals drops quickly to 3 percent at age 72 and then settles around 1 to 2 percent for owners aged 77 and older.

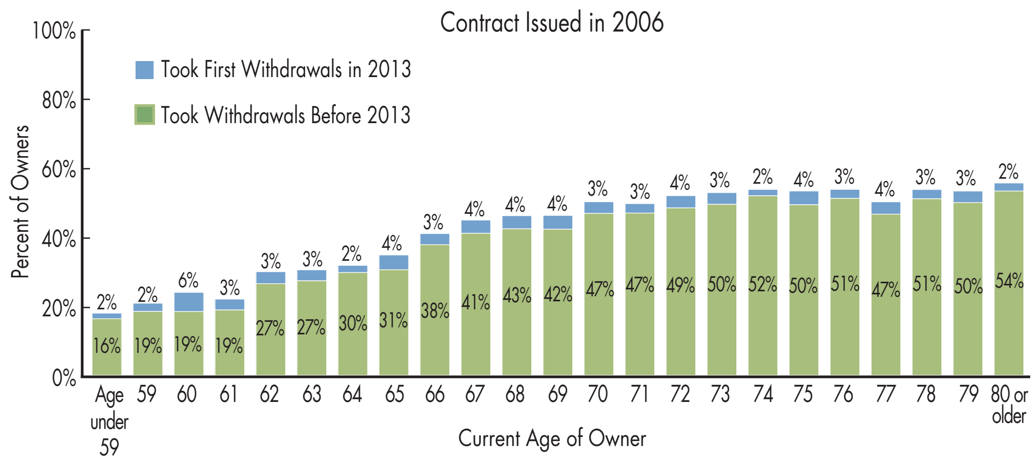
[19] Due to constraints with sample sizes for contracts issued in years 2007 to 2012 in each individual age, the analysis represents contracts issued in 2006.

Many insurance companies encourage annuity buyers to take withdrawals, particularly to satisfy RMDs as they turn age 70½. Most companies do not treat RMDs as excess withdrawals, even if they exceed the annual guaranteed income amount.

## Taking First Withdrawal From Nonqualified Annuity in 2013

The percent of nonqualified annuity owners who took their first withdrawals in 2013 reflects more streamlined behavior. Figure 2-11 shows the percent of these owners, for contracts issued in 2006.[20]

**Figure 2-11:** GMWB First Withdrawals in 2013 (NQ Contracts Only)




Note: Based on 20,811 nonqualified contracts issued in 2006 and remaining in force at EOY 2013. Blue portion of each column represents percent of owners taking withdrawals in 2013 for the first time, green represents percent of owners who took withdrawals before 2013, and overall column height represents percent of all owners who took withdrawals to-date.

The Y-axis shows the percent of customers who took withdrawals before 2013 and who took withdrawals for the first time in 2013 combined. The bar at the top for each age shows the percent of customers who took their first withdrawals from the contracts in 2013.

Because there are no RMDs, the percent of nonqualified owners taking their first withdrawals remained within a tight range — 2 percent to 6 percent — irrespective of age.

## First Withdrawal Activity for Contracts Issued in 2007

In order to get a clear and consistent picture of when owners first start to take withdrawals, and how many start to take their first withdrawals in the following years, we followed 2007 VA GMWB

[20] Due to constraints with sample sizes for contracts issued in years 2007 to 2012 in each individual age, the analysis represents contracts issued in 2006.

buyers and tracked their withdrawal behaviors. We looked at withdrawal behavior of 2007 buyers aged 57 to 75 during 2007 to 2013 (7 years of withdrawal history), and assessed what percent of those buyers began taking their first withdrawals from 2007 to 2013 (Table 2-4). We are unable to separate the data by source of funds (IRA vs. nonqualified) due to the limited sample sizes.

**Table 2-4:** GMWB First Withdrawals for 2007 Buyers

| | Age at Purchase | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Withdrawals started at | Age 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | All Ages |
| Age 57 | 11% | | | | | | | | | | | | | | | | | | | |
| Age 58 | 4% | 10% | | | | | | | | | | | | | | | | | | |
| Age 59 | 5% | 7% | 14% | | | | | | | | | | | | | | | | | |
| Age 60 | 12% | 10% | 15% | 23% | | | | | | | | | | | | | | | | |
| Age 61 | 5% | 8% | 9% | 9% | 22% | | | | | | | | | | | | | | | |
| Age 62 | 6% | 6% | 7% | 8% | 13% | 26% | | | | | | | | | | | | | | |
| Age 63 | 2% | 5% | 3% | 4% | 7% | 12% | 28% | | | | | | | | | | | | | |
| Age 64 | | 2% | 5% | 3% | 5% | 8% | 10% | 27% | | | | | | | | | | | | |
| Age 65 | | | 4% | 5% | 3% | 5% | 8% | 13% | 29% | | | | | | | | | | | |
| Age 66 | | | | 3% | 5% | 5% | 6% | 8% | 12% | 30% | | | | | | | | | | |
| Age 67 | | | | | 3% | 4% | 5% | 6% | 6% | 10% | 27% | | | | | | | | | |
| Age 68 | | | | | | 3% | 3% | 3% | 5% | 8% | 13% | 29% | | | | | | | | |
| Age 69 | | | | | | | 4% | 4% | 4% | 6% | 6% | 11% | 27% | | | | | | | |
| Age 70 | | | | | | | | 9% | 10% | 9% | 14% | 9% | 22% | 33% | | | | | | |
| Age 71 | | | | | | | | | 9% | 10% | 12% | 22% | 6% | 23% | 38% | | | | | |
| Age 72 | | | | | | | | | | 3% | 2% | 3% | 15% | 6% | 21% | 38% | | | | |
| Age 73 | | | | | | | | | | | 2% | 2% | 2% | 10% | 5% | 19% | 38% | | | |
| Age 74 | | | | | | | | | | | | 2% | 3% | 3% | 9% | 6% | 16% | 42% | | |
| Age 75 | | | | | | | | | | | | | 3% | 1% | 2% | 7% | 4% | 15% | 47% | 25% |
| Age 76 | | | | | | | | | | | | | | 2% | 3% | 4% | 9% | 5% | 14% | 12% |
| Age 77 | | | | | | | | | | | | | | | 1% | 3% | 3% | 8% | 5% | 6% |
| Age 78 | | | | | | | | | | | | | | | | 1% | 2% | 3% | 9% | 7% |
| Age 79 | | | | | | | | | | | | | | | | | 2% | 2% | 3% | 4% |
| Age 80 | | | | | | | | | | | | | | | | | | 2% | 2% | 4% |
| Age 81 | | | | | | | | | | | | | | | | | | | 1% | 3% |
| **Cumulative** | **45%** | **47%** | **57%** | **55%** | **58%** | **62%** | **65%** | **71%** | **75%** | **77%** | **76%** | **78%** | **79%** | **79%** | **79%** | **79%** | **74%** | **76%** | **80%** | **61%** |
| Percent of owners taking withdrawals in all subsequent years | 73% | 66% | 69% | 76% | 76% | 75% | 74% | 78% | 83% | 83% | 86% | 83% | 84% | 81% | 81% | 78% | 76% | 76% | 77% | 77% |

- First Withdrawals in 1st Year — 2007
- First Withdrawals in 2nd Year — 2008
- First Withdrawals in 3rd Year — 2009
- First Withdrawals in 4th Year — 2010
- First Withdrawals in 5th Year — 2011
- First Withdrawals in 6th Year — 2012
- First Withdrawals in 7th Year — 2013

Note: Based on a constant group of 12,761 contracts issued in 2007 and still in force at EOY 2013. The percent of owners taking withdrawals in all subsequent years is based on contracts where the first withdrawal occurred between 2007 and 2013, with withdrawals continuing every year through 2013.

Overall, this analysis shows some important insights:

- Overall, 1 in 4 owners initiated their withdrawals immediately, in 2007, the same year they purchased their annuities. There is a discernible jump in first withdrawals both at purchase age and at the attained age of 60.
- The percentages of owners taking their first withdrawals in subsequent years are typically lower than in the first year, as the number of owners who have not taken withdrawals diminishes.
- Once owners initiate withdrawals, nearly 80 percent continue to take withdrawals in all subsequent years.
- More than 75 percent of 2007 owners aged 65 or over took withdrawals from their GMWB annuities in the last seven years. Across all ages, more than 6 in 10 owners have used the guaranteed benefit rider in their contracts.

***First Year — 2007***

- Ten to 14 percent of owners aged 57–59 took withdrawals during their first year of purchase. For owners aged 60–69, this percent ranged from 22 to 30 percent.
- One third (33 percent) of owners aged 70 took withdrawals in the first year.
- In general, around 4 in 10 owners over age 70 took withdrawals in their first contract year.

***Second Year — 2008***

- The percent of owners aged 60–69 taking their first withdrawals from their annuity in their second year was much lower than the percent of owners who took withdrawals in the first year.
- However, 1 in 5 owners (22 percent) who turned age 70 took their first withdrawals in their second year of holding. Almost a quarter of the owners aged 70 at purchase (23 percent), and 71 in their second year, took their first withdrawals in 2008. This was 15 percentage points lower than owners aged 71 who took withdrawals in 2007.
- Roughly 15 to 20 percent of owners aged 72 and over took their first withdrawals in their second year. This was less than half of the 2007 owners from the same age group.

***Third Year — 2009***

- In 2009, the RMD rules were eased and the percent of owners who took their first withdrawals was lower across almost all ages.

***Fourth Year — 2010***

- In their fourth year of ownership, owners who turned ages 60–69 in 2010 and took their first withdrawals remained within a range of 4 to 12 percent.
- For owners who turned ages 70 and 71 in 2010, first withdrawal percentages jump to 14 percent and 22 percent respectively. Fifteen percent of owners who turned to age 72 (at purchase they were aged 69) took their first withdrawals in 2010. From age 73 and over, 7 to 10 percent of owners took their first withdrawals, at an almost uniform rate.

***Fifth, Sixth, and Seventh Year — 2011, 2012, and 2013***

- The pattern for owners under age 70 who took their first withdrawals in their fifth, sixth, and seventh year is similar to 2010.
- Around 10 percent of owners who turned ages 70 and 71 in 2011, 2012, and 2013, took first withdrawals.
- Less than 5 percent of owners aged 72 and older took first withdrawals in 2011, 2012, or 2013. The pool of GMWB owners who have not yet taken their withdrawals is shrinking.

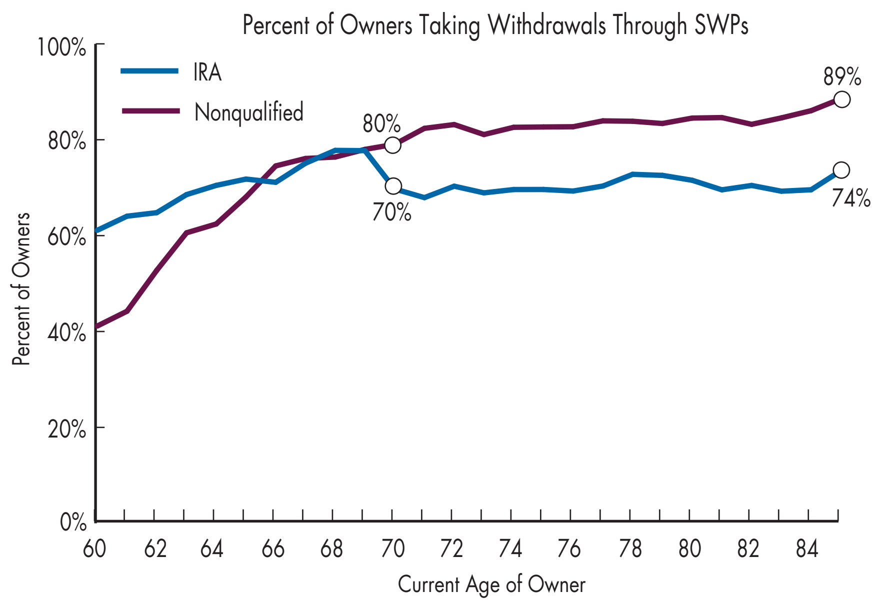
The last row of the Table 2-4 provides the percent of owners taking withdrawals in all subsequent years, based on contracts where the first withdrawal occurred between 2007 and 2013 and with withdrawals continuing every year through 2013.

For example, 83 percent of 68-year-olds who purchased their annuities in 2007 and took their first withdrawals between 2007 and 2013 continued to take withdrawals every year through 2013. Overall, once owners begin to take withdrawals, they are more likely to utilize the lifetime withdrawal benefit, provided they do not surrender their contracts in later years.

## Systematic Withdrawal Activity

SWPs are a reliable measure of owners' intentions to continue withdrawals once they have taken their first withdrawals. It is important to compare the owners who took withdrawals through an SWP to those who took random or occasional withdrawals. All insurance companies allow GMWB owners to use SWPs to make withdrawals of the guaranteed withdrawal amount. So, withdrawals through SWPs can be viewed as customers' affirmations to take withdrawals on a continuous basis, and are a strong indication that the customers are utilizing the GMWB.

**Figure 2-12:** GMWB Withdrawals With SWPs




Note: Based on 92,126 GMWB contracts issued before 2013 and remaining in force at EOY 2013.

Overall, 72 percent of GMWB owners who took withdrawals used an SWP. Seven out of 10 IRA owners and three quarters of nonqualified owners who took withdrawals used an SWP. Older GMWB owners are more likely to take withdrawals through SWPs; and younger owners are more likely to take withdrawals on a lump-sum or occasional basis (Figure 2-12). After age 70, owners taking withdrawals from nonqualified annuities tend to use more SWPs; 89 percent of nonqualified owners aged 85 or older used SWPs.

Table 2-5 shows the median withdrawal amount for occasional and SWP withdrawals for both qualified and nonqualified contracts. Though the median withdrawal amount should vary by the benefit base balance amount and the number of years of guaranteed withdrawal, it appears, from looking at median withdrawal amounts, that younger nonqualified owners use shorter guaranteed withdrawal periods than do older owners.

**Table 2-5:** GMWB Withdrawal Types and Median Amount by Source of Funds

| | Occasional Withdrawal Median Withdrawal Amount | | Systematic Withdrawal Median Withdrawal Amount | |
|---|---|---|---|---|
| **Age** | **IRA** | **Nonqualified** | **IRA** | **Nonqualified** |
| Under 60 | $10,000 | * | $9,576 | $7,000 |
| 60–69 | $9,000 | $6,281 | $8,471 | $6,458 |
| 70 or more | $4,580 | $7,455 | $5,013 | $5,576 |
| **Total** | **$5,695** | **$6,000** | **$6,000** | **$5,831** |

Note: Based on 93,406 GMWB contracts issued before 2013 and remaining in force at EOY 2013. Occasional withdrawal data are based on contracts only taking occasional withdrawals, and SWP withdrawal data are based on contracts taking only systematic withdrawals.

*We have not shown certain data to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or due to a very limited sample size.

GMWB contracts with only systematic withdrawals in 2013 totaled $582.3 million. Contracts with only occasional withdrawals in 2013 totaled $367.9 million and contracts with both occasional and systematic withdrawals totaled $116.4 million. Owners aged 70 or over accounted for half of the total amount withdrawn in 2013 (Table 2-6). Owners under age 60 were responsible for only 9 percent of the total withdrawal amount. Many of these GMWB owners — particularly those who take occasional withdrawals — may be partially surrendering their contracts.

**Table 2-6:** GMWB Withdrawal Amounts as Percentage of Total Withdrawal Amount

| | Occasional Withdrawals | | Systematic Withdrawals | | Both Systematic and Occasional Withdrawals | | |
|---|---|---|---|---|---|---|---|
| **Age** | **IRA** | **Nonqualified** | **IRA** | **Nonqualified** | **IRA** | **Nonqualified** | **Total** |
| Under age 60 | 3% | 3% | 2% | 1% | 0% | 0% | 9% |
| Age 60–69 | 8% | 4% | 13% | 5% | 3% | 1% | 34% |
| Age 70 or older | 11% | 5% | 20% | 15% | 3% | 2% | 56% |
| **Total** | **22%** | **12%** | **35%** | **21%** | **6%** | **3%** | **100%** |

Note: Based on 98,186 GMWB contracts issued before 2013 and remaining in force at EOY 2013. Values may not sum to 100 percent due to rounding.

## Percentage of Benefit Maximum Withdrawn

For percentage of benefit maximum withdrawn, we looked at the relationship of customers' actual withdrawal amounts in calendar-year 2013 to the maximum withdrawal amounts allowed in the contracts. Given that our study is done on a calendar-year basis, there is some imprecision in measuring the maximum annual withdrawal amounts because benefit base balances can vary under certain circumstances during the year (e.g., if additional premium is received) and most benefit base balance increases occur on a contract anniversary. Accordingly, we used a conservative measure of excess withdrawals — if partial withdrawals exceeded the maximum annual withdrawal as of BOY by at least 10%, then we considered them to have exceeded the benefit maximum.

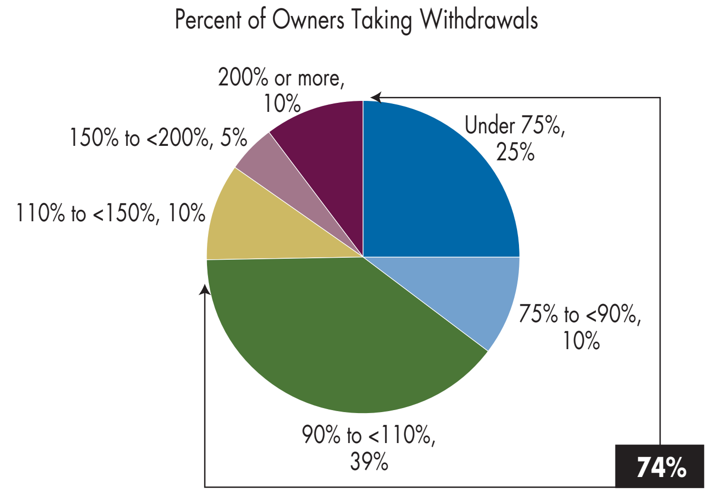
GMWB riders provide a specified annual withdrawal amount for a certain period of time, typically at a withdrawal rate of 5 to 7 percent of the benefit base. The rider ensures protection of a minimum floor of income against adverse market performance during that period. However, if the owner withdraws more than the maximum allowed withdrawal amount in a contract year, it is considered an excess withdrawal. Excess withdrawals trigger an adjustment of a benefit's guaranteed amount, which reduces the benefit base balance and ensuing withdrawal amount for subsequent years.

LIMRA Secure Retirement Institute asked participating companies to provide this maximum amount as of BOY 2013. If companies did not provide the maximum withdrawal amount but provided the benefit base balance, as well as the maximum percentage of this base that could be withdrawn each year, then we estimated the maximum amount.

In this section, we will look at the relationship of customers' actual withdrawal amounts in calendar-year 2013 to the maximum withdrawal amount allowed in the contract. However, there is some imprecision in our measurement of the maximum annual withdrawal amounts, because benefit base balances can vary under certain circumstances during the year (e.g., if additional premium is received, or positive market returns step up the benefit base balance). As a result, we used a conservative measure of excess withdrawals: if the partial withdrawal amount during the calendar year exceeded the maximum annual withdrawal allowed in the contract as of BOY by 10 percent or more, then we considered the withdrawals to exceed the benefit maximum. We calculated the maximum withdrawal amount based on reported maximum annual withdrawal percentage multiplied by average benefit base balance.

Figure 2-13 shows the percent of owners taking withdrawals — and their withdrawal amounts — in relation to maximum withdrawal amount allowed in the contracts. The bands have been revised from the prior year's report to allow us to better analyze the relationships between the withdrawal amount and the maximum withdrawal benefit.

**Figure 2-13:** GMWB Actual Withdrawals as a Percentage of Maximum Annual Benefit Amount

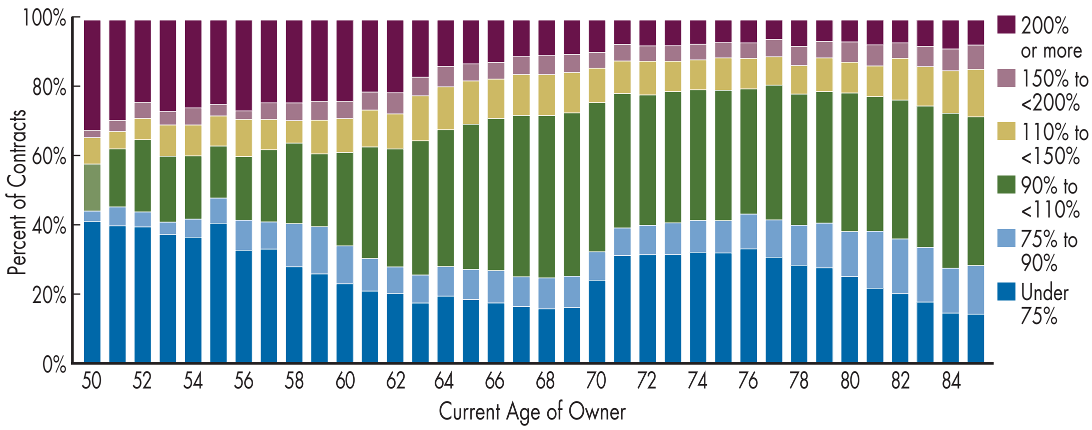



Note: Based on 94,257 GMWB contracts issued before 2013 and remaining in force at EOY 2013 that had withdrawals.

Around three quarters of owners that took withdrawals in 2013 withdrew within 110 percent of the maximum withdrawal amount allowed in the contract. Ten percent of owners withdrew 110 to less than 150 percent of the maximum amount allowed. Some of these older owners may have remained within the withdrawal limits allowed because of higher RMDs. However, around 15 percent of owners taking withdrawals exceeded the maximum withdrawal amount by 50 percent or more.

Looking at the age of owners and their withdrawal amount in relation to maximum withdrawal amount allowed, we see that most GMWB owners' withdrawal amounts are likely to remain within 110 percent or lower of the amount allowed (Figure 2-14).

**Figure 2-14:** GMWB Withdrawals as a Percentage of Maximum Annual Benefit Amount by Age




Note: Based on 87,140 GMWB contracts issued before 2013 and remaining in force at EOY 2013 that had withdrawals.

One quarter of owners took less than 75 percent of the maximum withdrawal amount allowed in the contract. One quarter (26 percent) of owners taking less than 75 percent of their maximum withdrawal amount took withdrawals before age 70. However, 74 percent of these owners aged 70 and older took withdrawals.

It is notable that the percent of owners taking 150 percent or more than the maximum withdrawal amount allowed in the contract is lowest for owners aged 71 and older — ranging from 4 to 8 percent for each individual age.

Three in 10 of GMWB owners under age 60 who took withdrawals exceeded 150 percent or more of the benefit maximum (Table 2-7). Some of these younger owners may have intended to partially surrender their contracts as opposed to taking regular withdrawals under the terms of the GMWB benefit.

**Table 2-7:** GMWB Withdrawals as a Percentage of Maximum Annual Benefit Amount by Age Groups

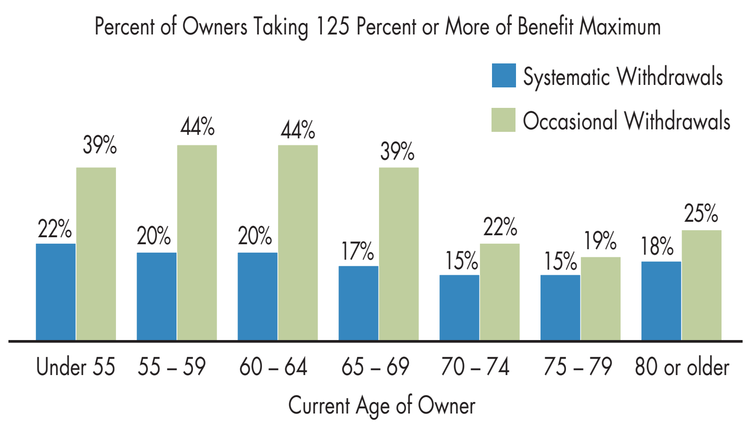
| | Percent Taking Withdrawals to Maximum Annual Benefit Amount | | | | | |
|---|---|---|---|---|---|---|
| **Age** | **Under 75%** | **75% to <90%** | **90% to <110%** | **110% to <150%** | **150% to <200%** | **200% or more** |
| Under 60 | 36% | 7% | 18% | 8% | 4% | 26% |
| 60–69 | 18% | 9% | 42% | 12% | 5% | 13% |
| 70 or more | 27% | 11% | 40% | 10% | 5% | 7% |
| **All ages** | **25%** | **10%** | **39%** | **10%** | **5%** | **10%** |

Note: Based on 94,257 GMWB contracts issued before 2013 and remaining in force at EOY 2013.

On the other hand, 1 in 5 owners between ages 60 and 69 who took withdrawals exceeded 150 percent or more of their benefit maximum. Only 1 in 8 owners (13 percent) aged 70 or older took withdrawals that exceeded 150 percent of the maximum withdrawal amount allowed in 2013. A portion of these owners may be taking excess withdrawals to satisfy RMDs, and many GMWBs do not penalize IRA annuity owners over age 70½ for taking excess withdrawals if they do so to satisfy IRS RMDs.

Which method owners use for withdrawals — systematic or occasional — is a strong indicator of whether owners are likely to exceed the benefit maximum allowed in their contracts. Most excess withdrawals exceeding 125 percent of the annual benefit maximum amount are occasional withdrawals by owners under age 70 (Figure 2-15).

**Figure 2-15:** GMWB Withdrawals to Maximum Annual Benefit Amount by Age




Note: Based on 94,245 GMWB contracts issued before 2013 and remaining in force at EOY 2013 that had withdrawals.

Overall, 3 in 10 owners who took occasional withdrawals had excess withdrawals of 125 percent or more of benefit maximum, while only 1 in 6 (17 percent) of owners with SWP withdrawals had similar excess withdrawals. Moreover, 53 percent of the occasional withdrawals exceeding 110 percent the benefit maximums came from owners under age 70. However, this is a relatively small percentage of contracts. To put it into context, owners under age 70 who took withdrawals occasionally were just 11 percent of the total number of owners taking withdrawals in 2013. This also supports our earlier contention that some of these younger GMWB owners were very likely in the process of surrendering their contracts. We will see further evidence in the persistency of GMWB contracts later in the chapter.

We also examined how the proportion of the benefit maximum withdrawn varies by contract size. We expected that larger contract sizes would be linked to wealthier and more sophisticated owners who are more likely to work with financial advisors and less inclined to exceed the GMWB benefit maximum. They might also be less likely to take out an amount well below the maximum, thereby passing up a potential opportunity to maximize the value of the benefit. Taking out significantly more or less than the benefit maximum could represent an "inefficient" (or sub-optimal) utilization of the guarantee.

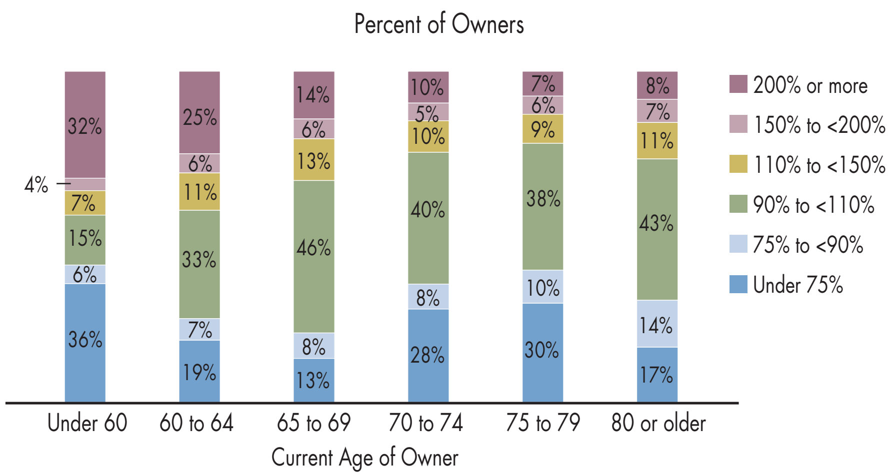
Figures 2-16 and 2-17 illustrate the proportion of owners withdrawing amounts as a percentage of the benefit maximum, by age and contract size. If efficiency is positively associated with contract value, then the proportion taking 90 percent to less than 110 percent of the benefit maximum should rise as contract value rises.

- The proportion of owners under age 60 taking 90 percent to less than 110 percent of the benefit maximum increases slightly, from 15 percent of owners with contract sizes under $100,000 to 21 percent of owners with contracts worth $100,000 or more.
- However, owners aged 65 or older (who make up 86 percent of all individuals taking withdrawals), taking 90 percent to less than 110 percent of the benefit maximum with contracts worth $100,000 or more, had average withdrawals rates that were 1 to 2 percent lower than owners with contract sizes under $100,000.

As noted earlier, the relationship between efficiency and contract size is limited to the youngest owners under age 60; and, even among this group, the greatest difference across contract sizes is not the increasing proportion taking amounts close to the benefit maximum, but rather the shrinking proportion taking amounts well above the benefit maximum. For example, although the proportion of owners under age 60 taking more than 200 percent of the benefit maximum drops 14 percentage points between contract sizes under $100,000 and contract sizes of $100,000 or more, the proportion taking 90 percent to less than 110 percent of the benefit maximum increases only six percentage points. There were similar increases in the percentage taking less than 90 percent of the benefit maximum across most age groups.

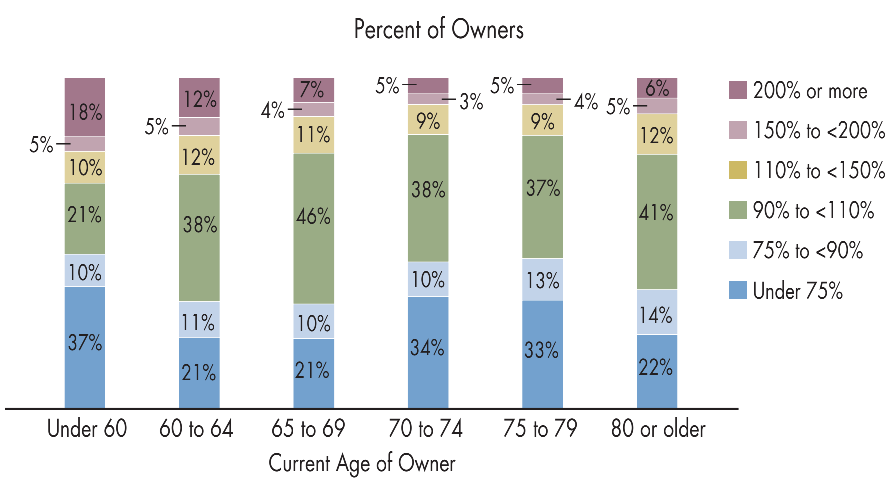
In short, owners of GMWBs with higher contract values not only are less likely than those with lower contract values to exceed the benefit maximum, but also do not avail themselves of the full potential withdrawal amounts the GMWB offers. For both GLWBs and GMWBs, larger contract sizes are associated with a greater tendency toward withdrawals that are less than the benefit maximum.

**Figure 2-16:** GMWB Withdrawals to Maximum Annual Benefit Amount by Age, Contracts Less Than $100,000




Note: Based on 58,375 GMWB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

**Figure 2-17:** GMWB Withdrawals to Maximum Annual Benefit Amount by Age, Contracts $100,000 or More




Note: Based on 35,881 GMWB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

We have seen some key indications for understanding the withdrawal behavior of GMWB owners:

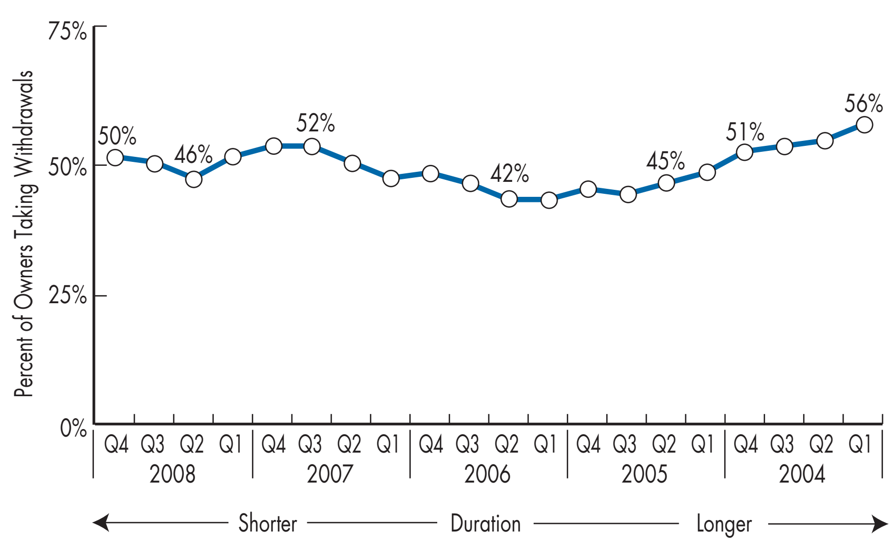
- Overall withdrawal activity, even the composite withdrawal activity by age cohort, is not a reliable measure of actual risk. The measure is skewed downward particularly because the majority of current GMWB owners are under age 70, and most of them have not yet started withdrawals.
- Source of funding (i.e., qualified or nonqualified) is a key determinant as to when owners will start their withdrawals. A large percentage of owners with qualified annuities start taking their withdrawals at ages 71 and 72 to meet their RMDs. In contrast, nonqualified contracts show an incremental and steady increase in the number of owners taking withdrawals.
- Once owners start to take withdrawals, they are likely to continue withdrawals.
- Fewer than 3 in 4 owners take withdrawals through SWPs. When owners use SWPs, they are also likely to make withdrawals within the maximum amount allowed in their contracts.
- Older owners are more likely to take withdrawals through SWPs.
- Younger owners are more likely to take occasional withdrawals. Many of these occasional withdrawals exceed the maximum benefit amount allowed in the contracts. Many of these occasional withdrawals point to a partial surrender of contracts. Younger owners are also more likely to take withdrawals exceeding the benefit maximum.

## Withdrawal Activity by Duration

Contract duration (i.e., how long ago the contract was purchased) is important for determining what proportion of new GMWB buyers or existing GMWB owners take withdrawals from their annuities. Companies can also use contract duration to gauge their company's marketing effectiveness, and value in setting expectations with customers. Immediate utilization of the GMWB is appropriate for certain customers, but there are also circumstances in which delayed withdrawals make sense. By comparing their own withdrawal activity by contract duration to that of the industry, companies can assess the extent to which their customers' usage patterns match both their own expectations and the experience of other VA companies. The comparison could also facilitate internal forecasts by estimating when and how GMWB customers might take withdrawals, and the resulting cash flow needed to manage the existing book of business.

Almost half of the GMWB owners who bought their contracts in 2008 took withdrawals from their annuities in 2013 (Figure 2-18). As the contract duration increases, withdrawal activity remains within a fairly tight range, from a low of 42 percent in early 2006 to a high of 56 percent for the older contracts issued in 2004.

**Figure 2-18:** GMWB Overall Utilization Rates by Contract Duration




Note: Based on 165,512 GMWB contracts issued between 2004 and 2008 and still in force at EOY 2013. Percentages refer to the number of contracts in each quarter that had partial withdrawals during 2013. We are not showing data for contracts issued before 2004 or after 2008 because of the limited number of companies issuing GMWB riders and small sample sizes.

Companies can use incremental rates of overall utilization by contract duration to estimate future cash outflows.

Contracts issued in 2007 or later allow for higher maximum withdrawal percentages; for example, it is common to see a maximum withdrawal percentage of 7 percent in contracts issued in 2007 or later, instead of 5 percent in contracts issued before 2007. This may have influenced these owners to start their withdrawals sooner. Also, step-up provisions and bonuses are less frequent among recently issued contracts. All of these reasons may contribute to higher withdrawal activity in more recently issued contracts.

However this incremental growth pattern in GMWBs differs from GLWBs (where we see a steady increase in the percent of owners taking withdrawals for longer duration contracts). It appears that a significant portion of GMWB owners who take withdrawals are likely to utilize their withdrawal benefits within one to two years of purchase. After that the incremental growth over the duration is very slow, caused by owners reaching RMD age. However, this generalization assumes that most customers maintain their withdrawal behavior, at least in the short term.

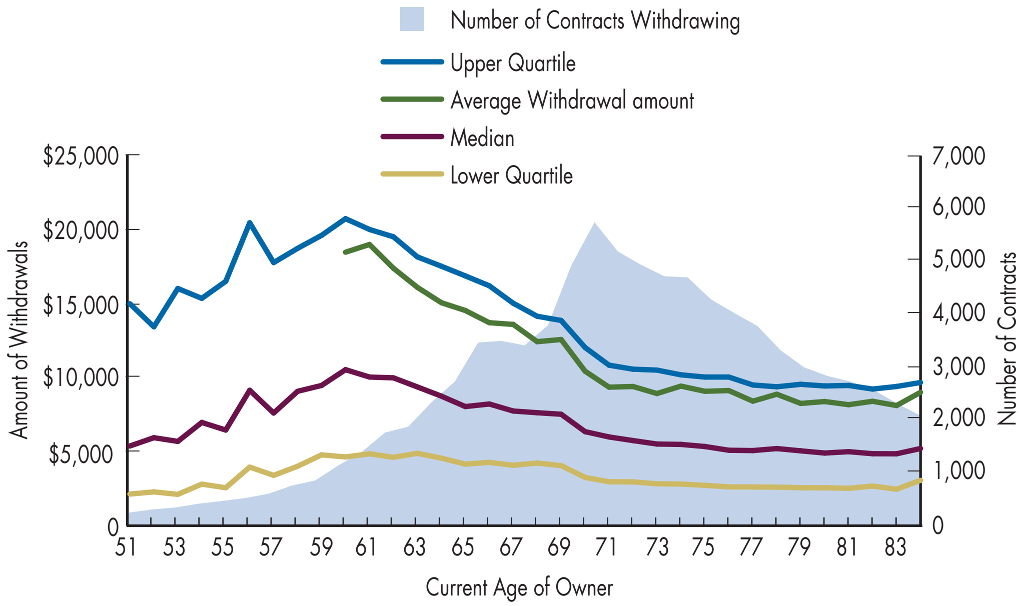
### Average Amount of Withdrawals

The median amount of withdrawals from GMWB contracts was $6,000 for contracts issued before 2013 that were in force at EOY 2013.

The median amount of withdrawals from GMWB contracts was $6,000 for contracts issued before 2013 that were in force at EOY 2013. The average amount of withdrawals was $10,863.

Some owners in their 50s took withdrawals of more than $15,000 from their contracts (Figure 2-19). However, there were not a lot of contracts that had withdrawals from this age group so data should be interpreted accordingly. As a result, we only show average withdrawal amounts beginning at age 60. It is safe to assume that many of these withdrawals were partial surrenders of the contracts, unconnected to regular withdrawals as part of the GMWB benefit and were taken sporadically, not through an SWP. A comparison of the average amount withdrawn to the average contract value shows that the average withdrawal percentage — 10 to 15 percent — is very high for younger owners.

**Figure 2-19:** GMWB Average Amount of Withdrawals by Owners' Current Age



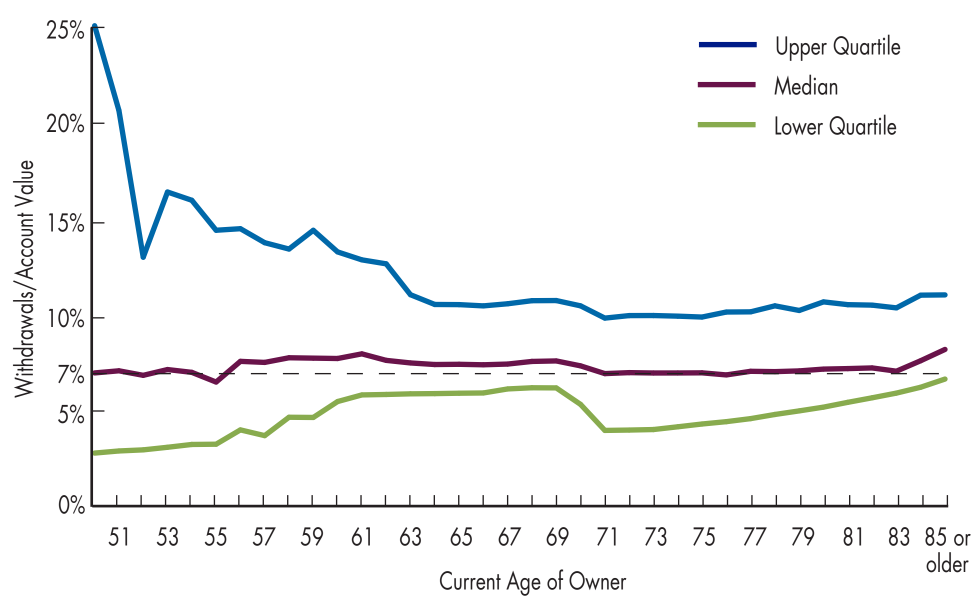

Note: Based on 89,068 GMWB contracts issued before 2013, still in force at EOY 2013 that had incurred withdrawals.

However, after age 60, as the number of GMWB owners increases, a more sustainable withdrawal pattern and average withdrawal amount emerges. Withdrawals by owners aged 60 to 69 are a mix of both occasional and systematic withdrawals. A smooth trend appears particularly for owners over age 70, with average withdrawal amounts around $9,000 and median withdrawal amounts from $5,000 to $6,000. These withdrawal amounts are commensurate with (or slightly above) the maximum withdrawal amount for this age group.

## Withdrawals as a Percentage of Contract Value and Benefit Base Balance

In order to provide some context, we assessed withdrawal amounts in relation to both contract values and benefit base balances. Figure 2-20 shows the median withdrawal amount for all ages and also the quartile distribution of the withdrawal amounts in 2013.

**Figure 2-20:** GMWB Withdrawals to Average Contract Value Ratio (For Contracts With Withdrawals Only)

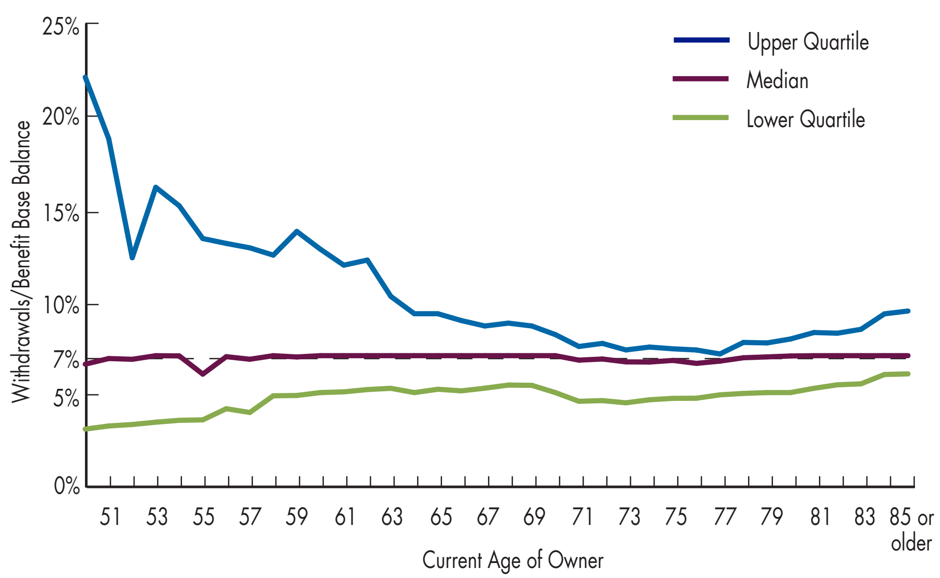



Note: Based on 96,818 GMWB contracts issued before 2013, still in force at EOY 2013 that had incurred withdrawals. Percent of average account value (AV) withdrawn is calculated for every contract: as partial withdrawals divided by (BOY AV + EOY AV)/2.

The distribution of the withdrawals as a percent of average account value withdrawn shows that, for owners aged 65 or over, the upper quartile and lower quartile values are within three percentage points of the median. The pattern also indicates that the majority of older owners taking withdrawals do so at similar ratios to their account values. For owners under age 60, the median of the ratios remains around 7 to 8 percent. However, there is a much wider dispersion between the median and the upper quartile values, indicating that the majority of these owners are taking more than the maximum allowed in the contracts.

The distribution of withdrawal amount to the average benefit base balance ratio supports the same conclusion that we reached earlier: that the withdrawal amount is unduly weighted by very large withdrawals taken by a few younger owners (Figure 2-21). The distribution of ratios of withdrawal amount to benefit base balance shows that the upper quartile and lower quartile values are within two percentage points of the median for owners aged 65 or over. This is a slightly tighter range than what we saw with the withdrawal to average contract value ratio. The ratios also indicate that the majority of owners taking withdrawals do so at a rate of around 7 percent of their benefit base values — a typical GMWB maximum payout rate for this age.

**Figure 2-21:** GMWB Withdrawals to Average Benefit Base Balance Ratio (For Contracts With Withdrawals Only)

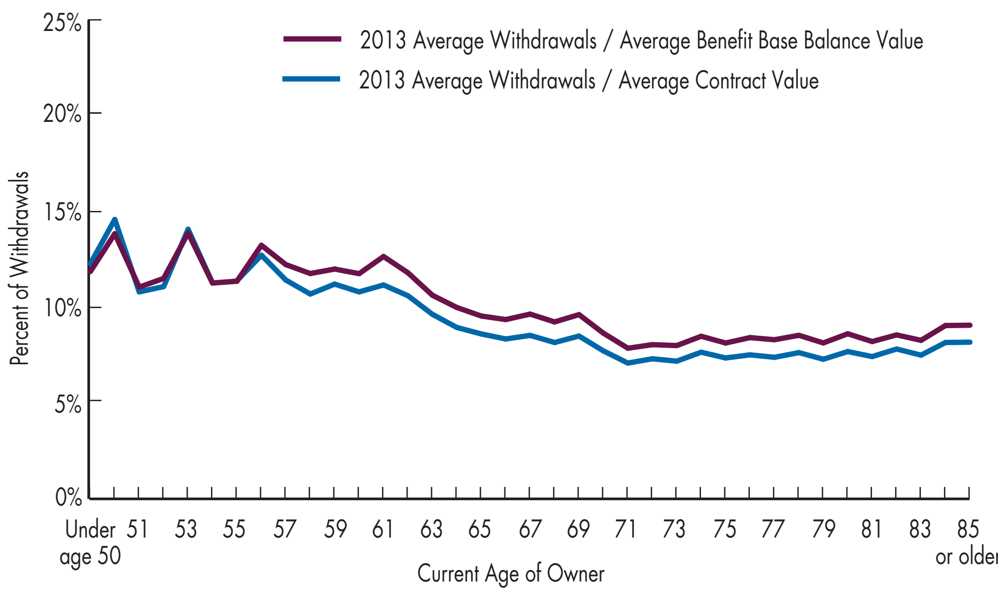



Note: Based on 96,818 GMWB contracts issued before 2013, still in force at EOY 2013 that had incurred withdrawals. Percent of average benefit base balance (BB) withdrawn is calculated for every contract: as partial withdrawals divided by (BOY BB + EOY BB)/2.

## Ratio of Withdrawal to Contract Value and Benefit Base Balance

For most GMWB contracts, the ratio of average withdrawal amount to average benefit base balance is slightly higher than the ratio of withdrawal to average contract value (average of contract values at BOY and EOY) (Figure 2-22). The fluctuations in the ratios for owners under age 60 are due to low sample sizes. On average, the gap between the two ratios was 1 percent or less in 2013.

**Figure 2-22:** GMWB Withdrawal Amount to Average Contract Value and Benefit Base Balance



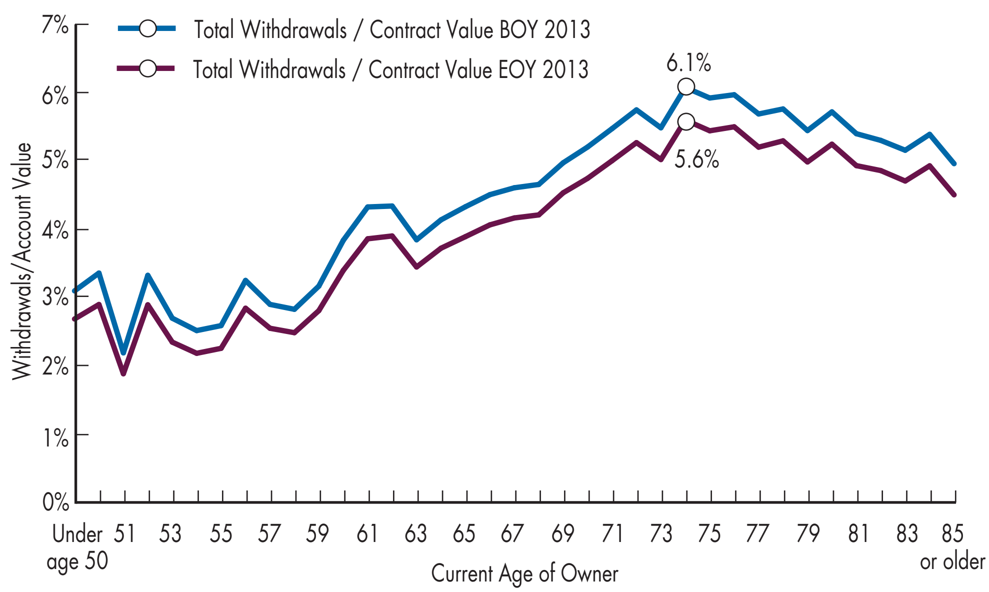

Note: The ratio of withdrawals to average contract values is calculated as the average of withdrawal amounts divided by the average of beginning and ending contract values. The ratio of withdrawals to average benefit base balances is calculated as the average of withdrawal amounts divided by the average of beginning and ending benefit base balances. In both cases, only the 94,007 GMWB contracts that were sold before 2013, were still in force at EOY 2013, had withdrawals in 2013, and with benefit base balance information were considered.

## Ratio of Withdrawal Amount to Contract Value

Comparing the ratio of withdrawal amounts to BOY contract values and the ratio of withdrawal amount to EOY contract values is another measure of GMWB risk originating in customer behavior. This measure can be calculated at two levels. First, the risk associated with all contracts in the book can be ascertained by analyzing the ratio of total withdrawals in 2013 to total contract values at BOY and EOY, for all contracts in force. Second, the same ratios can be computed for only the subset of contracts that experienced withdrawals in 2013. The first measure provides a view of risk from total withdrawals in terms of the total book of business and how total withdrawals (cash outflow) impact the overall risk, while the second provides an estimation of risk from withdrawals among the contracts that are in withdrawal mode.

In 2013, the ratio of total withdrawal amounts to BOY contract values for all contracts in force throughout the year was higher than the corresponding ratio for EOY contract values across all ages (Figure 2-23). Owners took $1.1 billion in withdrawals from $22.7 billion at a rate of 4.7 percent, based on the BOY account values of in-force contracts. Based on EOY account value, the rate of withdrawals or outflow was 4.2 percent.

**Figure 2-23:** GMWB Total Withdrawals to Total Contract Value (All Contracts)




Note: Based on 208,261 contracts sold before 2013 that were still in force at EOY 2013.

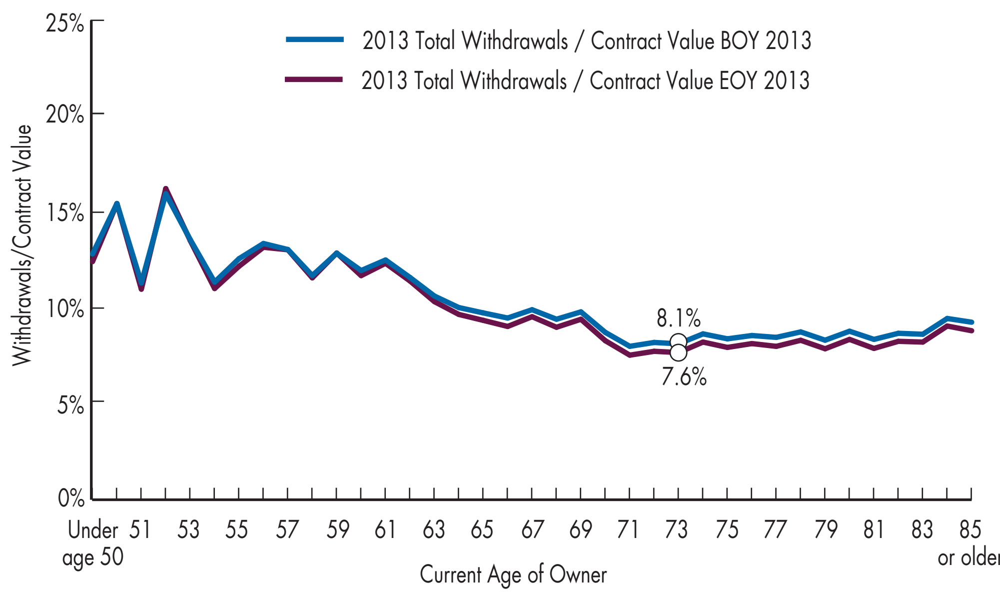
As long as the ratio of withdrawal amounts to account values at EOY remains less than the ratio at BOY, then total contract values have increased due to investment gains despite withdrawals, and the risk related to withdrawals from contract values also has declined. Throughout 2013, the difference was around 30 to 50 basis points.

The ratio of total withdrawals to contract values declined during 2013.

For example, customers aged 74 held $733 million in 6,794 GMWB contracts at BOY. The total withdrawal amount taken during 2013 was $44.4 million The ratio of total withdrawals to contract values at BOY was 6.1 percent. However, due to investment gains during the year, the total contract value increased to $796 million. The ratio of withdrawal amounts to contract values for 74-year-old owners thereby declined from 6.1 percent at BOY to 5.6 percent at EOY.

Companies can also examine the risks associated with the subset of contracts that had withdrawals in 2013. With the equity market and fixed-income fund gains in 2013, the ratio of withdrawals to contract values remained relatively unchanged for contracts that had withdrawals (Figure 2-24). For example, among owners aged 73 who made withdrawals in 2013, the ratio declined from 8.1 percent of the contract value at BOY to 7.6 percent of the contract value at EOY. Overall for all contracts that had withdrawals in 2013, there was an average 5 percent growth in account values.

**Figure 2-24:** GMWB Total Withdrawals to Total Contract Value (for Contracts With Withdrawals Only)




Note: Based on 98,186 GMWB contracts issued before 2013 and in force at EOY 2013 that had partial withdrawals in 2013.

## Withdrawal Activity in Contracts in-the-Money or Not-in-the-Money

A contract benefit being in-the-money did not drive the withdrawal behavior of GMWB owners in 2013.

The 2008–2009 market downturn caused large losses in account values of annuity contracts, causing most GMWB benefits to be in-the-money — meaning the benefit base balance was higher than the account value.[21] Many of these contracts experienced a strong market recovery in the later part of 2009, a moderate market gain in 2010, a flat market in 2011, moderate gains in 2012 and strong gains in 2013. By EOY 2013, one third of GMWB contracts had

21 Unless otherwise stated, in this report, we will use the benefit base to account value ratio as the measure of in-the-moneyness.

benefit base balance amounts greater than the account values, an increase from the beginning of the year when more than half of the contracts were in-the-money. Our findings indicate that market volatility, or mixed market gains that resulted in some GMWB contract benefits being in-the-money, was not a major driver in customers' decisions to take withdrawals in 2013.

In order to understand the impact of contracts' in-the-moneyness on withdrawal activities, we need to consider  the severity and spread of in-the-moneyness among owners by age and by duration of contracts. We should also consider other factors, like market performance, investor confidence, market volatility, the state of the economy, and confidence in the financial strength of financial service providers. *In order to conclude that contracts being in-the-money influences owners' withdrawal activity, we would expect to see increased withdrawal activity irrespective of age when contracts are in-the-money.*[22] If the benefit base balance being in-the-money is a compelling reason for turning on the withdrawal rider, then there should be heightened withdrawal activity among GMWB owners of all ages.

For GMWB contracts issued before 2013, it is evident that:

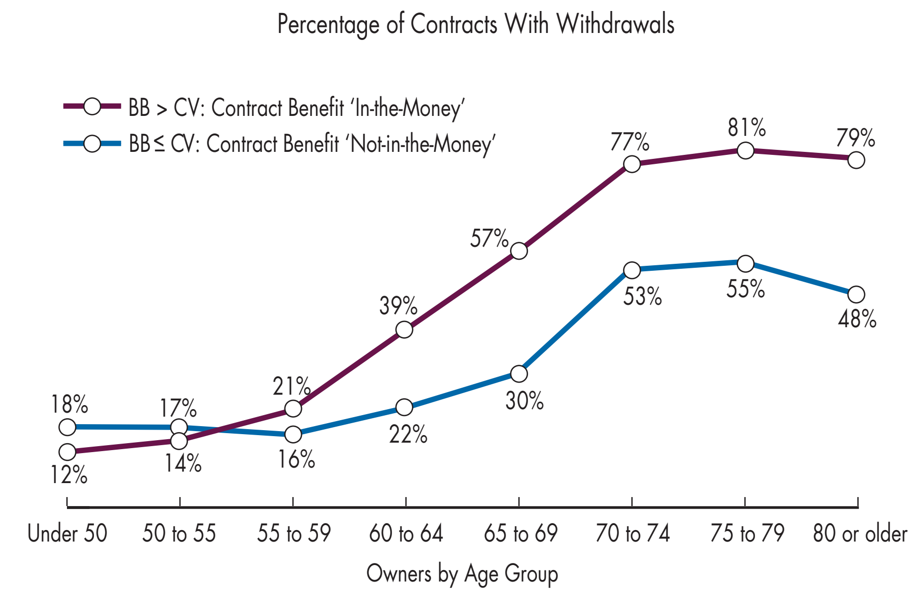
- A majority of GMWB contracts that were in-the-money at the beginning of the year were held by older owners (Figure 2-3). For example, nearly 9 out of 10 GMWB contracts that had benefit base balances exceeding 150 percent or more than the contract values were held by owners aged 65 or older. These contracts are also more likely to have a higher representation of older duration contracts.
- A majority of older GMWB owners with older duration contracts initiated withdrawals in previous years and continued taking withdrawals in subsequent years. Older owners — particularly those aged 65 or older — are more likely to take and continue withdrawals over a longer period of time. Since their withdrawal amounts typically remain within the maximum amount offered in the GMWB contracts, their contract values are likely to decline over a period (unless they experience growth due to large and consistent market gains) while their benefit base balances are likely to remain level or proportionately adjusted with withdrawals, causing the in-the-money amount to grow as the withdrawals continue.

As a result, we expect that the percentages of owners taking withdrawals by the degree of in-the-moneyness will be skewed both by older owners who have started withdrawals years ago and contracts with long duration. We also expect that the gap between the percentage of owners who take withdrawals in a particular year with contracts in-the-money vs. not-in-the money may grow in the future.

22 Additional analysis found no significant difference in the withdrawal pattern for contracts that were in-the-money compared to those not in-the-money when looking at withdrawal amounts that were above, at, or below the benefit maximum.

Examining the withdrawal behavior of owners' in-the-money vs. not-in-the-money can shed some light on these issues. *Just looking at contracts being in-the-money by their magnitude and age, in isolation, as shown in Figure 2-25 may not provide a complete picture.* Similar to GLWBs, it is likely that age and source of funds — not benefits of being in-the-money — that drive owner withdrawal behavior, although there may be a small in-the-moneyness effect driven mainly by withdrawals among younger owners.[23]

**Figure 2-25:** GMWB Withdrawal Rates for Contracts In-the-Money vs. Not-in-the-Money




Note: Based on 192,049 GMWB contracts issued before 2013 and still in force at EOY 2013 where both account values and benefit base balances at BOY 2013 were available. Percentages refer to the number of contracts in each category that had partial withdrawals during 2013.

Among owners aged 55 or older, the percent of owners who took withdrawals in 2013 was higher for contracts that were in-the-money than for those not-in-the-money (Figure 2-25). The gap between the percentages of owners who took withdrawals from contracts in-the-money and not-in-the-money increases with older age groups. For example, the percentages of owners taking withdrawals — among those aged 60 to 64 with contracts in-the money — was 39 percent compared with 22 percent of owners whose contracts were not-in-the-money. Seventy-nine percent of owners aged 80 or older with contracts in-the-money took withdrawals, compared with 48 percent of owners whose contracts were not-in-the money.

The fact that the vast majority of owners who start withdrawals are likely to continue withdrawals in subsequent years influences the trend shown in the Figure 2-25. As owners

23 Refer to "Withdrawal Activity for Contracts In-the-Money or Not-in-the-Money" section of the GLWB chapter for additional discussion of the relationship between in-the-moneyness and withdrawal activity.

continue withdrawals, it is also likely these contracts remained in-the-money without the help of robust positive market performances in the last few years, as contract values decrease and benefit base balances remain level or proportionately adjusted by amount of withdrawals. The contracts that are not-in-the-money were likely issued recently and not been exposed to the market volatility, or are contracts issued years ago but did not have withdrawals and have experienced growth in their contract value. This helps to explain why contracts owned by older owners taking withdrawals from longer duration contracts have a widening gap. Also, if in-the-moneyness were a major reason for initiating withdrawals, withdrawal activities among owners aged less than 60 would have been higher.

GMWB contracts, by design, have a limited number of guaranteed income payments and do not provide guaranteed income for life. As a result, a higher percentage of owners are likely to take withdrawals compared to the percentage of owners taking withdrawals from GLWB contracts. It can be argued that GMWB contract owners might be expected to be more sensitive regarding initiating withdrawals when contract benefits are in-the-money so that they could take advantage of guaranteed withdrawals over a certain number of years at a time when their contract values are lower.

In addition, over the last few years, we have seen very little evidence that benefits being in-the-money is a principal driver of GMWB withdrawal activity:

- As shown earlier in this chapter, the percentage of owners taking withdrawals is linked closely with owners reaching age 70½ and the need for RMDs. Increased withdrawal activity among owners aged 70 or older was mostly due to their taking withdrawals from contracts that had longer durations and so are most likely to be in-the-money.
- Our analysis of the timing of first withdrawals among contracts issued in 2007 (Table 2-4) provides further evidence that in-the-moneyness is not a strong determinant of withdrawal activity. Over a seven-year period, most of these contracts were exposed to different degree of in-the-moneyness, especially between years 2009 and 2012. Yet we did not observe any significant difference in the onset of withdrawal activity during these years. If in-the-moneyness was a major force behind the decision to begin taking withdrawals, we should have seen a jump in withdrawal activity in 2009, when contracts account values were likely to be well below their benefit base balances after the market crisis. The same could be said for 2012 when market volatility in late 2011 and low returns caused many contracts to start 2012 deeply in-the-money. Instead, attained age and the need for RMDs for IRA contracts explained much of the pattern we observed.
- In 2009, the RMD restrictions were waived after the market crisis. Instead of heightened withdrawal activity, the percentage of IRA owners taking withdrawals dropped to the lowest level in years.

## Utilization by Select Characteristics

Utilization of GMWBs varies substantially across a variety of owner, contract, and benefit characteristics for contracts sold before 2013 (Table 2-8). These patterns are consistent across different utilization measurements, such as the percent of contracts with systematic withdrawals and the withdrawal rate weighted by contract value.[24]

**Table 2-8:** GMWB Utilization by Selected Characteristics

| | Unweighted | | Weighted by 2013 Contract Value | |
|---|---|---|---|---|
| | Partial Withdrawals | Systematic Withdrawals | Partial Withdrawals | Systematic Withdrawals |
| **Age of owner** | | | | |
| 50 to 54 | 15% | 4% | 21% | 8% |
| 55 to 59 | 17% | 8% | 23% | 14% |
| 60 to 64 | 29% | 18% | 37% | 26% |
| 65 to 69 | 42% | 32% | 48% | 37% |
| 70 to 74 | 66% | 48% | 67% | 49% |
| 75 to 79 | 69% | 52% | 68% | 50% |
| 80 or older | 63% | 50% | 58% | 45% |
| **Market type** | | | | |
| IRA | 53% | 37% | 58% | 41% |
| Nonqualified | 39% | 30% | 41% | 30% |
| **Distribution Channel** | | | | |
| Career Agent | 41% | 22% | 45% | 25% |
| Independent agent/ independent B-D | 50% | 39% | 55% | 43% |
| Full service national B-D | 46% | 35% | 47% | 35% |
| Bank | 52% | 41% | 55% | 44% |

24 This measure of utilization should not be equated with the percentage of contract value withdrawn.

**Table 2-8:** GMWB Utilization by Selected Characteristics *(continued)*

| | Unweighted | | Weighted by 2013 Contract Value | |
|---|---|---|---|---|
| | Partial Withdrawals | Systematic Withdrawals | Partial Withdrawals | Systematic Withdrawals |
| **Share Class** | | | | |
| B-share | 46% | 31% | 50% | 35% |
| C-share | 51% | 40% | 51% | 39% |
| L-share | 48% | 39% | 50% | 40% |
| **Contract Value, EOY 2013** | | | | |
| Under $25,000 | 42% | 28% | 52% | 32% |
| $25,000 to $49,999 | 47% | 34% | 52% | 36% |
| $50,000 to $99,999 | 49% | 36% | 52% | 38% |
| $100,000 to $249,999 | 48% | 35% | 50% | 37% |
| $250,000 to $499,999 | 49% | 36% | 51% | 38% |
| $500,000 or more | 46% | 34% | 47% | 34% |

Note: Based on 208,261 contracts sold before 2013 and still in force at EOY 2013. Percentages refer to the number of contracts in each category that had partial (or systematic) withdrawals during the year. Systematic withdrawals represent a subset of all partial withdrawals.

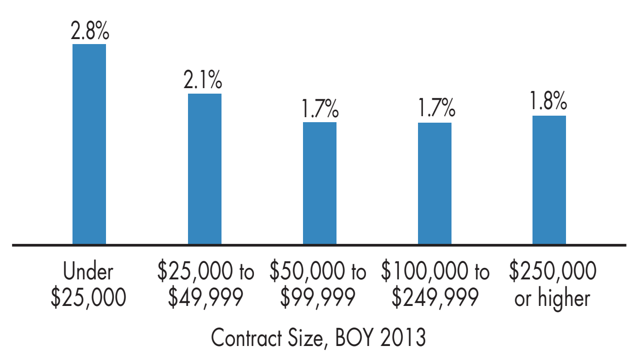
- As with GLWBs, older GMWB owners are much more likely to take withdrawals, especially systematic withdrawals, than are younger owners. In part, this activity reflects RMDs from IRAs after age 70½.
- Excluding contracts under $25,000, size does not appear to be a significant factor in determining when a contract owner is likely to take withdrawals.
- Owners of VAs purchased thru banks are more likely to take withdrawals compared with other channels.

## Additional Premium and Net Flows

Many retail VAs allow owners to add premium after issue, though in practice most contracts do not receive ongoing deposits. For some GMWBs, the calculation of the benefit base balance will incorporate premium that is received within a certain time period after the issue of contract. Among contracts sold in 2013 or earlier:

- Only 2 percent received additional premium during 2013.
- The average additional premium in 2013 was $27,423, with a median of $6,000.
- Younger owners were more likely to add premium than older owners. For example, 4 percent of owners under age 60 added premium, compared with 1 percent of owners aged 70 or older.
- Two percent of IRAs received additional premium compared with 1 percent of nonqualified contracts.
- Only 2.8 percent of contracts with contract values less than $25,000 at BOY received additional premiums, while contracts with BOY values of $50,000 or more were less likely to receive additional premiums (Figure 2-26).

**Figure 2-26:** GMWB Percentage of Contracts Receiving Additional Premium by Size of Contract




Note: Based on 208,258 contracts issued before 2013 and still in force at EOY 2013.

Similar to GLWBs, GMWB owners rarely add premium after the second year of owning a contract. Twelve percent of a constant group of contracts issued in 2007 had premium added in one of the calendar years after issue, and 7 percent had premium added two or more years after the issue year. In addition, again similar to GLWBs, younger GMWB owners are more likely to put additional premiums into their contracts.

Premium received in new and existing contracts constituted less than one seventh of the outflows associated with partial withdrawals, full surrenders, deaths, and annuitizations; while strong investment growth helped GMWB assets to grow slightly in 2013 (Table 2-9). The total number of GMWB contracts in force declined about 8 percent during 2013.

**Table 2-9:** GMWB Net Flows

| | Dollars (Billions) | Contracts | Average Contract Size |
|---|---|---|---|
| **In-force, BOY 2013** | **$25.00** | **229,379** | **$108,978** |
| **Premium received during 2013** | | | |
| Newly issued contracts | $0.38 | 3,131 | $120,885 |
| Existing contracts | $0.12 | n/a | n/a |
| **Benefits paid** | | | |
| Partial withdrawals | $1.18 | n/a | n/a |
| Full surrenders | $1.94 | 18,717 | $103,900 |
| Annuitizations | $<0.1 | 479 | $141,755 |
| Deaths/Disability | $0.19 | 1,933 | $96,336 |
| **Investment growth** | $3.37 | n/a | n/a |
| **In-force, EOY 2013** | **$25.50** | **211,381** | **$114,550** |

Note: Based on 229,379 contracts. Dollar values for contracts sold before 2013 that terminated during the year were set equal to either BOY contract value (if termination occurred before contract anniversary date) or the anniversary contract value (if termination occurred on or after the contract anniversary date). Dollar values for contracts sold in 2013 that terminated during the year were set equal to the current-year premium.

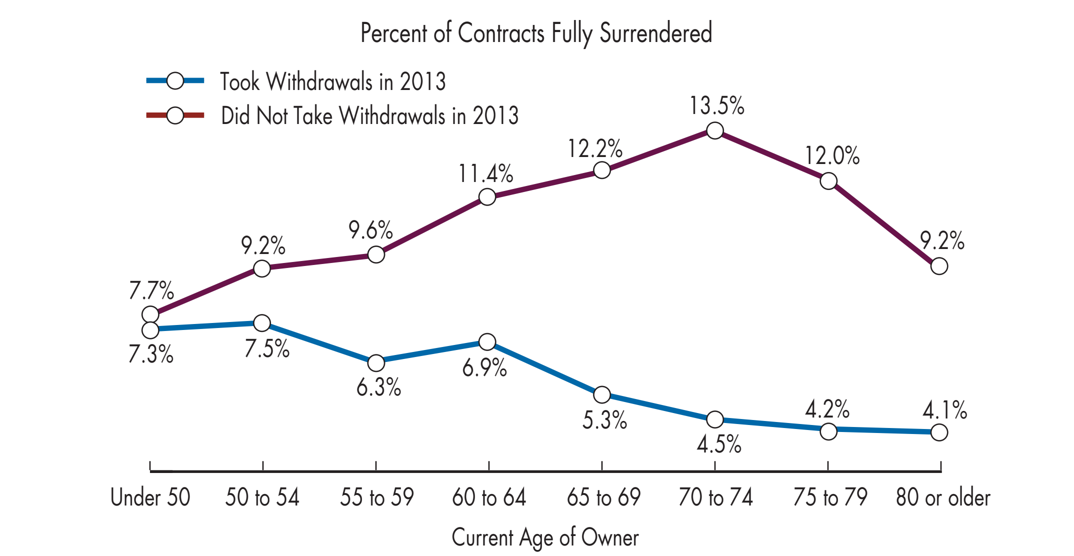
## Persistency

The GMWB contract surrender rate in 2013 was **8.2%**.

Surrender rates in 2013 among GMWB contracts issued before 2013 were 8.2 percent for both contract surrender rate and cash value surrender rate.

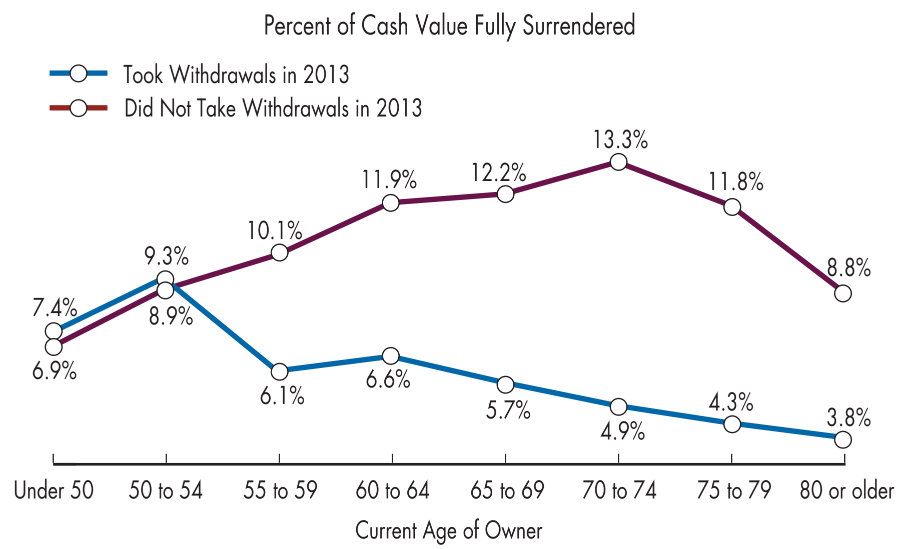
However, owners who did not take withdrawals in 2013 had higher surrender rates. When GMWB owners, particularly owners over age 70, took withdrawals, the surrender rates were relatively low, around 4 percent (Figures 2-27 and 2-28).

**Figure 2-27:** GMWB Contract Surrender Rates by Owners Taking Withdrawals in 2013




See Appendix Table B2-1 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 229,153 GMWB contracts issued before 2013.

**Figure 2-28:** GMWB Cash Value Surrender Rates by Owners Taking Withdrawals in 2013

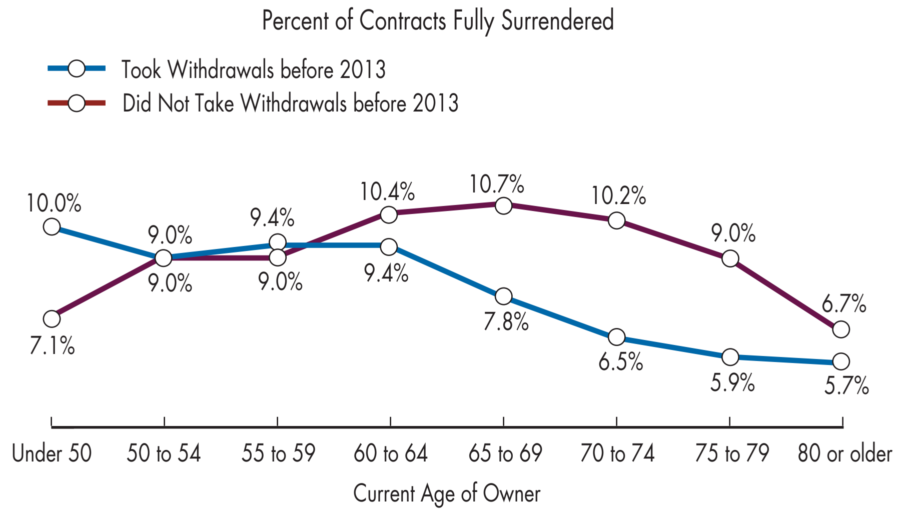



See Appendix Table B2-2 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 229,153 GMWB contracts issued before 2013.

Younger owners who take withdrawals, particularly those under age 65, have higher surrender rates than older owners taking withdrawals. We have already shown that even though younger owners own a significant portion of GMWB contracts, they are not likely to take withdrawals. When these younger owners take withdrawals, they typically do so with occasional withdrawals. Moreover, their average withdrawal amount is much higher, and not likely supported by the guaranteed benefit base in their contracts.

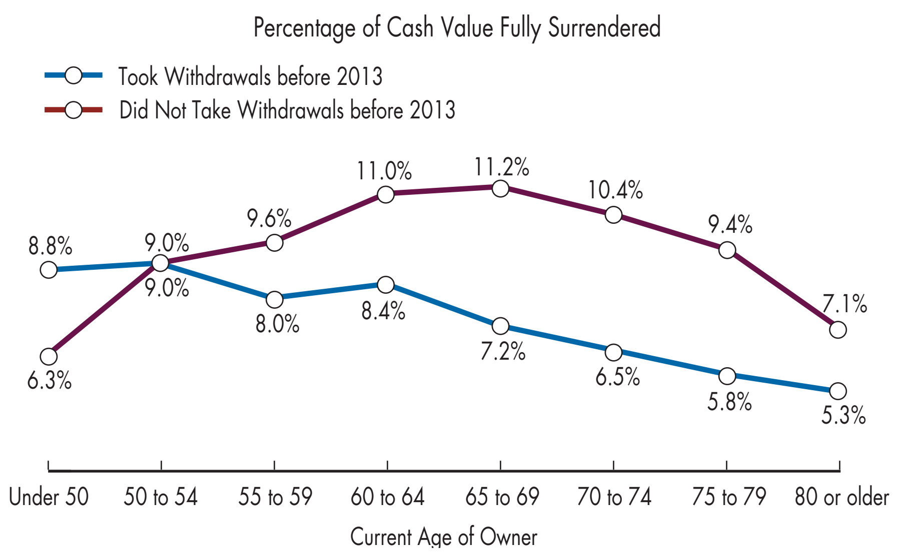
Past withdrawals can also indicate increased likelihood that owners will surrender earlier than normal. Figures 2-29 and 2-30 show the contract and cash value surrender rates for owners who took withdrawals before 2013.

**Figure 2-29:** GMWB Contract Surrender Rates by Owners Who Took Withdrawals Before 2013




See Appendix Table B2-3 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 229,153 GMWB contracts issued before 2013.

**Figure 2-30:** GMWB Cash Value Surrender Rates by Owners Who Took Withdrawals Before 2013




See Appendix Table B2-4 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 229,153 GMWB contracts issued before 2013.

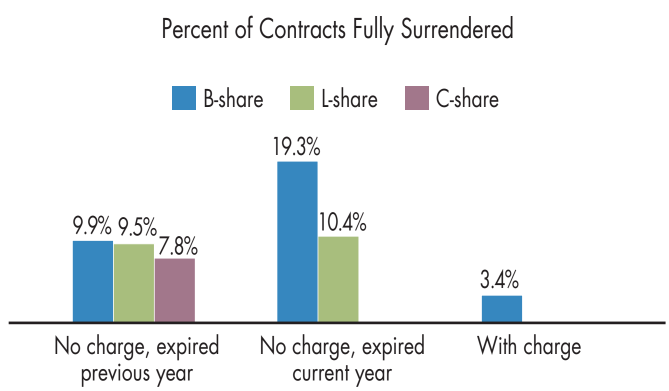
Nearly 10 percent of owners under age 60 who took withdrawals before 2013 surrendered their contracts by EOY 2013. In contrast, only 8.5 percent of owners under age 60 who did not take withdrawals before 2013 surrendered their contracts in 2013. Surrender rates among owners who did not take withdrawals before 2013 were highest among owners ages 60 to 74. It is possible that many of these owners did not need the withdrawal guarantees or funds for immediate use.

## Surrender Activity by Owners Who Took Withdrawals — by Presence of Surrender Charge

Persistency for contracts with surrender charges is higher than for contracts without surrender charges. The contract surrender rate in 2013 was 3.3 percent for contracts with surrender charges and almost six times that amount (18.3 percent) for contracts that exited the surrender penalty period in 2013. Among contracts that exited the surrender penalty period in 2012 or earlier, the contract surrender rate was 9.4 percent.

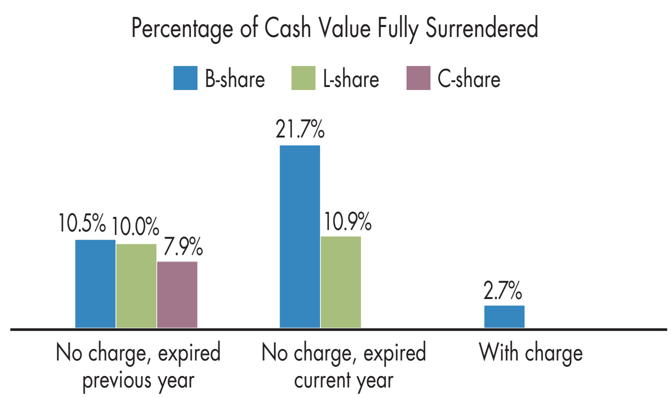
Figures 2-31 and 2-32 illustrate the contract and cash value surrender rates by presence of surrender charges and share classes. At BOY 2013, 60 percent of GMWB contracts had no surrender charges.

**Figure 2-31:** GMWB Contract Surrender Rates in 2013 by Share Classes




Note: Based on 205,578 GMWB contracts issued in or before 2013. We have not shared some surrender rate data in order to preserve confidentiality and avoid revealing company-specific information, as data are heavily weighted for one company or contain data from a very limited number of companies.

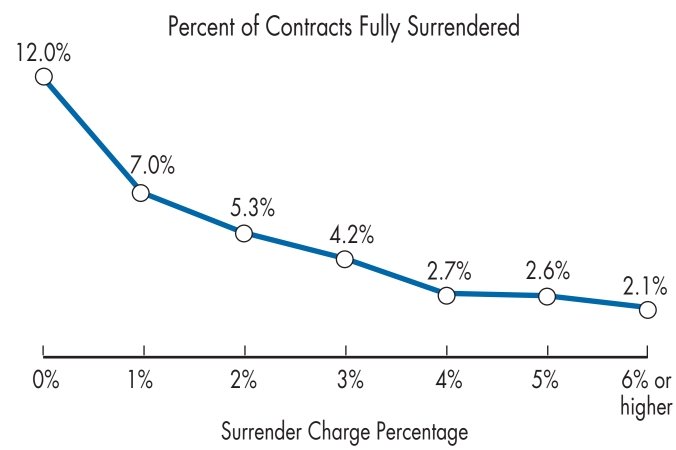
**Figure 2-32:** GMWB Cash Value Surrender Rates in 2013 by Share Classes




Note: Based on 205,578 GMWB contracts issued in or before 2013. We have not shared some surrender rates data in order to preserve confidentiality and avoid revealing company-specific information, as data are heavily weighted for one company or contain data from a very limited number of companies.

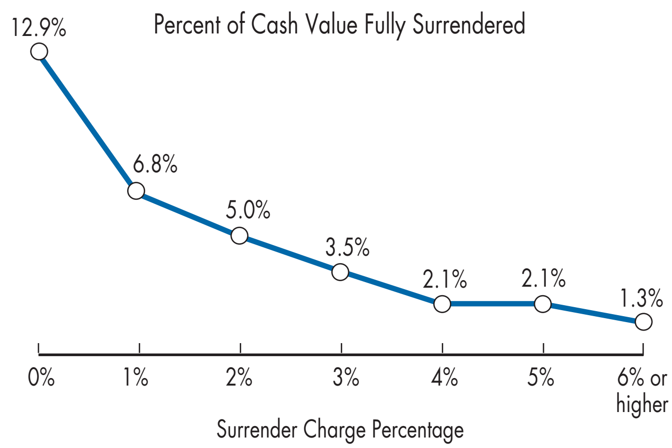
Surrender rates are influenced by surrender charges. Contracts with higher surrender charges have lower surrender rates and vice versa (Figures 2-33 and 2-34).

**Figure 2-33:** GMWB Contract Surrender Rate in 2013 by Surrender Charge Percentage




Note: Based on 215,340 GMWB contracts issued in or before 2013. We have not shown surrender charges over 6 percent in order to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

**Figure 2-34:** GMWB Cash Value Surrender Rate in 2013 by Surrender Charge Percentage

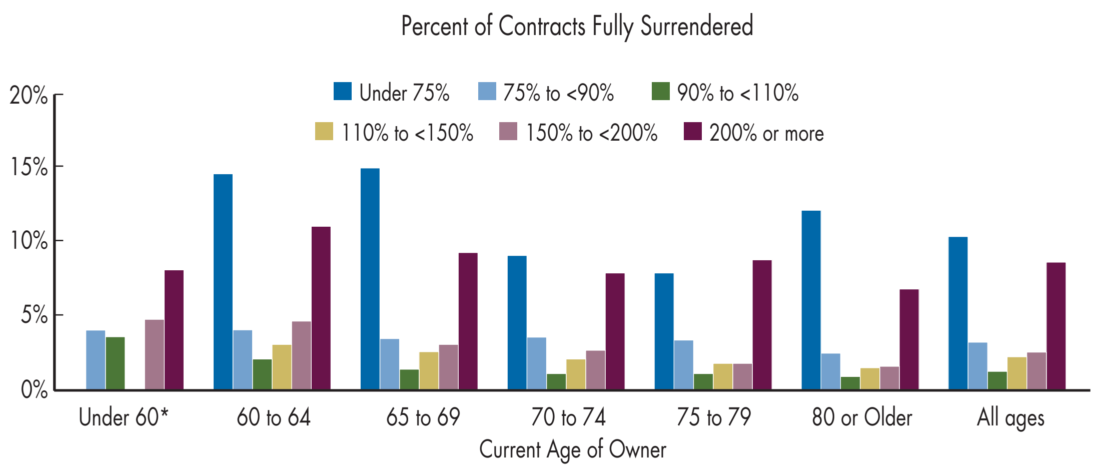



Note: Based on 215,340 GMWB contracts issued in or before 2013. We have not shown surrender charges over 6 percent in order to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

## Surrender Activity by Percentage of Benefit Maximum Withdrawn

Figure 2-35 shows the contract surrender rates among owners who took withdrawals in 2013 by the percentage of benefit maximum withdrawn. Contract surrender rates were quite high for owners who took withdrawals below 75 percent of the maximum allowed in the contracts, and somewhat higher for owners who took 200 percent or more of the maximum allowed in the contracts.

**Figure 2-35:** GMWB Contract Surrender Rates by Owners Who Took 2013 Withdrawals, in Relation to Annual Benefit Maximum Allowed




See Appendix Table B2-5 for a breakdown of the data in this Figure by presence of surrender charges.

Note: Based on 100,176 GMWB contracts issued before 2013 that also had withdrawals in 2013. *We have not shared some surrender rates data in order to preserve confidentiality and avoid revealing company-specific information, as data were heavily weighted for one company or contained data from a very limited number of companies.

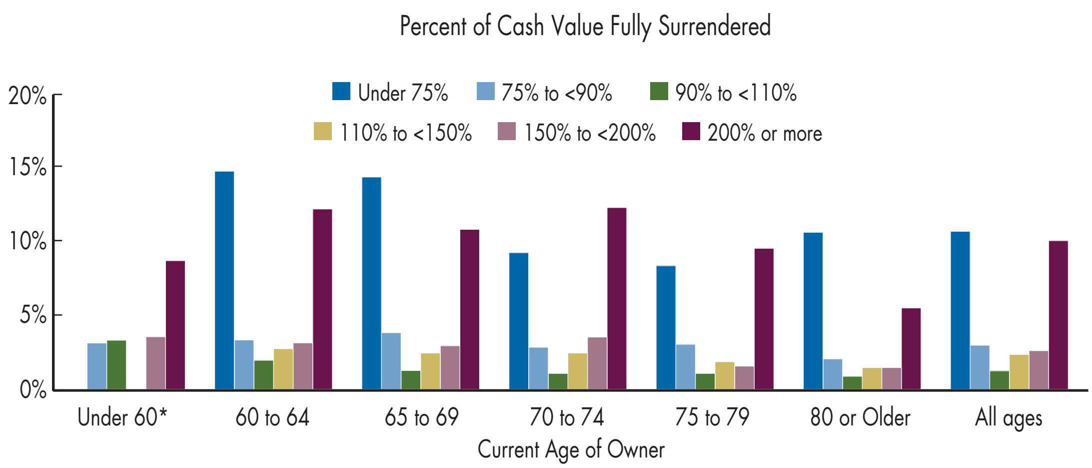
Similar to GLWBs, the GMWB surrender rates show a U-shaped relationship with the percentage of benefit maximum withdrawn — those with very low and very high ratios of withdrawals to the maximum allowed have higher surrender rates than those in the middle categories. This relationship holds true across all age groups. Among the 63 percent of owners who withdrew between 75 percent and less than 200 percent of the benefit maximum, surrender rates were 2 percent. Among the subset of these owners who withdrew between 90 percent and less than 110 percent of the benefit maximum, rates were 1.3 percent.

In summary, the GMWB owners in two extremes — those taking less than 75 percent or 200 percent or more of the maximum withdrawal amount allowed in their contracts accounted for 37 percent of all owners who took withdrawals in 2013. But, they were responsible for 76 percent of contracts surrendered and 78 percent of cash value surrendered in 2013. Any withdrawal behavior not in line with the GMWB's maximum withdrawal amount is thus a reliable indicator of surrender behavior.

Owners who withdrew either less than 75% or 200% or more of the maximum withdrawal amount allowed accounted for 76% of all contracts surrendered in 2013.

The cash value surrender rates among owners who took withdrawals in 2013, split by the percentage of benefit maximum withdrawn, show a similar pattern to contract surrender rates (Figure 2-36).

**Figure 2-36:** GMWB Cash Value Surrender Rates by Owners Taking 2013 Withdrawals in Relation to Annual Benefit Maximum Allowed



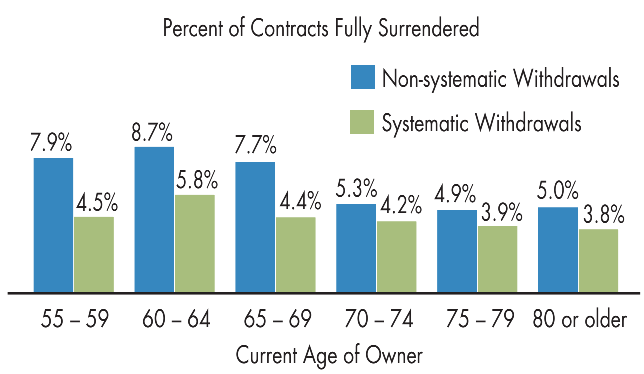

See Appendix Table B2-6 for a breakdown of the data in this Figure by presence of surrender charges.

Note: Based on 100,176 GMWB contracts issued before 2013 that also had withdrawals in 2013.
*We have not shared some surrender rate data in order to preserve confidentiality and avoid revealing company-specific information, as data were heavily weighted for one company or contain data from a very limited number of companies.

## Surrender Activity by Owners Taking Withdrawals by Withdrawal Method

Another strong indicator of whether owners are likely to surrender their contracts is the method they use to take withdrawals — systematic or non-systematic (Figure 2-37). As we have seen, owners who use systematic withdrawals are less likely to take more than the benefit maximum, and younger owners are making the most excess withdrawals.

**Figure 2-37:** GMWB Contract Surrender Rates by Systematic Withdrawal Activity




See Appendix Table B2-7 for a breakdown of the data in this Figure by presence of surrender charges.

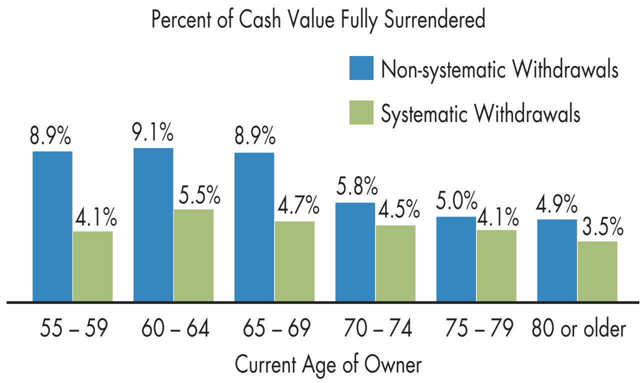
Note: Based on 101,175 GMWB contracts issued before 2013 that also had withdrawals in 2013.

GMWB contract surrender rates are **6.3%** among owners who take non-systematic withdrawals compared with **4.2%** among owners who take systematic withdrawals in 2013.

Overall, the contract surrender rate among owners who took non-systematic withdrawals in 2013 was 6.3 percent while the surrender rate among owners who withdrew systematically was 4.2 percent. Non-systematic withdrawals are often linked with younger owners who have higher surrender rates.

Owners using a non-systematic withdrawal method accounted for a quarter of all owners taking withdrawals, and for just over one quarter of all surrendered contracts and cash surrender values in 2013. The cash value surrender rates by withdrawal methods follow a very similar pattern to the contract surrender rates (Figure 2-38).

**Figure 2-38:** GMWB Cash Value Surrender Rates by Systematic Withdrawal Activity




See Appendix Table B2-8 for a breakdown of the data in this Figure by presence of surrender charges.
Note: Based on 101,175 GMWB contracts issued before 2013 that also had withdrawals in 2013.

Another factor of surrender rates involves whether or not contracts are in-the-money. In general, surrender rates are lower for contracts in-the-money. GMWB owners appear to be sensitive to the degree of in-the-moneyness when deciding whether or not to surrender their contracts. Actuaries need to account for this sensitivity when setting assumptions for lapse behavior.

However, looking at surrender rates based only on the degree of in-the-moneyness may not completely address all issues regarding persistency risk. Owner surrender behavior also correlates closely with withdrawal behavior.

Surrender rates for GMWB contracts are not as low for VAs with GLWBs. Across all contracts, 8.2 percent surrendered during 2013. For business sold before 2013, cash value surrender rates were also 8.2 percent (Table 2-10).

**Table 2-10:** GMWB Surrender Rates

| | Percent of Contracts Surrendered | Percent of Cash Value Surrendered |
|---|---|---|
| **All contracts** | **8.2%** | **8.2%** |
| **Year of issue** | | |
| Before 2004 | 7.6% | 7.5% |
| 2004 | 10.4% | 11.0% |
| 2005 | 9.4% | 9.4% |
| 2006 | 10.4% | 11.0% |
| 2007 | 6.6% | 6.6% |
| 2008 | 5.9% | 5.6% |
| 2009 | 4.2% | 3.7% |
| 2010 | 3.1% | 2.5% |
| **Age of owner** | | |
| Under 50 | 7.7% | 7.0% |
| 50 to 54 | 9.0% | 9.0% |
| 55 to 59 | 9.0% | 9.2% |
| 60 to 64 | 10.1% | 10.0% |
| 65 to 69 | 9.4% | 9.2% |
| 70 to 74 | 7.8% | 7.8% |
| 75 to 79 | 6.7% | 6.8% |
| 80 or older | 6.0% | 5.9% |
| **Contract value, BOY 2013** | | |
| Under $25,000 | 9.4% | 8.4% |
| $25,000 to $49,999 | 7.6% | 7.6% |
| $50,000 to $99,999 | 7.9% | 7.9% |
| $100,000 to $249,999 | 7.9% | 8.0% |
| $250,000 to $499,999 | 8.3% | 8.3% |
| $500,000 or higher | 9.5% | 9.2% |

**Table 2-10:** GMWB Surrender Rates *(continued)*

| | Percent of Contracts Surrendered | Percent of Cash Value Surrendered |
|---|---|---|
| **Gender** | | |
| Male | 8.5% | 8.5% |
| Female | 7.9% | 7.9% |
| **Market type** | | |
| IRA | 8.5% | 8.4% |
| Nonqualified | 7.7% | 8.0% |
| **Cost structure** | | |
| B-share | 7.9% | 7.8% |
| C-share | 7.8% | 7.9% |
| L-share | 9.2% | 9.6% |
| **Distribution channel** | | |
| Bank | 9.1% | 9.4% |
| Career agent | 5.8% | 5.3% |
| Independent agent/independent B-D | 8.7% | 8.6% |
| Full-service National B-D | 9.7% | 10.2% |

Note: Based on 229,153 contracts sold before 2013. Percent of contracts surrendered = number of contracts fully surrendered/total number of contracts in force. Percent of contract value surrendered = sum of values of fully surrendered contracts/total contract value in force.

We have not shared some surrender rates by year of issue and share classes in order to preserve confidentiality and to avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or only a very limited number of companies.

## Product and Benefit Characteristics

GMWB features are similar to those of GLWBs, with some important differences (Table 2-11). GMWBs tend to be less expensive, are much less likely to reward delayed withdrawals with automatically increasing benefit base balances, and often have higher maximum annual withdrawal percentages.

**Table 2-11:** GMWB Product and Benefit Characteristics

| | Issued before 2006 | Issued in 2006 | Issued in 2007 | Issued in 2008 | Issued in 2009 | Issued in 2010 | Issued in 2011 | Issued in 2012 | Issued in 2013 |
|---|---|---|---|---|---|---|---|---|---|
| **Average M&E charge** | 1.34 | 1.27 | 1.41 | 1.41 | 1.37 | 1.36 | 1.42 | 1.36 | 1.22 |
| **Average benefit fee** | 0.53 | 0.58 | 0.55 | 0.56 | 0.59 | 0.61 | 0.60 | 0.68 | 0.91 |
| **Average number of subaccounts** | 60 | 58 | 59 | 60 | 63 | 62 | 62 | 65 | 65 |
| **Product has fixed account** | | | | | | | | | |
| Yes | 85% | 90% | 75% | 73% | 63% | 65% | 66% | 19% | 16% |
| No | 15% | 10% | 25% | 27% | 37% | 35% | 34% | 81% | 84% |
| **Product still available as of 12-31-2013** | | | | | | | | | |
| Yes | 45% | 54% | 82% | 89% | 93% | 96% | 97% | 100% | 100% |
| No | 55% | 46% | 18% | 11% | 7% | 4% | 3% | 0 | 0 |
| **Rider still available as of 12-31-2013** | | | | | | | | | |
| Yes | 0 | 0 | 1% | 5% | 6% | 5% | 7% | 18% | 61% |
| No | 100% | 100% | 99% | 95% | 94% | 95% | 93% | 82% | 39% |
| **Cap on benefits** | | | | | | | | | |
| Yes | 61% | 70% | 30% | 26% | 2% | 0 | 0 | 0 | 0 |
| No | 39% | 30% | 70% | 74% | 98% | 100% | 100% | 100% | 100% |
| **Benefit fee basis** | | | | | | | | | |
| Account value | 53% | 41% | 34% | 40% | 41% | 38% | 35% | 81% | 39% |
| Benefit base | 44% | 58% | 63% | 58% | 58% | 62% | 65% | 19% | 61% |
| VA subaccounts | 3% | 1% | 3% | 2% | 1% | 0 | 0 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Average maximum age at election** | 81 | 80 | 83 | 83 | 85 | 85 | 85 | 85 | 85 |
| **Asset allocation restrictions** | | | | | | | | | |
| Forced asset allocation model | 50% | 56% | 70% | 82% | 97% | 99% | 100% | 100% | 100% |
| Limitations on fund selection | 8% | 10% | 5% | 3% | 1% | 0 | 0 | 0 | 0 |
| No, but may restrict | 33% | 31% | 20% | 12% | 1% | 0 | 0 | 0 | 0 |
| No restrictions | 9% | 3% | 5% | 3% | 1% | 1% | 0 | 0 | 0 |

**Table 2-11:** GMWB Product and Benefit Characteristics *(continued)*

| | Issued before 2006 | Issued in 2006 | Issued in 2007 | Issued in 2008 | Issued in 2009 | Issued in 2010 | Issued in 2011 | Issued in 2012 | Issued in 2013 |
|---|---|---|---|---|---|---|---|---|---|
| **Among contracts with maximum charge info. provided** | | | | | | | | | |
| Average maximum rider charge | 1.16% | 1.26% | 0.87% | 0.81% | 0.77% | 0.76% | 0.75% | 0.75% | 2.27% |
| **Step-up use restrictions** | | | | | | | | | |
| Can be used multiple times | 83% | 95% | 95% | 94% | 94% | 95% | 93% | 83% | 85% |
| Can be used once | 10% | 4% | 4% | 1% | 0 | 0 | 0 | 0 | 0 |
| No | 7% | 1% | 1% | 5% | 6% | 5% | 7% | 17% | 15% |
| **Step-up availability** | | | | | | | | | |
| Quarterly or more frequently | 0 | 0 | 3% | 11% | 0 | 0 | 0 | 0 | 0 |
| Annually | 67% | 83% | 73% | 71% | 97% | 100% | 100% | 100% | 100% |
| Every 3 years | 1% | 2% | 2% | 1% | 1% | 0 | 0 | 0 | 0 |
| Every 5 years | 32% | 15% | 22% | 17% | 2% | 0 | 0 | 0 | 0 |
| **Benefit base automatically increases if withdrawals are not taken immediately** | | | | | | | | | |
| Yes, based on compound interest | 0 | 1% | 1% | 1% | 1% | 0 | 0 | 0 | 0 |
| Yes, based on simple interest | 13% | 7% | 13% | 15% | 1% | 1% | 1% | 1% | 1% |
| No | 87% | 92% | 86% | 84% | 98% | 99% | 99% | 99% | 99% |
| **Maximum annual withdrawal percentage** | | | | | | | | | |
| 5% | 22% | 29% | 18% | 19% | 7% | 5% | 7% | 17% | 15% |
| 6% | 0 | 0 | 1% | 0 | 0 | 0 | 0 | 0 | 0 |
| 7% | 74% | 68% | 79% | 80% | 93% | 95% | 93% | 83% | 85% |
| 10% | 4% | 3% | 2% | 1% | 0% | 0% | 0% | 0% | 0% |
| **Impact on benefit base if excess withdrawals are taken** | | | | | | | | | |
| *Pro rata* | 30% | 21% | 32% | 30% | 42% | 38% | 36% | 82% | 85% |
| Dollar-for-dollar | 8% | 24% | 44% | 56% | 58% | 63% | 65% | 19% | 16% |
| None, if RMDs from IRA | 59% | 55% | 67% | 81% | 99% | 100% | 100% | 100% | 100% |
| Other | 64% | 83% | 53% | 50% | 4% | 0 | 0 | 0 | 0 |

Note: Based on 232,512 contracts sold before 2013.

## Key Findings

- Seven percent is by far the most common annual withdrawal maximum, followed by 5 percent (usually limited to GMWBs that have benefit base balances that automatically increase if withdrawals are delayed).
- Unlike GLWB contracts, most GMWB contracts do not offer an automatic increase in benefit base in case owners do not take immediate withdrawals. Also, most GMWB contracts do not have caps on benefit base balances.
- Annual step-up options are the most common.

# Chapter Three

2013 EXPERIENCE

# Guaranteed Minimum Income Benefits

# Chapter Three: Guaranteed Minimum Income Benefits

Guaranteed minimum income benefits (GMIBs) are the second most popular type of GLB in the VA market. In 2013, sales of GMIBs were estimated at $11.9 billion, down 34 percent from the 2012 estimated total of $18.1 billion and down over 50 percent from the 2011 estimated total of $24.7 billion. GMIB election rates, when any GLB was available, decreased in 2013 — starting the first quarter at around 16 percent and then falling to around 12 percent for the rest of the year.[25] With the purchase of a GMIB, owners can receive guaranteed income at the end of a waiting period, based on annuitization of the benefit base. However, most GMIB owners have the flexibility of taking withdrawals during the waiting period without disturbing the benefit base. Feature innovation for GMIBs has incorporated withdrawals similar to GLWBs, blurring the distinction between GLWBs and GMIBs.

Nearly all GMIBs have waiting periods of 7 to 10 years or more before the contract can be annuitized. During the waiting period, annuitizations are not subject to the guarantees specified within the GMIBs. By the end of 2013, 1 in 5 contracts had reached their benefit maturity date.

As they did with GLWBs, companies enhanced GMIB benefits during early 2008. Some enhancements include easing asset allocation restrictions and increasing benefit base growth rates (e.g., from 5 to 6 percent annually). After the market crisis of 2008 and 2009, companies made their GMIBs less generous by reducing the growth rates and annuitization factors that determine guaranteed payout amounts.

GMIB analyses are based on a total of 1,558,789 VAs, issued by 15 companies. These results represent a total of 69 GMIB riders introduced between 1995 and 2013. Fifty percent of the contracts were issued in 2007 or earlier.

At end-of-year (EOY) 2013, LIMRA Secure Retirement Institute estimates the GMIB assets in the industry at $223 billion.[26] The in-force GMIB contracts in the current study represent $193 billion in assets as of December 31, 2013 — 87 percent of total industry assets.

25 *Variable Annuity Guaranteed Living Benefits Election Tracking, 4th Quarter 2013,* LIMRA, 2014.

26 Ibid.

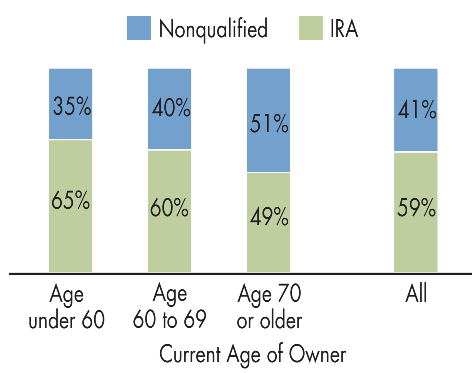
# Owner Profiles

## Source of Funds and Ownership of GMIBs

Nearly **6 out of 10** GMIB contracts were funded with IRA money

Six out of ten GMIB contracts were funded from qualified sources of money, part of a trend where a greater share of annuity contracts are being funded from qualified sources or rollover assets rather than nonqualified sources (Figure 3-1). Funding a GMIB with qualified savings is more common among younger buyers, particularly those under age 70. While the owners under age 60 constitute one third of GMIB owners (33 percent), 2 out of 3 funded their contracts with qualified savings. Owners aged 70 or over represent just over a quarter (27 percent) of the GMIB contracts.

**Figure 3-1:** GMIB Ownership of Annuity by Sources of Funds and Age Groups




Based on 1,558,370 contracts issued before or in 2013 and still in force at EOY 2013.

## GMIB Owner and Contract Characteristics

Table 3-1 provides a summary of GMIB owner and contract characteristics at EOY 2013.

**Table 3-1:** GMIB Owner and Contract Characteristics

| | GMIB Contracts In Force |
|---|---|
| **Age of owner** | |
| Under 50 | 10% |
| 50 to 54 | 9% |
| 55 to 59 | 14% |
| 60 to 64 | 19% |
| 65 to 69 | 20% |
| 70 to 74 | 15% |
| 75 to 79 | 9% |
| 80 or older | 4% |
| **Average age** | 63 years |
| **Gender** | |
| Male | 52% |
| Female | 48% |
| **Market type** | |
| IRA | 59% |
| Nonqualified | 41% |
| **Distribution Channel** | |
| Career agent | 27% |
| Independent agent/independent B-D | 38% |
| Full-service National B-D | 25% |
| Bank | 10% |
| **Year of issue** | |
| Before 2002 | 5% |
| 2002 | 4% |
| 2003 | 8% |
| 2004 | 8% |
| 2005 | 8% |
| 2006 | 8% |
| 2007 | 9% |
| 2008 | 9% |
| 2009 | 9% |
| 2010 | 8% |
| 2011 | 12% |
| 2012 | 8% |
| 2013 | 5% |

**Table 3-1:** GMIB Owner and Contract Characteristics *(continued)*

| | GMIB Contracts In Force |
|---|---|
| **Cost Structure** | |
| A-share | 2% |
| B-share | 74% |
| C-share | 2% |
| L-share | 21% |
| **Contract value, EOY 2013 as percent of contracts** | |
| Under $25,000 | 18% |
| $25,000 to $49,999 | 17% |
| $50,000 to $99,999 | 24% |
| $100,000 to $249,999 | 28% |
| $250,000 or higher | 12% |
| **Contract value, EOY 2013 as percent of contract value** | |
| Under $25,000 | 2% |
| $25,000 to $49,999 | 5% |
| $50,000 to $99,999 | 14% |
| $100,000 to $249,999 | 35% |
| $250,000 or higher | 44% |
| **Average contract value, EOY 2013** | $123,979 |
| **Median contract value, EOY 2013** | $75,416 |

Note: Based on 1,558,789 contracts still in force at EOY 2013

## Key Findings

- B-share (74 percent) contracts were by far the most common cost structures in 2013.
- Six out of ten GMIB contracts were purchased using qualified money.
- Just under 4 out of 10 contracts were issued through the independent agent/independent B-D channel; 1 in 4 were issued through both the career agent and full-service national B-D channels.
- At EOY 2013, 40 percent of the contracts had values of $100,000 or more, representing four fifths of GMIB assets.

## Benefit Base

At beginning-of-year (BOY) 2013, 5 out of 6 GMIB contracts issued before 2013 had benefit bases that exceeded contract values (i.e., were 'in-the-money'), still recovering from market losses incurred during the financial crisis. The average difference between the median benefit base and contract value was approximately $14,800 (Table 3-2).

**Table 3-2:** GMIB Benefit Bases and Contract Values, at BOY 2013

| | Benefit Base | Contract Value | |
|---|---|---|---|
| | Amount | Amount | Percent of Benefit Base |
| Sum | $194,782,203,840 | $161,357,209,413 | 83% |
| Average | $134,392 | $111,330 | 83% |
| Median | $82,209 | $67,455 | 82% |
| Percent of contracts where benefit base was greater than contract value. | | 83% | |

Note: Based on 1,449,363 GMIB contracts issued before 2013 with GMIB benefit bases as of BOY and EOY 2013. Excludes contracts for which the GMIB benefit bases could not be determined.

With the improving equity market and gains in fixed-income funds in 2013, the average contract value increased 12 percent, while the average benefit base amount grew 5 percent due to auto roll-ups and other incentives allowed in the contracts. As a result, the percentage of GMIB contracts where the benefit base exceeded the contract value declined by 17 percentage points in 2013 (Table 3-3). The average difference between the median benefit base and contract value narrowed from $14,800 at BOY to $10,600 by EOY. At EOY, the median benefit base stood at $86,300, almost 14 percent higher than the median contract value of $75,700.

The average benefit base was **14 percent** higher than the average contract value at EOY 2013.

**Table 3-3:** GMIB Benefit Bases and Contract Values, at EOY 2013

| | Benefit Base | Contract Value | |
|---|---|---|---|
| | Amount | Amount | Percent of Benefit Base |
| Sum | $204,667,814,654 | $180,771,676,854 | 88% |
| Average | $141,212 | $124,725 | 88% |
| Median | $86,308 | $75,717 | 88% |
| Percent of contracts where benefit base was greater than contract value | | 66% | |

Note: Based on 1,449,363 GMIB contracts issued before 2013 with GMIB benefit bases as of BOY and EOY 2013. Excludes contracts for which the GMIB benefit bases could not be determined.

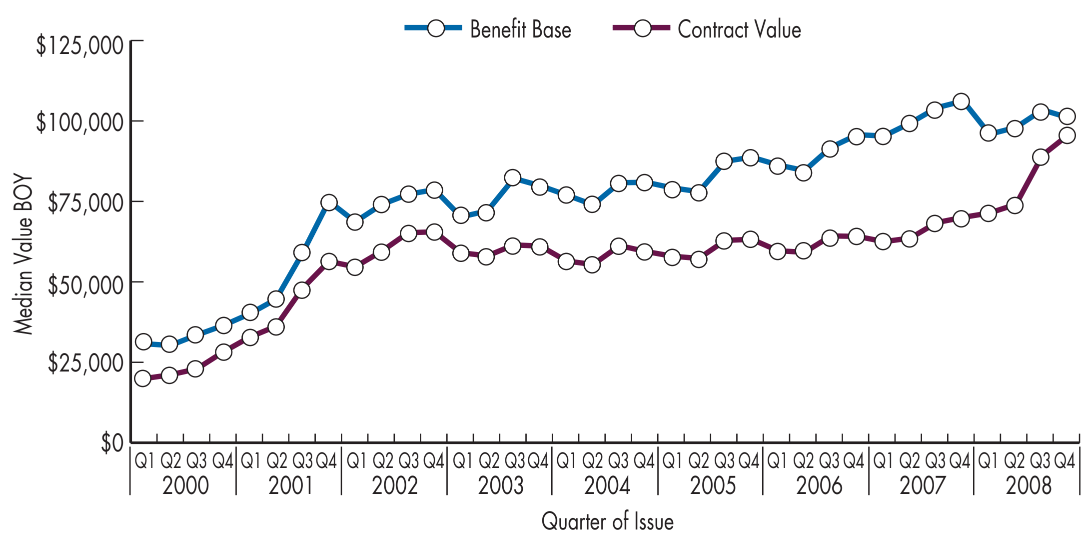
## Benefit Bases by Quarter and Year of Issue

GMIB contracts — particularly those that have been in force for a long period of time — have experienced considerable market volatility: gains in the early periods of 2005–2007, deep losses during the market crisis in 2008–2009, moderate gains in 2010, a flat return in 2011, reasonable gains in 2012, and strong gains in 2013.

Figure 3-2 shows BOY 2013 median contract value and median benefit base value by quarter of issue. Contracts sold before 2002 had relatively small contract values compared with those in mid to late 2000. For these contracts, exposure to two bear markets (2001–2002 and 2008–2009) reduced their contract values significantly while their benefit bases remained the same or grew.

New benefit calculation methods were introduced in 2003 and later. Older benefit calculation methods defined the benefit base in terms of premiums paid, or premiums increased at a specified annual rate (e.g., 6 percent roll-up) until benefit maturity. The more recent benefit calculations take into account positive investment performance, by "ratcheting up" the benefit base over time. Market losses had the most impact on contracts issued in late 2006 through 2007, and these contract benefit bases exceed the contract values by $25,000 to $36,000.

**Figure 3-2:** GMIB Median Contract Value vs. Median Benefit Base, BOY 2013

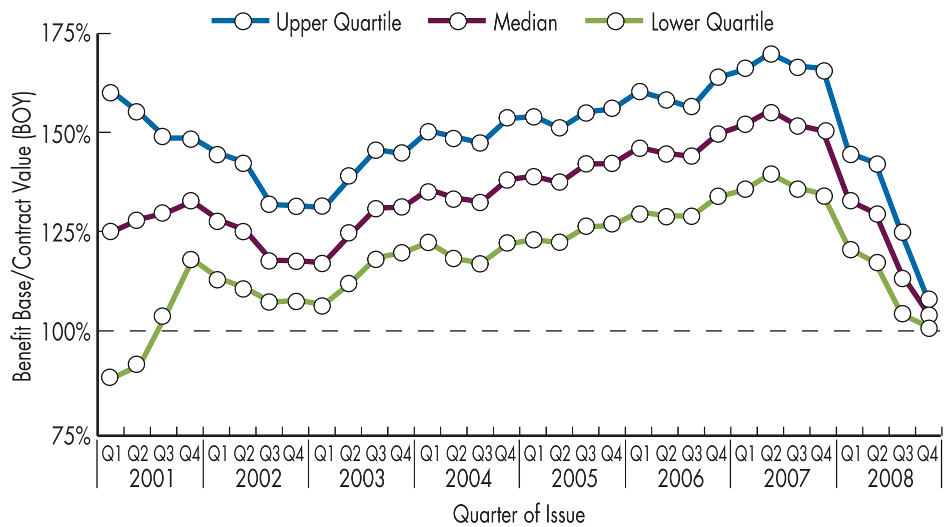



Note: Based on 865,299 GMIB contracts issued between 2000 and 2008. Excludes contracts for which the GMIB benefit bases could not be determined, quarters in which there was low sample size, or in order to preserve confidentiality and avoid revealing company-specific information, as that data was heavily weighted for one company or a very limited number of participating companies.

Looking at the quartile ranges of the BB/CV ratios at BOY 2013, contracts issued in early 2001 had the largest deviation of BB/CV ratios (Figure 3-3). From 2002 through mid-2008, the range between the upper and lower quartiles remained fairly tight — between 24 and 32 basis points. All of these trend lines increased from Q1 2003 through Q2 2007. Beginning Q1 2008, the inter-quartile ratios start to decline with decreasing duration (more recently-issued contracts tend to have a tighter distribution) because there has been less time for any group of contracts to pull far ahead (or fall far behind) the rest of the pack in terms of performance.

The upper and lower quartiles refer to the distribution of benefit base to contract value (BB/CV) ratios at BOY 2013, not the distribution of contract values. The inter-quartile range gives a sense of how widely (or narrowly) the ratios are distributed.

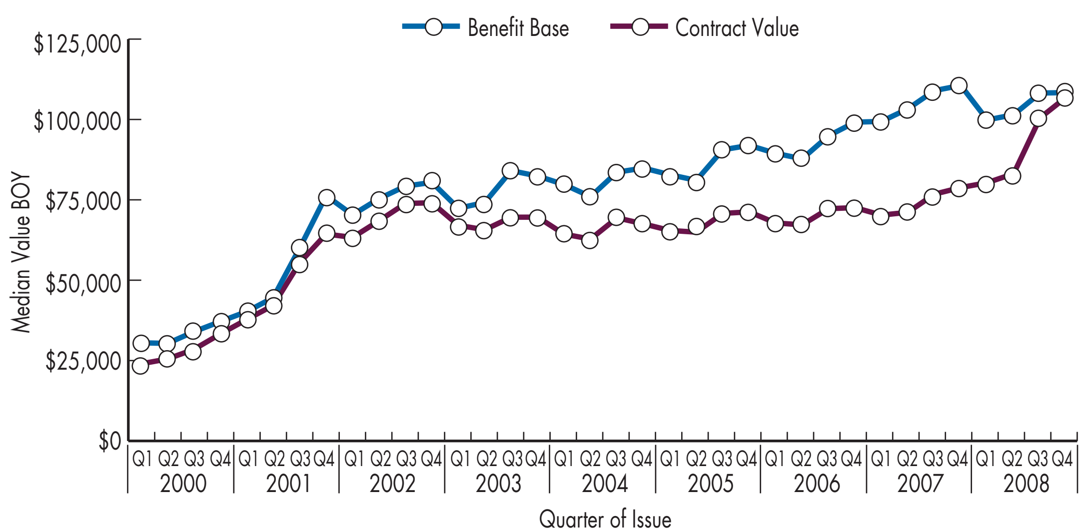
**Figure 3-3:** GMIB Benefit Base to Contract Value Inter-Quartile Range, BOY 2013




Note: Based on 847,731 GMIB contracts issued between 2001 and 2008. Excludes contracts for which the GMIB benefit bases could not be determined, quarters in which there was low sample size, or in order to preserve confidentiality and avoid revealing company-specific information, as that data was heavily weighted for one company or a very limited number of participating companies.

By EOY 2013, the difference between the benefit base amount and contract value for the typical contract had decreased (Figure 3-4). Overall, the median contract value grew 12 percent while the median benefit base grew 5 percent. The median contract value increased from $67,500 at BOY 2013 to $75,700 at EOY 2013, while the median benefit base amount increased from $82,200 at BOY 2013 to $86,300 at EOY 2013.

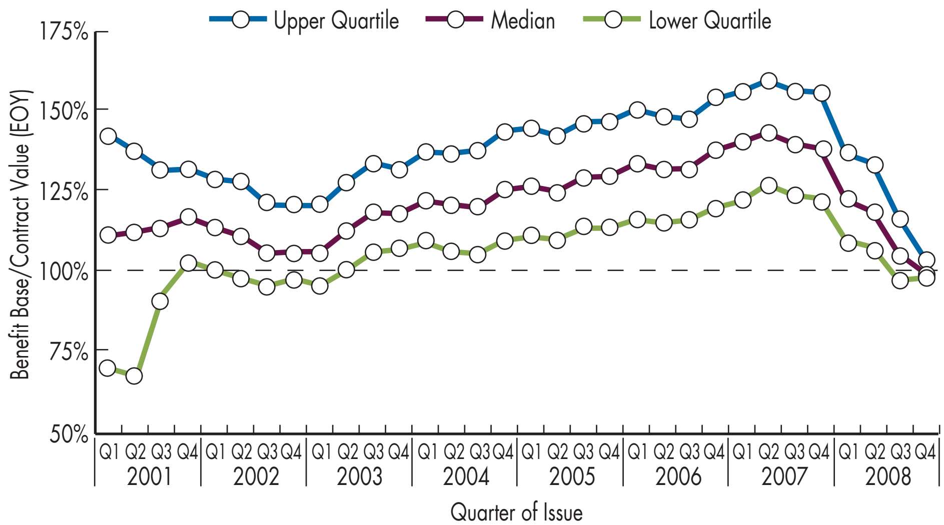
**Figure 3-4:** GMIB Median Contract Value and Benefit Base, EOY 2013




Note: Based on 861,772 GMIB contracts issued between 2000 and 2008. Excludes contracts for which the GMIB benefit bases could not be determined, quarters in which there was low sample size, or in order to preserve confidentiality and avoid revealing company-specific information, as that data was heavily weighted for one company or a very limited number of participating companies.

The inter-quartile range analysis at EOY 2013 shows a slight decline in BB/CV ratios compared to BOY (Figure 3-5). The range between the upper and lower quartiles remained relatively unchanged. The median ratios of BB/CV in contracts issued from Q1-2001 through Q4-2008 ranged from 99 to 143 percent at EOY.

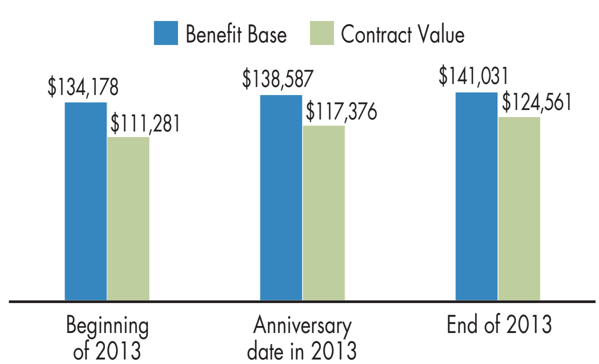
**Figure 3-5:** GMIB Benefit Base to Contract Value Inter-Quartile Range, EOY 2013




Note: Based on 844,428 GMIB contracts issued between 2001 and 2008. Excludes contracts for which the GMIB benefit bases could not be determined, quarters in which there was low sample size, or in order to preserve confidentiality and avoid revealing company-specific information, as that data was heavily weighted for one company or a very limited number of participating companies.

The average contract value grew from $111,300 at BOY 2013 to $124,600 at EOY 2013, an increase of 12 percent (Figure 3-6). On the anniversary date, the average benefit base increased slightly from $134,200 at BOY to $138,600, possibly due to roll-up and step-up provisions. At EOY 2013, the average benefit base was $141,000, a difference of $16,500 compared with the average contract value.

**Figure 3-6:** GMIB Average Contract Value and Average Benefit Base Values



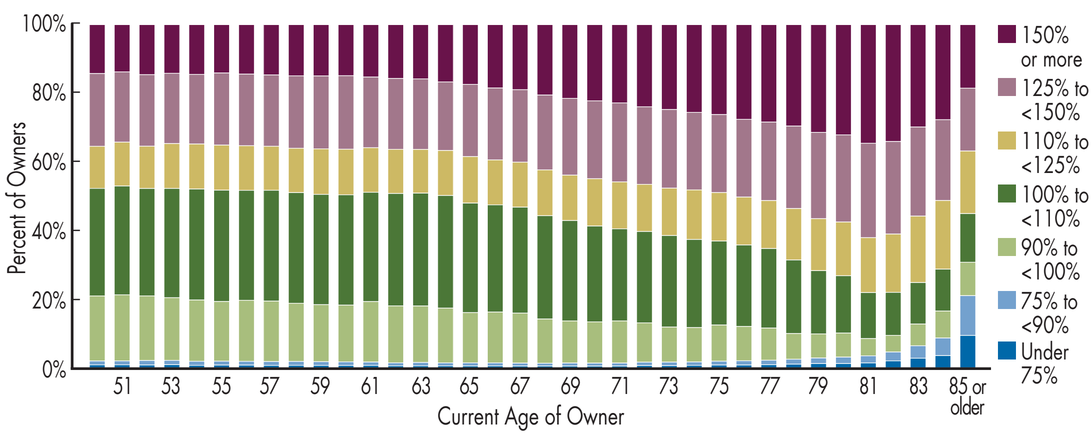

Note: Based on 1,411,971 GMIB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GMIB benefit bases (as of BOY, the contract's anniversary date, or EOY) could not be determined.

## Benefit Base to Contract Value Ratios by Age

The analysis of BB/CV ratios can be expanded to include age or age cohorts to see how the withdrawal risks from a particular age or age cohort can be linked to BB/CV ratios. The BB/CV ratios are impacted by factors like the duration of contracts and the impact of market returns on the account values, infusion of new contracts into the book by age groups, richness of in-force contract features like automatic roll-up percentages, and impact of withdrawals on the account values and benefit bases. This analysis can allow companies to assess withdrawal risks associated with each age or age cohort in relation to the industry. The bands defining BB/CV ratios have been revised from previous years' analyses, as BB/CV ratios have increased due to increasing market returns, which necessitated looking at BB/CV ratios around the central tendency of 100 percent.

**40%** of the contracts had BOY BB/CV ratios of 125% or more, while **29%** had EOY ratios of 125% or more.

**Figure 3-7:** GMIB Benefit Base to Contract Value Ratios by Age — BOY 2013



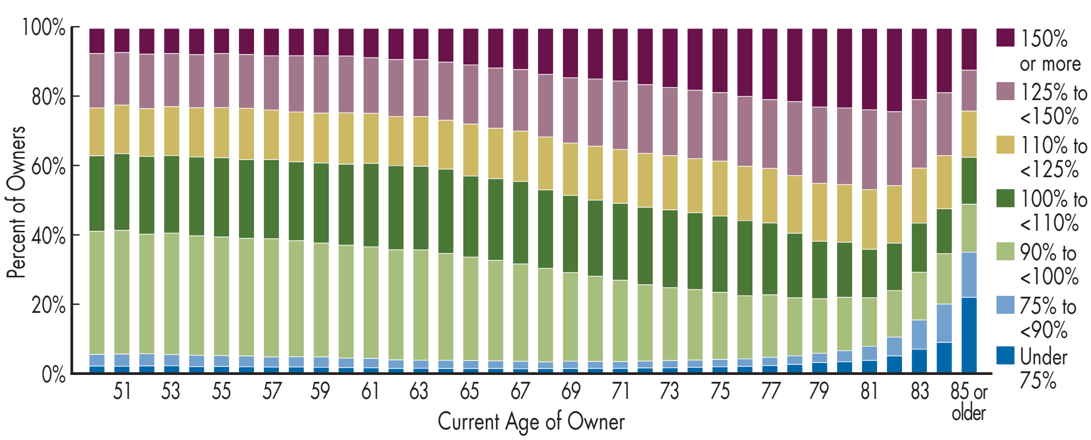

Note: Based on 1,316,240 GMIB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GMIB benefit bases or contract values could not be determined.

Figure 3-7 shows the BB/CV ratios by age at BOY 2013. For in-force contracts issued before 2013, only 2 percent of contracts had BB/CV ratios below 90 percent and 15 percent had ratios of 90 to less than 100 percent; 30 percent of the contracts had BB/CV ratios of 100 to less than 110 percent; and 13 percent of contracts had their benefit bases exceeding contract values by 110 to less than 125 percent. Forty percent of the contracts had BB/CV ratios of 125 percent or more.

Owners aged 70 or older had comparatively more contracts with BB/CV ratios of 125 percent or more. Forty-eight percent of contracts with owners aged 70 to 79, and 54 percent of those with owners aged 80 or older, had BB/CV ratios of 125 percent or more. Though owners aged 70 or older constituted just over a quarter (28 percent) of all contract owners, 35 percent of all contracts with BB/CV ratios of 125 percent or more were within this age cohort.

Figure 3-8 shows the distribution of BB/CV ratios by age at EOY 2013. There were 5 percent of contracts having BB/CV ratios below 90 percent and 29 percent with ratios of 90 to less than 100 percent; 22 percent had BB/CV ratios of 100 to less than 110 percent; 15 percent had benefit bases exceeding contract values by 110 to less than 125 percent, and 29 percent had BB/CV ratios of 125 percent or more.[27]

**Figure 3-8:** GMIB Benefit Base to Contract Value Ratios by Age — EOY 2013



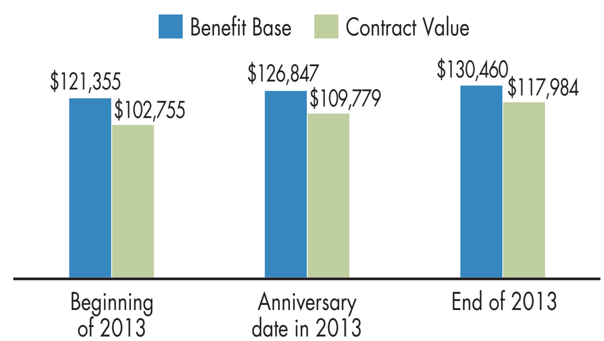

Note: Based on 1,313,190 GMIB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GMIB benefit bases or contract values could not be determined.

27 Refer to "Benefit Base to Contract Value Ratios by Age" in GLWB chapter for additional discussion of the relationship between BB/CV ratios and age.

## Benefit Base for Contracts With Withdrawals vs. Without Withdrawals

For in-force contracts issued before 2013 that did not have withdrawals (or additional premium) during the year, the average benefit base rose steadily from $121,400 to $126,800 on the anniversary date, to $130,500 by EOY 2013, registering a 7.5 percent overall increase (Figure 3-9). The reason for such increases can be attributed to automatic roll-up of benefit bases in the case of non-withdrawals, and the ratcheting up of benefit bases due to equity market and fixed-income fund gains. The average contract value increased 14.8 percent during 2013 for contracts without withdrawals, going from $102,800 at BOY 2013 to $118,000 at EOY 2013.

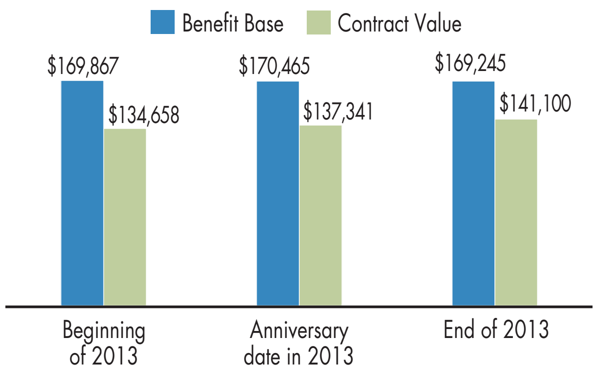
**Figure 3-9:** GMIB Average Contract Value, Average Benefit Base for Contracts Without Withdrawals




Note: Based on 1,006,633 GMIB contracts issued before 2013 and still in force at EOY 2013 where there were no withdrawals made or current-year premium received. Excludes contracts for which the GMIB benefit bases or contract values could not be determined.

Among contracts that incurred withdrawals in 2013, the average benefit base went down 0.4 percent from $169,900 at BOY 2013 to $169,200 at EOY 2013. The average contract value increased 4.8 percent during the year from $134,700 to $141,100, as investment growth during the year helped offset withdrawals in 2013 (Figure 3-10).

**Figure 3-10:** GMIB Average Contract Value, Average Benefit Base for Contracts With Withdrawals




Note: Based on 383,297 GMIB contracts issued before 2013 and still in force at EOY 2013 where there were no current-year premiums received. Excludes contracts for which the GMIB benefit bases or contract values could not be determined.

## In-the-Moneyness

We can assess the extent to which a contract with a GMIB is in-the-money by comparing the GMIB benefit base with the contract value at a particular point in time. This measure has the advantage of being straightforward and may correspond with how some contract owners perceive the in-the-moneyness of their benefits. However, the BB/CV ratio is not a precise measurement because the true value of the GMIB benefit lies in its ability to generate a specific lifetime income stream, which cannot be determined from the benefit base alone. Moreover, the value of the income stream that can be generated from the GMIB cannot be directly compared with the contract value; it must instead be compared with the income that can be generated from the contract value. If the income guaranteed under the terms of the GMIB exceeds the income that can be derived from the contract value, then the benefit is in-the-money from the perspective of the contract owner.

There are multiple ways to measure in-the-moneyness. One method is to compare the benefit base to the account value. This method can be found in the "Withdrawal Activity for GMIB Contracts In-the-Money or Not-in-the-Money" section of this chapter. Another method is to compare the value of the income stream that can be generated from the GMIB to the income that can be generated from the contract value. This method is used in this section of the report.

While this in-the-money metric is less straightforward to determine than the simple BB/CV ratio, it could conceivably be part of the decision-making process when owners and their financial advisors assess whether or not to utilize the GMIB. If so, then annuitization activity may be better calibrated to this metric than the simpler ratio, particularly among owners with larger contract sizes who are more likely to receive assistance from financial professionals.

To calculate the in-the-moneyness of contracts with GMIBs, we followed the following procedure, first for all in-force contracts, and then for the subset of contracts that reached their benefit maturities in 2013 or earlier:

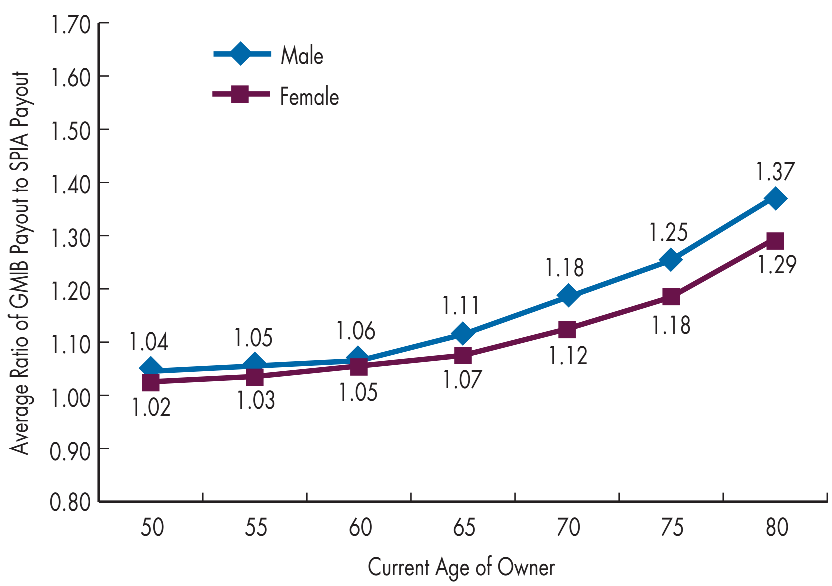
1. For each contract in force at EOY 2013, we determined the hypothetical payout under the terms of the GMIB using actuarial present value (APV) factors reported by companies for each of the GMIB riders they sold. These APV factors included: a) the mortality table; b) mortality improvement scale; c) age setback, if any; and d) interest rate. For each of the GMIB riders we examined two payout options: life only, and life with 10-year period certain. We multiplied these APV factors by the EOY benefit base. To facilitate this analysis, we assumed that all contracts had the option of exercising the GMIB benefit as of EOY 2013.
2. We determined the hypothetical SPIA income that could be generated using the contract value (ignoring any surrender charges or other fees). For each in-force contract, we applied the contract value to average SPIA quotes available from 17 insurers — representing 75 percent of 2013 fixed immediate annuity industry sales — in December 2013, using data from CANNEX, to determine the corresponding payout income. As with the GMIBs, we calculated life only and life with 10-year period certain payouts.
3. We divided the hypothetical GMIB payout by the hypothetical single premium immediate annuity (SPIA) payout for each contract. Ratios greater than 1.0 indicate the contract was (hypothetically) in-the-money at EOY 2013. Higher ratios indicate greater in-the-moneyness, and lower ratios indicate lower in-the-moneyness. If the ratio was under 1.0, it was set to 1.0, on the grounds that an owner would always select the higher of the GMIB or SPIA payout. Ratios were also capped at a maximum of 15.0. For each company represented in the analysis, we then averaged these ratios for each age (50 to 80) and gender.

On average, the GMIB payout is about **11 percent higher** than the corresponding SPIA payout.

Figure 3-11 illustrates the average GMIB-to-SPIA payout ratios for life-only payouts for male and female owners, for all benefit maturity years. Ratios exceed 1.0 across the entire age range for both genders, indicating that the average GMIB contract is in-the-money. On average, for ages 50 through 80, the GMIB payout is about 11 percent higher than the corresponding SPIA payout. This result reflects the fact that at EOY 2013, most GMIB contracts had benefit bases that were higher than contract values — enough to offset any reductions in payouts based on the GMIB calculation (e.g., age setbacks).

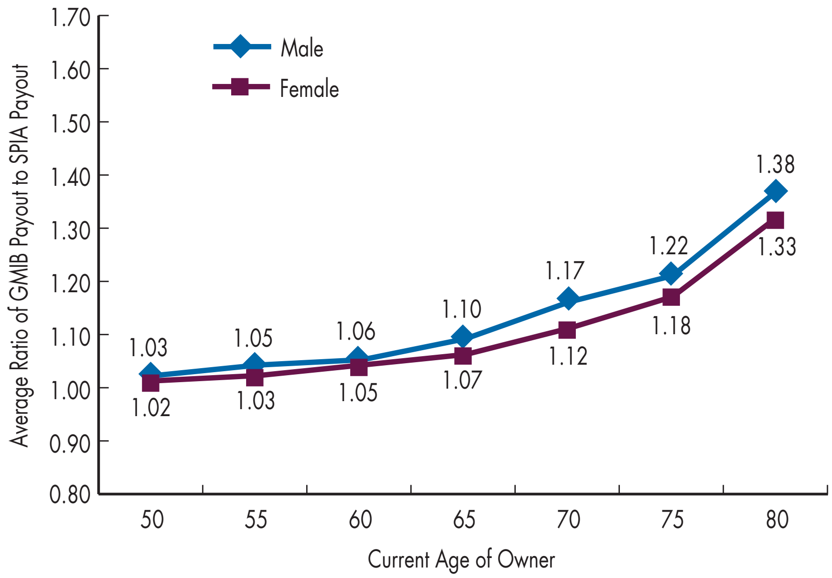
The ratios are higher for men than for women, and increase with age, largely because the GMIB payouts become more generous relative to SPIA payouts, per dollar applied, at older ages. The pattern is not appreciably different for life with 10-year period-certain payouts (Figure 3-12). One possible reason why GMIB payouts become more generous relative to SPIA payouts at older ages has to do with the effect of shorter durations at older ages and the current shape of the yield curve (i.e., low, short-term rates) on current SPIA rates. In addition, insurers may need to absorb the up-front expense loads (unique to SPIA rates in comparison) over a shorter time frame at older ages.

**Figure 3-11:** Ratio of GMIB Payout to SPIA Payout, for Life-Only Payouts by All Benefit Maturity Years




Note: Based on 280,045 contracts in force at the end of 2013.

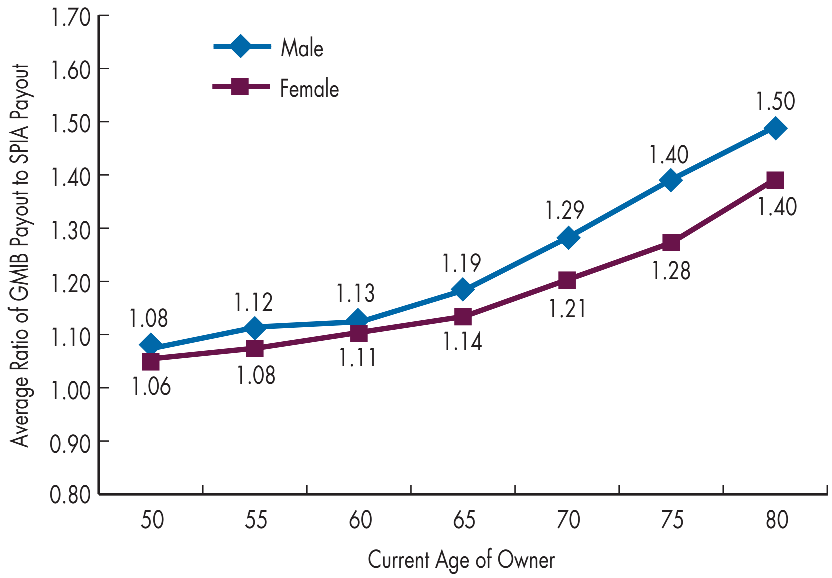
**Figure 3-12:** Ratio of GMIB Payout to SPIA Payout, for Life With 10-Year Period-Certain Payouts by all Benefit Maturity Years




Note: Based on 280,045 contracts in force at the end of 2013.

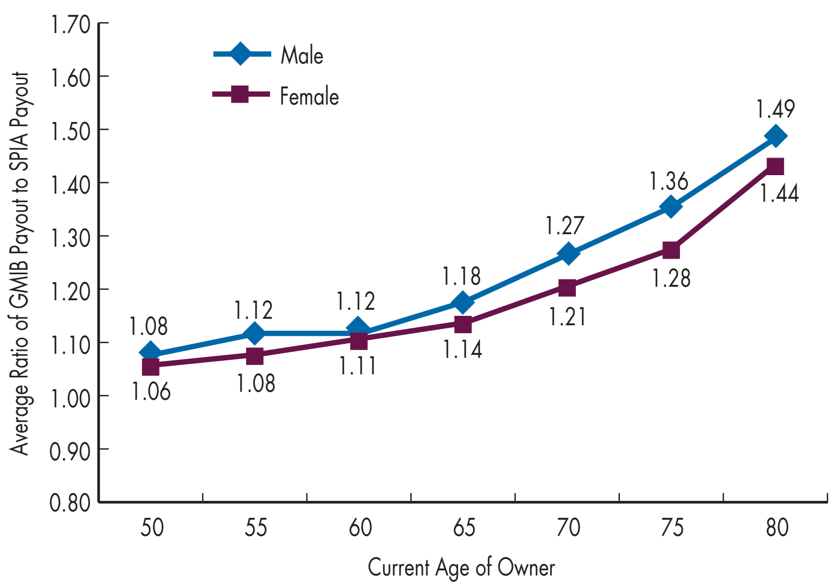
The previous analyses assumed that all contracts had the option of exercising the GMIB benefit as of EOY 2013. In fact, only 19 percent of these contracts had reached the end of the waiting period by 2013 and therefore most did not have the ability to activate the GMIB. Among the group of contracts that did have GMIB maturities in 2013 or earlier, a similar pattern exists: average ratios of GMIB payouts to SPIA payouts are above 1.0 and increase with age (Figures 3-13 and 3-14). However, one notable difference is that the overall ratios are higher. On average, the GMIB payout is about 22 percent higher than the corresponding SPIA payout. The higher in-the-moneyness results from the higher BB/CV ratios for older business.

**Figure 3-13:** Ratio of GMIB Payout to SPIA Payout, for Life-Only Payouts by Benefit Maturity Years 2013 or Earlier




Note: Based on 48,206 contracts in force at the end of 2013.

**Figure 3-14:** Ratio of GMIB Payout to SPIA Payout, for Life With 10-Year Period-Certain Payouts by Benefit Maturity Years 2013 or Earlier



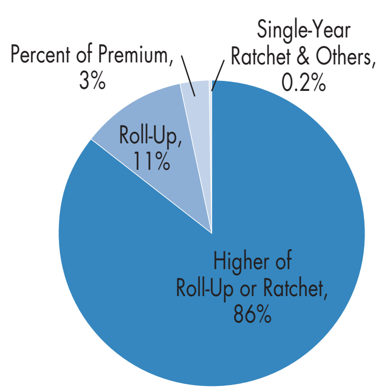

Note: Based on 48,206 contracts in force at the end of 2013.

An alternative method for assessing in-the-moneyness for all contracts in force (not just those that have reached their benefit maturities) is to estimate the future GMIB benefit bases and contract values as of the end of the waiting period, and discount these values back to the end of 2013. While it might be possible to estimate future benefit bases for GMIBs with annual roll-ups at a set percentage, future contract values will represent returns based on market performance and are thus largely unpredictable (especially given asset allocation restrictions and/or use of limited subaccounts like managed volatility funds). Some GMIBs allow step-ups if the contract value exceeds the benefit base — owners may or may not choose to exercise this option, so the benefit base could be greater than what would result from the annual roll-up percentage. Future immediate annuity payouts may be more or less generous than they were at EOY 2013. And this method would also have to assume no surrenders or deaths occur prior to the benefit maturity date, or else incorporate still more assumptions about termination activity. For these reasons we only assessed the GMIB to SPIA ratios as they were at the end of 2013.

## GMIB Benefit Calculation Methods

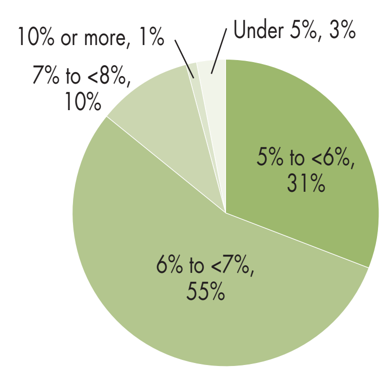
Almost all GMIB contracts issued before 2013 had GMIB benefits that were based on the roll-up or higher of ratchet or roll-up calculation methods (97 percent), which sets benefit bases equal to the higher of the largest prior anniversary or premiums rolled up at a specified growth rate (Figure 3-15). The most common 2013 annual roll-up percentages were 5, 6, and 7 percent. Roll-up rates from 5 to less than 6 percent were offered on just under one third of all contracts, while roll-up rates from 6 to less than 7 percent were purchased by more than half of GMIB contracts (Figure 3-16).

**Figure 3-15:** GMIB Calculation Methods




Note: Based on 1,482,873 GMIB contracts issued before 2013 and still in force at EOY 2013.

**Figure 3-16:** GMIB Percentage of Contracts by Roll-Up Rates




Note: Based on 1,436,822 GMIB contracts issued before 2013 and still in force at EOY 2013.

The ability to take withdrawals up to the roll-up rate for a limited period of time is one of the most distinguishing features of GMIBs, attracting investors to stay in the contracts while still providing guaranteed income for life upon annuitization. In GMIB contracts, the combined effect of market gains or losses, roll-up percentages, and withdrawal provisions (e.g., dollar-for-dollar adjustment with benefit bases) influences the difference between the benefit bases and account values.

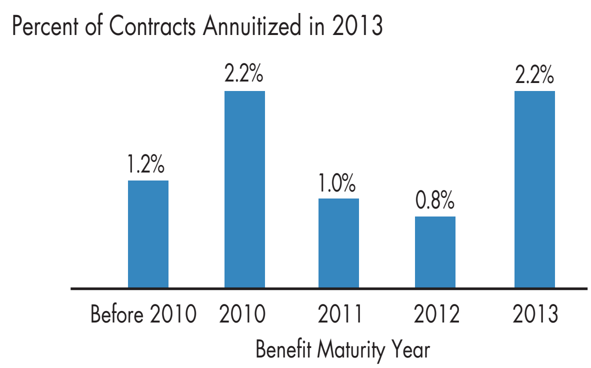
One notable difference between GMIBs and GLWBs is their relative measures of the benefit base to account value ratio. The ratio of benefit base to account value in GLWBs at EOY 2013 was lower than the ratio in GMIBs, for contracts with or without withdrawals. However, one risk for GMIB contracts lies in how many owners annuitize their contracts at the end of the waiting period, and what minimum interest rate and corresponding assumptions will be used to calculate guaranteed income for life.

## Annuitization

One integral part of the GMIB value proposition is the ability to receive guaranteed income upon annuitization after the initial accumulation period or waiting period is over. Owners of traditional annuities rarely exercise their right to annuitize, and that behavior also applies to contracts with GMIBs.

About 89,900 GMIB contracts issued before 2013 reached benefit maturity in 2013 (Figure 3-17). The 2013 annuitization rate for contracts reaching benefit maturity in 2013 was 2.2 percent. These contracts were mainly issued in the early 2000s. The annuitization rate in 2013 for contracts reaching benefit maturity in 2012 was lower at 0.8 percent. More than 65,000 GMIB contracts reached their benefit maturity in 2009 or before, and the annuitization rate for these in-force GMIB contracts was very low. Overall, the annuitization rate for all GMIB contracts issued before 2013 — and annuitized in 2013 — was only 0.3 percent.

**Figure 3-17:** GMIB Contracts Annuitized in 2013, by Benefit Maturity




| Number of contracts eligible | 65,027 | 40,060 | 39,562 | 80,222 | 89,867 |
|---|---|---|---|---|---|

Based on 314,738 GMIB contracts issued before 2013 and reaching benefit maturity in or before 2013.

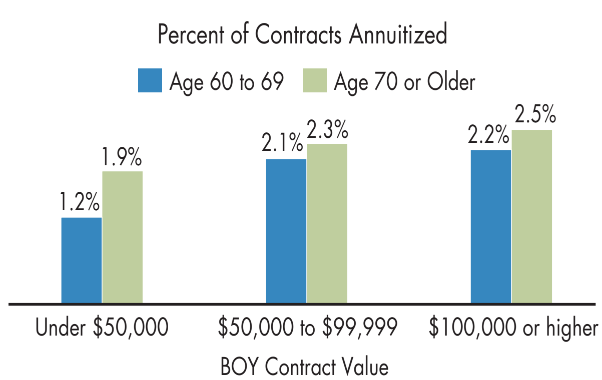
The 2013 annuitization rate for contracts reaching benefit maturity in the same year was the same as 2012, but less than in prior years. Also note that these annuitization rates reflect all GMIB types — dollar-for-dollar withdrawals and pro-rata adjustments. Pro-rata adjustment contracts generally have higher annuitization rates.

## Contracts With Benefit Maturities in 2012 or 2013

Contract owners over age 60 are more likely to annuitize than are younger owners: Among contracts that reached benefit maturity in 2012 or 2013, 2.2 percent of owners in their 70s or older annuitized in 2013, compared with 1.8 percent for ages 60 to 69 and 0.2 percent for owners under age 60. It is likely that some of this activity is driven by the need for individuals owning IRA VAs to commence required minimum distributions (RMDs) after age 70½. However, among IRA contracts, the increase in annuitization activity around age 70 (1.8 percent among those aged 60 to 69 to 2.3 percent among those aged 70 or older) is less pronounced than the increase in withdrawal activity observed at this age. For nonqualified contracts, annuitization rates were 1.9 percent for owners aged 60 to 69 to 2.1 percent for owners aged 70 or older.

Larger contract sizes are associated with higher annuitization activity among contracts issued before 2013 that reached benefit maturity in 2012 or 2013 (Figure 3-18). For owners aged 60 to 69, the percentage of contracts with BOY contract values of $100,000 or more that annuitized in 2013 was 80 percent larger than the percentage of contracts with values under $50,000. For owners aged 70 or older, there was a 28 percent increase in the percentage of contracts with BOY values of $100,000 or more that annuitized in 2013 over contracts with values under $50,000.

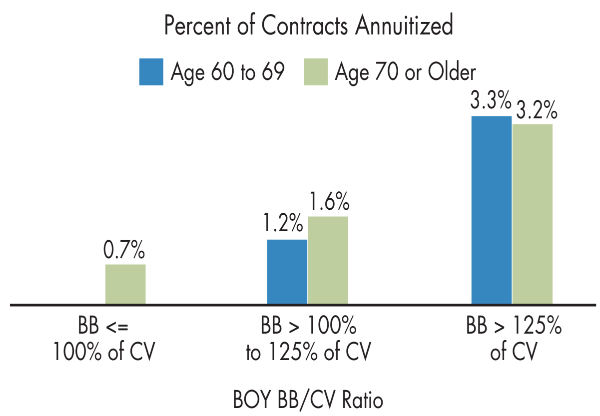
**Figure 3-18:** GMIB Contracts Annuitized in 2013, by Age and Contract Size




Note: Based on 123,557 contracts issued before 2013, with benefit maturities in 2012 or 2013.

The in-the-moneyness of contracts, as measured by the BB/CV ratio, also appears to be linked to annuitization rates (Figure 3-19). Less than 1 percent of contracts that reached benefit maturity in 2012 or 2013 were annuitized when the benefit base was equal to or less than the contract value. But the annuitization rate jumped to around 3 percent when the benefit base was more than 125 percent of the contract value.

**Figure 3-19:** GMIB Contracts Annuitized in 2013 With Benefit Maturity Date in 2012 or 2013, by Age and BOY 2013 BB/CV Ratio




Note: Based on 102,357 contracts issued before 2013, with benefit maturities in 2012 or 2013. The percent of contracts annuitized for ages 60 to 69 with benefit base less than or equal to the contract value has been suppressed in order to preserve confidentiality and avoid revealing company-specific information, as that data was heavily weighted for one company or a very limited number of participating companies.

Table 3-4 provides a summary of owner and contract characteristics of the roughly 5,000 GMIB contracts that annuitized in 2013. Understanding which owners are likely to annuitize their contracts will provide annuity manufacturers with information to better anticipate which owners will take advantage of their GMIB riders.

**Table 3-4:** GMIB Owner of Annuitized Contract Characteristics Issued 2013 or Earlier

| | GMIB Contracts In Force |
|---|---|
| **Age of owner** | |
| Under 50 | 0.3% |
| 50 to 54 | 0.5% |
| 55 to 59 | 2.4% |
| 60 to 64 | 15.4% |
| 65 to 69 | 26.3% |
| 70 to 74 | 25.1% |
| 75 to 79 | 16.0% |
| 80 or older | 14.1% |

**Table 3-4:** GMIB Owner of Annuitized Contract Characteristics Issued 2013 or Earlier *(continued)*

| | GMIB Contracts In Force |
|---|---|
| **Average age** | 71 years |
| **Gender** | |
| Male | 54% |
| Female | 46% |
| **Market type** | |
| IRA | 55% |
| Nonqualified | 45% |
| **Distribution Channel** | |
| Career agent | 10% |
| Independent agent/independent B-D | 52% |
| Full-service National B-D | 30% |
| Bank | 8% |
| **Cost Structure** | |
| A-share | 0.6% |
| B-share | 76.8% |
| C-share | 3.1% |
| L-share | 16.8% |
| **Contract value, EOY 2013 as percent of contracts** | |
| Under $25,000 | 14.8% |
| $25,000 to $49,999 | 18.3% |
| $50,000 to $99,999 | 26.5% |
| $100,000 to $249,999 | 28.7% |
| $250,000 to $499,999 | 8.7% |
| $500,000 of higher | 3.1% |
| **Contract value, EOY 2013 as percent of contract value** | |
| Under $25,000 | 1.7% |
| $25,000 to $49,999 | 5.3% |
| $50,000 to $99,999 | 15.1% |
| $100,000 to $249,999 | 34.3% |
| $250,000 to $499,999 | 23.0% |
| $500,000 of higher | 20.6% |
| **Average contract value, EOY 2013** | $127,942 |
| **Median contract value, EOY 2013** | $78,559 |

Note: Based on 4,972 contracts that annuitized in 2013.

### Key Findings

- Males represented 54 percent of annuitizations.
- Over half of all annuitants are between ages 65 and 74. Three out of 10 contracts ages 75 and over annuitized. Less than 4 percent of annuitants were under age 60.
- Just over half of the annuitized contracts were issued through the independent agent/independent B-D channel; 3 out of 10 through full-service national B-Ds channels. Career-agent-sold contracts represent 27 percent of all GMIB owners but had only 10 percent of the annuitants.
- At EOY 2013, 77 percent of the contract value annuitized came from contracts with account values of $100,000 or more.

## Withdrawal Activity

### Withdrawals

GMIB contracts have no guaranteed withdrawal benefit during the accumulation years, and the true guaranteed income benefit or benefit utilization starts after annuitization. However, many popular GMIB contracts allow dollar-for-dollar annual withdrawals, typically equal to or less than the roll-up percentages applied in the contract to reset the benefit base upward on every anniversary. Thus, a GMIB owner can withdraw up to a certain percentage annually without reducing the starting benefit base. This is an attractive and flexible option for many investors. The attraction lies in the ability to take withdrawals at a prescribed rate, without disturbing the benefit base, irrespective of market gains or losses. So, if partial withdrawals occur, we assume that owners have utilized the withdrawal provisions in their contracts.

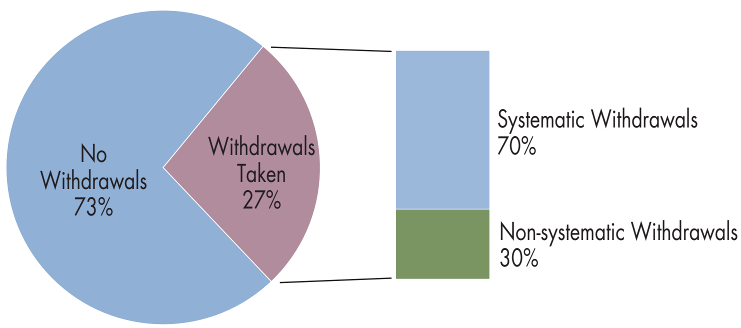
Because the present study is based on a single calendar year, withdrawal activity over time usually could not be tracked. Although we asked companies for the cumulative total withdrawals prior to 2013, not all companies could provide this information. In addition, not all companies could distinguish systematic withdrawals — which are more likely to be associated with utilization of withdrawal benefit contracts — from non-systematic or occasional withdrawals.

## Overall Withdrawals From Contracts Issued Before 2013

**27%** of GMIB contract owners took withdrawals during 2013; **70%** were systematic withdrawals.

Twenty-seven percent of GMIB contracts issued before 2013 and still in force at EOY 2013 had at least some withdrawal activity during 2013 (Figure 3-20). This is relatively close to the 23 percent of GLWB owners who took withdrawals in 2013. Seventy percent of these GMIB contract owners utilized systematic withdrawals.

**Figure 3-20:** GMIB Percentage of Contracts With Withdrawals




Note: Based on 1,482,879 GMIB contracts issued before 2013 and still in force at EOY 2013.

Based on the 405,396 contracts issued before 2013 with withdrawals in 2013:

- The average withdrawal amount was $11,045. The withdrawal rate was 8.2 percent based on the average BOY contract value of $133,994.
- The median withdrawal amount was $6,000 based on the median BOY contract value of $86,051.
- Total 2013 withdrawals were $4.5 billion, 2.7 percent of BOY in-force assets.

**$6,000** was the median withdrawal amount in 2013.

## Withdrawal Activity by Benefit Reduction Methods

In general, GMIB riders allow owners to take withdrawals based on either a dollar-for-dollar or a pro-rata reduction from the benefit base. Dollar-for-dollar reductions allow the owners to withdraw up to the roll-up amount in the benefit base so that the base benefit remains unchanged. This method of benefit base calculation and withdrawal provision provides protection during a declining market. Nine out of ten contracts allow this benefit reduction method for withdrawals.

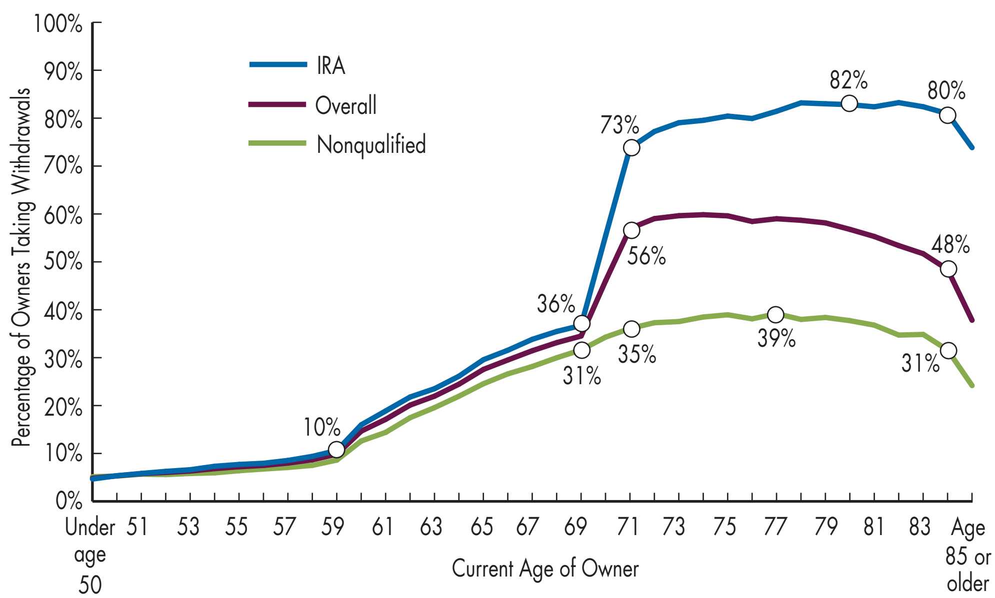
On the other hand, pro-rata withdrawals reduce the benefit base by the same percentage as the withdrawal. This withdrawal provision benefits contract owners when there are market gains in the account value. One in ten GMIB contracts offer this method. A smaller percentage of pro-rata contract owners took withdrawals in 2013 compared with owners who took dollar-for-dollar withdrawals.

### Withdrawal Activity by Source of Funds

Almost **80%** of GMIB owners in their late 70s and early 80s took qualified withdrawals.

The source of funds (i.e., whether the annuity was funded with qualified or nonqualified money) is one of the key drivers in understanding customer withdrawal behavior. The overall incidence of withdrawals in GMIB contracts over the past few years has stayed around 20 to 30 percent. However, analyzing withdrawal activity by source of funds and age reveals that the utilization rate of withdrawal provisions in GMIB contracts is in fact quite high for certain customer segments (Figure 3-21).

**Figure 3-21:** GMIB Percentage of Contracts With Withdrawals, by Source of Funds and Age of Owners




Note: Based on 1,482,460 GMIB contracts issued before 2013 and still in force at EOY 2013.

As with GLWBs, GMIB owner withdrawal behavior has three different phases:

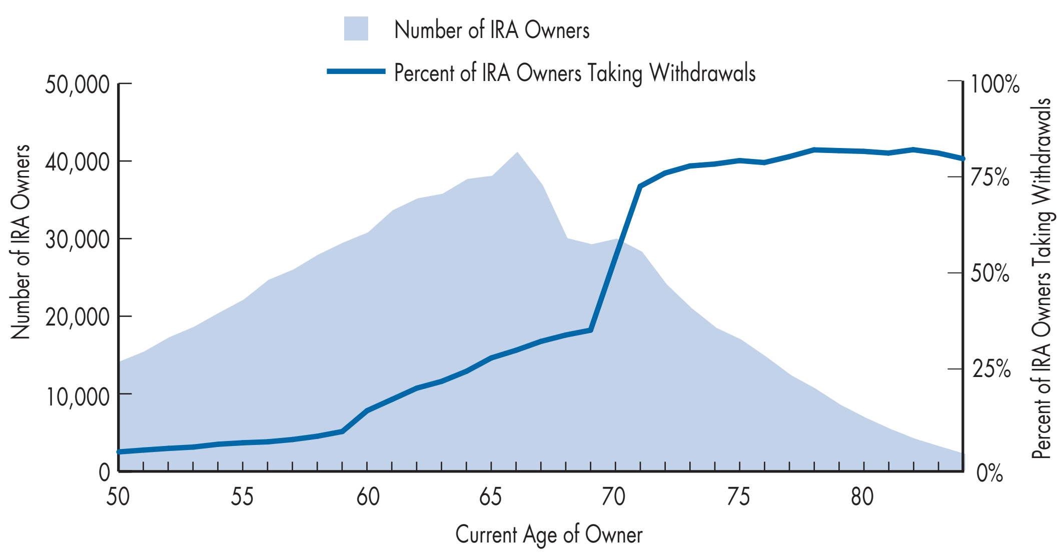
- Under age 60, when most of the owners are not retired, withdrawal rates for customers who use either qualified or nonqualified money to buy their contracts remain low, typically less than 10 percent. Withdrawals for both types of owners do not start to rise until they reach age 60, or later, when some of the owners enter the retirement phase. Early in this phase, the percent of owners taking withdrawals rises slowly in parallel for both qualified and non-qualified owners.
- Between ages 60 and 70 — sometimes termed as the transition ages in retirement — less than one third are fully utilizing the withdrawal provisions in their GMIB contracts.
- After age 70, the need for RMDs from qualified annuities forces many GMIB owners to take withdrawals, and the percent of IRA customers taking withdrawals quickly jumps to 73 percent by age 71. After this age, the percent of qualified owners withdrawing slowly rises to 82 percent by age 80.

GMIB owners are less likely to use withdrawal provisions if they bought the annuity with nonqualified money. Nonetheless, there is a steady increase in the proportion of owners who take withdrawals from age 60 to age 65 (12 percentage points), and to age 75 (14 percentage points). Then the percentage of owners taking withdrawals levels off at around 39 percent before declining for owners aged 77 and older.

The overall percent of owners taking withdrawals increasingly resembles the nonqualified line after age 75, because more and more contracts are nonqualified as owner age increases. Among GMIB owners aged 70 and over, half own nonqualified annuities and only 36 percent are taking withdrawals. On the other hand, 75 percent of owners aged 70 and over who own qualified annuities are taking withdrawals. Overall, 55 percent of owners aged 70 and over are taking withdrawals from their GMIB contracts.

Insurance companies managing GMIB rider risk can consider distinguishing and evaluating that risk based on the sources of funding. The distinction between qualified and nonqualified sources of funds is important. The composite withdrawal activity by age cohort is not as reliable a measure of actual risk. With three quarters of qualified GMIB owners under age 70 — and only 1 in 6 taking withdrawals — the measure is skewed downward. This is particularly important as younger customers invest in annuities with qualified savings (Figure 3-22).

**Figure 3-22:** GMIB Withdrawals by IRA Owners

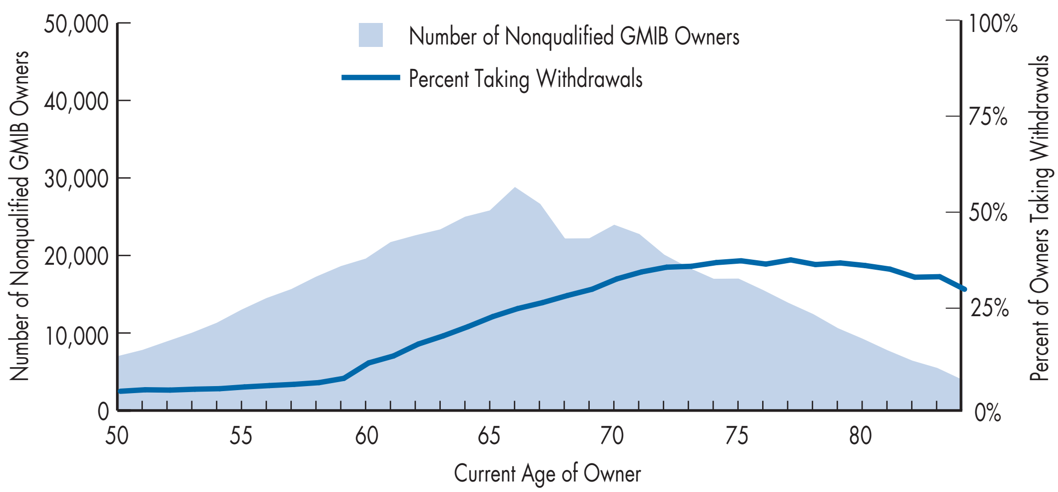



Note: Based on 761,667 GMIB IRA contracts issued before 2013 and still in force at EOY 2013.

In the next 5 years, another 20 percent of owners (around 174,000) currently between ages 65 and 69 will reach age 70 or older, and a majority of them will start to take withdrawals to meet RMDs. In 2013, only 32 percent of owners aged 65 to 69 took withdrawals. The need to take RMDs will essentially drive withdrawal behavior, so companies with a customer mix heavily weighted toward qualified contracts must manage their business accordingly.

In comparison with IRA annuities, 36 percent of GMIB owners aged 70 or over who funded their annuities with nonqualified money took withdrawals in 2013 (Figure 3-23). Twenty-seven percent of GMIB nonqualified owners aged 65 to 69 took withdrawals in 2013.

**Figure 3-23:** GMIB Withdrawals by Nonqualified Owners




Note: Based on 559,972 GMIB contracts funded by nonqualified savings, issued before 2013, and still in force at EOY 2013.

## First Withdrawals

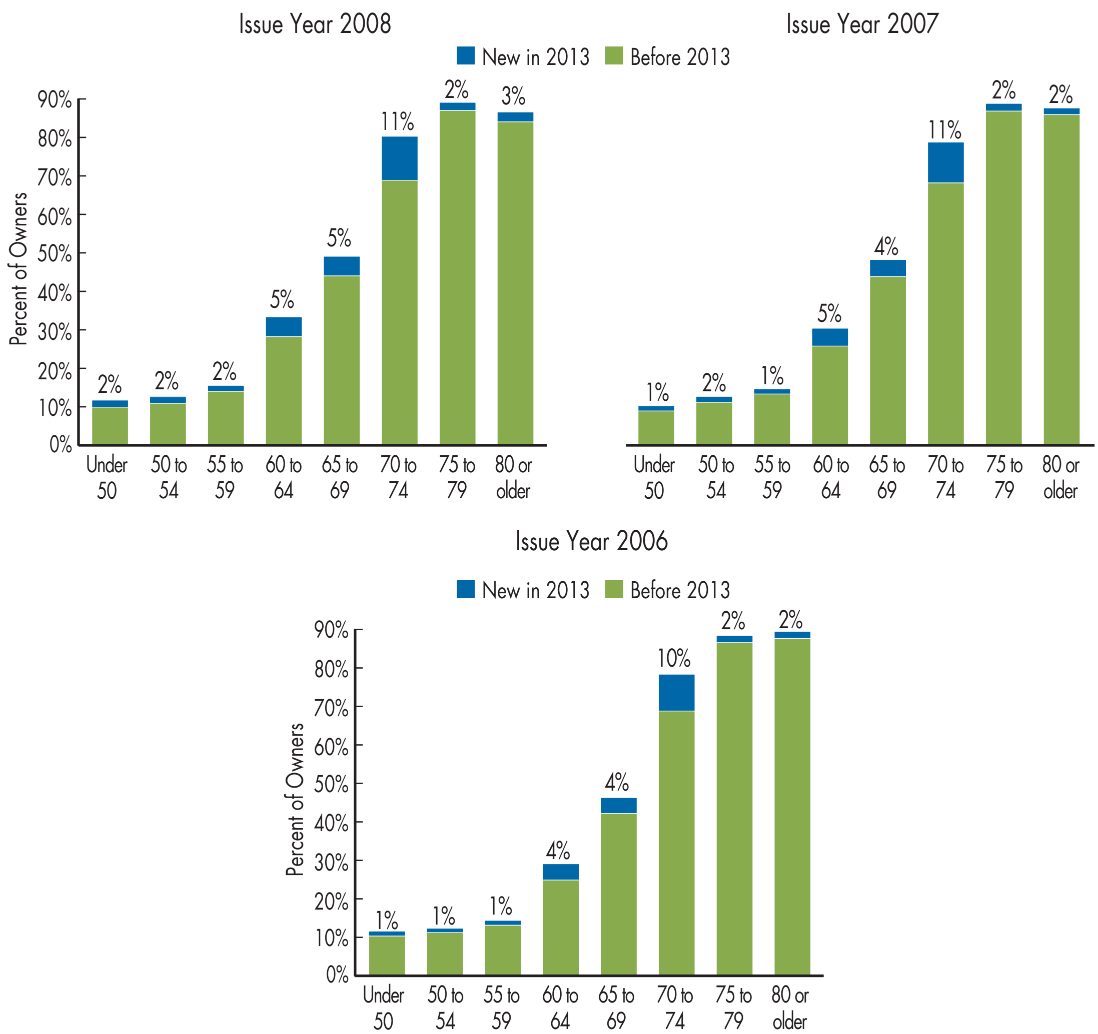
One of the value propositions for GMIB annuities is the ability to take withdrawals. To better understand owners' inclinations to take withdrawals, we have analyzed owner withdrawal behavior by considering at what age or in what year of annuity ownership the owner is likely to initiate their first withdrawal. We also look at how many will continue taking withdrawals once they start doing so. Extending that logic, we might expect to find corollary relationships among other variables, like when owners decide to take their first withdrawals, whether their withdrawal amounts remain within or around the prescribed withdrawal maximum amount allowed in the contract, or whether the persistency of these contracts differs from contracts that have not had withdrawals or excess withdrawals.

Analysis of when owners are likely to take first withdrawals provides important information on the withdrawal risks of these contracts. These findings can help insurance companies to assess risk more precisely by identifying clusters of owners who are likely to start withdrawals in their first year, second year, etc. after purchase. The first withdrawal activity analysis can be done in two ways: First, we can determine the percentage of owners who initiated their first withdrawals in 2013, by age, source of money, and issue year, to provide various trends and relationships. Second, we can analyze the first withdrawal history for owners from a particular issue year, and track how age and sources of money influence their first withdrawals.

## First Withdrawals From IRA Annuity in 2013

There is a distinct pattern of withdrawal behavior from IRA-funded GMIB annuities, principally driven by age and the need to take RMDs. Figure 3-24 shows the percent of owners taking their first withdrawals in 2013 by individual issue years from 2006 to 2008. We have kept the analysis limited to issue years 2006 to 2008 due to lack of representative company samples from all participating companies.

**Figure 3-24:** GMIB First Withdrawals in 2013 (IRA Contracts Only)




Note: Based on 249,165 IRA GMIB contracts issued from 2006 to 2008 and remaining in force at EOY 2013. Blue represents percent of owners taking withdrawals in 2013 for the first time; green represents cumulative percent of owners who took withdrawals before 2013. The overall column height represents percent of all owners who took withdrawals to date.

The upper left corner of Figure 3-24 shows withdrawal activity for contracts issued in 2008. The Y-axis shows the percent of customers who took withdrawals by age groups. The green bar for each age group shows the percent of customers who took their withdrawals before 2013 and the blue bar shows the percent of owners taking their first withdrawals in 2013.

Owners who bought their annuities in 2008 had at least five years to take withdrawals. For these owners, only a small percent under age 70 initiated their first withdrawals in 2013. The marginal increases in the percentage of owners from each age group who took first withdrawals remains relatively small — within a range of 2 to 5 percent for each age group under age 70. However, 11 percent of owners aged 70 to 74 took their first withdrawals in 2013. Over two thirds of owners aged 70 to 74 had already taken withdrawals before 2013. Previous LIMRA Secure Retirement Institute studies show that owners who turn age 71 have the highest percentage of first withdrawals due to RMDs.

**10 to 11%** of qualified owners aged 70 to 74 took first withdrawals in 2013.

We witness an almost identical trend in owner withdrawal behavior for IRA annuity contracts issued in 2007 and 2006. For IRA contracts, age and the need to take RMDs are the principal drivers for withdrawals from GMIBs. The pattern of first withdrawals in 2013 from GMIB contracts is remarkably similar to the pattern of first withdrawals in 2013 for GLWB owners.

## First Withdrawal From Nonqualified Annuity in 2013

The percent of nonqualified GMIB annuity owners who took their first withdrawals in 2013 reflects more streamlined withdrawal behavior. Figure 3-25 shows the percent of nonqualified owners who took their first withdrawals in 2013 by individual issue years from 2006 to 2008.

**Figure 3-25:** GMIB First Withdrawals in 2013 (Nonqualified Contracts Only)


Note: Based on 161,083 Nonqualified GMIB contracts issued from 2006 to 2008 and remaining in force at EOY 2013. Blue column represents percent of owners taking withdrawals in 2013 for the first time; green represents cumulative percent of owners who took withdrawals before 2013. The overall column height represents percent of all owners who took withdrawals to date.

Without the need to take RMDs, the percent of nonqualified owners who bought their annuities in 2008 and took their first withdrawals in 2013 increased slightly with age. Only a small percent of owners under 70 took their first withdrawals in 2013 within a range of 1 to 5 percent, which is similar to the behavior of IRA owners. For ages 70 and up, the percent of customers taking their first withdrawals remained around 4 to 5 percent for each age group. Just over one third of owners aged 65 to 69 had already taken withdrawals before 2013; this percentage increases to just over 4 in 10 for ages 70 to 74.

We witnessed an almost identical pattern in owner withdrawal behavior for nonqualified annuity contracts issued in 2007 and 2006. For nonqualified contracts, age and contract duration are the principal drivers for withdrawals. Five percent or fewer of the nonqualified owners took their first withdrawals each year; and the cumulative percent of these owners who took withdrawals from their GMIB contracts was around 50 percent or less.

## First Withdrawal Activity for IRA Contracts Issued in 2008

In order to gain a clear and consistent picture of when owners first start to take withdrawals, and how many start to take their first withdrawals in the following years, we tracked GMIB contracts bought in 2008 and measured owner withdrawal behaviors. Table 3-5 shows the withdrawal behavior of 2008 IRA buyers aged 57 to 75 during 2008 to 2013 (6 years of withdrawal history), and assessed what percent of those buyers began taking their first withdrawals from 2008 to 2013.

**Table 3-5:** GMIB First Withdrawals for 2008 IRA Buyers

| Withdrawals started at | Age at Purchase: Age 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | All Ages |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age 57 | 5% | | | | | | | | | | | | | | | | | | | |
| Age 58 | 4% | 4% | | | | | | | | | | | | | | | | | | |
| Age 59 | 5% | 6% | 5% | | | | | | | | | | | | | | | | | |
| Age 60 | 8% | 11% | 12% | 12% | | | | | | | | | | | | | | | | |
| Age 61 | 5% | 5% | 7% | 10% | 12% | | | | | | | | | | | | | | | |
| Age 62 | 5% | 6% | 6% | 8% | 10% | 14% | | | | | | | | | | | | | | |
| Age 63 | | 4% | 5% | 6% | 7% | 11% | 14% | | | | | | | | | | | | | |
| Age 64 | | | 5% | 5% | 6% | 7% | 12% | 15% | | | | | | | | | | | | |
| Age 65 | | | | 5% | 6% | 6% | 8% | 12% | 17% | | | | | | | | | | | |
| Age 66 | | | | | 6% | 6% | 8% | 8% | 14% | 18% | | | | | | | | | | |
| Age 67 | | | | | | 5% | 6% | 7% | 7% | 13% | 16% | | | | | | | | | |
| Age 68 | | | | | | | 4% | 5% | 5% | 8% | 12% | 17% | | | | | | | | |
| Age 69 | | | | | | | | 5% | 6% | 5% | 7% | 12% | 16% | | | | | | | |
| Age 70 | | | | | | | | | 18% | 17% | 22% | 25% | 16% | 26% | | | | | | |
| Age 71 | | | | | | | | | | 20% | 24% | 26% | 42% | 18% | 35% | | | | | |
| Age 72 | | | | | | | | | | | 5% | 5% | 7% | 34% | 17% | 40% | | | | |
| Age 73 | | | | | | | | | | | | 3% | 4% | 5% | 26% | 14% | 33% | | | |
| Age 74 | | | | | | | | | | | | | 3% | 3% | 5% | 23% | 17% | 37% | | |
| Age 75 | | | | | | | | | | | | | | 2% | 4% | 6% | 28% | 18% | 37% | 10% |
| Age 76 | | | | | | | | | | | | | | | 2% | 3% | 7% | 27% | 18% | 8% |
| Age 77 | | | | | | | | | | | | | | | | 2% | 2% | 6% | 25% | 8% |
| Age 78 | | | | | | | | | | | | | | | | | 2% | 4% | 5% | 5% |
| Age 79 | | | | | | | | | | | | | | | | | | 1% | 2% | 5% |
| Age 80 | | | | | | | | | | | | | | | | | | | 2% | 5% |
| Cumulative | 32% | 35% | 41% | 45% | 48% | 50% | 52% | 51% | 67% | 80% | 85% | 88% | 87% | 88% | 88% | 88% | 88% | 92% | 89% | 41% |
| Percent of owners taking withdrawals in all subsequent years | 72% | 70% | 71% | 76% | 76% | 80% | 81% | 81% | 82% | 88% | 90% | 91% | 90% | 87% | 82% | 81% | 81% | 82% | 83% | 76% |

- First Withdrawals in 1st Year — 2008
- First Withdrawals in 2nd Year — 2009
- First Withdrawals in 3rd Year — 2010
- First Withdrawals in 4th Year — 2011
- First Withdrawals in 5th Year — 2012
- First Withdrawals in 6th Year — 2013

Note: Based on a constant group of 83,220 IRA contracts issued in 2008 and still in force at EOY 2013. The percent of owners taking withdrawals in all subsequent years is based on contracts where the first withdrawal occurred from 2008 to 2012, and withdrawals continued every year through 2013.

Overall, the above table analyzes six years of first withdrawal history of 2008 owners, and shows some important insights:

- Overall, 1 in 10 owners of 2008 initiated their withdrawals in the same year they purchased their annuity. In the first year, the percent of owners taking withdrawals rises 1 to 2 percent with each increment in age from ages 60 to 69.
- The percentages of owners who took their first withdrawals in subsequent years are typically lower than in the first year, as the number of owners who have not taken withdrawals diminishes.
- Once owners initiate withdrawals, nearly 80 percent continue to take withdrawals in all subsequent years.
- More than 85 percent of 2008 owners aged 70 or above took withdrawals from their annuities in the last six years. Across all ages, 4 in 10 of 2008 owners (41 percent) took withdrawals. This is particularly noteworthy because just over half of the 2008 owners were aged 60 or under in 2013, and a majority of them are not yet in or near retirement.
- Contract benefits being in-the-money has very little impact on first withdrawal behavior (addressed later in this chapter). From 2009 to the beginning of 2012, most of the GMIB contracts were in-the-money. However, the percentage of owners taking withdrawals from their contracts does not show any deviation from the general trend, by any particular age or age groups.

***First Year — 2008***

- Four to five percent of owners aged 57 to 59 took withdrawals during their first year of purchase. For owners aged 60 to 69, that percent ranged from 12 to 18 percent.
- One quarter (26 percent) of owners aged 70 in 2008 took withdrawals in the first year.
- In general, around one third of owners over age 70 took withdrawals in their first contract year.

***Second Year — 2009***

- In their second year of holding a GMIB rider, the percentage of owners aged 60 to 69 who took their first withdrawals from their annuity was either a little lower than or the same as the percentage of owners who took withdrawals in the first year (from 10 to 14 percent). In 2009, the RMD rules were eased so it is not surprising the percentage of owners who took their first withdrawals was lower than that of the prior year.

- However, almost 1 in 6 (16 percent) owners who turned age 70 took their first withdrawals in their second year of holding. Eighteen percent of owners aged 70 at purchase, and 71 in their second year, took their first withdrawals in 2009. This was almost half of the percentage of owners aged 71 who took withdrawals in 2008.
- For owners aged 72 and over, 14 to 18 percent took their first withdrawals in their second year. This was roughly half of the percentage of 2008 owners taking their first withdrawals for this same age group.

***Third Year — 2010***

- In their third year of ownership, owners who turned ages 60 to 69 in 2010 and took their first withdrawals remained within a range of 7 to 11 percent.
- For owners who turned ages 70 and 71 in 2010 and took their first withdrawals, we see the withdrawal percentages jump to 25 percent and 42 percent, respectively. One third of owners who turned age 72 (at purchase they were aged 70) took their first withdrawals in 2010. Approximately 1 in 4 owners aged 73 and over took their first withdrawals.

***Fourth Year — 2011***

- In their fourth year of ownership, owners who turned ages 60 to 69 and took their first withdrawals remained within a relatively tight range of 5 to 8 percent.
- For owners who turned ages 70 and 71 in 2011 and took their first withdrawals, the withdrawal percentages increased to 22 percent and 26 percent respectively. From age 72 and over, only 5 to 7 percent of owners took their first withdrawals, at an almost uniform rate, in their fourth year of ownership.

***Fifth Year — 2012***

The pattern of owners taking first withdrawals in the fifth year — for those under age 70 when they start withdrawals — is similar to 2011.

- For owners who turned ages 70 and 71 who took first withdrawals, the percentages were 17 percent and 24 percent, respectively.
- Five percent or less of 2008 owners aged 72 and older started their first withdrawals in 2012. The pool of GMIB owners who have not yet taken their withdrawals is shrinking.

***Sixth Year — 2013***

- Owners aged 62 to 69 who took withdrawals in the sixth year remains in a tight range, between 4 to 6 percent.
- For owners who turned ages 70 and 71 in 2013 and took first withdrawals, percentages were 18 percent and 20 percent.
- The number of GMIB owners who have not taken a withdrawal continues to decline and only 5 percent or less of 2008 owners aged 72 and older started their first withdrawal in 2013.

The last row of Table 3-5 provides the percentage of owners taking withdrawals in all subsequent years based on contracts where the first withdrawal occurred between 2008 and 2012, and thereafter withdrawals continued every year through 2013.

For example, 91 percent of 68-year-olds who purchased their annuities in 2008 took their first withdrawals between 2008 and 2012, and continued to take withdrawals every year through 2013. Overall, once owners begin to take withdrawals, they are more likely to utilize the lifetime withdrawal benefit, provided that they do not surrender their contracts in later years.

## First Withdrawal Activity for Nonqualified Contracts Issued in 2008

For nonqualified annuity owners, aged 57 to 69, we see a similar first-year withdrawal pattern to the 2008 IRA owners (Table 3-6). In the second year, 7 to 14 percent of owners aged 60 and older took their first withdrawals. After the second year, the range is much tighter — 3 to 7 percent of owners aged 60 and older took their first withdrawals in each year. However, for ages 70 or 71, we do not see a spike in withdrawals.

**Table 3-6:** GMIB First Withdrawals for 2008 Nonqualified Buyers

| Withdrawals started at | Age at Purchase: Age 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | All Ages |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Age 57 | 2% | | | | | | | | | | | | | | | | | | | |
| Age 58 | 3% | 2% | | | | | | | | | | | | | | | | | | |
| Age 59 | 5% | 4% | 5% | | | | | | | | | | | | | | | | | |
| Age 60 | 5% | 7% | 9% | 8% | | | | | | | | | | | | | | | | |
| Age 61 | 5% | 4% | 5% | 7% | 11% | | | | | | | | | | | | | | | |
| Age 62 | 5% | 5% | 5% | 5% | 9% | 11% | | | | | | | | | | | | | | |
| Age 63 | | 5% | 4% | 5% | 6% | 9% | 13% | | | | | | | | | | | | | |
| Age 64 | | | 4% | 5% | 5% | 5% | 9% | 13% | | | | | | | | | | | | |
| Age 65 | | | | 5% | 5% | 5% | 7% | 10% | 14% | | | | | | | | | | | |
| Age 66 | | | | | 4% | 5% | 6% | 6% | 12% | 15% | | | | | | | | | | |
| Age 67 | | | | | | 6% | 4% | 6% | 5% | 10% | 15% | | | | | | | | | |
| Age 68 | | | | | | | 4% | 5% | 5% | 5% | 10% | 16% | | | | | | | | |
| Age 69 | | | | | | | | 4% | 4% | 5% | 7% | 11% | 19% | | | | | | | |
| Age 70 | | | | | | | | | 5% | 5% | 6% | 7% | 11% | 19% | | | | | | |
| Age 71 | | | | | | | | | | 5% | 5% | 5% | 6% | 12% | 19% | | | | | |
| Age 72 | | | | | | | | | | | 4% | 6% | 5% | 7% | 13% | 20% | | | | |
| Age 73 | | | | | | | | | | | | 4% | 5% | 4% | 6% | 12% | 20% | | | |
| Age 74 | | | | | | | | | | | | | 5% | 4% | 4% | 6% | 14% | 22% | | |
| Age 75 | | | | | | | | | | | | | | 4% | 5% | 4% | 6% | 12% | 23% | 9% |
| Age 76 | | | | | | | | | | | | | | | 3% | 5% | 4% | 7% | 14% | 7% |
| Age 77 | | | | | | | | | | | | | | | | 4% | 4% | 5% | 6% | 5% |
| Age 78 | | | | | | | | | | | | | | | | | 3% | 3% | 4% | 4% |
| Age 79 | | | | | | | | | | | | | | | | | | 4% | 3% | 4% |
| Age 80 | | | | | | | | | | | | | | | | | | | 4% | 4% |
| Cumulative | 25% | 27% | 31% | 35% | 40% | 41% | 43% | 43% | 45% | 44% | 47% | 49% | 50% | 49% | 50% | 51% | 52% | 53% | 54% | 32% |
| Percent of owners taking withdrawals in all subsequent years | 72% | 69% | 73% | 76% | 78% | 79% | 82% | 80% | 79% | 81% | 82% | 82% | 79% | 82% | 78% | 84% | 83% | 80% | 79% | 76% |

- First Withdrawals in 1st Year — 2008
- First Withdrawals in 2nd Year — 2009
- First Withdrawals in 3rd Year — 2010
- First Withdrawals in 4th Year — 2011
- First Withdrawals in 5th Year — 2012
- First Withdrawals in 6th Year — 2013

Note: Based on a constant group of 41,751 contracts issued in 2008 and still in force at EOY 2013. The percent of owners taking withdrawals in all subsequent years is based on contracts where the first withdrawal occurred from 2008 to 2012, with withdrawals continuing every year through 2013.

For owners in their third to sixth year of ownership, the percentage taking first withdrawals does not vary significantly across observation years. In 2013, across all ages, the percentage of owners taking withdrawals remained within a band of 3 to 6 percent, as the pool of owners who have not taken withdrawals up to that point shrinks. Obviously, we expect the percentage of owners taking their first withdrawals in the following years to be lower, as more and more owners start taking lifetime withdrawals. Note that most of these owners used systematic withdrawal plans (SWPs) to receive their regular withdrawals.

Overall, similar to IRA annuities, nearly 10 percent of owners initiate withdrawals from their non-qualified annuities in their first year of ownership.

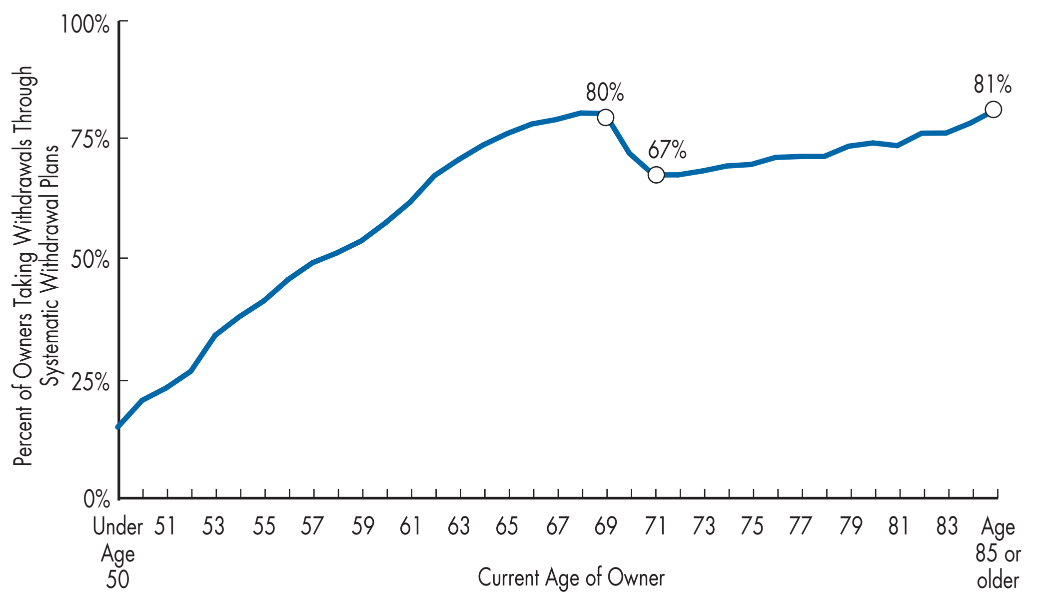
- Also like IRA annuities, once non-qualified owners start taking withdrawals nearly 80 percent are very likely to continue withdrawals in all subsequent years.
- We also see little or no impact of in-the-moneyness on withdrawal behavior during the last four years after the market crisis, when the majority of contracts were in-the-money (discussed later in this chapter).

## Systematic Withdrawal Activity

One predictor that can help determine if GMIB owners will continue to take advantage of withdrawal provisions is what method they use — SWPs or occasional withdrawals. Withdrawals through SWPs indicate customers' intentions to take withdrawals on a continuous basis, and strongly suggest that they are utilizing the withdrawal provisions in their GMIB contracts.

Overall, 70 percent of owners who take GMIB withdrawals use SWPs. Older owners are more likely to take withdrawals through SWPs, and younger owners — particularly those under age 60 — are more likely to take occasional withdrawals (Figure 3-26). After age 70, owners who take withdrawals from their GMIB annuities are more likely to use SWPs — the percentage of owners using SWPs reaches just over 75 percent for owners in their 80s. There is a decline around ages 70 to 71 as some GMIB IRA owners made adjustments due to RMDs.

**Figure 3-26:** GMIB Withdrawals With Systematic Withdrawal Plans




Note: Based on 404,495 GMIB contracts issued before 2013, still in force at EOY 2013, and that had withdrawals in 2013. We are not able to show the IRA vs. nonqualified splits in order to preserve confidentiality and avoid revealing company-specific information, as that data was heavily weighted for one company or a very limited number of participating companies.

The median annual withdrawal amount for those taking just an SWP in 2013 was $5,900 and the average was $8,900. Table 3-7 shows the median withdrawal amount for owners who took only SWP withdrawals in 2013. The median withdrawal amounts for owners aged 60 and older were within expectations, while those under age 60 were influenced by owners who were likely taking partial surrenders. This is a very small percentage of contracts that had withdrawals. The average systematic withdrawal amount was $8,700 for IRAs and $9,200 for nonqualified contracts.

The median withdrawal amount was **$5,900** (systematic) and **$6,200** (occasional).

**Table 3-7:** GMIB Systematic Withdrawal Amounts by Age and Source of Funds

| | Systematic Withdrawal Median Withdrawal Amount | |
|---|---|---|
| **Age** | **IRA** | **Nonqualified** |
| Under 60 | $9,815 | $8,132 |
| Age 60–69 | $7,555 | $6,286 |
| Age 70 or older | $4,500 | $5,556 |
| **Total** | **$5,723** | **$6,000** |

Note: Based on 262,654 GMIB contracts issued before 2013 and still in force at EOY 2013, with withdrawals in 2013, taking *only* systematic withdrawals in 2013.

For those contracts with only occasional (i.e., non-systematic) withdrawals, the median amount was $6,200 and the average was $13,700. For owners under age 60 taking occasional withdrawals, the median withdrawal amount was relatively high, and they are more likely to partially surrender the contracts (Table 3-8). The average occasional withdrawal amount was $12,300 for IRAs and $17,500 for nonqualified contracts.

**Table 3-8:** GMIB Occasional Withdrawal Amounts by Age and Source of Funds

| | Occasional Withdrawals Median Withdrawal Amount | |
|---|---|---|
| **Age** | **IRA** | **Nonqualified** |
| Under 60 | $11,000 | $10,045 |
| Age 60–69 | $9,133 | $8,811 |
| Age 70 or older | $4,200 | $6,360 |
| **Total** | **$5,864** | **$7,735** |

Note: Based on 122,712 GMIB contracts issued before 2013 and still in force at EOY 2013 with only occasional or non-systematic withdrawals in 2013.

A small percentage of owners took both SWP and occasional withdrawals. Table 3-9 provides the distribution of withdrawals for those owners taking only occasional withdrawals, only systematic withdrawals, and those who took both occasional and systematic, based on the dollar amount of their withdrawals.

**Table 3-9:** GMIB Withdrawal Amounts as Percentage of Total Withdrawal Amount

| | Only Occasional Withdrawals | | Only Systematic Withdrawal | | Both Systematic and Occasional Withdrawal | |
|---|---|---|---|---|---|---|
| **Age** | **IRA** | **Nonqualified** | **IRA** | **Nonqualified** | **IRA** | **Nonqualified** |
| Under age 60 | 6% | 3% | 2% | 2% | 1% | 0% |
| Age 60–69 | 10% | 5% | 15% | 9% | 3% | 1% |
| Age 70 or older | 9% | 5% | 15% | 11% | 3% | 2% |
| **Total** | **25%** | **13%** | **32%** | **20%** | **7%** | **3%** |

Note: Based on 405,327 GMIB contracts issued before 2013 and still in force at EOY 2013 with withdrawals in 2013.

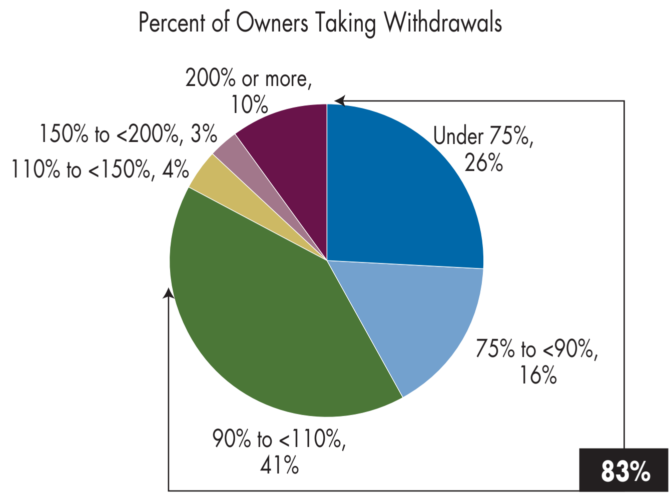
## Percentage of Maximum Annual Benefit Withdrawn

Like GLWBs, many GMIBs provide a specified maximum withdrawal amount, typically a dollar-for-dollar amount equal to roll-up rates, annually, for a certain period until the income phase begins, without disturbing the benefit base. However, if the owner withdraws more than the maximum allowed amount in a contract year, this triggers an adjustment of the benefit base.

In this section, we look at the relationship of GMIB customers' actual withdrawal amounts in calendar-year 2013 to the maximum annual withdrawal amounts allowed in the contracts, which for our analysis is equal to the average benefit base multiplied by the BOY 2013 roll-up rate. There is some imprecision in measuring the maximum annual withdrawal amounts that are calculated based on the roll-up rate, because benefit bases can vary under certain circumstances during the year (e.g., if additional premium is received). Accordingly, we used a conservative measure of excess withdrawals — if partial withdrawals exceeded the maximum annual withdrawal as of BOY 2013 by 10 percent or more, then we considered them to have exceeded the withdrawal maximum.

Figure 3-27 shows the degree to which withdrawals are higher or lower than the maximum withdrawal amounts allowed. The bands for this section have been revised from prior years' reports to allow for better analysis of the relationship between the withdrawal amount and the benefit maximum allowed in the contract.

**Figure 3-27:** GMIB Actual Withdrawals as a Percentage of Annual Benefit Maximum

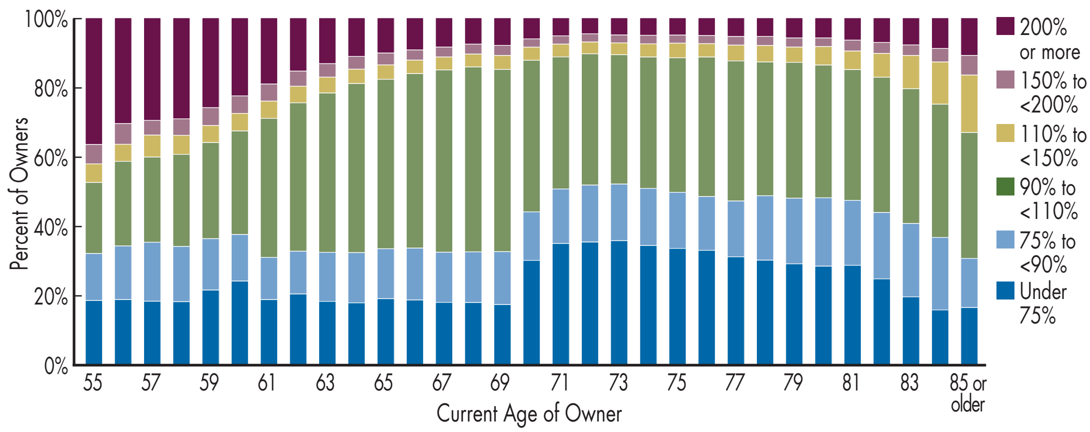



Note: Based on 358,106 GMIB contracts issued before 2013 and remaining in force at EOY 2013. The maximum annual withdrawal amount is equal to the average benefit base multiplied by the BOY roll-up rate.

Around 8 in 10 owners (83 percent) who took withdrawals took less than 110 percent of the maximum allowed. Seventeen percent of owners withdrew 110 percent or more of the maximum amount allowed.

If we look at owner age, and withdrawal amounts in relation to maximum annual amounts allowed, we see that younger owners are more likely to take 110 percent or more of the maximum amount allowed (Figure 3-28).

**Figure 3-28:** GMIB Withdrawals as a Percentage of Maximum Annual Benefit Amount by Age




Note: Based on 347,237 GMIB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

Salient insights from Figure 3-28:

- The majority of owners taking withdrawals, as we have seen in previous sections, are typically age 65 or older. There are very few instances where these older owners break the benefit maximum rule.
- Younger owners, particularly under age 60, are more likely to take 200 percent or more of the benefit maximum allowed in the contract.

There is a noticeable increase at ages 70 and 71 in the percentage of owners taking withdrawals less than 90 percent of the benefit maximum. This can be explained by the need to take minimum withdrawals under RMDs, which are typically at a lower withdrawal rate.

In addition, withdrawal amounts for 57 percent of owners who took withdrawals in 2013 remained within 75 to less than 110 percent of the benefit maximum allowed (Table 3-10). One fourth (26 percent) of the owners withdrew less than 75 percent; and 13 percent exceeded 150 percent or more of the benefit maximum allowed in the contracts. Only 4 percent of owner withdrawals fell within 110 to less than 150 percent of the maximum allowed.

Only **15 percent** of owners aged 60 or over took withdrawals of 110 percent or more of the maximum amount allowed.

Out of the owners under age 60, 45 percent took withdrawals that exceeded 150 percent or more of the benefit maximum, and most took 200 percent or more. It is likely that many of these individuals are partially surrendering their contracts. On the other hand, out of the owners aged 60 or older, only 11 percent took withdrawals that exceeded 150 percent or more of the benefit maximum. Many contracts do not penalize IRA annuity owners over age 70½ for taking excess withdrawals if they are doing so to satisfy IRS RMDs.

We have already demonstrated that reaching age 70½ is a trigger to begin withdrawals from qualified contracts, if they haven't already started them. However, there is a noticeable change in the withdrawal pattern at age 70, when owners are taking out relatively low withdrawal amounts relative to the benefit maximum. Many are likely taking out only the RMD, which at these ages is a lower percentage of their balance. The percentage increases with age as the proportion of owners taking out less than the maximum declines.

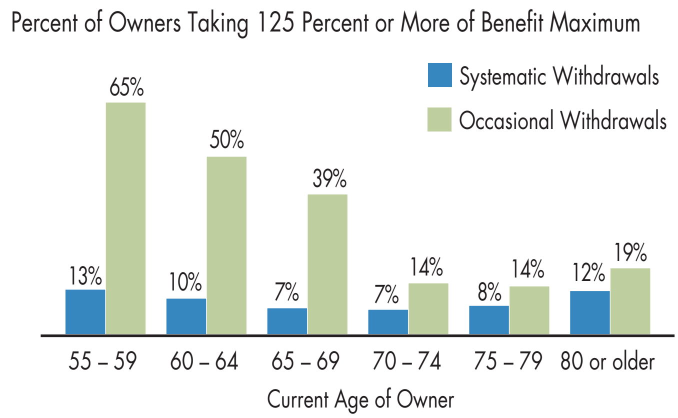
**Table 3-10:** Percentage of GMIB Owners Taking Withdrawals as Percentage of Benefit Maximum

| | Withdrawal Amount as Percent of Annual Benefit Maximum Allowed in the Contract | | | | | |
|---|---|---|---|---|---|---|
| **Age** | **Less than 75%** | **75% to <90%** | **90% to <110%** | **110% to <150%** | **150% to <200%** | **200% or more** |
| 55 to 59 | 19% | 15% | 25% | 5% | 5% | 30% |
| 60 to 64 | 19% | 13% | 43% | 5% | 4% | 15% |
| 65 to 69 | 18% | 15% | 52% | 4% | 3% | 9% |
| 70 to 74 | 34% | 16% | 39% | 4% | 2% | 5% |
| 75 to 79 | 32% | 17% | 39% | 4% | 2% | 5% |
| 80 to 84 | 25% | 20% | 38% | 7% | 3% | 7% |
| 85 or older | 16% | 14% | 36% | 17% | 6% | 11% |
| **All ages** | **26%** | **15%** | **41%** | **4%** | **3%** | **10%** |

Note: Based on 347,237 GMIB contracts issued before 2013 with withdrawals in 2013.

A strong indicator of whether owners are likely to exceed the annual benefit maximum is the method they use — systematic or occasional. Most withdrawals that exceed 125 percent of the annual benefit maximum amount come from occasional withdrawals (Figure 3-29).

**Figure 3-29:** GMIB Withdrawals to Benefit Maximum Amount by Withdrawal Method and Age




Note: Based on 347,227 GMIB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

Six out of ten (61 percent) contracts with excess withdrawals (125 percent or more of the benefit maximum) came from occasional withdrawals. Around 3 in 10 occasional withdrawals (31 percent) exceeded 125 percent or more of the benefit maximum. On the other hand, only 8 percent of contracts using SWPs exceeded 125 percent or more of the maximum annual income allowed. Owners using SWPs, who withdraw at or below the benefit maximum, are quite consistent across all age groups. Even withdrawals between 110 to 125 percent of benefit maximum account for only another 2 percent of SWP users. Over 7 in 10 GMIB owners take withdrawals through an SWP; and, when most of them withdraw amounts within the benefit maximum, they no doubt are utilizing the GMIB rider.

We also examined how the proportion of the benefit maximum withdrawn varies by contract size. We might expect larger contract sizes to be linked to wealthier and more sophisticated owners who are more likely to work with financial advisors and less inclined to exceed the GMIB benefit maximum, which could result in a reduction of the annual benefit base. Figures 3-30 and 3-31 illustrate the proportion of owners taking withdrawals by age and contract size. We are not able to provide the data for contract sizes of $250,000 or more in order to preserve confidentiality and avoid revealing company-specific information, as that data was heavily weighted for one company or a very limited number of participating companies.

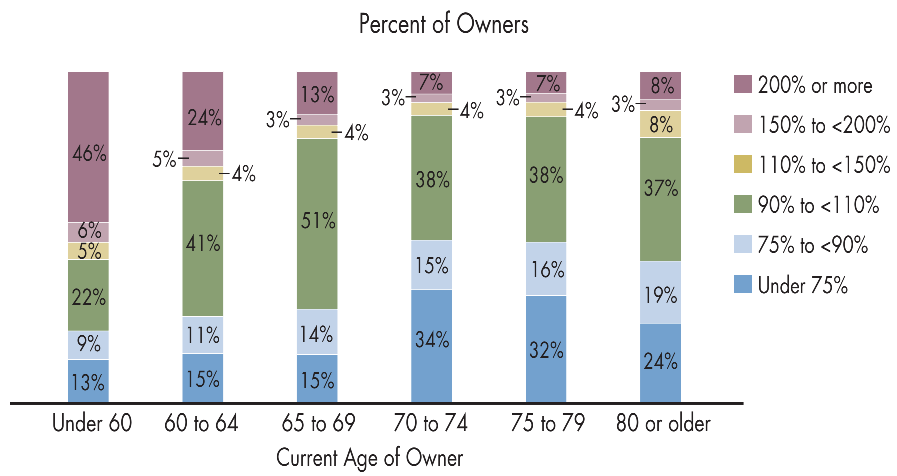
Owners under age 60 with contract sizes under $100,000 at BOY 2013 were not as likely to take withdrawals that were less than 90 percent of the maximum annual amount. For example, 1 in 5 (22 percent) of the owners aged 55 to 59 with contract sizes under $100,000 took less than 90 percent of their maximum amount allowed compared to 40 percent for those with contract values of $100,000 to $249,999.

GMIB owners with higher contract values are less likely than those with lower contract values to significantly exceed the benefit maximum.

We see the opposite for those taking withdrawals of 150 percent or more. Just over half of owners aged 55 to 59 with contract sizes below $100,000 took withdrawals of 150 percent of more of their maximum amount, compared with 26 percent of owners aged 55–59 with contract values of $100,000 to $249,999. Those with contract values of $250,000 or more followed a similar trend.

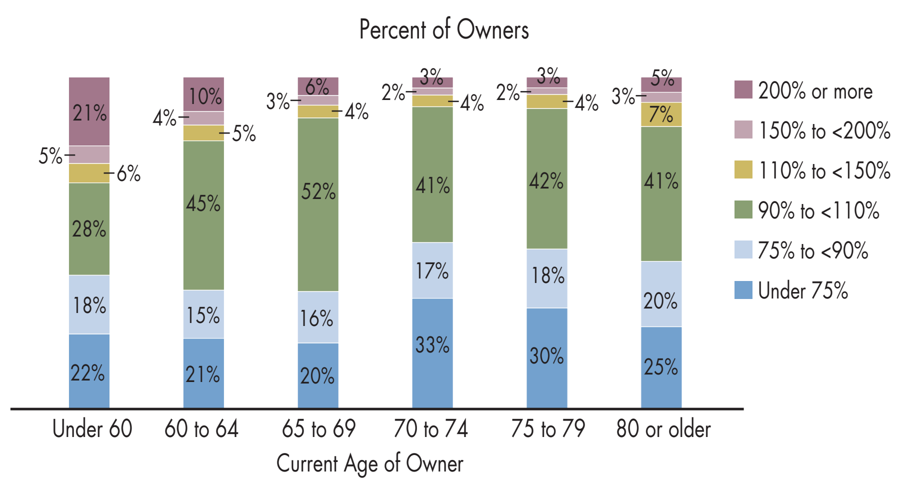
As noted earlier, the relationship between inefficiency and contract size is typically limited to owners under age 60; and even among this group, the greatest difference across contract sizes is not the increasing proportion taking amounts close to the benefit maximum, but rather the proportion of owners with contract sizes below $100,000 taking amounts well above the benefit maximum. In short, GMIB owners with higher contract values are less likely than those with lower contract values to significantly exceed the benefit maximum, particularly among younger owners.

**Figure 3-30:** GMIB Withdrawals to Annual Benefit Maximum Amount by Age, Contract Sizes Under $100,000




Note: Based on 187,299 GMIB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

**Figure 3-31:** GMIB Withdrawals to Annual Benefit Maximum Amount by Age, Contract Sizes $100,000 to $249,999



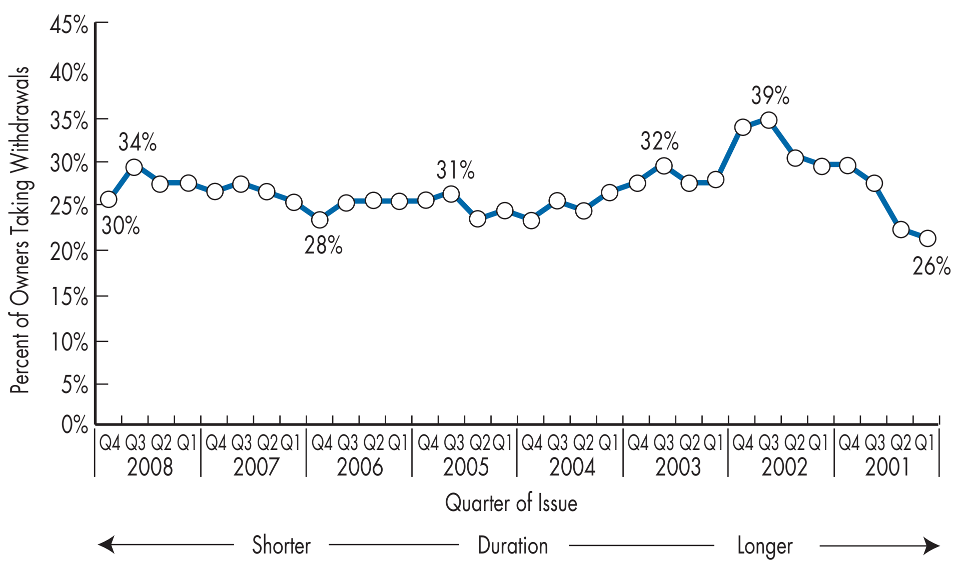

Note: Based on 110,133 GMIB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

## Withdrawal Activity by Duration

Contract duration is an important measure for evaluating what proportion of owners takes withdrawals from their annuities. By comparing their own withdrawal activity by contract duration with that of the industry, companies can assess the extent to which their customers' withdrawal patterns match both their own expectations and the experience of other VA companies. The comparison could also facilitate internal forecasts by estimating when and how many of the GMIB customers will take withdrawals and the resulting cash flow needed for the book of business.

Withdrawals ranged from 26 to 39 percent for contracts issued between 2000 and 2008 and still in force at EOY 2013. Withdrawal activities in longer-duration GMIB contracts were comparatively lower than those in GLWB contracts (Figure 3-32).

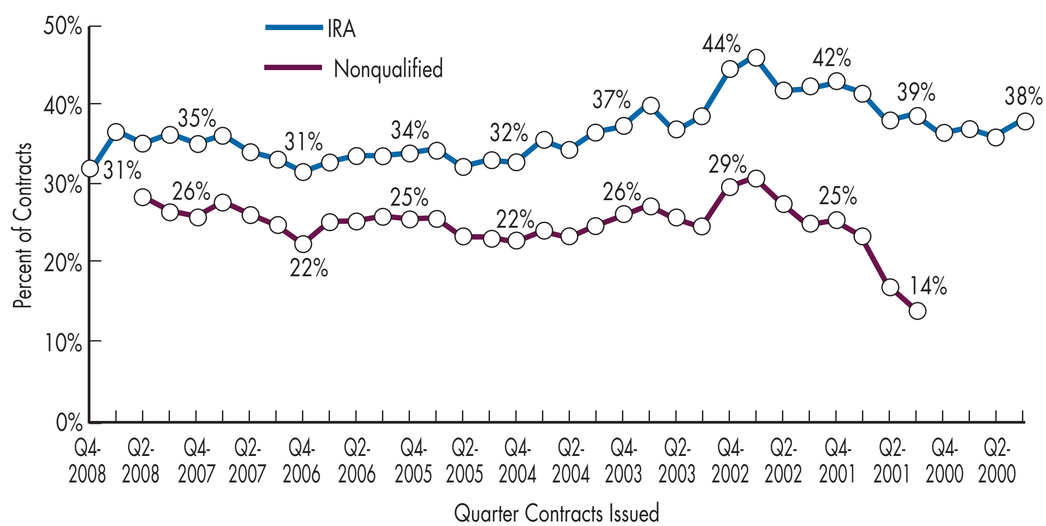
**Figure 3-32:** GMIB Overall Utilization Rates of Withdrawal by Contract Duration




Note: Based on 860,857 GMIB contracts issued between 2001 and 2008 and still in force at EOY 2013. We are not showing data for contracts issued before 2001 or after 2008 because of the limited number of companies issuing GMIB riders and small sample sizes.

How do the overall utilization rates by contract duration periods differ for qualified and nonqualified contracts? For qualified owners, the withdrawal pattern remained around 30 to 35 percent for IRA contracts issued after 2003, while contracts issued in 2003 or earlier had withdrawal rates in the 35 to 45 percent range (Figure 3-33). Nonqualified contracts also had a relatively level withdrawal pattern for contracts issued after 2003 — around 25 to 30 percent. However, for contracts issued in 2002 or earlier, the withdrawal rates dropped to around 14 percent by Q1 2001.

**Figure 3-33:** GMIB Overall Utilization Rates by Contract Duration and Source of Funds

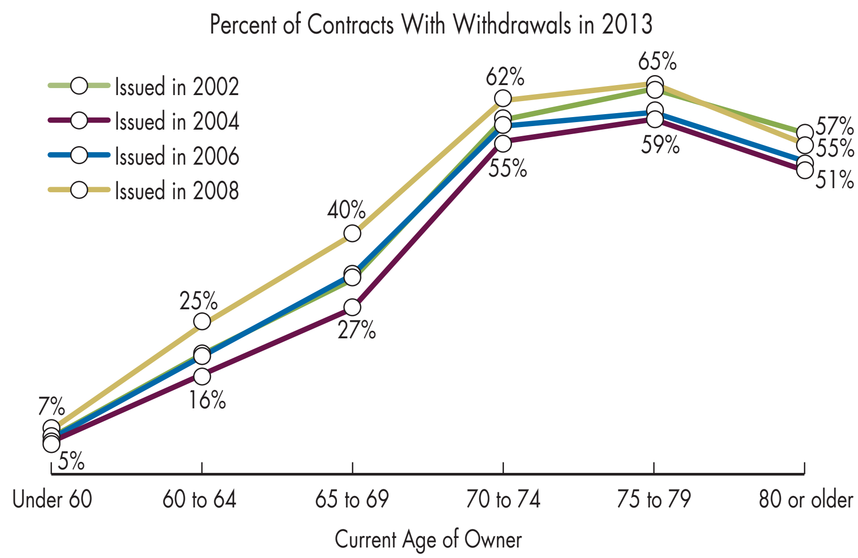



Note: Based on 878,490 GMIB contracts issued from 2000 to 2008 and still in force at EOY 2013. We are not showing nonqualified data in 2000, in Q3 or Q4 of 2008, or any other data for contracts issued before 2000 or after 2008 because of the limited number of companies issuing GMIB riders and small sample sizes.

## Withdrawal Activity by Duration and Age

We analyzed withdrawal activity by contract duration and owner age (Figure 3-34). For contracts purchased by individuals under age 60, the overall utilization rate is fairly stable across different issue years. Withdrawals among these younger age groups are uncommon.

**Figure 3-34:** GMIB Overall Utilization Rates by Contract Duration and Current Owner Age




Note: Based on 450,681 GMIB contracts issued in 2002, 2004, 2006 and 2008, and still in force at EOY 2013.

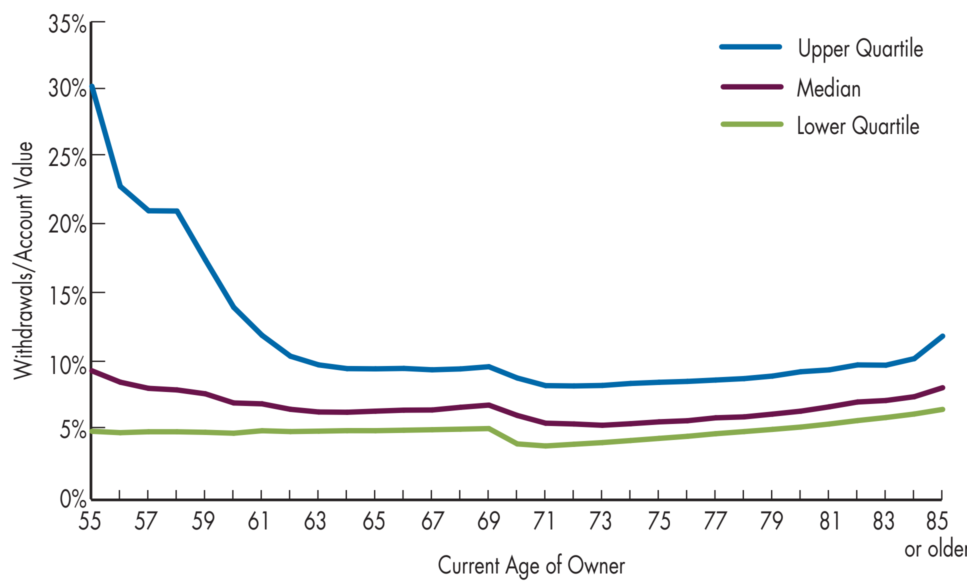
From ages 60 to 79, withdrawal activity increases, as owners begin to retire or need to make withdrawals to satisfy RMDs. For example, for contracts issued in 2008, the overall withdrawal rate increases to 62 percent for owners aged 70 to 74. Withdrawal rates level off for ages 75 to 79 and then decrease 7 to 10 percentage points for ages 80 and older. We found a very similar pattern for contracts issued in 2002 to 2008. The source of funds used to purchase the annuity remains the underlying force for these incremental increases. However, mapping the duration of contracts by age groups can improve our understanding of GMIB customer withdrawal behavior.

Mapping the duration of contracts by age group can improve understanding of GMIB customer withdrawal behavior — as it follows a fairly consistent pattern.

## Withdrawal Amount as a Percentage of Contract Value

In order to provide context for the withdrawal amounts, we assessed the withdrawal amounts in relation to the contract value. Figure 3-35 shows the median and inter-quartile range for withdrawal amounts as a percentage of average contract value. Typically a small number of younger owners take out large withdrawals. However, as we have seen, an increasing number of owners, beginning at age 60, take withdrawals, and their withdrawal amounts represent a more sustainable withdrawal pattern.

**Figure 3-35:** GMIB Withdrawals to Average Contract Value Ratio (For Contracts With Withdrawals Only)




Note: Based on 392,298 GMIB contracts issued before 2013, still in force at EOY 2013 that had partial withdrawals in 2013. Percent of average account value (AV) withdrawn is calculated for every contract: as partial withdrawals divided by (BOY AV + EOY AV)/2.

The median withdrawal amount was $6,000 for contracts issued before 2013 and in force at EOY 2013.

The distribution of the withdrawals as a percent of average contract value withdrawn shows that, for owners aged 70 or over, the median, the upper quartile, and the lower quartile values are relatively close. This pattern also indicates that many owners taking withdrawals at older ages are withdrawing at similar ratios from their contract values; for example, for owners in their 60s and 70s, around 5 to 7 percent. For owners under age 60, the median of the ratios is higher than that of older owners, ranging from 8 to 9 percent, with the highest ratios among younger owners. In addition there is a wide difference between the median and the upper quartile values, indicating that a group of these younger owners are taking far more than the maximum allowed in the contracts. These large withdrawal amounts push up the overall average.

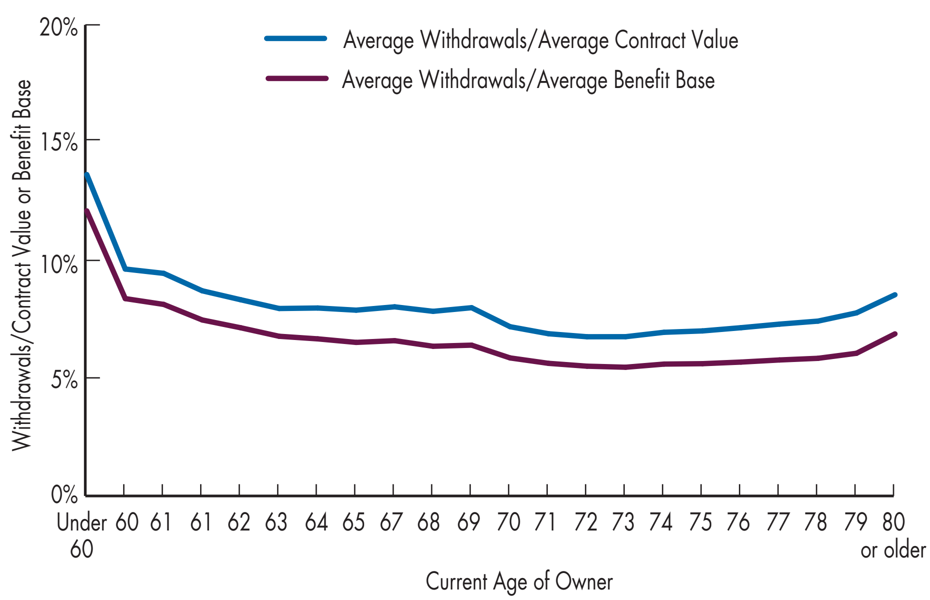
## Ratio of Withdrawal to Contract Value and to Benefit Base (for Contracts With Withdrawals Only)

Measuring the average withdrawal amount as a percent of average contract value and benefit base yields valuable insights into the risk associated with withdrawal provisions in GMIB riders. If the ratio of withdrawal to contract value remains lower than or very close to the ratio of withdrawal to benefit base, insurance companies take very little risk on the withdrawal provisions offered in GMIB riders.

On average, the ratio of withdrawal to contract value is higher than the ratio of withdrawal to benefit base.

For all ages, the ratio of average withdrawal amount to average contract value is higher than the ratio of average withdrawals to average benefit base (Figure 3-36). The average difference between the ratios is around one to two percentage points, for the bulk of GMIB owners aged 60 to 80. For owners under age 60 who took withdrawals, the ratios of their 2012 withdrawal amount to average contract value as well as to benefit base were higher. Many of these withdrawals are likely partial surrenders of contracts that may be fully surrendered in future.

**Figure 3-36:** GMIB Ratio of Withdrawal Amount to Average Contract Value and to Benefit Base



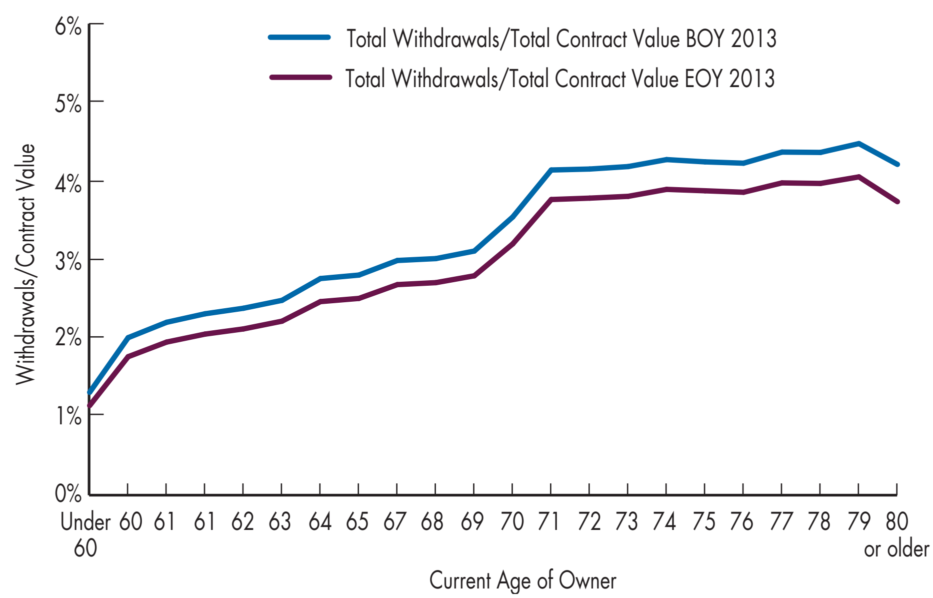

Note: The ratio of withdrawals to average contract values and benefit bases is calculated as the average of withdrawal amounts divided by the average of beginning and ending contract values and benefit bases. In both cases, only the 405,395 contracts that had withdrawals in 2013 and with benefit base information were considered.

## Ratio of Withdrawal Amount to Contract Value

Another measure of withdrawal risk in GMIB riders originating in customer behavior can be ascertained by comparing the ratio of withdrawal amount to BOY contract value and the ratio of withdrawal amount to EOY contract value. This measure can be calculated two ways. First, total withdrawals in 2013 can be divided by total contract values at BOY and EOY, for all in-force contracts. Second, the same ratios can be computed for only the subset of contracts that had withdrawals in 2013. The first metric provides a measure of risk in terms of the total book of business, as well as the rate of cash outflow for each age; while the second provides an estimation of risk among the contracts where owners use the withdrawal provisions in GMIB riders.

The cash outflow ratio, or ratio of total withdrawals to total BOY contract values for all contracts in force throughout the year, was 2.7 percent — higher than the corresponding ratio of 2.4 percent for EOY contract values. Across all ages, the ratio of total withdrawals to total contract values declined in 2013, due to the growing equity markets and gains in fixed-income funds (Figure 3-37).

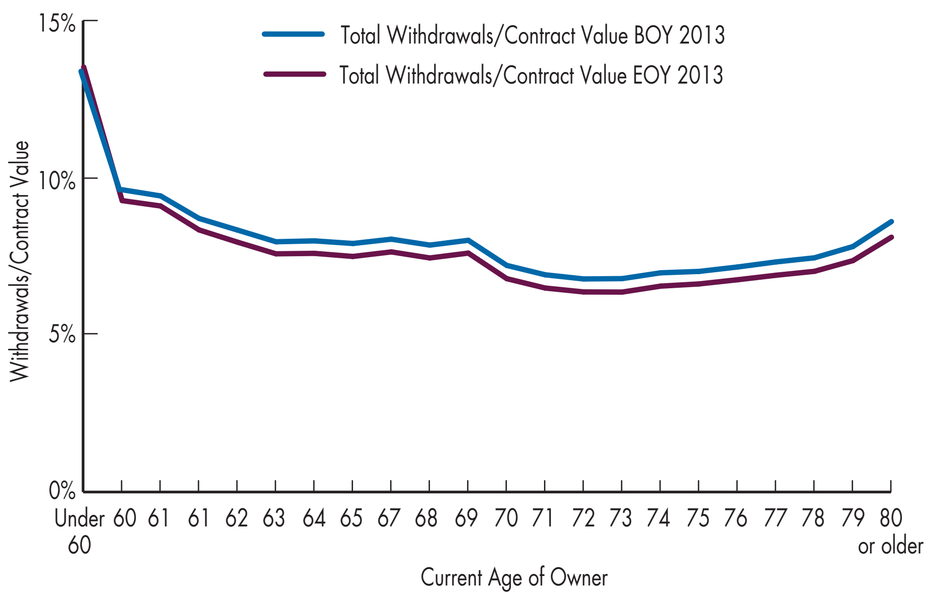
**Figure 3-37:** GMIB Total Withdrawals to Total Contract Value (All Contracts)




Note: Based on 1,482,876 GMIB contracts issued before 2013 and in force at EOY 2013. The metric is the sum of 2013 withdrawals/sum of BOY (or EOY) contract values.

For GMIB contracts that had withdrawals, the rate of withdrawals or cash outflow ratio in relation to contract values at BOY, was 8.2 percent (Figure 3-38). Due to the market gains in 2013, the contracts that had withdrawals experienced a decline in their ratio of withdrawals to contract values during the year (7.8 percent at EOY 2013).

**Figure 3-38:** GMIB Total Withdrawals to Total Contract Values (For Contracts With Withdrawals)




Note: Based on 405,395 GMIB contracts that incurred withdrawals during 2013, were issued before 2013, and were in-force at EOY 2013. The metric is the sum of 2013 withdrawals/sum of BOY (or EOY) contract values.

There are a few noteworthy comparisons of withdrawals from GMIBs and guaranteed withdrawal benefits in GLWB contracts:

- GMIB contracts are not designed primarily for regular withdrawals. The GMIB withdrawal percentages — typically less than or equal to roll-up rates — are often higher than the withdrawal rates allowed in GLWB contracts, particularly for younger customers. So, as customers take withdrawals, the outflow of assets and resulting depletion rate on the account value are more prominent in GMIB contracts than in GLWB contracts.
- Overall the percent of contracts with withdrawals from GMIBs and GLWBs is fairly close, (23 percent for GLWB vs. 27 percent for GMIB).
- As a result, the ratio of withdrawals to contract values is higher in GMIBs (8.2 percent of BOY account value) than in GLWBs (7.8 percent of BOY account value).

However, an important distinction must be made. GLWB owners are guaranteed a withdrawal rate for life, while GMIB owners can take advantage of withdrawal provisions in the rider only for a specific period of time, typically until the end of the waiting period. The risk management for these riders is very different, despite similar owner behavior.

### Withdrawal Activity for GMIB Contracts In-the-Money or Not-in-the-Money

There are multiple ways to measure in-the-moneyness. One method is to compare the benefit base to the account value. This method is used in this section of the report. Another method is to compare the value of the income stream that can be generated from the GMIB to the income that can be generated from the contract value. This method can be found in the "In-the-Moneyness" section of this chapter.

GMIB riders were the first GLB riders introduced so they tend to have older duration contracts that were severely affected by the equity market crisis of 2007 to 2008. At the beginning of 2013, almost five years after the crisis, more than 80 percent of GMIB contracts had benefit bases that were still higher than the contract values. By the end of 2013, two thirds of GMIB contracts remained in-the-money, more than any other type of GLB contract. As stated in the beginning of this section, GMIB contracts issued around the crisis had enriched withdrawal features that could be utilized before annuitization, similar to the withdrawal benefits in GLWB contracts. This raises the question: Does a contract being in-the-money impact withdrawal activities? This in-the-moneyness analysis refers to simple analysis of contracts when the benefit bases exceed the contract values.

GMIB contract benefits being in-the-money had little influence on withdrawal behavior.

In order to conclude that in-the-moneyness has a major influence on withdrawal activities for GMIB contracts, we must consider the same issues as we did for other GLBs. If the incentive for owners to exercise their options to take guaranteed withdrawals from their contracts is particularly compelling when GMIB contracts are in-the-money, then we should see increased withdrawal activity irrespective of owner age.

We cannot furnish an analysis of withdrawal activities where we isolate contracts based on in-the-moneyness, because of the limitations of low sample size, or the need to preserve confidentiality to avoid revealing any company-specific information, as age or issue-year-specific data were heavily weighted by a limited number of companies. However, we can summarize some of the broad findings from our analysis to demonstrate that in-the-moneyness has very little influence on withdrawal activities in GMIB contracts.

For GMIB contracts issued before 2013, we see that:

- Older duration contracts are more likely to be in-the-money (Figure 3-3). The older duration contracts, particularly those issued before 2007, are more likely to have a higher representation of older owners, and the more recently issued contracts are more likely to have a higher proportion of younger owners.
- At the beginning of 2013, the amount that benefit bases were in-the-money was not widely spread across all age groups despite gains in contract values from positive market returns in 2012 (Figure 3-7). In fact, contracts owned by individuals aged 70 or older were more likely to be deeper in-the-money than younger owners. This is because a large numbers of older owners from older duration contracts had already initiated withdrawals in previous years and continued to take withdrawals from their contracts in all following years.
- Since older owners — particularly those aged 70 or older — are more likely to take and continue withdrawals from their GMIB contracts over a longer period of time (Tables 3-5 and 3-6), and a majority of their withdrawal amounts remain within the maximum amount offered in the GMIB contracts (Figure 3-29), their contract values are likely to decline over time while the GMIB benefit bases are likely to remain level. As a result, these contracts become more in-the-money as the withdrawals continue.

Our analysis shows that the percent of owners aged 60 or older who took withdrawals in 2013 was higher among GMIB contracts that were in-the-money compared with those not in-the-money. Also, the gap between the percent of owners taking withdrawals in contracts that were in-the-money increases with older age groups compared with owners not-in-the-money. For example, 52 percent of owners aged 80 or older with contracts in-the-money took withdrawals, compared with 44 percent of owners with contracts not-in-the money.

The percent of owners aged 59 or younger who took withdrawals in 2013 was lower for GMIB contracts not-in-the-money than for contracts in-the-money. This is opposite the withdrawal activities of older owners. Nearly one third of all GMIB contracts are held by this age segment and most of them were in-the-money at BOY. Also, the percent of owners taking withdrawals in 2013 ranged from 4 to 8 percent.

These facts offer strong evidence that in-the-moneyness does not greatly influence withdrawal behavior. If it did, then owners under age 60 would have been more active in taking withdrawals, and we would have seen accelerated withdrawal activities in contracts that were in-the-money, or a sudden jump in withdrawal activities compared to previous years.

In a separate analysis of withdrawals in GMIB contracts by in-the-moneyness, controlled for year of issue, we found the following:

- More GMIB owners took withdrawals from older duration contracts. As owners reached age 70½, a larger number took withdrawals from their qualified contracts to satisfy their RMD needs. The analysis shows that the percentage of owners taking withdrawals decreases, irrespective of age and in-the-moneyness, for shorter-duration contracts.
- We also observed that the vast majority of owners under age 60 who bought their contracts long before the market crisis did not experience any accelerated withdrawal activities, even though 9 out of 10 of these GMIB contracts were in-the-money at BOY. The percentage of these owners who took withdrawals when their contracts were not-in-the-money is low — 5 to 8 percent — but comparatively higher than owners who were in-the-money.

Nearly 9 out of 10 GMIB owners who took withdrawals before 2013 continued to take withdrawals in 2013. There is a small portion of owners under age 70 who start their withdrawals immediately or a short time after their GMIB annuity purchase. Once owners take their first withdrawals and continue to take withdrawals in subsequent years, their contracts are likely to remain in-the-money. Simply put, owners who start withdrawals are likely to continue withdrawals in subsequent years irrespective of in-the-moneyness; and, this influences the data showing that more owners may be withdrawing when they are in-the-money. As owners continue their withdrawals, it is also likely these contracts will remain in-the-money even without a positive equity market.

In addition, over the last few years, we have seen very little evidence that benefits being in-the-money are a principal driver for withdrawal activities:

- Our analysis of the timing of first withdrawals among contracts issued in 2008 (Tables 3-5 and 3-6) provides further evidence that in-the-moneyness is not a strong determinant of withdrawal activity. Over a 6-year period, most of these contracts were exposed to different degrees of in-the-moneyness, especially between 2009 and 2012. Yet we did not observe any significant difference in the onset of withdrawal activity during these years. If in-the-moneyness was a major driver of the decision to begin taking withdrawals, we should have seen a jump in withdrawal activity in 2009 to 2010, when the contracts' account values were likely to be well below their benefit bases following the major drop in contract values in 2008. The same can be said about 2012, when market volatility in late 2011 and low returns caused many contracts to start 2012 deeply in-the-money. Instead, attained age and the need for RMDs for IRA contracts explained much of the withdrawal pattern that we observed. Also, the first withdrawal activity patterns among nonqualified GMIB annuity owners does not show any major shift over the past few years.
- We should note that in 2009, the RMD restrictions were waived after the market crisis. Instead of heightened withdrawal activities, the percentage of IRA owners taking withdrawals dropped to its lowest level in recent years.

For withdrawal behavior by distribution channel, the percent of owners taking withdrawals in the bank, career agent, and independent B-D channels follow a similar, familiar pattern — the percent of owners taking withdrawals remains modest up to age 69. For ages 70 to 79, the percent of owners taking withdrawals increases and then declines slightly for owners aged 80 or older. Contracts in the full-service national B-D channel had lower withdrawal rates for owners aged 70 and over. The overall percent of customers taking withdrawals in any channel is influenced by the mix of older and younger owners and the mix of qualified and nonqualified owners.

## Withdrawals by Select Characteristics

Utilization of withdrawal provisions in GMIB contracts varies substantially across a variety of owner, contract, and benefit characteristics for contracts sold before 2011 (Table 3-11).

**Table 3-11:** GMIB Withdrawals by Select Characteristics

| | Unweighted | | Weighted by BOY 2013 Contract Value | |
|---|---|---|---|---|
| | Partial Withdrawals | Systematic Withdrawals | Partial Withdrawals | Systematic Withdrawals |
| **Age of owner** | | | | |
| Under 50 | 4% | 1% | 7% | 2% |
| 50 to 54 | 5% | 2% | 8% | 4% |
| 55 to 59 | 8% | 4% | 12% | 8% |
| 60 to 64 | 20% | 13% | 27% | 20% |
| 65 to 69 | 32% | 25% | 38% | 31% |
| 70 to 74 | 56% | 41% | 59% | 42% |
| 75 to 79 | 59% | 43% | 60% | 43% |
| 80 or older | 50% | 38% | 48% | 35% |
| **Market type** | | | | |
| IRA | 33% | 23% | 41% | 29% |
| Nonqualified | 24% | 18% | 28% | 22% |
| **Gender** | | | | |
| Male | 30% | 21% | 36% | 26% |
| Female | 29% | 20% | 34% | 25% |
| **Contract value, EOY 2013** | | | | |
| Under $25,000 | 22% | 13% | 30% | 16% |
| $25,000 to $49,999 | 27% | 19% | 31% | 21% |
| $50,000 to $99,999 | 31% | 22% | 33% | 24% |
| $100,000 to $249,999 | 32% | 24% | 35% | 26% |
| $250,000 to $499,999 | 36% | 27% | 38% | 29% |
| $500,000 or higher | 35% | 26% | 36% | 26% |

Note: Based on 1,167,799 GMIB contracts issued before 2011 and still in force at EOY 2013. Percentages refer to the number of contracts in each category that had partial (or systematic) withdrawals during the year. Systematic withdrawals represent a subset of all partial withdrawals. We have limited the period to contracts before 2011 and not shown some measures, for example data by distribution channels, in order to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

### Key Findings

- Older owners are much more likely to take withdrawals than are younger owners, especially systematic withdrawals. In part, this reflects RMDs from IRAs after age 70½.
- Owners with larger contract values are more likely to take withdrawals than owners with smaller contracts.

## Additional Premium and Net Flows

Many retail VAs allow owners to add premium after issue, though in practice most contracts do not receive ongoing deposits. For most GMIBs, the calculation of the benefit base incorporates premium received within a certain time period after contract issue. Among GMIB contracts issued before 2013 and still in force at EOY 2013:

- Two percent received additional premium in 2013. Contracts issued in 2012 were more likely than contracts issued in earlier years to have additional premium.
- Younger owners are more likely to add premium than older owners. For example, 4 percent of owners under age 50 added premium, compared with less than 1 percent of owners aged 70 or older. Three percent and 1 percent of owners aged 50 to 59 and aged 60 to 69 respectively, added additional premium to their contracts in 2013.
- Contracts owned by men and women were equally likely to receive additional premium (2 percent).
- IRA contracts were slightly more likely to receive additional premium than nonqualified contracts (2 percent vs. 1 percent)
- Thirteen percent of a constant group of contracts that were issued in 2008 added additional premium in 2009; roughly 5 to 9 percent added additional premium each year for 2010 through 2012, and only 1 percent in 2013.

Premiums received for newly issued and existing contracts were below the outflows associated with withdrawals, surrenders, deaths, and annuitizations — $9.6 billion and $10.8 billion, respectively (Table 3-12). The total number of GMIB in-force contracts was relatively unchanged during 2013. At EOY 2013, GMIB assets were $193.3 billion, 13 percent higher than the $170.6 billion at BOY 2013.

**Table 3-12:** GMIB Net Flows

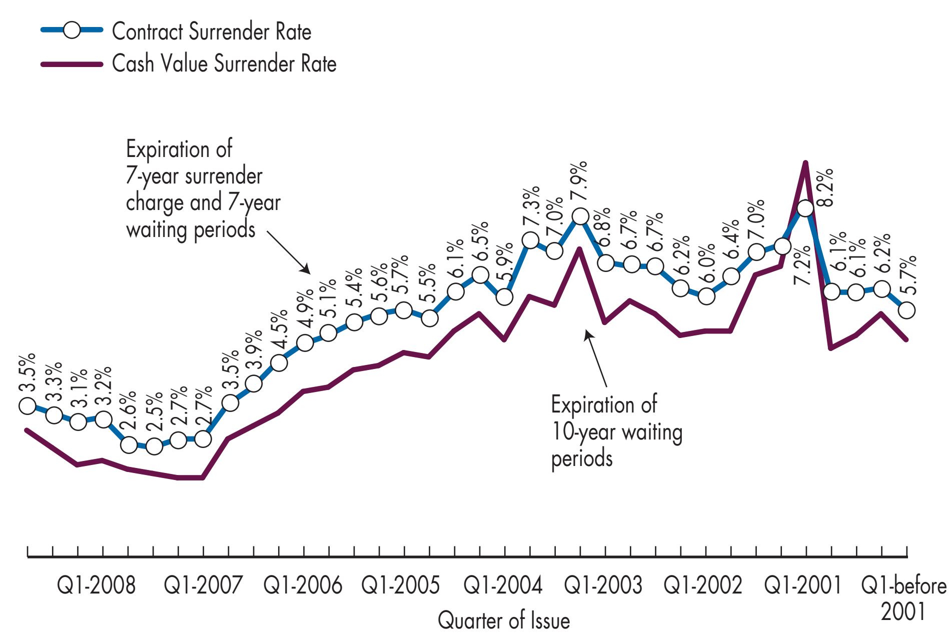
| | Dollars (Billions) | Contracts | Average Contract Size |
|---|---|---|---|
| **In-force, BOY 2013** | **$170.6** | **1,558,431** | **$109,484** |
| **Premium received** | | | |
| Newly issued contracts | $8.8 | 76,383 | $115,738 |
| Existing contracts | $0.8 | N/A | N/A |
| **Benefits paid** | | | |
| Partial withdrawals | $4.8 | N/A | N/A |
| Full surrenders | $4.6 | 60,313 | $75,881 |
| Annuitizations | $0.3 | 5,013 | $67,517 |
| Death/Disability | $1.0 | 10,684 | $95,961 |
| **Investment growth** | $23.8 | N/A | N/A |
| **In-force, EOY 2013** | **$193.3** | **1,558,804** | **$123,979** |

Note: Based on 1,634,814 GMIB contracts in the study. N/A=Not available. Dollar values for contracts issued before 2013 that terminated during the year were set equal to either BOY contract value (if termination occurred before contract anniversary date) or the anniversary contract value (if termination occurred on or after the contract anniversary date). Dollar values for contracts issued in 2013 that terminated during the year were set equal to the current-year premium.

# Persistency

Surrender activity among VAs with GMIBs is a critical factor in measuring risk. High or low persistency, as well as withdrawal rates and the difference between benefit bases and account values, can have an impact on product profitability and the reserve requirements for insurance companies.

**Figure 3-39:** GMIB Surrender Rates in 2013 by Quarter and Year of Contract Issue




Note: Based on 966,394 GMIB contracts issued in 2008 or earlier.

2013 GMIB contract surrender rates were **3.9%**

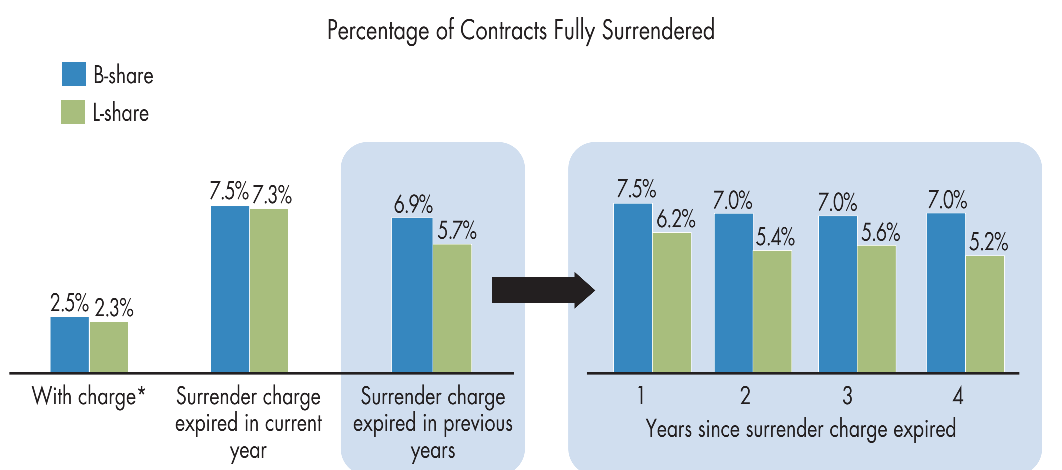
Overall surrender rates for VAs with GMIBs in 2013 were higher than surrender rates for VAs with GLWBs — 3.9 percent vs. 3.0 percent — and lower than the 8.2 percent for GMWBs. However, the comparison to GLWBs reflects the older GMIB contract base — just over 4 in 10 (43 percent) of which were issued in 2006 or before, thus completing at least 7 years of holding periods — so that by 2013 most of these contracts were free of surrender charges. The surrender rate among contracts issued in 2006 or before was 5.9 percent (Figure 3-39). Contracts issued from 2001 through 2004 had the highest surrender rate — around 6 to 8 percent. Moreover, the difference between surrender rates based on contract values (2.9 percent) and those based on contract counts (3.9 percent) is relatively large for GMIB business, which indicates that smaller-than-average contracts are more likely to be surrendered.

## Surrender Activity by Share Class

The surrender rates for contracts where surrender charges existed are low.

Persistency among contracts with surrender charges is much higher than among contracts without surrender charges. The surrender rates for contracts where surrender charges expired in current and previous years was around 6 to 7 percent (Figure 3-40). The surrender rates for contracts where surrender charges expired in 2013 were 7.5 percent for B-share contracts. The surrender rates for contracts where surrender charges existed are low — 2.5 percent — for B-share contracts. Two thirds of B-share contracts were still within the surrender charge period in 2013. B-share contracts constituted around 86 percent of contracts. Cash value surrender rates were roughly 1 percentage point below the contract surrender rates (Figure 3-41).

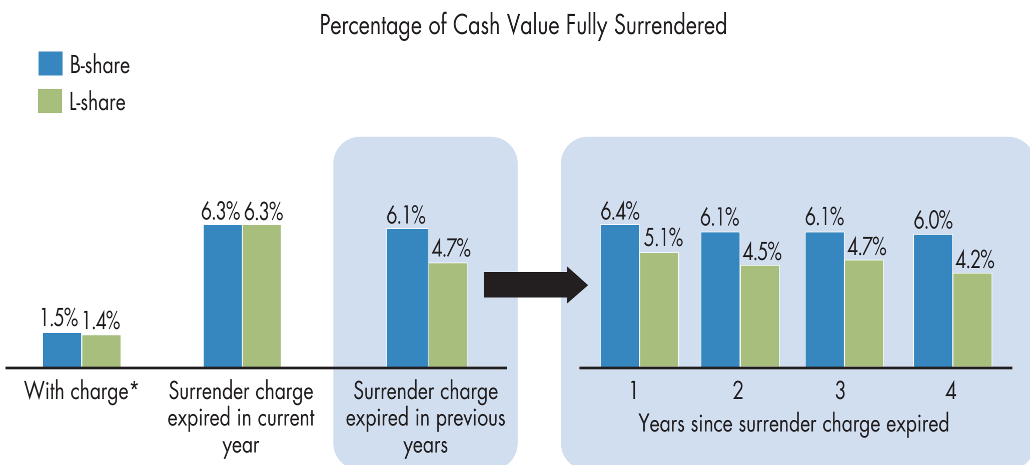
**Figure 3-40:** GMIB Contract Surrender Rates by Share Classes




Note: Based on 1,349,589 B-share and L-share GMIB contracts issued before 2012. We have not shown some measures related to other share classes, in order to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

*We have limited the with charge period to contracts issued before 2012 in order to preserve confidentiality and avoid revealing company-specific information since it was heavily weighted for one company or a very limited number of participating companies.

**Figure 3-41:** GMIB Cash Value Surrender Rate by Share Classes




Note: Based on 1,349,589 B-share and L-share GMIB contracts issued before 2012. We have not shown some measures related to other share classes, in order to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

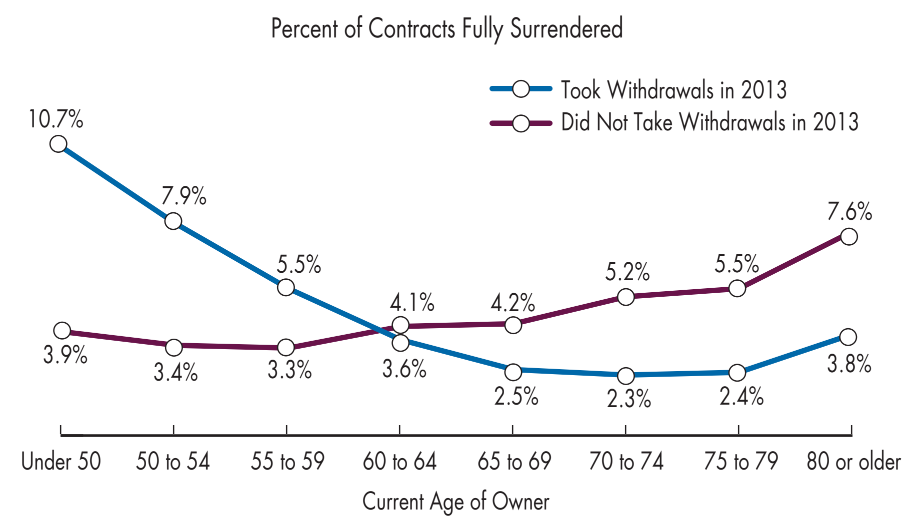
*We have limited the with charge period to contracts issued before 2012 in order to preserve confidentiality and avoid revealing company-specific information since it was heavily weighted for one company or a very limited number of participating companies.

The surrender rates for GMIB contracts are influenced by the level of the surrender charges present in the contract. Naturally, contracts with high surrender charges have lower surrender rates and vice versa. The contract surrender rates are around 6 percent for contracts with no surrender charge, drop to around 4 percent for contracts with a 1 to 2 percent surrender charge, fall to 2 to 3 percent for those with 3 to 4 percent surrender charges, and remain around 1 to 2 percent for those with surrender charges at 5 percent or above. Cash value surrender charges are about one percentage point less and follow a similar pattern.

## Surrender Activity of Owners Who Take Withdrawals

Like persistency trends in other GLB riders, GMIBs with high surrender rates are influenced by younger owners, particularly those under age 60 who took withdrawals before or in 2013. We have already shown that even though younger owners own a significant portion of GMIB contracts, they are not likely to take withdrawals. However, when these younger owners take withdrawals, they typically do so with occasional withdrawals. Moreover, their average withdrawal amount is much higher, and not always supported by the guaranteed benefit base in their contracts. These younger owners are likely taking partial surrenders. Younger owners who took withdrawals in 2013 were also more likely to fully surrender their contracts (Figure 3-42).

**Figure 3-42:** GMIB Contract Surrender Rate by Owners Who Took Withdrawals in 2013




See Appendix Table B3-1 for a breakdown of the data in this Figure for contracts without surrender charges.
Note: Based on 1,552,572 GMIB contracts issued before 2013.

**7.2%** is the contract surrender rate among owners under age 60 who took withdrawals in 2013.

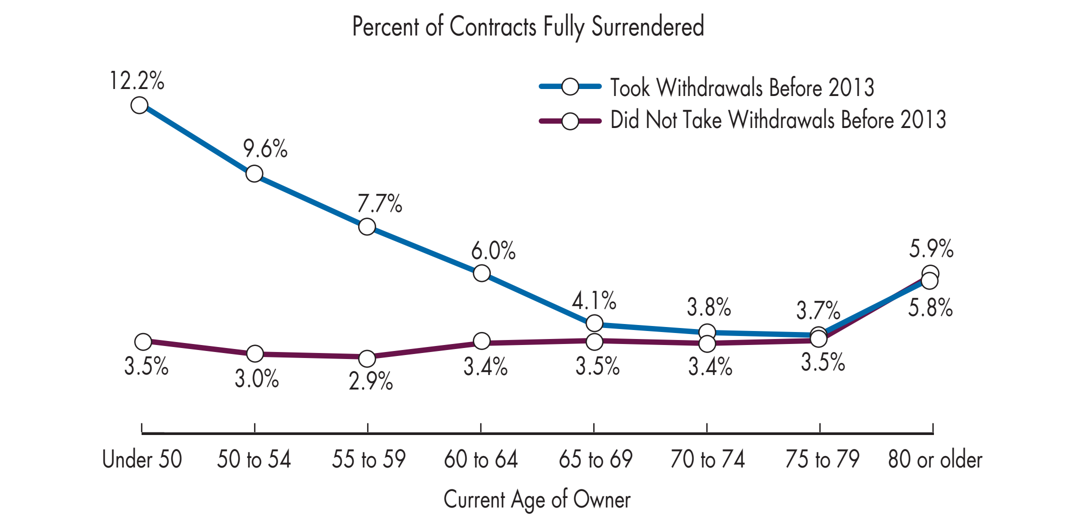
**3.5%** is the contract surrender rate among owners under age 60 who did not take withdrawals in 2013.

Eleven percent of owners under age 50, 8 percent of owners between ages 50 and 54, and 6 percent of owners between ages 55 and 59 who took withdrawals during 2013 subsequently surrendered their contracts by EOY.

The contract surrender rate among owners under age 60 who took withdrawals in 2013 was 7.2 percent. On the other hand, the surrender rate was only 3.5 percent among owners under age 60 who did not take any withdrawals in 2013. The surrender rate for owners aged 60 or older who took withdrawals in 2013 (2.7 percent) was lower than the rate for those who did not take withdrawals (4.6 percent).

Past withdrawals can also indicate whether younger owners are likely to surrender contracts in future. Figure 3-43 shows the surrender rate for owners who took withdrawals before 2013.

**Figure 3-43:** GMIB Contract Surrender Rate by Owners Taking Withdrawals Before 2013



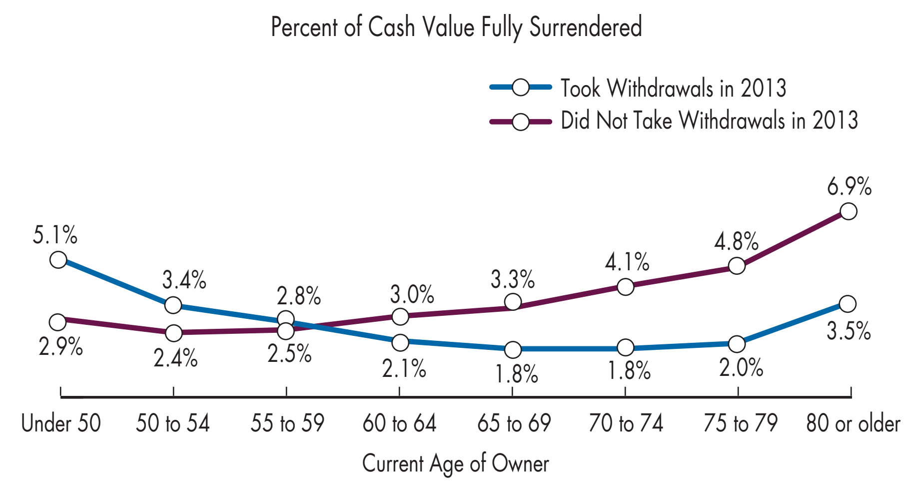

See Appendix Table B3-3 for a breakdown of the data in this Figure for contracts without surrender charges.
Note: Based on 1,513,386 GMIB contracts issued before 2013.

As we have seen, younger owners are the most likely to take withdrawals that exceed the benefit maximum. We believe that this activity represents an increased likelihood that they will surrender their contracts. Contracts where owners under age 60 took withdrawals — either in current or past years — show an increased likelihood of surrender. However, this increased surrender activity did not occur for owners over age 60. For them, a withdrawal in one year did not necessarily signal a higher likelihood of surrender in the next year. In general, the likelihood of surrender increases with age among contracts with no withdrawal activity. Understanding this behavior is important since withdrawal activity, particularly withdrawals that exceed the benefit maximum, can be an early indicator of increased surrender activity for a book of business.

GMIB surrender rates are relatively low for owners under age 70 who are not taking withdrawals.

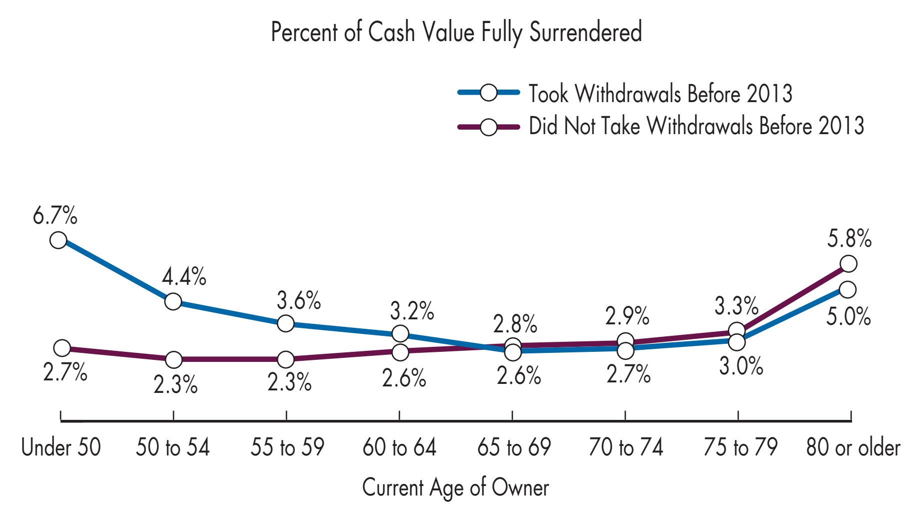
We also looked at the cash value surrender rates of contracts with withdrawals in and before 2013. The cash value surrender rates follow a similar pattern to the contract surrender rates, except the cash value surrender rates are slightly lower, particularly for owners under age 65 who took withdrawals (Figures 3-44 and 3-45).

**Figure 3-44:** GMIB Cash Value Surrender Rate by Owners Who Took Withdrawals in 2013




See Appendix Table B3-2 for a breakdown of the data in this Figure for contracts without surrender charges.
Note: Based on 1,552,572 GMIB contracts issued before 2013.

**Figure 3-45:** GMIB Cash Value Surrender Rate by Owners Who Took Withdrawals Before 2013



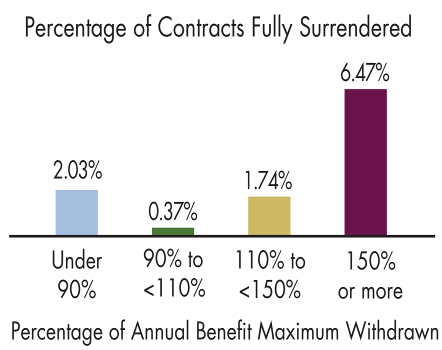

See Appendix Table B3-4 for a breakdown of the data in this Figure for contracts without surrender charges.
Note: Based on 1,513,386 GMIB contracts issued before 2013.

## Surrender Activity by Percentage of Annual Benefit Maximum Withdrawn

The previous section established the relationship between surrender activity and withdrawal activity. In this section, we focus on those contracts that had withdrawals, and examine how withdrawal amounts as a percentage of the GMIB annual benefit maximum are linked to surrender activity. To avoid exposing a single company's results, we limited this analysis to contracts issued in 2008 or earlier.

Figure 3-46 shows the contract surrender rates — for owners aged 60 to 79 who took withdrawals in 2013 — based on the percentage of annual benefit maximum withdrawn.[28] Owners who took between 90 and less than 110 percent of the maximum allowed rarely surrendered the contract.

**Figure 3-46:** GMIB Contract Surrender Rates by Owners With Contracts Issued Before 2009 Who Took Withdrawals, in Relation to Annual Benefit Maximum Allowed




Note: Based on 197,332 GMIB contracts issued before 2009, with withdrawals in 2013, and owners aged 60–79.

The surrender rates show a U-shaped relationship to percent of benefit maximum withdrawn — those with very low and very high ratios of withdrawals to maximum allowed have higher surrender rates than those in the middle category.

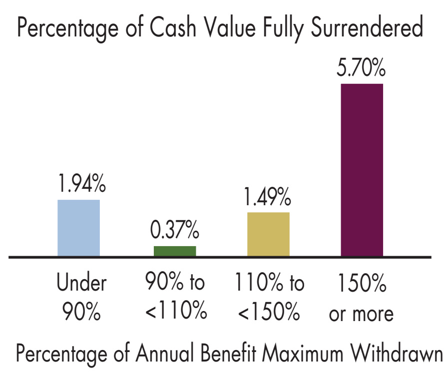
> Owners taking less than 90 percent or 150 percent or more of the annual maximum withdrawal amount allowed in their contracts accounted for 53 percent of all owners who took withdrawals in 2013, and were responsible for 9 out of 10 surrendered contracts.

[28] See "Percentage of Maximum Annual Benefit Withdrawn" earlier in this chapter for the definition of GMIB benefit maximum.

The GMIB owners taking 150 percent or more of the maximum accounted for 10 percent of all owners who took withdrawals in 2013. They are also responsible for nearly 4 out of 10 contracts that surrendered. The GMIB owners who took less than 90 percent accounted for 43 percent of the owners and were responsible for about 5 in 10 of the contracts that surrendered. The contract and cash surrender rates were similar. Any withdrawal behavior not in line with the maximum withdrawal amount can be a reliable indicator of possible surrender behavior of GMIB owners.

The cash value surrender rates among owners who took withdrawals in 2013 — based on the percentage of annual benefit maximum withdrawn — follow a very similar pattern to that of contract surrender rates, except the cash value surrender rates were typically lower (Figure 3-47).

**Figure 3-47:** GMIB Cash Value Surrender Rates by Owners with Contracts Issued Before 2009 Who Took 2013 Withdrawals, in Relation to Annual Benefit Maximum Allowed



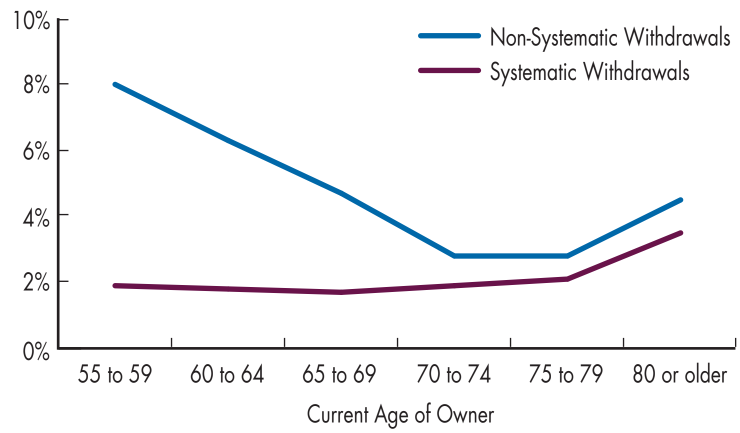

Note: Based on 197,332 GMIB contracts issued before 2009, with withdrawals in 2013 and owners aged 60–79.

## Surrender Activity of Owners Taking Systematic Withdrawals

Another strong indicator of whether owners are likely to surrender their contracts is the type of withdrawal method they use — systematic or occasional. As we have seen, owners who use systematic withdrawals are less likely to take more than the benefit maximum, and most excess withdrawals are being made by younger owners.

Overall, the contract surrender rate among owners who took non-systematic or occasional withdrawals in 2013 was 4.8 percent; while the surrender rate among owners who withdrew systematically was a very low 2.0 percent. Non-systematic or occasional withdrawals do not always maximize the benefit withdrawals; and, for younger owners, this indicates higher surrender rates (Figure 3-48).

**Figure 3-48:** GMIB Contract Surrender Rates by Withdrawal Methods



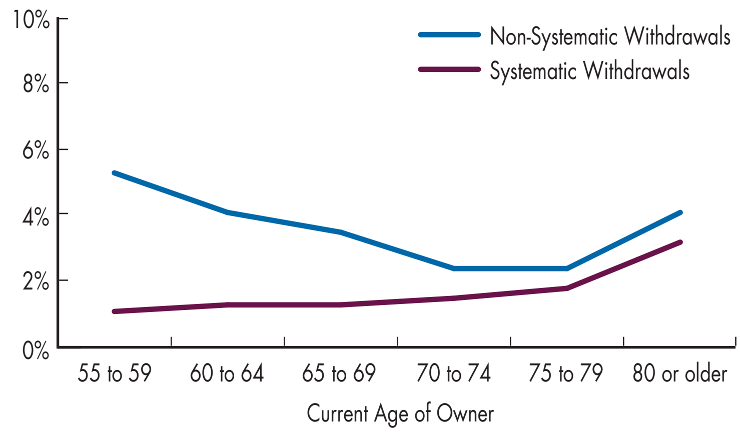

See Appendix Table B3-5 for a breakdown of the data in this Figure for contracts without surrender charges.
Note: Based on 405,671 GMIB contracts issued before 2013 that also had withdrawals in 2013.

Owners using a non-systematic or occasional withdrawal method accounted for 31 percent of all owners who took withdrawals, but they accounted for 52 percent of all surrendered contracts and 46 percent of cash surrender values in 2013. Surrender rates among older owners who take non-systematic or occasional withdrawals are nearly one and a half times the surrender rates of older owners who take systematic withdrawals.

GMIB contract surrender rates are **4.8%** among owners who take occasional withdrawals compared with **2.0%** among owners who take systematic withdrawals.

The cash value surrender rates by withdrawal methods follow a very similar pattern to the contract surrender rates, except the cash value surrender rates are slightly lower, particularly for owners under age 70 who take non-systematic or occasional withdrawals (Figure 3-49).

**Figure 3-49:** GMIB Cash Value Surrender Rates by Withdrawal Methods




See Appendix Table B3-6 for a breakdown of the data in this Figure for contracts without surrender charges.
Note: Based on 405,671 GMIB contracts issued before 2013 that also had withdrawals in 2013.

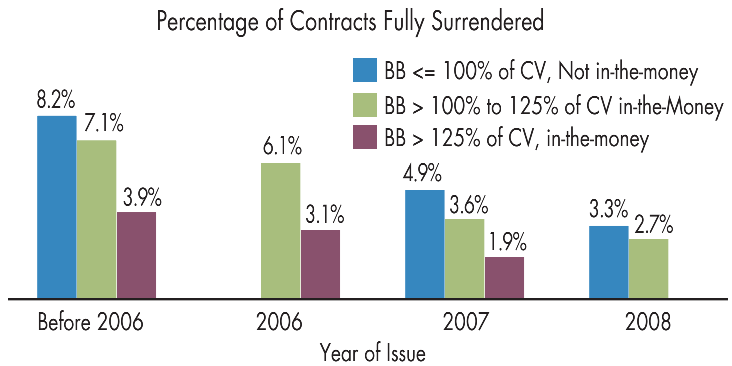
However, companies should note that GMIB contract owners — particularly owners under age 70 who are not taking withdrawals — hold on to their contracts longer. All VAs with GLBs are experiencing lower persistency compared with VAs without a GLB; this will have an impact on the company's assets and reserves, as a greater number of contract owners may ultimately receive benefits over the life of their contracts.

## Surrender Activity by Degree of In-the-Moneyness

Another important way to look at GMIB surrenders rates involves whether or not the contracts are in-the-money. We looked at surrender rates by degree of in-the-moneyness for contracts issued before 2013 that did not have withdrawals before 2013, for issue years 2008 and earlier (Figures 3-50 and 3-51).

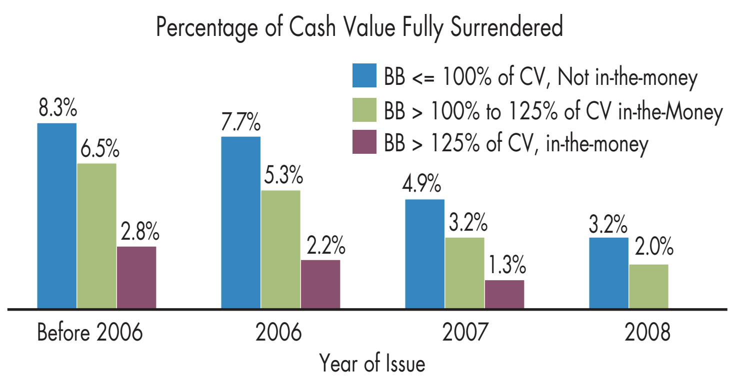
Surrender rates were lower for contracts that did not have any withdrawals before 2013 and were in-the-money. GMIB owners appear to be sensitive to the degree of in-the-moneyness when deciding whether to surrender their contracts. Actuaries should account for this sensitivity when setting assumptions for lapse behavior.

**Figure 3-50:** GMIB Contract Surrender Rate by Degree of In-the-Moneyness When No Withdrawals Taken Before 2013




Note: Based on 943,638 GMIB contracts issued in 2008 and earlier. We have not shown some measures related to other issue years either because of low sample size or in order to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies. In-the-money = benefit base was greater than account value.

**Figure 3-51:** GMIB Cash Value Surrender Rate by Degree of In-the-Moneyness When No Withdrawals Taken in or Before 2012




Note: Based on 943,638 GMIB contracts issued in 2008 and earlier. We have not shown some measures related to other issue years either because of low sample size or in order to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies. In-the-money = benefit base was greater than account value.

However, looking at the surrender rates based on only the degree of in-the-moneyness may not completely address all issues when trying to understand the persistency risk. First, the vast majority of contracts — particularly those issued before 2008 — were in-the-money at the beginning of 2013. Second, for contracts with withdrawals before 2013, the benefit bases being lower than account values could have been caused by owners taking withdrawals exceeding the benefit maximums, resulting in pro-rata adjustments. Contracts that were in-the-money were most likely the contracts where owners took withdrawals within the benefit maximums, or through SWPs, or where owners have not yet started their withdrawals.

Table 3-13 provides the GMIB contract and cash value surrender rates by selected characteristics.

**Table 3-13:** GMIB Surrender Rates

| | Percent of Contracts Surrendered | Percent of Cash Value Surrendered |
|---|---|---|
| **All contracts issued before 2013** | 3.9% | 2.9% |
| **Year of issue** | | |
| Before 2002 | 6.3% | 5.6% |
| 2002 | 6.5% | 5.6% |
| 2003 | 7.2% | 6.0% |
| 2004 | 6.0% | 5.1% |
| 2005 | 5.4% | 4.3% |
| 2006 | 4.3% | 3.2% |
| 2007 | 2.6% | 1.9% |
| 2008 | 3.3% | 2.5% |
| **Age of owner** | | |
| Under 50 | 4.2% | 3.0% |
| 50 to 54 | 3.7% | 2.5% |
| 55 to 59 | 3.5% | 2.5% |
| 60 to 64 | 4.0% | 2.8% |
| 65 to 69 | 3.7% | 2.7% |
| 70 to 74 | 3.6% | 2.8% |
| 75 to 79 | 3.7% | 3.2% |
| 80 or older | 5.8% | 5.3% |
| **Contract value, BOY 2013** | | |
| Under $25,000 | 6.3% | 5.6% |
| $25,000 to $49,999 | 4.1% | 4.1% |
| $50,000 to $99,999 | 3.3% | 3.3% |
| $100,000 to $249,999 | 2.7% | 2.7% |
| $250,000 to $499,999 | 2.4% | 2.4% |
| $500,000 or higher | 2.4% | 2.5% |
| **Gender** | | |
| Male | 3.8% | 2.8% |
| Female | 3.9% | 2.9% |
| **Market type** | | |
| IRA | 3.8% | 2.7% |
| Nonqualified | 3.8% | 3.0% |

**Table 3-13:** GMIB Surrender Rates *(continued)*

| | Percent of Contracts Surrendered | Percent of Cash Value Surrendered |
|---|---|---|
| **Cost structure** | | |
| B-share | 4.0% | 2.8% |
| L-share | 3.2% | 2.7% |

Note: Based on 1,552,575 contracts issued before 2013. Percent of contracts surrendered = number of contracts fully surrendered/total number of in-force contracts. Percent of contract value surrendered = sum of values of fully surrendered contracts/total contract value in force.

We have not shown some measures in order to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

## Key Findings

- Larger GMIB contracts tend to have lower surrender rates.
- There is no significant difference in GMIB surrender rates based on gender or market type
- B-share contracts tend to have higher surrender rates than C- and L-share contracts.

# Chapter Four

2013 EXPERIENCE

# Guaranteed Minimum Accumulation Benefits

# Chapter Four: Guaranteed Minimum Accumulation Benefits

Guaranteed minimum accumulation benefit (GMAB) riders in variable annuities (VAs) guarantee that the contract owner will receive a minimum amount of the principal after a set period of time or waiting period — either the amount initially invested or the account value with a locked-in guaranteed rate, or market gains locked in during the waiting period. The rider guarantees protection of the investment's value from a down market. The GMAB typically provides a one-time adjustment to the contract value on the benefit maturity date if the contract value is less than the guaranteed minimum accumulation value as stipulated in the contract. However, if the contract value is equal to or greater than the guaranteed minimum accumulation value, the rider ends without value and the insurance company pays no benefits.

Even though they are one of the simplest living benefits, GMABs differ from other GLB riders in terms of the nature of the guarantee. While GLWBs, GMWBs, and GMIBs offer guaranteed retirement income for life or for a certain period of time (at the owner's discretion), GMABs mainly guarantee protection of investments from market risk. GMABs are also different from other GLBs in terms of the risk posed to the insurer. With GLWBs, GMWBs, and GMIBs, the contract owner must choose to utilize the benefit. With GMABs, insurers are obligated to provide the guaranteed benefit to all owners whose GMABs are 'in-the-money' (where the guaranteed benefit base exceeds the account value) on their maturity date. This makes it even more important for companies to scrutinize the persistency patterns of contracts with these benefits.

Sales of contracts with GMABs continued to decline in 2013, down 20 percent to $2.0 billion. Sales were $2.4 billion in 2012 and $3.2 billion in 2011. Election rates for GMABs remain very low, accounting for around 2 percent of sales where any living benefit is available for purchase.[29] This chapter is based on an analysis of 262,464 VA contracts with GMABs, issued by 11 companies. Of these contracts, 245,019 were issued before 2013 and were in force as of December 31, 2013. A total of 17,445 contracts were issued in 2013 and were in force at end-of-year (EOY) 2013. Forty-six percent of the contracts that remained in force in 2013 were issued in 2007 or before.

At EOY 2013, LIMRA Secure Retirement Institute estimates the GMAB assets in the industry were $28 billion. These results from the companies in this study represent a total of 44 in-force GMAB riders introduced between 1999 and 2013, valued at $24.5 billion at EOY 2013 — 88 percent of total GMAB industry assets.

29 *Variable Annuity Guaranteed Living Benefits Election Tracking, 4th Quarter 2013,* LIMRA Secure Retirement Institute, 2014.

# Owner Profiles

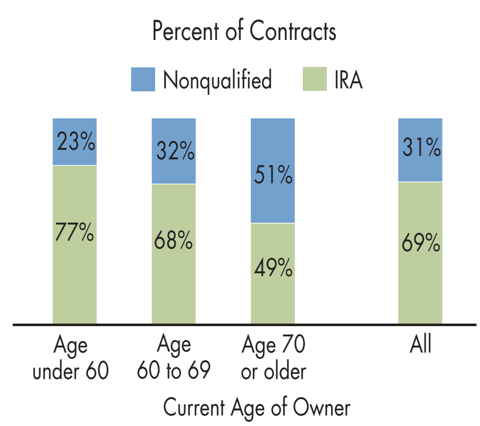
### Ownership of Qualified and Nonqualified GMAB Annuities

Sixty-nine percent of GMAB contracts issued in 2013 or earlier were qualified, and this aligns with a broader industry shift that LIMRA Secure Retirement Institute has tracked in the total VA market, where annuities are increasingly being funded with tax-qualified money, the bulk of which likely comes from rollovers by younger individuals.

**Seven out of ten** GMAB contracts issued in 2013 or earlier were qualified.

Based on contracts issued in 2013 or earlier and still in force at EOY 2013, ownership of qualified annuities is largely concentrated in the hands of owners under age 60. Among those owners, 4 out of 5 fund their annuities with qualified money (Figure 4-1). In contrast, half of the owners aged 70 or over fund their GMAB annuities with nonqualified sources.

**Figure 4-1:** GMAB Ownership by Source of Funds and Age Group




Note: Based on 262,462 contracts issued in 2013 or before and still in force at EOY 2013.

- GMABs can be appropriate annuity investments for conservative to moderate investors who have a long-term investment horizon, typically 10 years or more. The key motivators for buying a GMAB are its guarantee of principal protection, and the potential it offers for growth.
- GMAB riders often compete with fixed indexed annuities, which also offer upside market potential with downside risk protection. While growth from market gains in fixed indexed annuities is subject to many complex calculations, a VA with a GMAB rider typically enjoys unlimited upside potential.
- Since GMAB benefits are equally effective in guaranteeing both qualified and nonqualified assets against market volatility and loss of principal, the increased flow of qualified funds underscores investor concern about protecting retirement assets from a down market.
- After the waiting period is over in a GMAB contract, the initial guarantee and the obligation of the insurance company expire after adjustment of the guaranteed benefit, if there is any. However, the client can renew the GMAB contract for another period, surrender the contract, or exchange the contract for another annuity. Subsequent to the need for preserving assets for a definite period from market downturn, a client may transition into another life stage and may be interested in converting savings into income. As most of the investments in GMABs are qualified, clients will at least need to take RMDs.

We have not shown any buyer information to preserve confidentiality and avoid revealing company-specific information since these data were heavily weighted for a very limited number of participating companies.

# GMAB Owner and Contract Characteristics

Table 4-1 provides a summary of GMAB owner and contract characteristics at EOY 2012.

**Table 4-1:** GMAB Owner and Contract Characteristics

| | GMAB Contracts In Force |
|---|---|
| **Age of owner** | |
| Under 50 | 23% |
| 50 to 54 | 13% |
| 55 to 59 | 17% |
| 60 to 64 | 16% |
| 65 to 69 | 13% |
| 70 to 74 | 8% |
| 75 to 79 | 5% |
| 80 or older | 5% |
| **Average age** | 59 years |
| **Gender** | |
| Male | 49% |
| Female | 51% |
| **Market type** | |
| IRA | 69% |
| Nonqualified | 31% |
| **Distribution Channel** | |
| Career agent | 33% |
| Independent agent/independent B-D | 38% |
| Full-service National B-D | 7% |
| Bank | 22% |
| **Cost Structure** | |
| B-share | 80% |
| C-share | 1% |
| L-share | 16% |
| Other | 2% |

**Table 4-1:** GMAB Owner and Contract Characteristics *(continued)*

| | GMAB Contracts In Force |
|---|---|
| **Contract value, EOY 2013 as percent of contracts** | |
| Under $25,000 | 26% |
| $25,000 to $49,999 | 21% |
| $50,000 to $99,999 | 24% |
| $100,000 to $249,999 | 22% |
| $250,000 to $499,999 | 5% |
| $500,000 or higher | 2% |
| **Contract value, EOY 2013 as percent of contract value** | |
| Under $25,000 | 4% |
| $25,000 to $49,999 | 8% |
| $50,000 to $99,999 | 18% |
| $100,000 to $249,999 | 35% |
| $250,000 to $499,999 | 20% |
| $500,000 or higher | 15% |
| **Average contract value, EOY 2013** | $93,156 |
| **Median contract value, EOY 2013** | $54,055 |

Note: Based on 262,464 GMAB contracts still in force at EOY 2013. Percentages are based on number of contracts unless stated otherwise. We have not shown some data such as buyer information to preserve confidentiality and avoid revealing company-specific information, as those data were heavily weighted for one company or a very limited number of participating companies.

## Key Findings

- One fourth of owners were under age 50
- Eight out of ten contracts were B-share contracts, while L-share contracts made up 16 percent of contracts.
- Career agents issued one third, and independent broker-dealers issued 4 in 10 GMAB contracts.
- The average contract value for GMABs was $93,156 at EOY 2013.

## Benefit Base

At beginning-of-year (BOY) 2013, the average GMAB contract value of $84,600 exceeded the average benefit base of $78,800 by 7 percent (Table 4-2). At BOY 2013, 18 percent of GMAB contracts issued before 2013 still had benefit bases that were in-the-money. This measure was lower than 2010 when 55 percent of GMAB contracts issued before 2010 had benefit bases that exceeded contract values, after experiencing severe losses during the market crisis of 2008 to 2009.

**Table 4-2:** GMAB Benefit Base and Contract Value, at BOY 2013

| | Benefit Base | Contract Value | |
|---|---|---|---|
| | Amount | Amount | Percent of Benefit Base |
| Sum | $18,335,002,209 | $19,674,679,615 | 107% |
| Average | $78,798 | $84,555 | 107% |
| Median | $45,144 | $49,272 | 109% |
| Percent of contracts where benefit base exceeded the account value | | 18% | |

Note Based on 232,685 GMAB contracts issued before 2013 and remaining in force at EOY 2013. Excludes contracts for which the GMAB benefit bases could not be determined.

**Table 4-3:** GMAB Benefit Base and Contract Value, at EOY 2013

| | Benefit Base | Contract Value | |
|---|---|---|---|
| | Amount | Amount | Percent of Benefit Base |
| Sum | $18,045,462,357 | $21,425,952,097 | 119% |
| Average | $77,553 | $92,081 | 119% |
| Median | $44,201 | $53,154 | 120% |
| Percent of contracts where benefit base exceeded the account value | | 10% | |

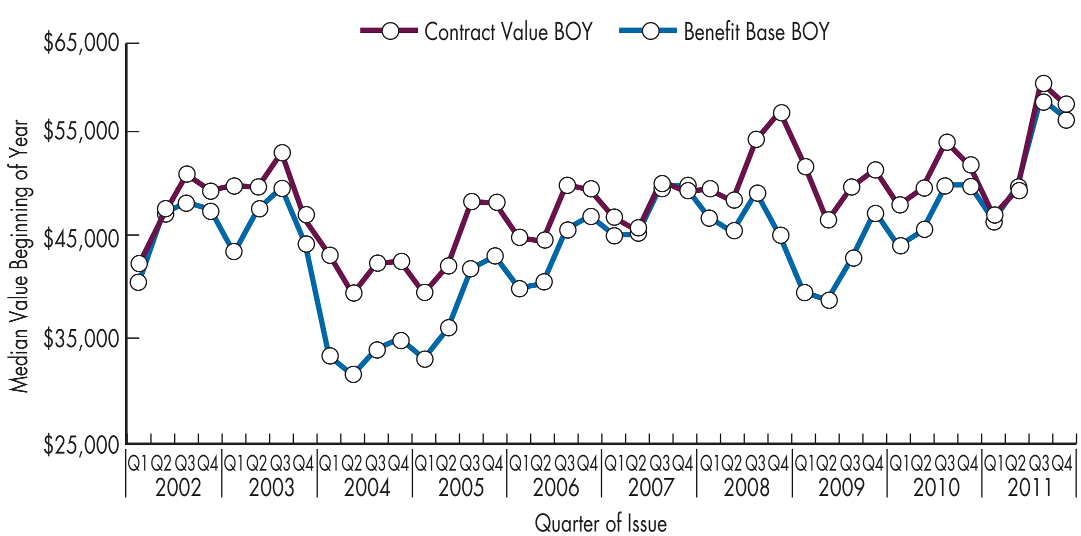
Note: Based on 232,685 GMAB contracts issued before 2013 and remaining in force at EOY 2013. Excludes contracts for which the GMAB benefit bases could not be determined.

**10%** of GMAB contracts were in-the-money at EOY, compared with **18%** at BOY 2013.

In 2013, the S&P 500 market was up 32 percent. By EOY 2013, the average GMAB account value grew 9 percent from $84,600 to $92,100 (Table 4-3). The average benefit base fell slightly from $78,800 to $77,600. As a result, only 10 percent of the GMAB contracts were in-the-money at EOY.

Because most GMAB contracts were issued several years ago (5 in 10 contracts were issued in 2007 or earlier), a large segment of the contracts went through considerable market volatility — involving both gains in 2005 to 2007, and deep losses during the market crisis in 2008 to 2009. The contracts issued in 2003, for example, experienced a brief period of market gains in 2006 to 2007, and had less of a setback during the last market crisis. Conversely, contracts issued in 2007, purchased at the height of the market, have yet to recover from massive losses suffered in the crisis. However, contracts issued in late 2008 and early 2009 — at the bottom of the crisis — had account values higher than the benefit base (Figure 4-2). In general, at BOY 2013, median GMAB contract values were higher than the median benefit base from 2002 through Q2 2006, and Q3 2008 through Q3 2010.

**Figure 4-2:** GMAB Median Contract Value vs. Median Benefit Base, BOY 2013

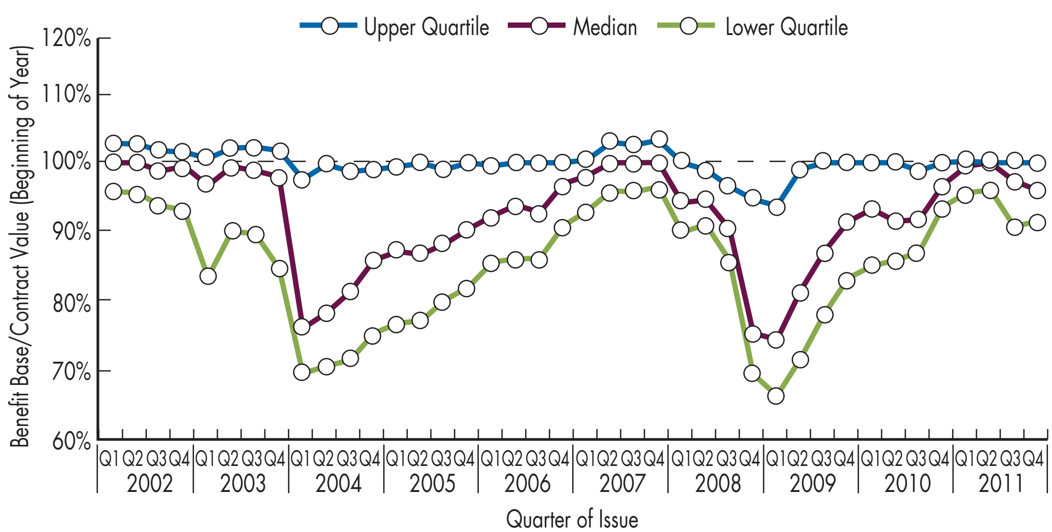



Note: Based on 224,565 GMAB contracts issued between 2002 and 2011. Excludes contracts for which the GMAB benefit bases could not be determined and some years of issue to preserve confidentiality and avoid revealing company-specific information, as those data were heavily weighted for a very limited number of participating companies.

Overall, contracts issued between 2002 and 2011 primarily have median account values exceeding the median benefit base, by amounts as much as $12,500; in only 3 of those quarters does the median benefit base exceed the median account value. For contracts issues between Q1 2002 and Q4 2006 — which represents 37 percent of in-force GMAB contracts issued between 2002 and 2011 — all but one quarter saw median contract values higher than the benefit base, with median account values exceeding the median benefit base by as much as $9,800. A similar pattern can be seen in contracts issued from Q1 2007 to Q4 2011, with the median account value exceeding the median benefit base in all but two quarters. The difference between the median contract value and the median benefit base of these contracts ranged from $400 to $12,500.

However, not all GMAB contracts were out-of-the-money. For example, some GMAB contracts issued during 2002 or 2007 were still in-the-money at BOY 2013. However, favorable market conditions in 2012 helped to bring the median benefit base to median contract value ratio equal to or less than 100 percent for most contracts. Figure 4-3 shows the comparison between the ratio of the median benefit base to median contract value for GMABs at BOY 2013, as well as the inter-quartile range to understand how widely (or narrowly) distributed the ratios were.

**Figure 4-3:** GMAB Ratio of Benefit Base to Contract Value, BOY 2013




Note: Based on 224,565 GMAB contracts issued between 2002 and 2011 and still in force at EOY 2013. Excludes contracts for which the GMAB benefit bases could not be determined and some years of issue to preserve confidentiality and avoid revealing company-specific information, as those data were heavily weighted for a very limited number of participating companies.

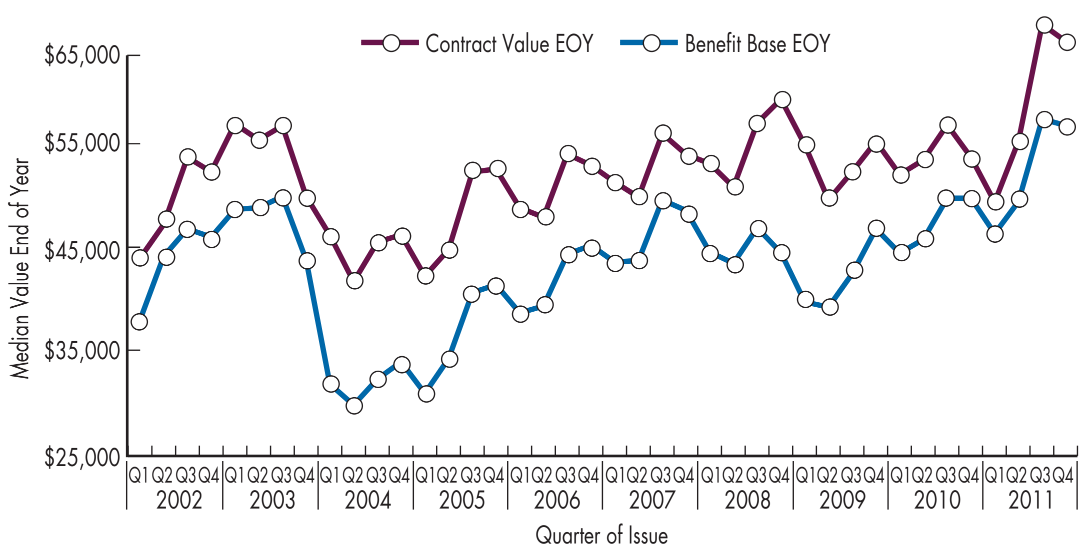
The upper and lower quartiles in Figure 4-3 refer to the distribution of median benefit base to median contract value (BB/CV) ratios, not to the distribution of contract values. For example, for contracts issued in Q1 2004 the typical (median) contract had a benefit base that was around 76 percent of the contract value at BOY 2013.

The data show that the BB/CV ratios for contracts issued from Q1 2004 to Q2 2005 had some of the greatest differences — with 25 percent of those ratios below 80 percent while another 25 percent were near 100 percent at BOY. Contracts issued during the market crisis — from Q4 2008 to Q3 2009 — also had a large spread in BB/CV ratios. Those contracts that were issued without a step-up or other ratcheting method have lower benefit bases relative to contract values, as the contract values were much higher in 2013 than 2009.

During 2013 the equity market grew, and so did the contract values. Thus, the ratio of BB/CV increased, in all quarters. The median contract value increased from $49,300 at BOY 2013 to $53,200 at EOY 2013.

At EOY 2013, the median contract values exceeded the median benefit base values in every quarter. The gap between the median contract value and the median benefit base in GMAB contracts was largest for contracts issued in 2004 to 2006, and from Q3 2008 to Q1 2009 (Figure 4-4). For these contracts, contract values exceeded benefit values by a range of $10,100 to $15,200 — these differences were due to buying the GMAB contract in a low market, and subsequent market recoveries.

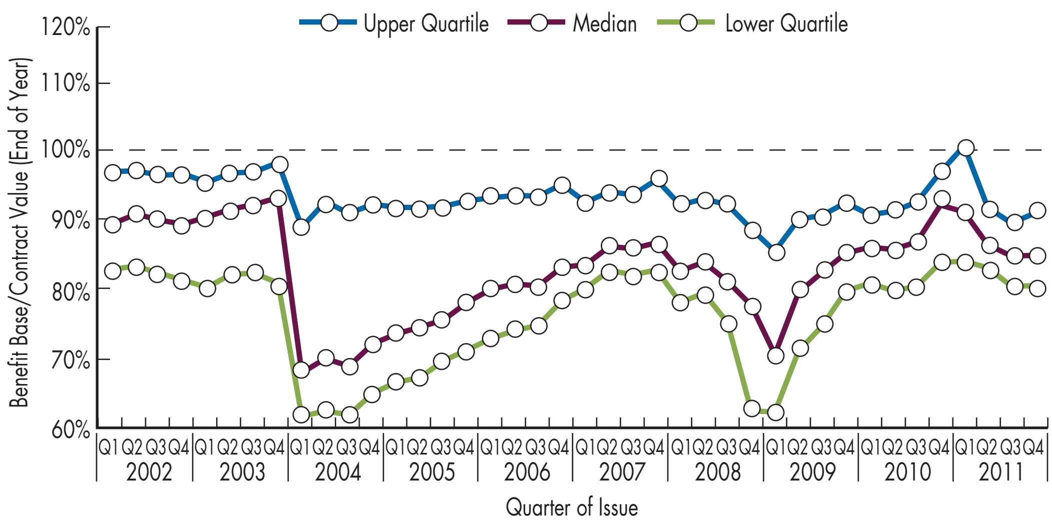
**Figure 4-4:** GMAB Median Contract Value vs. Median Benefit Base, EOY 2013




Note: Based on 214,882 GMAB contracts issued between 2002 and 2011 and remaining in force at EOY 2013. Excludes contracts for which the GMAB benefit bases could not be determined and some years of issue to preserve confidentiality and avoid revealing company-specific information, as those data were heavily weighted for a very limited number of participating companies.

At EOY, all but one quarter of the upper quartile ratios of BB/CV for GMAB contracts were at or below 100 percent. Figure 4-5 shows the year-end comparison of these ratios by quarter of issue, and the distribution of ratios in quartiles.

**Figure 4-5:** GMAB Ratio of Benefit Base to Contract Value Distribution at EOY 2013



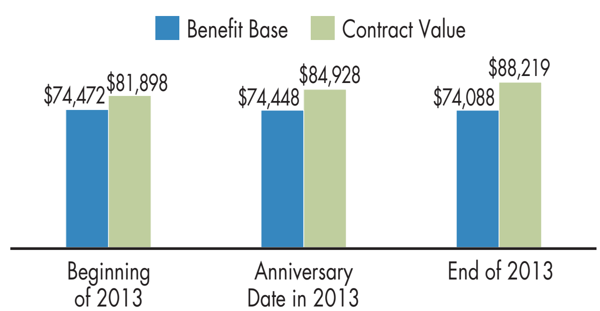

Note: Based on 214,822 GMAB contracts issued between 2002 and 2011. Excludes contracts for which the GMAB benefit bases could not be determined and some years of issue to preserve confidentiality and avoid revealing company-specific information, as those data were heavily weighted for a very limited number of participating companies.

Most GMAB contracts were not-in-the-money at EOY 2013.

Given the continued growth in the equity markets, the majority of GMAB contracts had BB/CV ratios that were near or below 100 percent. Of all the contracts issued from 2002 to 2011, 20 percent were issued in 2004 to 2005 and these contracts had a median ratio between 68 to 79 percent. Another 1 in 4 contracts were issued between 2008 and 2009 and these contracts also had relatively low BB/CV ratios at EOY 2013, with median ratios between 71 and 86 percent.

The average contract value increased from $81,900 at BOY 2013 to $88,200 at EOY 2013, gaining 8 percent in value (Figure 4-6). On the anniversary date in 2013, the average benefit base of $74,400 was slightly lower than the average benefit base of $74,500 at BOY, driven by withdrawals that occurred prior to the anniversary date. GMAB riders typically reduce the benefit base with each withdrawal. At EOY 2013, the average benefit base value of $74,100 was about $14,100 less than the average contract value.

**Figure 4-6:** GMAB Average Contract Values and Benefit Base Values



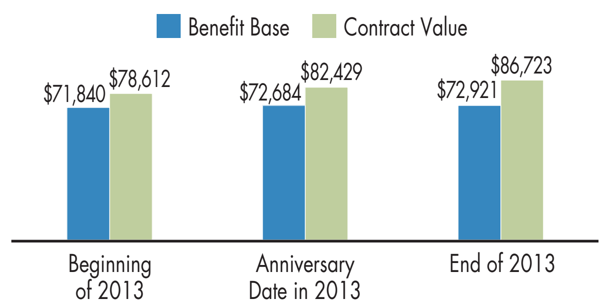

Note: Based on 185,725 GMAB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GMAB benefit bases (as of BOY, the contract's anniversary date, or EOY) could not be determined.

Across all 185,725 GMAB contracts where companies reported both contract values and benefit bases, benefit bases totaled $13.8 billion as of EOY 2013, compared with account balances of $16.4 billion.

## Benefit Base for Contracts With Withdrawals vs. Without Withdrawals

GMAB contracts are not designed for taking withdrawals, and withdrawals typically cause a pro-rata reduction in the benefit base. For in-force contracts issued before 2013 that did not have withdrawals in 2013, the average benefit base increased slightly — $71,800 at BOY compared to $72,700 on the anniversary date and $72,900 at EOY (Figure 4-7). Such a minor change in the benefit base is primarily because very few GMAB riders offer automatic increases of benefit bases in the case of non-withdrawals. However, the average value of these contracts increased during the year, given the equity market gains. At EOY 2013, the average contract value gained 10 percent and was $13,800 larger than the average benefit base value for contracts without withdrawals.

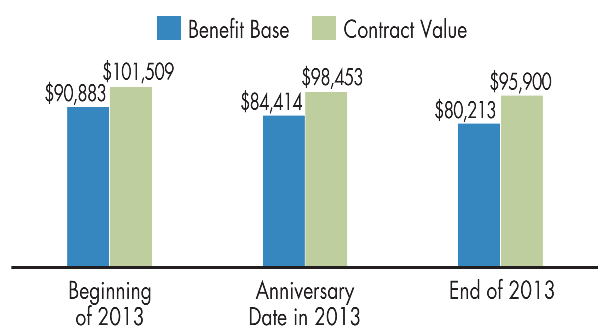
**Figure 4-7:** GMAB Average Contract Value and Benefit Base for Contracts Without Withdrawals




Note: Based on 148,057 GMAB contracts issued before 2013 and still in force at EOY 2013 with no withdrawals made or current-year premium received. Excludes contracts for which the GMAB benefit bases or contract values could not be determined.

Among contracts that had withdrawals in 2013, the average benefit base declined 12 percent, from $90,900 at BOY to $80,200 at EOY. The average contract value declined by 6 percent, but was $15,700 above the benefit base (Figure 4-8).

**Figure 4-8:** GMAB Average Contract Value and Benefit Base for Contracts With Withdrawals



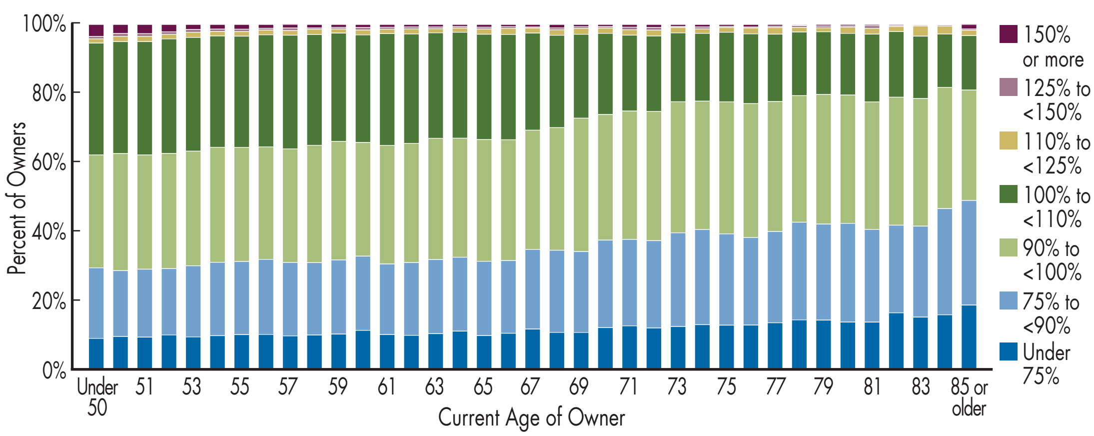

Note: Based on 30,679 GMAB contracts issued before 2013 and still in force at EOY 2013 with withdrawals made, but no current-year premium received. Excludes contracts for which the GMAB benefit bases or contract values could not be determined.

## Benefit Base to Contract Value Ratios by Age

We have expanded the analysis of BB/CV ratios to drill down on age or age cohorts to see if any risks can be linked to BB/CV ratios by age. This analysis shows that the BB/CV ratios differ by age and provides insights related to risks associated with each age or age cohort and comparisons within the GMAB industry. The bands defining BB/CV ratios have been revised from previous years' analyses as BB/CV ratios have increased due to increasing market returns, which necessitated looking at BB/CV ratios around 100 percent.

Figure 4-9 provides the BB/CV ratios by age at BOY 2013. For in-force GMAB contracts issued before 2013, at BOY: two thirds had benefit base amounts below their contract values with one third between 90 percent and less than 100 percent; 29 percent had BB/CV ratios between 100 to less than 110 percent; 1 percent had benefit bases that exceeded contract values by 110 to less than 125 percent; and only 2 percent had BB/CV ratios of 125 percent or more. Three fourths of the owners aged 70 or older had BB/CV ratios below 100 percent.

**Figure 4-9:** GMAB Benefit Base to Contract Value Ratios by Age — at BOY 2013

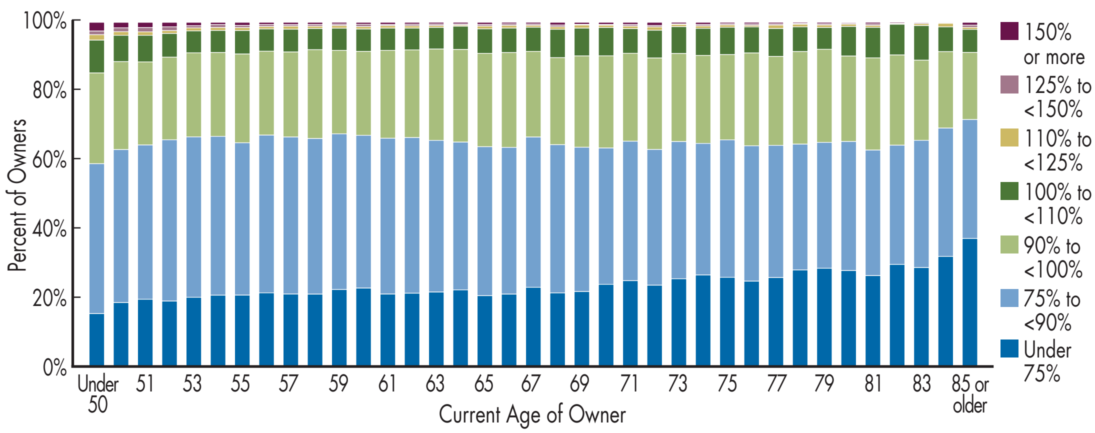



Note: Based on 243,677 GMAB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GMAB benefit bases or contract values could not be determined.

**At EOY 2013, 9 out of 10 GMAB contracts had BB/CV ratios less than 100%**

Figure 4-10 shows the distribution of BB/CV ratios by age at EOY 2013. The contracts with BB/CV ratios (less than 100 percent) was 9 out of 10 by EOY 2013. One in four had BB/CV ratios between 90 percent and less than 100 percent; 43 percent had BB/CV ratios between 75 to less than 90 percent, and 1 in 5 had ratios less than 75 percent.

**Figure 4-10:** GMAB Benefit Base to Contract Value Ratios by Age — at EOY 2013

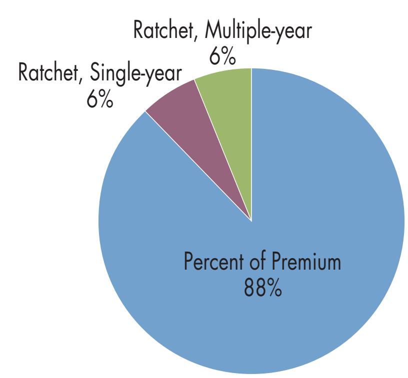



Note: Based on 233,889 GMAB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GMAB benefit bases or contract values could not be determined.

## GMAB Benefit Calculation Method

Nearly 9 out of 10 GMABs had benefit bases that were determined based on total premiums received (Figure 4-11). Only 4 percent of the GMAB contracts using the percent-of-premium benefit calculation method had roll-ups above 100 percent of premium.

**Figure 4-11:** GMAB Benefit Calculation Method




Note: Based on 243,490 GMAB contracts issued before 2013.

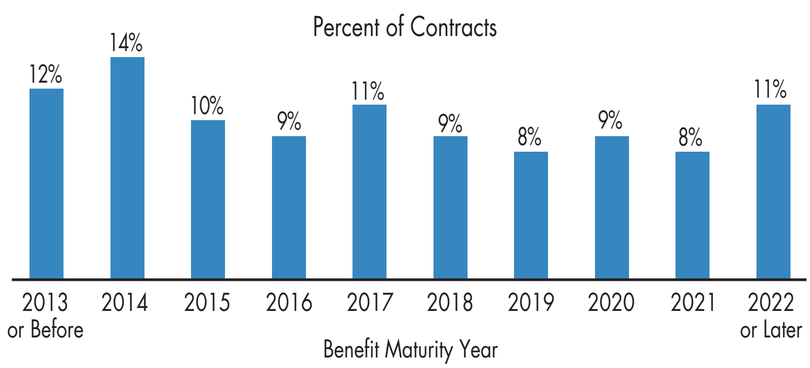
# Benefit Maturity

## Benefit Maturity of GMAB Contracts

GMAB benefit utilization simply requires the owner to keep the contract in force until the day of benefit maturity. At that point, if the accumulation benefit is in-the-money, then the contract value is automatically set to the guaranteed benefit base.

Most contracts (88 percent) have benefit maturity dates in 2014 or later (Figure 4-12). Over half (55 percent) of GMAB contracts in force will mature between 2013 and 2017.

**Figure 4-12:** GMAB Percentage of Contracts by Benefit Maturity Year

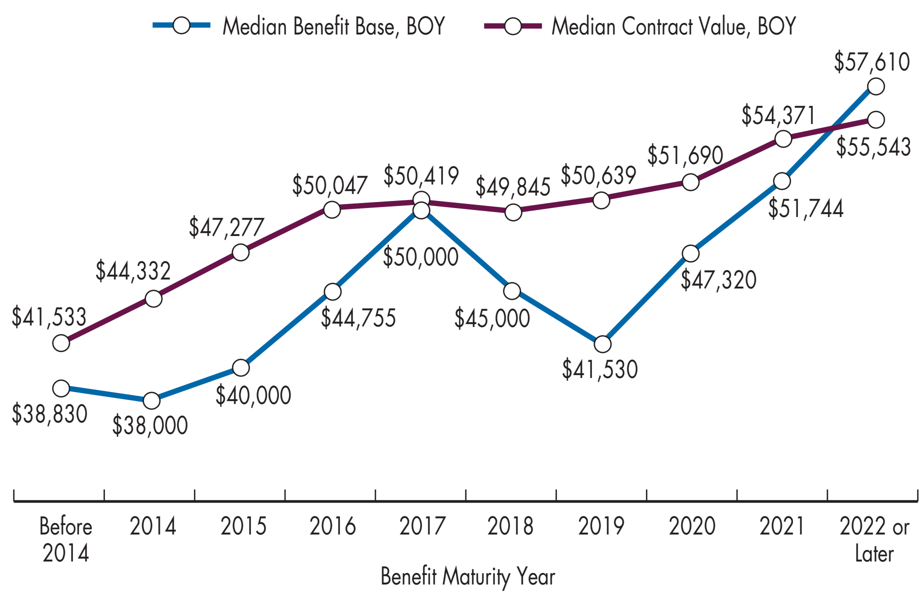



Note: Based on 269,787 contracts issued before 2013. Excludes contracts for which GMAB benefit maturity year could not be determined.

## Year of Benefit Maturity

Most of the GMAB benefits in force mature 7 to 10 years after they are elected. Contracts with benefit maturities that occur before 2017 — 44 percent of all GMAB contracts — have median contract values that exceed the median benefit bases (Figure 4-13). The difference between the median contract value and the median benefit base ranges from $400, to $7,300 for GMAB contracts where guarantees may accrue in the next five years. While the values of contracts with benefit maturity dates from 2017 and later remain relatively flat (around $49,900 to $55,500), there is a lot more volatility with the corresponding benefit bases — which range from $41,500 to $57,600. The contracts that will mature in 2019 have the greatest difference, with the median contract value exceeding the median benefit value by $9,100 at BOY.

**Figure 4-13:** GMAB Median Benefit Bases and Contract Values by Benefit Maturity Year

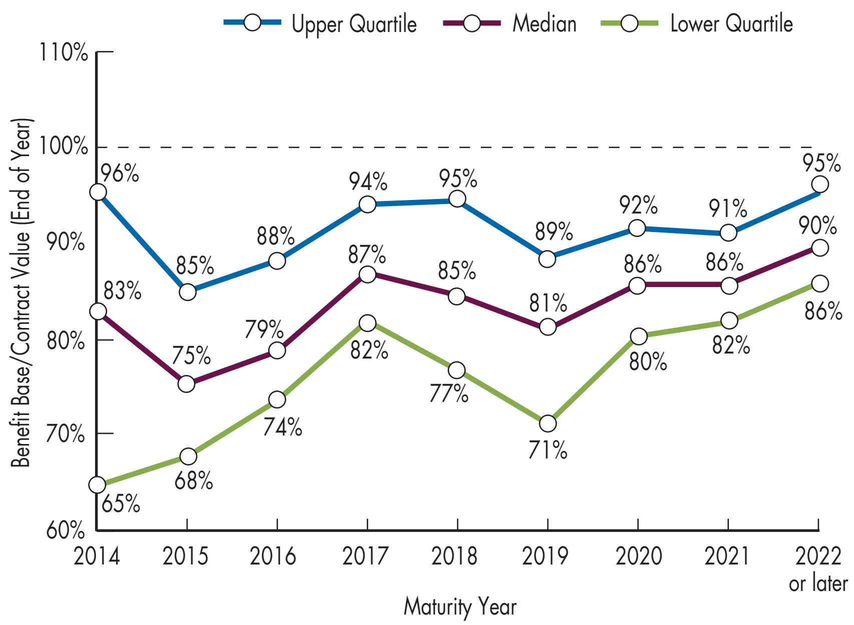



Note: Based on 267,579 GMAB contracts issued before 2013 and still in force at EOY 2013. Excludes contracts for which the GMAB benefit bases could not be determined.

A comparison of the ratio of median benefit base to median contract value for GMAB contracts at EOY 2013 is shown in Figure 4-14. The inter-quartile ranges show the distribution of ratios for different maturity years by year-end. Companies can compare their own quartiles of this ratio and its distribution to see how their own book of business is compared with this industry snapshot at EOY 2013.

GMAB contracts with benefit maturity in 2017 and after 2022 tend to have higher BB/CV ratios, with a median ratio of 87 percent and 90 percent, respectively.

**Figure 4-14:** GMAB Median Benefit Base to Median Contract Value Ratio at EOY 2013, by Maturity Year

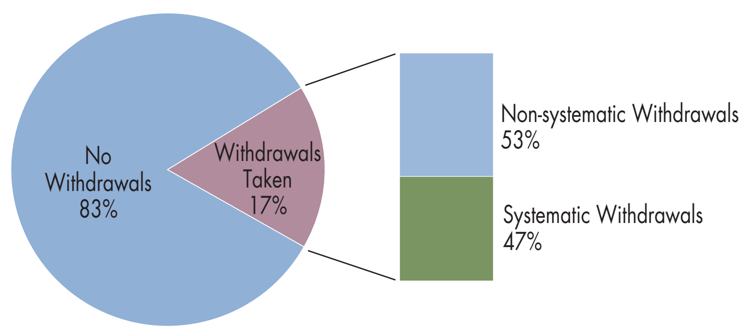



Note: Based on 233,174 GMAB contracts issued before 2013 and still in force at EOY 2013.

## Withdrawal Activity

Despite the fact that GMAB contracts are not designed for owners to take withdrawals, and withdrawals cause the benefit base to be proportionately reduced, annuity customers do take withdrawals to meet financial needs. For example, customers may take withdrawals for emergencies, or to satisfy RMDs. Among 245,019 GMAB contracts issued before 2013 and still in force at EOY, 17 percent had some withdrawal activity during 2013 (Figure 4-15), very similar to experience in 2011 and 2012. For 47 percent of contracts, these withdrawals were systematic withdrawals.

**Figure 4-15:** GMAB Overall Withdrawals




Note: Based 245,019 GMAB contracts issued before 2013 and still in force at EOY 2013.

The highlights below are based on GMAB contracts that had withdrawals in 2013:

- The percent of GMAB owners using systematic withdrawals is much lower compared to the other GLB products.
- Total withdrawals amounted to $690 million for the year, of which $139 million were systematic.
- The median withdrawal amount was $7,000. The median withdrawal rate was 10.7 percent based on the average BOY median contract value of $65,500.
- Median systematic withdrawal amount during the year was $4,700.

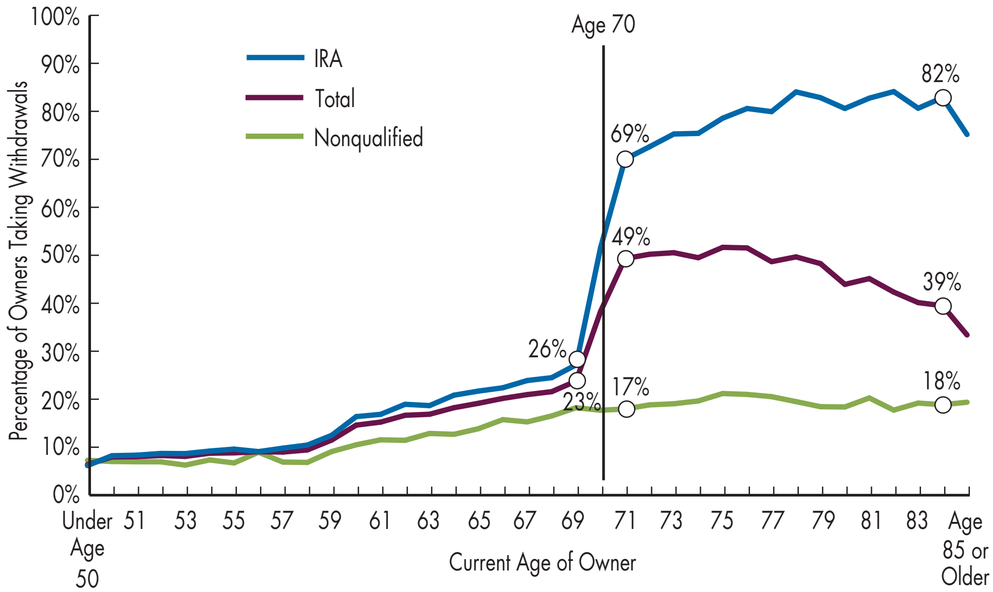
**17%** of GMAB owners took withdrawals in 2013.

## Withdrawal Activity by Source of Funds

Like all other GLBs, the source of funds is a major driving force for withdrawal behavior in GMABs. Even though the overall percent of owners taking withdrawals in GMAB contracts remained low, the percent of owners taking withdrawals was quite high for those who funded their annuities with qualified funds (Figure 4-16).

> Around **80%** percent of older customers took withdrawals from annuities purchased with qualified money.

**Figure 4-16:** GMAB Withdrawals by Fund Source and Owner Age

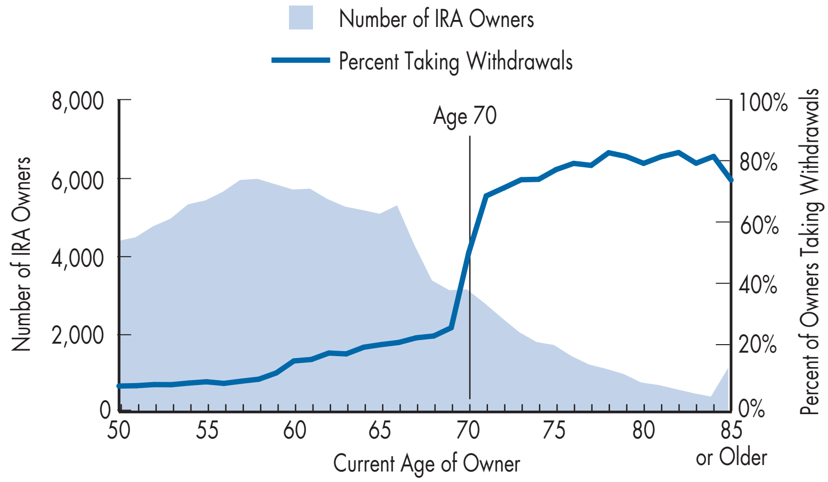



Note: Based on 245,017 GMAB contracts issued before 2013 and still in force at EOY 2013. Percentages refer to the number of contracts in each age group that had partial withdrawals during 2013.

After age 70, the need for RMDs from qualified annuities forces owners to take withdrawals; and the percentage of these customers taking withdrawals quickly jumps to around 70 percent by ages 71 to 72. After age 72, the percent of these customers withdrawing slowly rises to roughly 80 percent for owners aged 76 and older. Owners are less likely to take withdrawals if they used nonqualified money, and the percent of nonqualified customers withdrawing remains 20 percent or under for all ages.

In 2013, only 13 percent of GMAB owners who funded their annuities with qualified sources were aged 70 or over (Figure 4-17). Nearly three fourths (73 percent) of these owners took withdrawals in 2013. On the other hand, 11 percent of owners aged 69 or under took withdrawals in 2013.

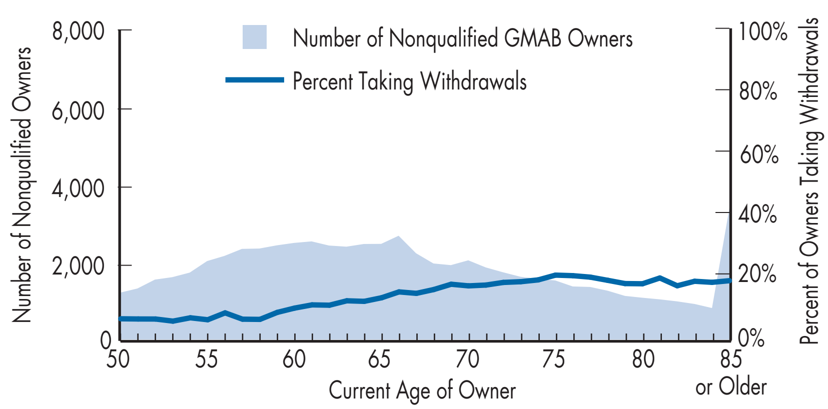
**Figure 4-17:** GMAB Withdrawals by IRA Owners




Note: Based on 124,632 GMAB contracts issued before 2013 and still in force at EOY 2013. Percentages refer to the number of contracts in each age group that had partial withdrawals during 2013.

Only 12 percent of nonqualified owners took withdrawals in 2013 (Figure 4-18). The percent of owners taking withdrawals increases very slowly with age. Eighteen percent of owners aged 70 or over and 9 percent of owners aged 69 or under took withdrawals from their GMAB contracts.

**Figure 4-18:** GMAB Withdrawals by Nonqualified Owners



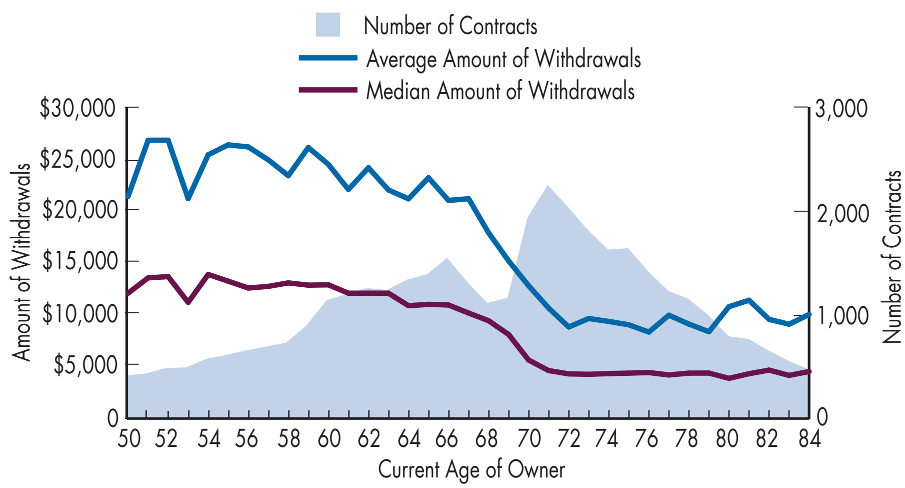

Note: Based on 65,773 GMAB contracts, funded by nonqualified savings, issued before 2013 and still in force at EOY 2013.

## Average Amount of Withdrawals

The average amount of withdrawals in GMAB contracts was $16,100 for contracts issued before 2013 that were in force at EOY 2013. The median amount was $7,000.

Some owners in their 50s and 60s took average withdrawals of more than $20,000 from their contracts (Figure 4-19). Despite only 13 percent of these owners taking withdrawals, their high withdrawal amounts accounted for 61 percent of all withdrawals in 2013. Since these withdrawals by owners under age 70 were not for RMDs, the withdrawals will reduce the benefit amount on a pro-rata basis. Most of these withdrawals were likely partial surrenders of the contracts. A more reasonable withdrawal pattern and average withdrawal amount emerges for owners over age 70, commensurate with RMD needs.

**Figure 4-19:** GMAB Average Amount of Withdrawals by Owner Age

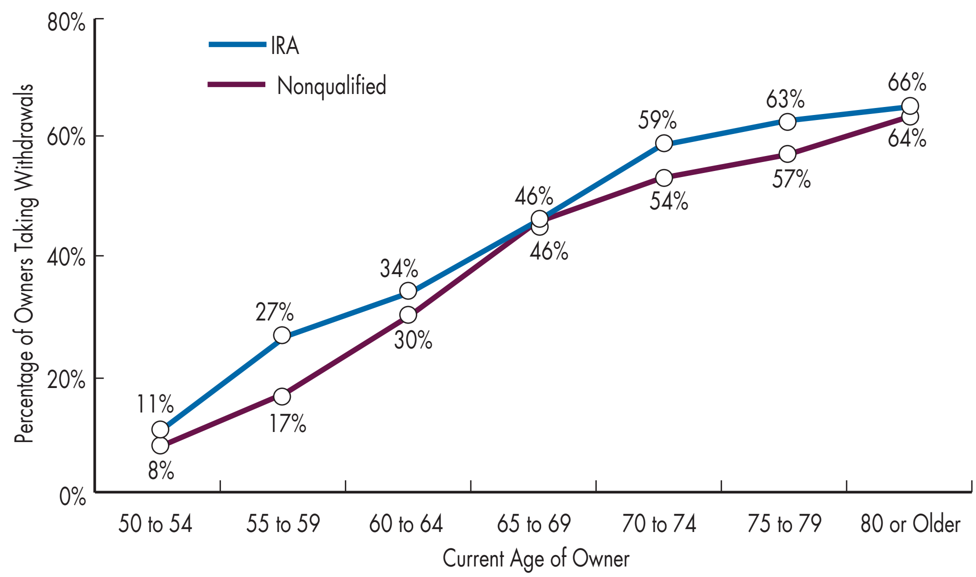



Note: Based on 39,559 GMAB contracts issued before 2013, still in force at EOY 2013, with withdrawals in 2013.

## Systematic Withdrawal Activity

One sixth of GMAB owners are taking withdrawals; which, for older owners are often to satisfy RMDs. When older owners take withdrawals, many of them take advantage of a systematic withdrawal plan (SWP) or program (Figure 4-20). All insurance companies allow owners to use SWPs, particularly to satisfy RMDs. Typically companies treat RMD withdrawals on accumulation benefit base as partial withdrawals, which may impact the benefit base negatively as they are adjusted on a pro-rata basis.

**Figure 4-20:** GMAB Withdrawals With Systematic Withdrawal Plans




Note: Based on 34,230 GMAB contracts issued before 2013 and still in force at EOY 2013, with withdrawals in 2013.

Overall, 48 percent of IRA owners took withdrawals using SWPs while 45 percent of nonqualified owners used SWPs. However, use of an SWP is higher among older owners. For example, 31 percent of IRA owners under age 70 used SWPs for withdrawals, and the rest took withdrawals non-systematically or occasionally. On the other hand, 62 percent of IRA owners aged 70 or over used SWPs for their withdrawals. In GMAB contracts, older owners are more likely to take withdrawals through SWPs; and younger owners — particularly those under age 70 — are more likely to take occasional withdrawals.

## Additional Premium and Net Flows

Contracts with GMAB riders typically do not allow owners to add premium to the guaranteed portion after the first anniversary. Many contracts have strict provisions to allow additional premium only during the first 90 to 180 days after issue. Among contracts issued in 2012 or earlier:

- Four percent received additional premium in 2013. Among contracts issued in 2012, 11 percent received additional premium and 6 percent of contracts issued in 2011 added premium in 2013.
- The average additional premium in 2013 was $22,600, with a median of $5,100.
- Younger owners were more likely to add premium than older owners. For example, 7 percent of owners under age 50 added premium, compared with 1 percent of owners aged 70 or older.

Premium received and new contracts issued were offset by outflows associated with partial withdrawals, full surrenders, deaths, and annuitizations (Table 4-4). The total number of GMAB contracts in force declined by 5 percent during 2013.

**Table 4-4:** GMAB Net Flows

| | Dollars (in Billions) | Contracts | Average Contract Size |
|---|---|---|---|
| **In-force, BOY 2013** | **$23.6** | **277,295** | **$85,066** |
| **Premium received** | | | |
| Newly issued contracts | $1.71 | N/A | N/A |
| Existing contracts | $0.24 | N/A | N/A |
| **Benefits paid** | | | |
| Partial withdrawals | $1.03 | N/A | N/A |
| Full surrenders | $2.27 | 30,503 | $74,462 |
| Deaths | $0.15 | 1,768 | $87,619 |
| Annuitizations | <$0.1 | 127 | $96,598 |
| **Investment growth** | $2.38 | N/A | N/A |
| **In-force, EOY 2013** | **$24.5** | **262,464** | **$93,156** |

N/A=Not available.

Note: Based on 294,862 GMAB contracts. Dollar values for contracts issued before 2013 that terminated during the year were set equal to either BOY contract value (if termination occurred before contract anniversary date) or the anniversary contract value (if termination occurred on or after the contract anniversary date). Dollar values for contracts issued in 2013 that terminated during the year were set equal to the current-year premium.

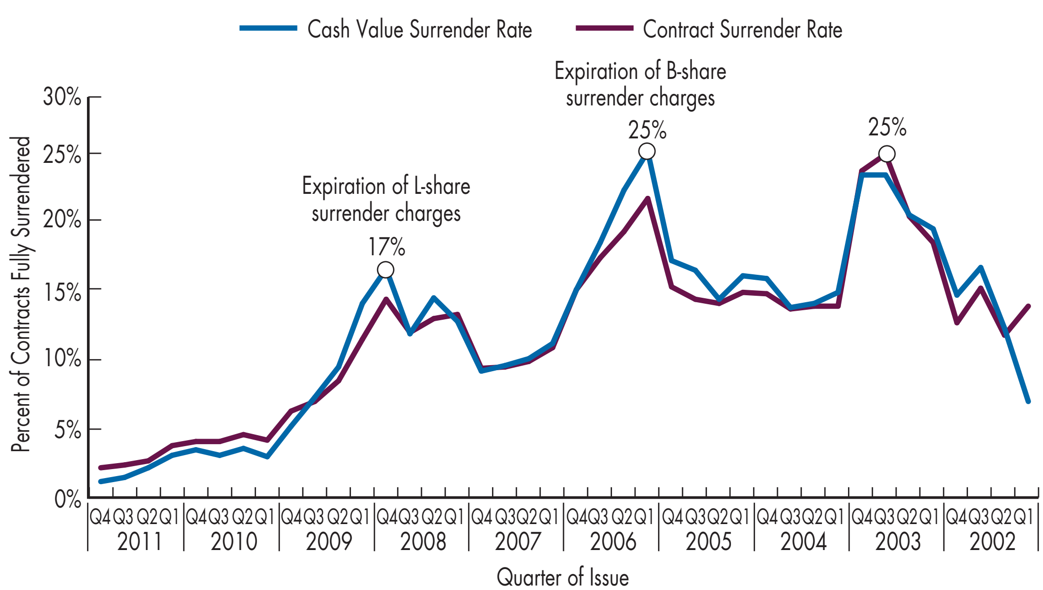
## Persistency

GMABs have the highest overall surrender rates (10.9 percent) compared with other GLBs. However, surrender rates are expected to be higher for GMAB contracts once the benefit maturity period is reached, as the typical contract does not continue any protection of principal, while some other traditional benefits of annuities — like guaranteed death benefits, tax deferral for nonqualified contracts, and guaranteed lifetime income through annuitization — remain in effect. Some of these GMAB contracts may have some hybrid benefits that start once the GMAB rider expires.

**10.9%** was the surrender rate in GMAB contracts in 2013.

Contract surrender rates were extremely high (16.4 percent) for GMAB contracts issued in 2006 or before (Figure 4-21). There is also a noticeable increase in surrender rates at the expiration of the B-share and L-share surrender charges as well as the expiration of the guaranteed benefit for some 5-year GMAB riders. Nearly all contracts (98.9 percent) issued in 2013 remained in force at EOY.

**Figure 4-21:** GMAB Surrender Rate by Quarter of Contract Issue




Note: Based on 258,517 GMAB contracts issued between 2002 and 2011. We have not shown issue years 2012 to 2013 to preserve confidentiality and avoid revealing company-specific information, as those data were heavily weighted for a limited number of participating companies. This analysis includes some hybrid GMAB riders.

## Surrender Activity by Share Class and Surrender Charge

Surrender rates among contracts with surrender charges were much lower than in contracts without surrender charges. Irrespective of share classes, the surrender rate for contracts where charges expired in 2013 was 28.1 percent — quadruple the rate of contracts where charges exist (7.0 percent). The surrender rate of contracts that expired in previous years was 15.2 percent. Figure 4-22 illustrates the contract surrender rates for contracts by share classes while Figure 4-23 provides the cash value surrender rates.

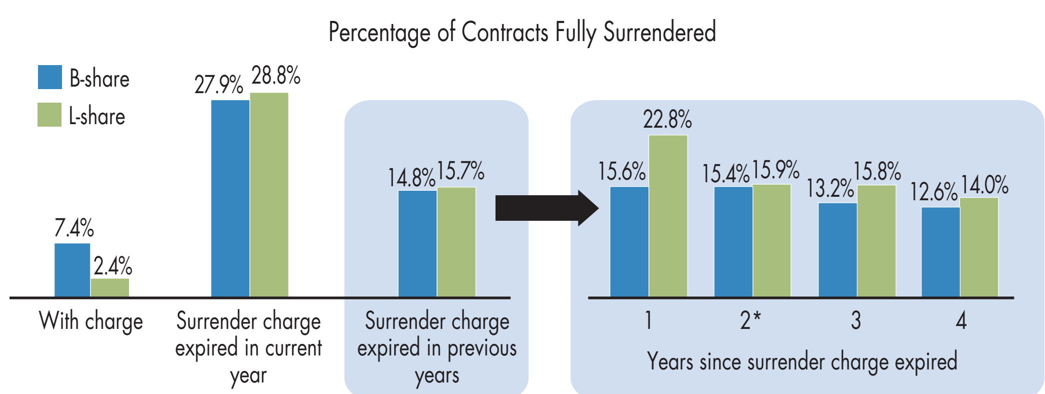
Two thirds of GMAB contracts, B-share and L-share combined, were within the surrender charge periods in 2013. The contract surrender rates for B-share and L-share contracts with a surrender charge were 7.4 percent and 2.4 percent, respectively; the cash value surrender rates for B-share and L-share contracts with a surrender charge were 7.1 percent and 1.6 percent.

**7.0%** was the contract surrender rate in GMAB contracts with surrender charges.

**15.2%** of contracts were surrendered where charges expired in previous years.

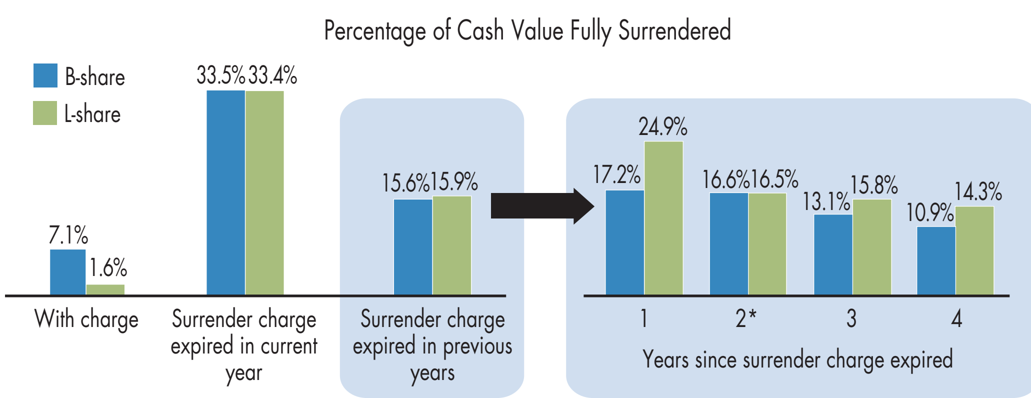
**28.1%** of contracts were surrendered where charges expired in the current year.

**Figure 4-22:** GMAB Contract Surrender Rates in 2013 by Share Classes




Note: Based on 267,303 GMAB contracts issued before 2013.

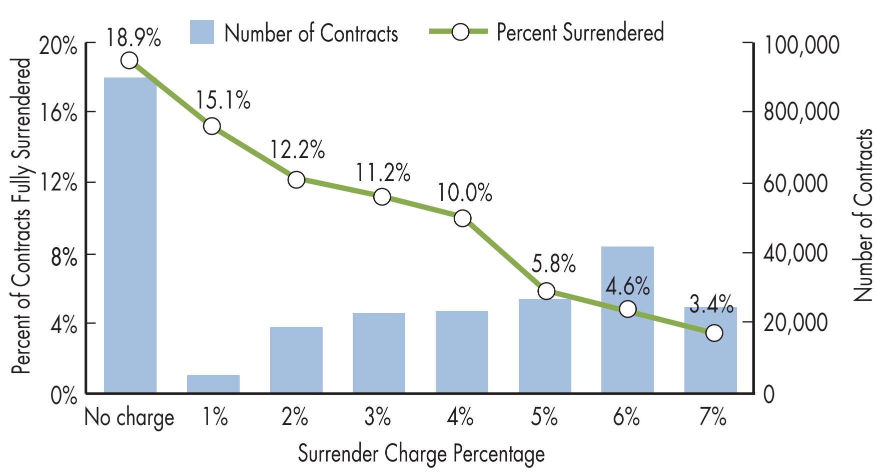
**Figure 4-23:** GMAB Cash Value Surrender Rates in 2013 by Share Classes




Note: Based on 267,303 GMAB contracts issued before 2013.

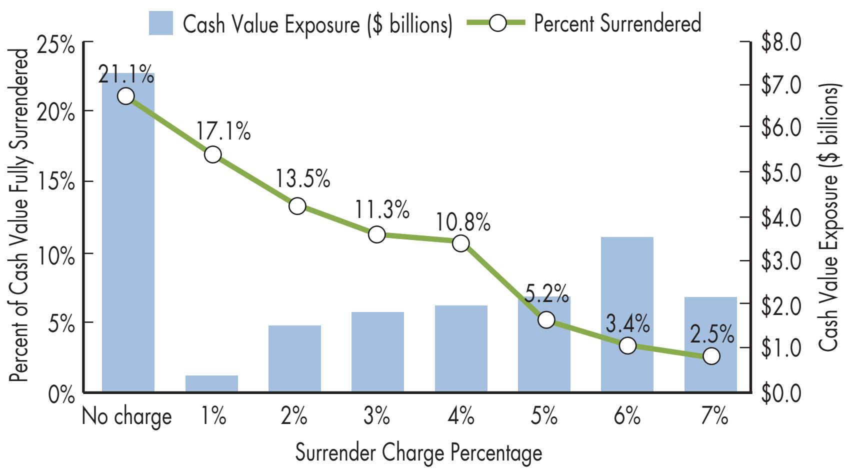
Contract surrender is influenced by the rate of surrender charge present. Naturally, contracts with higher penalties have lower surrender rates and vice versa (Figure 4-24). A third of GMAB contracts were free of surrender charges in 2013. Also, the contracts free of surrender charges accounted for 31 percent of total account value of the contracts. Figure 4-25 provides the cash value surrender rates by presence of surrender charge.

**Figure 4-24:** GMAB Contract Surrender Rates in 2013 by Surrender Charge Percentage




Note: Based on 250,688 GMAB contracts issued before 2013.

**Figure 4-25:** GMAB Cash Value Surrender Rates in 2013 by Surrender Charge Percentage

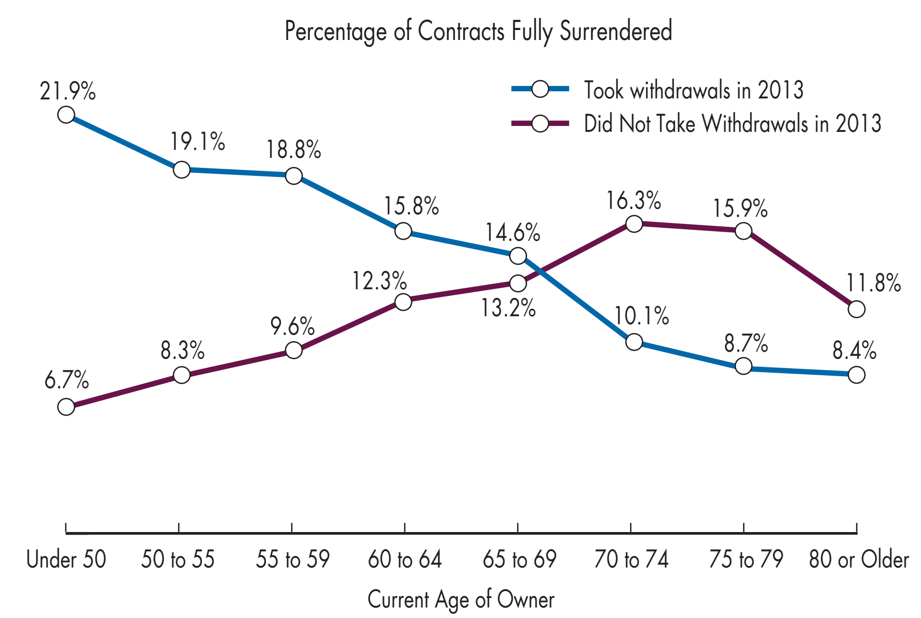



Note: Based on 250,688 GMAB contracts issued before 2013.

## Surrender Activity by Owners Who Took Withdrawals

Higher GMAB surrender rates are associated with younger owners, particularly those under age 60 who took withdrawals before or in 2013. Even though younger owners own a significant portion of GMABs, some of them are taking large average withdrawals. It is likely that these younger owners are really taking partial surrenders. Owners under age 60 who took withdrawals in 2013 were also more likely to fully surrender their contracts compared to older owners (Figures 4-26).

**Figure 4-26:** GMAB Contract Surrender Rates in 2013, by Owners Who Took Withdrawals in 2013



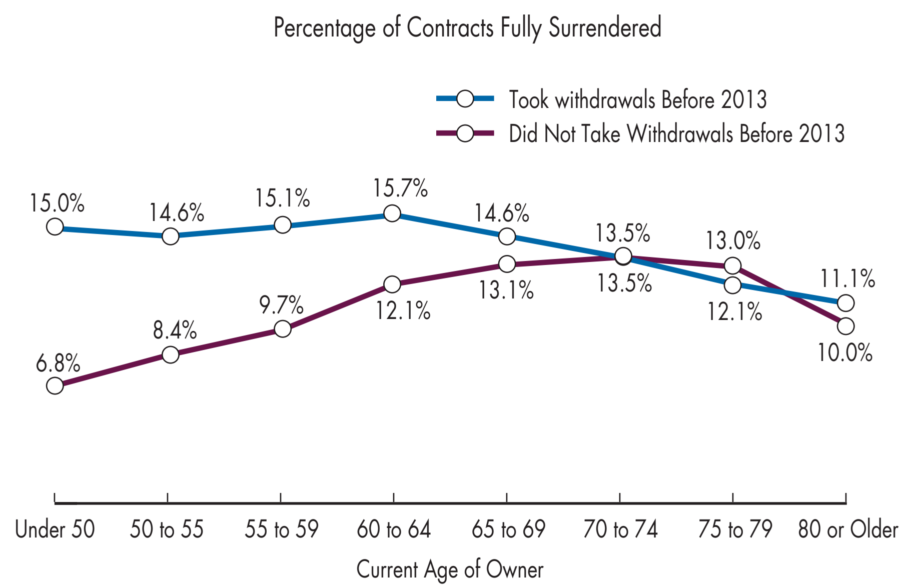

See Appendix Table B4-1 for a breakdown of the data in this Figure by presence of surrender charges.

Note: Based on 278,420 GMAB contracts issued before 2013.

Twenty-two percent of owners under age 50; 19 percent of owners between ages 50 and 54; and 19 percent of owners between ages 55 and 59 who took withdrawals during 2013 subsequently surrendered their contracts by EOY 2013.

Past withdrawals can also indicate whether younger owners are more likely to fully surrender contracts in the future. Figure 4-27 provides the contract surrender rates for owners who took withdrawals before 2013.

**Figure 4-27:** GMAB Contract Surrender Rates by Owners Who Took Withdrawals Before 2013

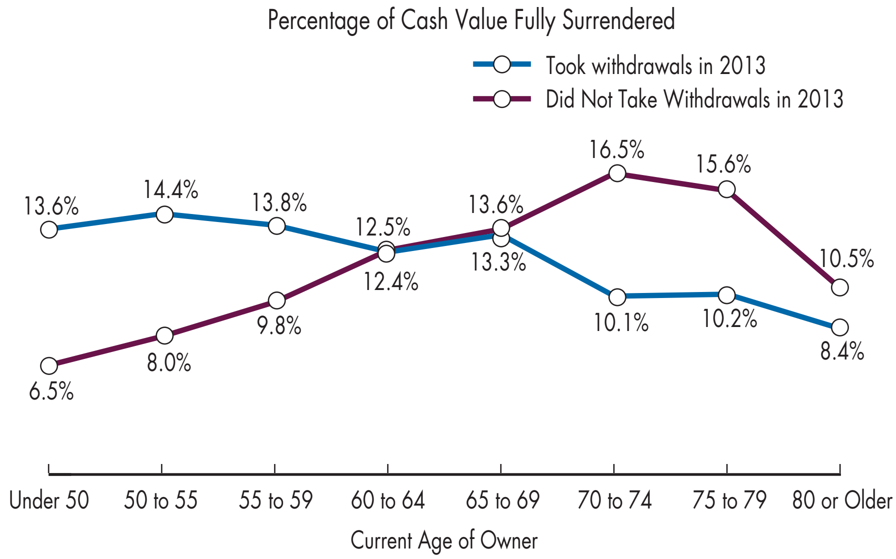



See Appendix Table B4-3 for a breakdown of the data in this Figure by presence of surrender charges.

Note: Based on 278,419 GMAB contracts issued before 2013.

Figures 4-28 and 4-29 show the cash value surrender rates for owners taking withdrawals in 2013 and before 2013, respectively.

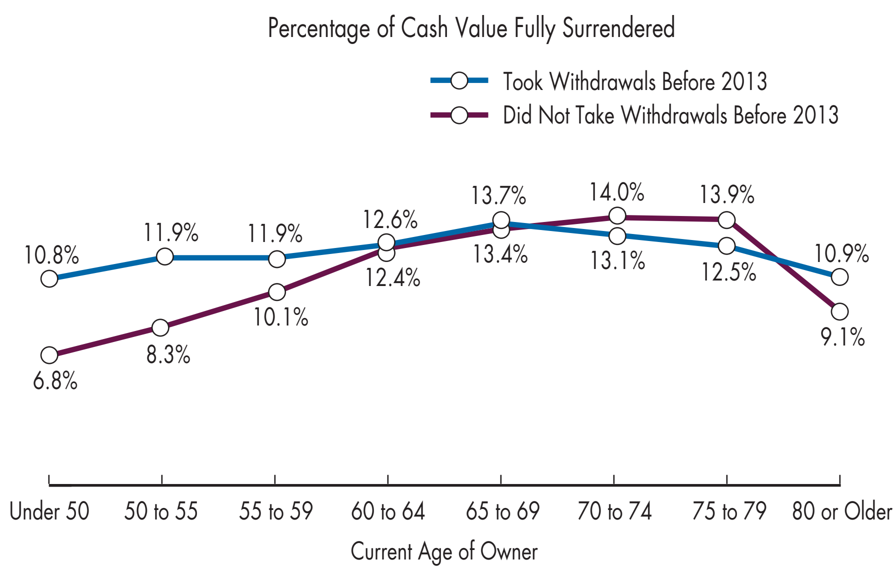
**Figure 4-28:** GMAB Cash Value Surrender Rates in 2013, by Owners Who Took Withdrawals in 2013




See Appendix Table B4-2 for a breakdown of the data in this Figure by presence of surrender charges.

Note: Based on 278,420 GMAB contracts issued before 2013.

**Figure 4-29:** GMAB Cash Value Surrender Rates by Owners Who Took Withdrawals Before 2013

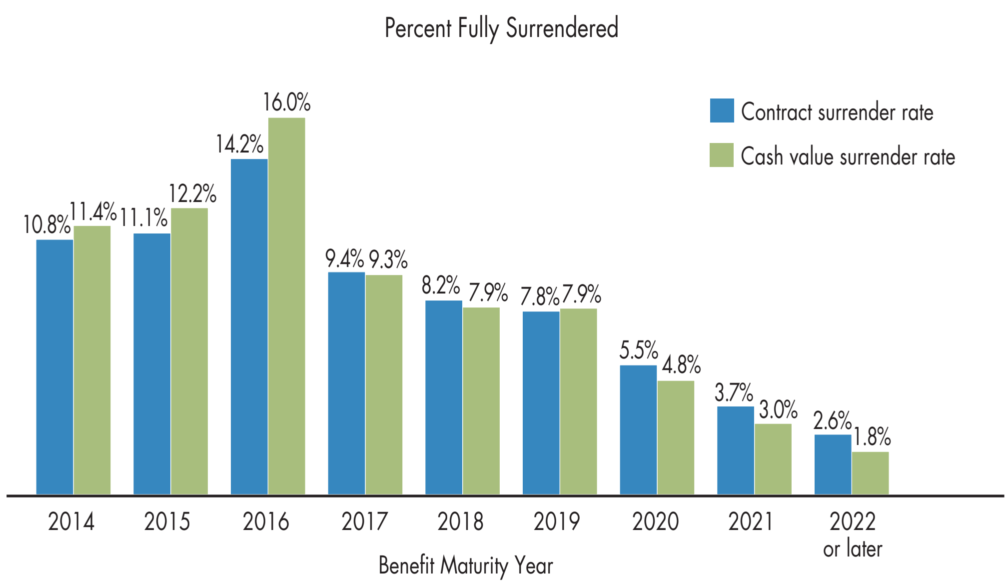



See Appendix Table B4-4 for a breakdown of the data in this Figure by presence of surrender charges.

Note: Based on 278,419 GMAB contracts issued before 2013.

Many of these GMAB owners may have surrendered the contracts because the contract benefit matured. Benefit maturity may be the driving force for high surrender rates, and we see that reflected in high surrender rates among older owners; e.g., owners aged 70 to 79 who did not take any withdrawals in 2013. But for many younger owners, taking withdrawals may be an early indicator of full contract surrender. Figure 4-30 provides contract and cash value surrender rates in 2013 by year of benefit maturity. Surrender rates increase from benefit maturity years 2014 to 2016 and then slowly decline.

**Figure 4-30:** GMAB Surrender Rates in 2013 by Benefit Maturity Year

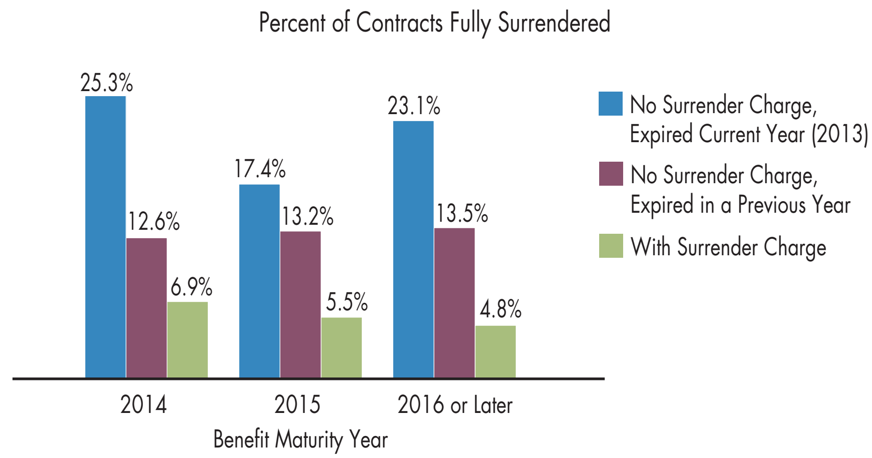



See Appendix Tables B4-5 and B4-6 for a breakdown of the data in this Figure by presence of surrender charges.

Note: Based on 238,507 GMAB contracts issued before 2013. Due to low sample sizes, we cannot show surrender rates split by other benefit maturity years.

Figure 4-31 provides surrender rates for contracts where the surrender charge expired in 2013, before 2013, and those that still have a surrender charge. The surrender rates for contracts where the surrender charge expired in 2013 experience the shock lapse we see with other contracts in the year the surrender charge expires. Surrender rates for contracts where the surrender charge expired in previous years were around 13 to 14 percent. As we saw in Figures 4-22 and 4-23, surrender rates for GMABs are relatively high once the surrender charge expires. Surrender rates for contracts that still have a surrender charge are relatively low and remain in a range of about 5 to 7 percent. Nearly three quarters of the GMAB contracts still had a surrender charge in 2013, 1 in 10 had surrender charges that expired in 2013, and 1 in 4 had surrender charges expire in a previous year.

**Figure 4-31:** GMAB Contract Surrender Rates in 2013 by Benefit Maturity Year and Presence of Surrender Charge

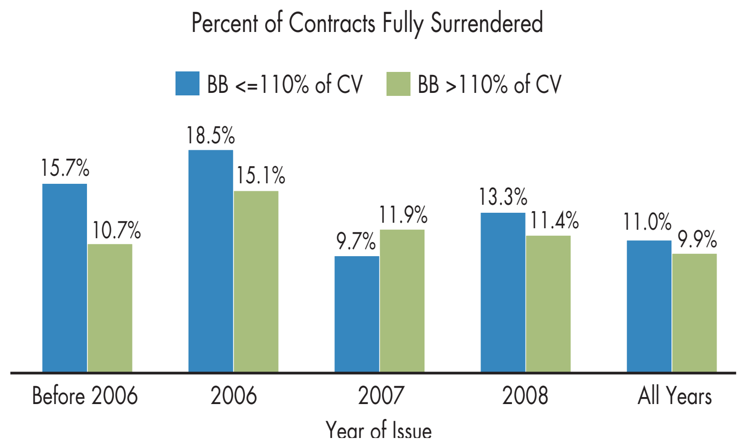



Note: Based on 238,507 GMAB contracts issued before 2013. Due to low sample sizes, we cannot show surrender rates split by other benefit maturity years.

## Surrender Activity by Degree of In-the-Moneyness

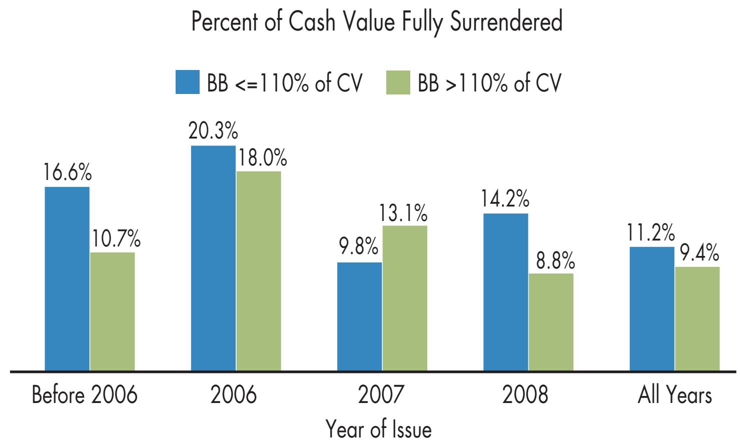
Another important analysis of surrender rates involves whether or not the GMAB contracts are in-the-money. Controlling for year of issue as well as reviewing contracts that did not take withdrawals before 2013, contracts that are not-in-the-money generally have slightly higher surrender activity (Figures 4-32, 4-33, and 4-34). We would not expect a contract being in-the-money to make that much of a difference, because GMAB owners purchased the product to avoid loss of principal in market volatility during a fixed period of time. Other issues such as the expiration of the surrender charge could explain some of the increased surrender activity.

**Figure 4-32:** GMAB Contract Surrender Rate by Degree of In-the-Moneyness



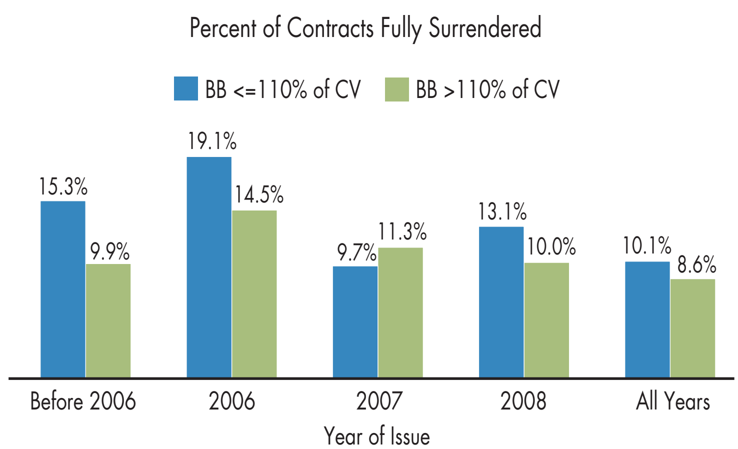

Note: Based on 277,030 GMAB contracts issued before 2013. In-the-money = benefit base is greater than account value.

**Figure 4-33:** GMAB Cash Value Surrender Rate by Degree of In-the-Moneyness




Note: Based on 277,030 GMAB contracts issued before 2013. In-the-money = benefit base is greater than account value.

**Figure 4-34:** GMAB Contract Surrender Rate by Degree of In-the-Moneyness for Contracts That Did Not Have Withdrawals Before 2013




Note: Based on 212,657 GMAB contracts issued before 2013 with no withdrawals before 2013. Due to low sample sizes, we cannot show surrender rates by ITM for contracts that had withdrawals before 2013. In-the-money = benefit base is greater than account value.

Surrender activity is higher for older contracts and older owners, as the contract of surrender charges expire, and as they near benefit maturity period (Table 4-5).

**Table 4-5:** GMAB Surrender Rates

| | Percent of Contracts Surrendered | Percent of Cash Value Surrendered |
|---|---|---|
| **All contracts** | 10.9% | 11.1% |
| **Year of issue** | | |
| Before 2004 | 18.3% | 18.3% |
| 2004 | 14.1% | 14.7% |
| 2005 | 14.7% | 16.1% |
| 2006 | 18.4% | 20.2% |
| 2007 | 9.9% | 10.0% |
| 2008 | 13.2% | 14.1% |
| 2009 | 8.4% | 9.3% |
| 2010 | 4.3% | 3.3% |
| 2011 | 3.0% | 2.1% |
| 2012 | 2.1% | 1.1% |
| **Age of owner** | | |
| Under 50 | 7.7% | 7.2% |
| 50 to 54 | 9.2% | 8.7% |
| 55 to 59 | 10.5% | 10.4% |
| 60 to 64 | 12.8% | 12.5% |
| 65 to 69 | 13.5% | 13.5% |
| 70 to 74 | 13.5% | 13.6% |
| 75 to 79 | 12.5% | 13.2% |
| 80 or older | 10.5% | 9.8% |
| **Contract value, BOY 2013** | | |
| Under $25,000 | 11.3% | 10.4% |
| $25,000 to $49,999 | 10.1% | 10.1% |
| $50,000 to $99,999 | 10.7% | 10.7% |
| $100,000 to $249,999 | 11.4% | 11.4% |
| $250,000 to $499,999 | 11.6% | 11.6% |
| $500,000 or higher | 11.1% | 11.2% |

**Table 4-5:** GMAB Surrender Rates *(continued)*

| | Percent of Contracts Surrendered | Percent of Cash Value Surrendered |
|---|---|---|
| **Gender** | | |
| Male | 11.3% | 11.7% |
| Female | 10.5% | 10.5% |
| **Share class** | | |
| B-share | 10.4% | 10.5% |
| L-share | 13.9% | 14.4% |
| **Market type** | | |
| IRA | 10.7% | 11.0% |
| Nonqualified | 11.5% | 11.4% |

Note: Based on 278,420 GMAB contracts issued before 2013. Percent of contracts surrendered = number of contracts fully surrendered/total number of contracts in force. Percent of contract value surrendered = sum of values of fully surrendered contracts/total contract value in force. We have not shown some measures related to channels, asset allocation restrictions and share classes in order to preserve confidentiality and avoid revealing company-specific information, as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

## Key Findings

- There is little difference between persistency in contracts funded by nonqualified and qualified money. There is even less difference based on gender or contract size.
- L-share contracts have higher surrender rates than B-share contracts.

## Product and Benefit Characteristics

GMABs are the least expensive GLB, especially for contracts issued before 2010. Most cost around 0.40 to 0.80 percent of contract value — including or excluding any fixed account balance (Table 4-6).

**Table 4-6:** GMAB Product and Benefit Characteristics

| | Issued before 2006 | Issued in 2006 | Issued in 2007 | Issued in 2008 | Issued in 2009 | Issued in 2010 | Issued in 2011 | Issued in 2012 | Issued in 2013 |
|---|---|---|---|---|---|---|---|---|---|
| **Average mortality and expense charge** | 1.47% | 1.44% | 1.44% | 1.46% | 1.47% | 1.38% | 1.36% | 1.44% | 1.38% |
| **Average benefit fee** | 0.37% | 0.46% | 0.46% | 0.61% | 0.60% | 0.72% | 0.77% | 0.79% | 0.84% |
| **Average number of subaccounts** | 76 | 72 | 73 | 73 | 74 | 59 | 54 | 53 | 53 |
| **Product has fixed account** | | | | | | | | | |
| Yes | 90% | 92% | 90% | 93% | 87% | 90% | 84% | 78% | 84% |
| No | 10% | 8% | 10% | 7% | 13% | 10% | 16% | 22% | 16% |
| **Product still available as of 12-31-2013** | | | | | | | | | |
| Yes | 18% | 32% | 35% | 43% | 32% | 79% | 98% | 100% | 100% |
| No | 82% | 68% | 65% | 57% | 68% | 21% | 2% | 0 | 0 |
| **Rider still available as of 12-31-2013** | | | | | | | | | |
| Yes | 16% | 40% | 42% | 43% | 46% | 76% | 51% | 53% | 93% |
| No | 84% | 60% | 58% | 57% | 54% | 24% | 49% | 47% | 7% |
| **Cap on benefits** | | | | | | | | | |
| Yes | 49% | 41% | 34% | 22% | 24% | 21% | 31% | 42% | 38% |
| No | 51% | 59% | 66% | 78% | 76% | 79% | 69% | 58% | 62% |
| **Benefit fee basis** | | | | | | | | | |
| Account value | 44% | 44% | 40% | 21% | 14% | 19% | 25% | 27% | 33% |
| Benefit base | 12% | 17% | 19% | 32% | 36% | 32% | 49% | 69% | 63% |
| VA subaccounts | 38% | 34% | 37% | 45% | 50% | 49% | 26% | 4% | 4% |
| Other | 6% | 5% | 4% | 2% | 0 | 0 | 0 | 0 | 0 |
| **Average maximum age at election** | 82 | 81 | 80 | 80 | 81 | 80 | 79 | 78 | 80 |
| **Step-up if available*** | | | | | | | | | |
| Annually | 62% | 71% | 74% | 83% | 83% | 89% | 82% | 77% | 83% |
| Every 3 years | 1% | 1% | 1% | 14% | 17% | 11% | 18% | 23% | 17% |
| Every 5 years | 37% | 28% | 24% | 4% | 0 | 0 | 0 | 0 | 0 |

**Table 4-6:** GMAB Product and Benefit Characteristics *(continued)*

| | Issued before 2006 | Issued in 2006 | Issued in 2007 | Issued in 2008 | Issued in 2009 | Issued in 2010 | Issued in 2011 | Issued in 2012 | Issued in 2013 |
|---|---|---|---|---|---|---|---|---|---|
| **Asset allocation restrictions** | | | | | | | | | |
| Forced asset allocation | 41% | 39% | 47% | 40% | 28% | 21% | 31% | 42% | 38% |
| Limitations on fund | 6% | 6% | 4% | 3% | 2% | 1% | 1% | 0 | 0 |
| Dynamic asset allocations | 38% | 40% | 35% | 41% | 51% | 57% | 37% | 10% | 16% |
| No, but may restrict | 8% | 11% | 12% | 15% | 19% | 21% | 31% | 48% | 46% |
| No restrictions | 7% | 4% | 2% | 1% | 0 | 0 | 0 | 0 | 0 |
| **GMAB roll-up percent** | | | | | | | | | |
| 100% of premium | 98% | 95% | 94% | 95% | 98% | 98% | 97% | 95% | 95% |
| Over 100% | 2% | 5% | 6% | 5% | 2% | 2% | 3% | 5% | 5% |
| **Waiting period** | | | | | | | | | |
| 5-year | 3% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7-year | 35% | 30% | 33% | 24% | 22% | 24% | 13% | 0 | 0 |
| 10-year | 60% | 69% | 66% | 75% | 77% | 74% | 84% | 73% | 49% |
| More than 10-year | 2% | 1% | 1% | 1% | 1% | 2% | 3% | 27% | 51% |
| **Among contracts with maximum charge info. provided** | | | | | | | | | |
| Standard rider charge | 0.35% | 0.45% | 0.45% | 0.61% | 0.60% | 0.72% | 0.77% | 0.79% | 0.84% |
| Maximum rider charge | 0.70% | 0.87% | 0.85% | 0.84% | 0.82% | 0.82% | 0.90% | 1.13% | 1.52% |

*Among contracts that allow multiple step-ups.

Note: Based on 294,862 GMAB contracts issued in or before 2013.

## Key Findings

- In 2013, almost two thirds of GMAB fees were based on the benefit base. On average, maximum fees in 2013 increased to 152 basis points.
- The average buyer of a VA with a GMAB in 2013 paid 84 basis points as the rider fee. Including the mortality and expense charges, the total charge was around 2.22 percent for contracts issued in 2013.
- All of the contracts issued in 2012 and 2013 had a 10-year waiting period or longer.
- Annual step-up options have become more common.

## Participating Companies

AIG

Ameritas

AXA US

CMFG Life

Guardian Life

Lincoln Financial

MassMutual

MetLife

Nationwide

New York Life

Pacific Life

Phoenix Life

Principal Financial

Protective Life

Prudential

RiverSource Annuities

Securian/Minnesota Life

Security Benefit

Transamerica

Voya Financial

# Appendix A: About the Survey

Twenty companies provided contract and product information for their VA GLB business that met the following criteria:

1. Were in force as of January 1, 2013, or were issued during 2013;
2. Were nonqualified contracts except for IRA annuities; and
3. The contract owner had elected at least one GLB offered on the product.

The study excluded contracts for which no GLB was available and contracts for which one or more GLBs were available but the owner elected none. In total over 4.7 million contracts were represented in this study.

For each contract, companies indicated which GLB had been elected and provided specific information about the characteristics of that benefit, including:

- Method of benefit base calculation (e.g., percent of premium, roll-up, ratchet)
- Timing of benefit maturity
- Asset allocation restrictions
- Presence and use of step-up options
- Benefit base at BOY, anniversary, and EOY

Contracts with withdrawal benefits included information on the maximum annual withdrawal amounts (and percentages) and the selection of lifetime payouts.

Companies also provided the following information at the contract level:

- Basic owner demographics (age, sex)
- Distribution channel
- Market type (nonqualified or IRA)
- Cost structure (A-share, B-share, C-share, L-share, or O-share)
- Account values (BOY, anniversary, and EOY)

- Cash-flow activity (current-year premium, cumulative premiums, cumulative withdrawals, and current-year partial withdrawals)
- Contract status (in-force, EOY, surrendered, terminated due to death, or annuitized) and timing of status change

The study collected detailed, product-level information for each product represented in each company's data. This product information was used to categorize products in terms of their benefit features. The LIMRA Secure Retirement Institute relied solely on the product specifications for certain characteristics, including product and rider costs and method of reduction of benefit bases due to withdrawals, though these components may vary across individual contracts.

# Appendix B

**Table B1-1:** GLWB Contract Surrender Rates by Owners Taking Withdrawals in 2013 and by Presence of Surrender Charge

| | With charge | No charge, expired current year | No charge, expired previous year |
|---|---|---|---|
| **Did not take withdrawals in 2013** | | | |
| Under age 50 | 2.3% | 11.8% | 7.6% |
| Age 50 to 54 | 1.7% | 9.9% | 6.4% |
| Age 55 to 59 | 1.5% | 10.2% | 5.8% |
| Age 60 to 64 | 1.7% | 10.7% | 6.0% |
| Age 65 to 69 | 1.7% | 11.3% | 6.5% |
| Age 70 to 74 | 1.9% | 13.7% | 7.7% |
| Age 75 to 79 | 2.1% | 12.9% | 7.8% |
| Age 80 or older | 2.3% | 11.2% | 7.2% |
| **Took withdrawals in 2013** | | | |
| Under age 50 | 11.0% | – | – |
| Age 50 to 54 | 9.8% | – | – |
| Age 55 to 59 | 7.2% | 17.6% | 11.1% |
| Age 60 to 64 | 3.5% | 11.9% | 6.0% |
| Age 65 to 69 | 2.0% | 8.2% | 4.1% |
| Age 70 to 74 | 1.4% | 6.4% | 3.5% |
| Age 75 to 79 | 1.3% | 6.1% | 3.3% |
| Age 80 or older | 1.5% | 5.3% | 3.7% |

– Insufficient sample

Note: Based on 2,261,533 GLWB contracts issued before 2013.

We have not shown some results for owners under age 55 because of low sample size.

**Table B1-2:** GLWB Cash Value Surrender Rates by Owners Taking Withdrawals in 2013 and by Presence of Surrender Charge

| | With charge | No charge, expired current year | No charge, expired previous year |
|---|---|---|---|
| **Did not take withdrawals in 2013** | | | |
| Under age 50 | 1.5% | 10.7% | 7.2% |
| Age 50 to 54 | 1.1% | 9.6% | 5.7% |
| Age 55 to 59 | 1.0% | 10.1% | 5.3% |
| Age 60 to 64 | 1.1% | 10.3% | 5.3% |
| Age 65 to 69 | 1.3% | 11.2% | 6.0% |
| Age 70 to 74 | 1.5% | 13.8% | 6.8% |
| Age 75 to 79 | 1.8% | 13.1% | 7.5% |
| Age 80 or older | 1.8% | 11.5% | 6.8% |
| **Took withdrawals in 2013** | | | |
| Under age 50 | 7.7% | – | – |
| Age 50 to 54 | 5.4% | – | – |
| Age 55 to 59 | 3.9% | 20.3% | 9.6% |
| Age 60 to 64 | 2.2% | 12.7% | 5.3% |
| Age 65 to 69 | 1.5% | 8.8% | 3.7% |
| Age 70 to 74 | 1.2% | 7.6% | 3.6% |
| Age 75 to 79 | 1.1% | 6.4% | 3.3% |
| Age 80 or older | 1.1% | 6.1% | 3.3% |

– Insufficient sample

Note: Based on 2,261,533 GLWB contracts issued before 2013.

We have not shown some results for owners under age 55 because of low sample size.

**Table B1-3:** GLWB Contract Surrender Rates by Owners Taking Withdrawals Before 2013 and by Presence of Surrender Charge

| | With charge | No charge, expired current year | No charge, expired previous year |
|---|---|---|---|
| **Did not take withdrawals before 2013** | | | |
| Under age 50 | 2.0% | 10.9% | 7.2% |
| Age 50 to 54 | 1.5% | 9.0% | 6.2% |
| Age 55 to 59 | 1.3% | 9.5% | 5.4% |
| Age 60 to 64 | 1.5% | 9.7% | 5.3% |
| Age 65 to 69 | 1.5% | 9.8% | 5.5% |
| Age 70 to 74 | 1.4% | 10.3% | 5.7% |
| Age 75 to 79 | 1.5% | 8.9% | 5.8% |
| Age 80 or older | 1.7% | 8.7% | 5.6% |
| **Took withdrawals before 2013** | | | |
| Under age 50 | 12.0% | – | 14.0% |
| Age 50 to 54 | 11.5% | – | 11.8% |
| Age 55 to 59 | 8.9% | 19.6% | 12.1% |
| Age 60 to 64 | 5.2% | 15.6% | 8.3% |
| Age 65 to 69 | 2.9% | 11.8% | 5.6% |
| Age 70 to 74 | 2.2% | 9.3% | 4.7% |
| Age 75 to 79 | 1.9% | 9.1% | 4.6% |
| Age 80 or older | 2.1% | 7.5% | 4.9% |

– Insufficient sample

Note: Based on 2,261,533 GLWB contracts issued before 2013.

We have not shown some results for owners under age 55 because of low sample size.

**Table B1-4:** GLWB Cash Value Surrender Rates by Owners Taking Withdrawals Before 2013 and by Presence of Surrender Charge

| | With charge | No charge, expired current year | No charge, expired previous year |
|---|---|---|---|
| **Did not take withdrawals before 2013** | | | |
| Under age 50 | 1.4% | 9.3% | 7.2% |
| Age 50 to 54 | 1.1% | 9.2% | 5.7% |
| Age 55 to 59 | 1.0% | 9.8% | 5.2% |
| Age 60 to 64 | 1.1% | 9.7% | 5.0% |
| Age 65 to 69 | 1.2% | 10.0% | 5.3% |
| Age 70 to 74 | 1.2% | 10.8% | 5.4% |
| Age 75 to 79 | 1.3% | 9.5% | 5.9% |
| Age 80 or older | 1.4% | 9.7% | 5.6% |
| **Took withdrawals before 2013** | | | |
| Under age 50 | 8.5% | – | 11.8% |
| Age 50 to 54 | 5.3% | – | 9.3% |
| Age 55 to 59 | 3.8% | 19.5% | 8.5% |
| Age 60 to 64 | 2.5% | 14.1% | 6.2% |
| Age 65 to 69 | 1.9% | 11.4% | 4.5% |
| Age 70 to 74 | 1.7% | 10.4% | 4.4% |
| Age 75 to 79 | 1.6% | 9.5% | 4.5% |
| Age 80 or older | 1.5% | 8.3% | 4.2% |

– Insufficient sample

Note: Based on 2,261,533 GLWB contracts issued before 2013.

We have not shown some results for owners under age 55 because of low sample size.

**Table B1-5:** GLWB Contract Surrender Rates by Owners Taking Withdrawals in Relation to Annual Benefit Maximum Allowed and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Age 60 to 69** | 5.5% | 16.0% |
| Under 75% | 2.5% | 7.1% |
| 75% to 89.9% | 0.4% | 1.3% |
| 90% to 109.9% | 1.5% | 4.9% |
| 110% to 149.9% | 2.8% | 8.1% |
| 150% to 199.9% | 8.2% | 16.7% |
| 200% or more | 5.5% | 16.0% |
| **Age 70 to 79** | | |
| Under 75% | 3.0% | 8.8% |
| 75% to 89.9% | 1.0% | 4.6% |
| 90% to 109.9% | 0.3% | 1.2% |
| 110% to 149.9% | 1.0% | 3.8% |
| 150% to 199.9% | 1.8% | 5.2% |
| 200% or more | 6.1% | 12.4% |
| **Age 80 or older** | | |
| Under 75% | 7.0% | 14.8% |
| 75% to 89.9% | 1.4% | 3.7% |
| 90% to 109.9% | 0.3% | 1.2% |
| 110% to 149.9% | 0.8% | 2.6% |
| 150% to 199.9% | 1.8% | 3.9% |
| 200% or more | 6.8% | 13.1% |

Note: Based on 458,084 GLWB contracts issued before 2013 that had withdrawals during 2013.

**Table B1-6:** GLWB Cash Value Surrender Rates by Owners Taking Withdrawals in Relation to Annual Benefit Maximum Allowed and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Age 60 to 69** | | |
| Under 75% | 4.6% | 16.2% |
| 75% to 89.9% | 1.6% | 6.5% |
| 90% to 109.9% | 0.3% | 1.3% |
| 110% to 149.9% | 1.2% | 4.1% |
| 150% to 199.9% | 2.4% | 8.1% |
| 200% or more | 6.4% | 19.9% |
| **Age 70 to 79** | | |
| Under 75% | 2.9% | 10.2% |
| 75% to 89.9% | 0.9% | 4.9% |
| 90% to 109.9% | 0.3% | 1.2% |
| 110% to 149.9% | 0.9% | 3.9% |
| 150% to 199.9% | 1.8% | 5.4% |
| 200% or more | 5.2% | 16.2% |
| **Age 80 or older** | | |
| Under 75% | 4.5% | 14.2% |
| 75% to 89.9% | 1.0% | 3.8% |
| 90% to 109.9% | 0.2% | 1.3% |
| 110% to 149.9% | 0.8% | 2.8% |
| 150% to 199.9% | 2.1% | 4.1% |
| 200% or more | 4.9% | 11.3% |

Note: Based on 458,084 GLWB contracts issued before 2013 that had withdrawals during 2013.

**Table B1-7:** GLWB Contract Surrender Rates by Withdrawal Method and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Did not take systematic withdrawals** | | |
| Age 55 to 59 | 9.2% | 17.2% |
| Age 60 to 64 | 7.1% | 15.6% |
| Age 65 to 69 | 4.8% | 12.1% |
| Age 70 to 74 | 2.3% | 7.6% |
| Age 75 to 79 | 2.3% | 6.6% |
| Age 80 or older | 2.0% | 7.2% |
| **Took systematic withdrawals** | | |
| Age 55 to 59 | 7.1% | 1.9% |
| Age 60 to 64 | 4.2% | 1.4% |
| Age 65 to 69 | 3.6% | 1.1% |
| Age 70 to 74 | 3.3% | 1.0% |
| Age 75 to 79 | 3.3% | 1.0% |
| Age 80 or older | 3.5% | 1.2% |

Note: Based on 517,742 GLWB contracts issued before 2013 that had withdrawals during 2013.

**Table B1-8:** GLWB Cash Value Surrender Rates by Withdrawal Method and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Did not take systematic withdrawals** | | |
| Age 55 to 59 | 6.0% | 20.7% |
| Age 60 to 64 | 5.0% | 18.4% |
| Age 65 to 69 | 3.8% | 13.4% |
| Age 70 to 74 | 1.9% | 8.6% |
| Age 75 to 79 | 2.0% | 7.1% |
| Age 80 or older | 1.8% | 7.0% |
| **Took systematic withdrawals** | | |
| Age 55 to 59 | 1.2% | 6.6% |
| Age 60 to 64 | 1.1% | 4.0% |
| Age 65 to 69 | 1.0% | 3.5% |
| Age 70 to 74 | 0.9% | 3.6% |
| Age 75 to 79 | 0.9% | 3.3% |
| Age 80 or older | 0.9% | 3.4% |

Note: Based on 517,742 GLWB contracts issued before 2013 that had withdrawals during 2013.

**Table B2-1:** GMWB Contract Surrender Rates by Owners Taking Withdrawals in 2013 and by Presence of Surrender Charge

| | With charge | No charge, expired current year | No charge, expired previous year |
|---|---|---|---|
| **Did not take withdrawals in 2013** | | | |
| Under age 50 | 4.6% | 17.2% | 9.2% |
| Age 50 to 54 | 3.9% | 21.2% | 12.5% |
| Age 55 to 59 | 4.1% | 21.2% | 12.3% |
| Age 60 to 64 | 3.9% | 24.3% | 14.7% |
| Age 65 to 69 | 3.8% | 25.5% | 15.4% |
| Age 70 to 74 | 4.9% | 28.5% | 14.9% |
| Age 75 to 79 | 4.5% | 26.0% | 12.8% |
| Age 80 or older | 4.0% | 17.4% | 9.9% |
| **Took withdrawals in 2013** | | | |
| Under age 50 | 5.7% | – | – |
| Age 50 to 54 | 3.8% | – | – |
| Age 55 to 59 | 3.3% | – | 9.0% |
| Age 60 to 64 | 3.0% | 17.4% | 8.4% |
| Age 65 to 69 | 2.3% | 13.0% | 5.9% |
| Age 70 to 74 | 2.1% | 10.6% | 4.7% |
| Age 75 to 79 | 2.0% | 9.2% | 4.5% |
| Age 80 or older | 1.9% | 7.5% | 4.6% |

– Insufficient sample

Note: Based on 229,153 GMWB contracts issued before 2013.

We have not shown some results for owners under age 60 because of low sample size.

**Table B2-2:** GMWB Cash Value Surrender Rates by Owners Taking Withdrawals in 2013 and by Presence of Surrender Charge

| | With charge | No charge, expired current year | No charge, expired previous year |
|---|---|---|---|
| **Did not take withdrawals in 2013** | | | |
| Under age 50 | 3.0% | 17.7% | 9.3% |
| Age 50 to 54 | 2.9% | 22.9% | 12.2% |
| Age 55 to 59 | 3.6% | 25.2% | 13.1% |
| Age 60 to 64 | 3.2% | 27.7% | 16.2% |
| Age 65 to 69 | 3.3% | 27.2% | 16.1% |
| Age 70 to 74 | 4.0% | 30.8% | 14.8% |
| Age 75 to 79 | 3.0% | 26.2% | 13.5% |
| Age 80 or older | 3.9% | 16.9% | 9.7% |
| **Took withdrawals in 2013** | | | |
| Under age 50 | 4.4% | – | – |
| Age 50 to 54 | 2.6% | – | – |
| Age 55 to 59 | 2.3% | – | 8.7% |
| Age 60 to 64 | 2.4% | 17.7% | 8.7% |
| Age 65 to 69 | 1.8% | 16.5% | 6.5% |
| Age 70 to 74 | 2.0% | 12.5% | 5.4% |
| Age 75 to 79 | 1.4% | 11.5% | 4.9% |
| Age 80 or older | 2.0% | 7.9% | 4.1% |

– Insufficient sample

Note: Based on 229,153 GMWB contracts issued before 2013.

We have not shown some results for owners under age 55 because of low sample size.

**Table B2-3:** GMWB Contract Surrender Rates by Owners Taking Withdrawals Before 2013 and by Presence of Surrender Charge

| | With charge | No charge, expired current year | No charge, expired previous year |
|---|---|---|---|
| **Did not take withdrawals before 2013** | | | |
| Under age 50 | 4.1% | 16.5% | 8.5% |
| Age 50 to 54 | 3.6% | 21.3% | 12.5% |
| Age 55 to 59 | 3.3% | 20.9% | 12.0% |
| Age 60 to 64 | 3.5% | 23.1% | 13.7% |
| Age 65 to 69 | 2.9% | 23.2% | 14.1% |
| Age 70 to 74 | 3.4% | 22.0% | 12.0% |
| Age 75 to 79 | 3.1% | 20.2% | 9.9% |
| Age 80 or older | 2.0% | 13.6% | 7.8% |
| **Took withdrawals before 2013** | | | |
| Under age 50 | 7.2% | – | – |
| Age 50 to 54 | 4.8% | – | – |
| Age 55 to 59 | 6.1% | – | 11.1% |
| Age 60 to 64 | 4.0% | 21.6% | 11.4% |
| Age 65 to 69 | 3.5% | 18.2% | 8.7% |
| Age 70 to 74 | 3.0% | 15.3% | 6.6% |
| Age 75 to 79 | 2.6% | 13.2% | 6.4% |
| Age 80 or older | 2.9% | 10.3% | 6.2% |

– Insufficient sample

Note: Based on 229,153 GMWB contracts issued before 2013.

We have not shown some results for owners under age 60 because of low sample size.

**Table B2-4:** GMWB Cash Value Surrender Rates by Owners Taking Withdrawals Before 2013 and by Presence of Surrender Charge

| | With charge | No charge, expired current year | No charge, expired previous year |
|---|---|---|---|
| **Did not take withdrawals before 2013** | | | |
| Under age 50 | 2.7% | 16.7% | 8.7% |
| Age 50 to 54 | 2.9% | 23.5% | 12.4% |
| Age 55 to 59 | 3.4% | 24.7% | 12.4% |
| Age 60 to 64 | 3.0% | 26.5% | 15.0% |
| Age 65 to 69 | 2.6% | 26.0% | 15.2% |
| Age 70 to 74 | 3.0% | 25.1% | 12.2% |
| Age 75 to 79 | 2.2% | 21.4% | 11.1% |
| Age 80 or older | 2.2% | 14.2% | 8.5% |
| **Took withdrawals before 2013** | | | |
| Under age 50 | 5.0% | – | – |
| Age 50 to 54 | 2.6% | – | – |
| Age 55 to 59 | 3.0% | – | 11.5% |
| Age 60 to 64 | 2.7% | 21.1% | 11.4% |
| Age 65 to 69 | 2.6% | 19.0% | 8.4% |
| Age 70 to 74 | 2.5% | 16.6% | 7.0% |
| Age 75 to 79 | 1.8% | 15.0% | 6.6% |
| Age 80 or older | 3.0% | 10.4% | 5.6% |

– Insufficient sample

Note: Based on 229,153 GMWB contracts issued before 2013.

We have not shown some results for owners under age 60 because of low sample size.

**Table B2-5:** GMWB Contract Surrender Rates by Owners Taking Withdrawals in Relation to Annual Benefit Maximum Allowed and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Age 60 to 69** | | |
| Under 75% | 8.7% | 19.4% |
| 75% to 89.9% | 1.2% | 5.5% |
| 90% to 109.9% | 0.5% | 2.4% |
| 110% to 149.9% | 0.8% | 5.3% |
| 150% to 199.9% | 1.1% | 6.2% |
| 200% or more | 4.3% | 14.5% |
| **Age 70 to 79** | | |
| Under 75% | 5.1% | 10.6% |
| 75% to 89.9% | 1.4% | 4.6% |
| 90% to 109.9% | 0.4% | 1.4% |
| 110% to 149.9% | 0.2% | 4.2% |
| 150% to 199.9% | 0.6% | 3.7% |
| 200% or more | 3.6% | 10.8% |

Note: Based on 72,238 GMWB contracts issued before 2013 that had withdrawals during 2013. We have not shown measures related to owners under age 60 or age 80 or older because of low sample size.

**Table B2-6:** GMWB Cash Value Surrender Rates by Owners Taking Withdrawals in Relation to Annual Benefit Maximum Allowed and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Age 60 to 69** | | |
| Under 75% | 6.1% | 20.7% |
| 75% to 89.9% | 1.5% | 5.6% |
| 90% to 109.9% | 0.5% | 2.4% |
| 110% to 149.9% | 0.7% | 5.4% |
| 150% to 199.9% | 1.1% | 5.2% |
| 200% or more | 3.6% | 18.2% |
| **Age 70 to 79** | | |
| Under 75% | 4.7% | 11.5% |
| 75% to 89.9% | 0.6% | 4.4% |
| 90% to 109.9% | 0.3% | 1.6% |
| 110% to 149.9% | 0.2% | 4.8% |
| 150% to 199.9% | 0.3% | 5.3% |
| 200% or more | 2.7% | 16.3% |

Note: Based on 72,238 GMWB contracts issued before 2013 that had withdrawals during 2013. We have not shown measures related to owners under age 60 or age 80 or older because of low sample size.

**Table B2-7:** GMWB Contract Surrender Rates by Withdrawal Method and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Did not take systematic withdrawals** | | |
| Age 55 to 59 | 3.8% | – |
| Age 60 to 64 | 4.2% | 14.9% |
| Age 65 to 69 | 3.4% | 11.9% |
| Age 70 to 74 | 2.3% | 8.2% |
| Age 75 to 79 | 1.8% | 7.9% |
| Age 80 or older | 2.4% | 7.3% |
| **Took systematic withdrawals** | | |
| Age 55 to 59 | – | – |
| Age 60 to 64 | 2.0% | 8.7% |
| Age 65 to 69 | 1.8% | 6.3% |
| Age 70 to 74 | 2.1% | 5.3% |
| Age 75 to 79 | 2.1% | 4.8% |
| Age 80 or older | 1.7% | 4.6% |

– Insufficient sample

Note: Based on 104,326 GMWB contracts issued before 2013 that had withdrawals during 2013.

**Table B2-8:** GMWB Cash Value Surrender Rates by Withdrawal Method and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Did not take systematic withdrawals** | | |
| Age 55 to 59 | 2.7% | – |
| Age 60 to 64 | 3.9% | 16.4% |
| Age 65 to 69 | 2.3% | 15.9% |
| Age 70 to 74 | 1.8% | 10.2% |
| Age 75 to 79 | 1.2% | 8.7% |
| Age 80 or older | 2.6% | 6.9% |
| **Took systematic withdrawals** | | |
| Age 55 to 59 | – | – |
| Age 60 to 64 | 1.6% | 9.1% |
| Age 65 to 69 | 1.6% | 7.2% |
| Age 70 to 74 | 2.1% | 6.0% |
| Age 75 to 79 | 1.5% | 5.5% |
| Age 80 or older | 1.8% | 4.3% |

– Insufficient sample

Note: Based on 104,326 GMWB contracts issued before 2013 that had withdrawals during 2013.

**Table B3-1:** GMIB Contract Surrender Rates by Owners Taking Withdrawals in 2013 and by Presence of Surrender Charge

| | No charge, expired current year | No charge, expired previous year |
|---|---|---|
| **Did not take withdrawals in 2013** | | |
| Under age 50 | 7.9% | 6.0% |
| Age 50 to 54 | 6.9% | 5.5% |
| Age 55 to 59 | 6.9% | 5.4% |
| Age 60 to 64 | 8.4% | 6.7% |
| Age 65 to 69 | 8.9% | 6.5% |
| Age 70 to 74 | 9.8% | 7.3% |
| Age 75 to 79 | 9.8% | 7.0% |
| Age 80 or older | 10.0% | 8.2% |
| **Took withdrawals in 2013** | | |
| Under age 50 | 14.0% | – |
| Age 50 to 54 | 11.4% | – |
| Age 55 to 59 | 8.5% | 6.7% |
| Age 60 to 64 | 6.4% | 4.7% |
| Age 65 to 69 | 5.0% | 3.1% |
| Age 70 to 74 | 4.5% | 2.9% |
| Age 75 to 79 | 3.6% | 3.0% |
| Age 80 or older | 4.8% | 4.2% |

– Insufficient sample

Note: Based on 700,297 GMIB contracts issued before 2013.

We have not shown some results for owners under age 55 because of low sample size, and we are not showing results for contracts with surrender charges in effect because a single company represents a significant portion of the exposures.

**Table B3-2:** GMIB Cash Value Surrender Rates by Owners Taking Withdrawals in 2013 and by Presence of Surrender Charge

| | No charge, expired current year | No charge, expired previous year |
|---|---|---|
| **Did not take withdrawals in 2013** | | |
| Under age 50 | 7.2% | 5.5% |
| Age 50 to 54 | 5.9% | 4.4% |
| Age 55 to 59 | 6.1% | 4.5% |
| Age 60 to 64 | 7.5% | 5.4% |
| Age 65 to 69 | 7.7% | 5.5% |
| Age 70 to 74 | 9.1% | 6.1% |
| Age 75 to 79 | 8.4% | 6.7% |
| Age 80 or older | 9.3% | 7.7% |
| **Took withdrawals in 2013** | | |
| Under age 50 | 9.0% | – |
| Age 50 to 54 | 7.8% | – |
| Age 55 to 59 | 5.9% | 4.6% |
| Age 60 to 64 | 4.5% | 3.2% |
| Age 65 to 69 | 4.2% | 2.4% |
| Age 70 to 74 | 4.0% | 2.5% |
| Age 75 to 79 | 3.5% | 2.6% |
| Age 80 or older | 4.2% | 4.2% |

– Insufficient sample

Note: Based on 700,297 GMIB contracts issued before 2013.

We have not shown some results for owners under age 55 because of low sample size, and we are not showing results for contracts with surrender charges in effect because a single company represents a significant portion of the exposures.

**Table B3-3:** GMIB Contract Surrender Rates by Owners Taking Withdrawals Before 2013 and by Presence of Surrender Charge

| | No charge, expired current year | No charge, expired previous year |
|---|---|---|
| **Did not take withdrawals before 2013** | | |
| Under age 50 | 7.4% | 5.6% |
| Age 50 to 54 | 6.4% | 5.1% |
| Age 55 to 59 | 6.3% | 5.1% |
| Age 60 to 64 | 7.5% | 5.9% |
| Age 65 to 69 | 7.8% | 5.7% |
| Age 70 to 74 | 6.6% | 5.5% |
| Age 75 to 79 | 6.7% | 5.1% |
| Age 80 or older | 6.6% | 6.7% |
| **Took withdrawals before 2013** | | |
| Under age 50 | 14.4% | 11.7% |
| Age 50 to 54 | 12.4% | 10.0% |
| Age 55 to 59 | 11.9% | 8.1% |
| Age 60 to 64 | 9.7% | 7.7% |
| Age 65 to 69 | 7.4% | 4.9% |
| Age 70 to 74 | 7.0% | 4.7% |
| Age 75 to 79 | 5.8% | 4.5% |
| Age 80 or older | 7.7% | 6.4% |

Note: Based on 662,573 GMIB contracts issued before 2013.

We are not showing results for contracts with surrender charges in effect because a single company represents a significant portion of the exposures.

**Table B3-4:** GMIB Cash Value Surrender Rates by Owners Taking Withdrawals Before 2013 and by Presence of Surrender Charge

| | No charge, expired current year | No charge, expired previous year |
|---|---|---|
| **Did not take withdrawals before 2013** | | |
| Under age 50 | 6.8% | 5.1% |
| Age 50 to 54 | 5.7% | 4.2% |
| Age 55 to 59 | 5.8% | 4.4% |
| Age 60 to 64 | 6.8% | 4.9% |
| Age 65 to 69 | 6.9% | 5.2% |
| Age 70 to 74 | 6.3% | 4.9% |
| Age 75 to 79 | 6.1% | 4.8% |
| Age 80 or older | 7.6% | 6.9% |
| **Took withdrawals before 2013** | | |
| Under age 50 | 11.4% | 9.0% |
| Age 50 to 54 | 8.0% | 6.5% |
| Age 55 to 59 | 7.2% | 5.1% |
| Age 60 to 64 | 6.5% | 4.8% |
| Age 65 to 69 | 5.6% | 3.3% |
| Age 70 to 74 | 6.1% | 3.5% |
| Age 75 to 79 | 5.1% | 4.0% |
| Age 80 or older | 6.2% | 6.0% |

Note: Based on 662,573 GMIB contracts issued before 2013.

We are not showing results for contracts with surrender charges in effect because a single company represents a significant portion of the exposures.

**Table B3-5:** GMIB Contract Surrender Rates by Withdrawal Method and by Presence of Surrender Charge

| | Without charge |
|---|---|
| **Did not take systematic withdrawals** | |
| Age 55 to 59 | 10.0% |
| Age 60 to 64 | 8.3% |
| Age 65 to 69 | 6.3% |
| Age 70 to 74 | 4.6% |
| Age 75 to 79 | 3.9% |
| Age 80 or older | 5.4% |
| **Took systematic withdrawals** | |
| Age 55 to 59 | – |
| Age 60 to 64 | – |
| Age 65 to 69 | 2.4% |
| Age 70 to 74 | 2.6% |
| Age 75 to 79 | 2.7% |
| Age 80 or older | 3.9% |

– Insufficient sample

Note: Based on 218,171 GMIB contracts issued before 2013 that had withdrawals during 2013.

We have not shown some results for owners under age 55 because of low sample size, and we are not showing results for contracts with surrender charges in effect because a single company represents a significant portion of the exposures.

**Table B3-6:** GMIB Cash Value Surrender Rates by Withdrawal Method and by Presence of Surrender Charge

| | Without charge |
|---|---|
| **Did not take systematic withdrawals** | |
| Age 55 to 59 | 8.7% |
| Age 60 to 64 | 6.4% |
| Age 65 to 69 | 5.5% |
| Age 70 to 74 | 4.2% |
| Age 75 to 79 | 3.5% |
| Age 80 or older | 4.9% |
| **Took systematic withdrawals** | |
| Age 55 to 59 | – |
| Age 60 to 64 | – |
| Age 65 to 69 | 2.0% |
| Age 70 to 74 | 2.2% |
| Age 75 to 79 | 2.5% |
| Age 80 or older | 3.8% |

– Insufficient sample

Note: Based on 218,171 GMIB contracts issued before 2013 that had withdrawals during 2013.

We have not shown some results for owners under age 55 because of low sample size, and we are not showing results for contracts with surrender charges in effect because a single company represents a significant portion of the exposures.

**Table B4-1:** GMAB Contract Surrender Rates by Owners Taking Withdrawals in 2013 and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Did not take withdrawals in 2013** | | |
| Under age 50 | 4.7% | 14.4% |
| Age 50 to 54 | 4.9% | 17.0% |
| Age 55 to 59 | 5.4% | 18.9% |
| Age 60 to 64 | 7.1% | 21.7% |
| Age 65 to 69 | 7.9% | 21.9% |
| Age 70 to 74 | 9.8% | 24.3% |
| Age 75 to 79 | 10.3% | 21.9% |
| Age 80 or older | 8.7% | 14.0% |
| **Took withdrawals in 2013** | | |
| Under age 50 | 21.0% | – |
| Age 50 to 54 | 15.6% | – |
| Age 55 to 59 | 14.4% | 30.1% |
| Age 60 to 64 | 11.6% | 24.5% |
| Age 65 to 69 | 10.4% | 21.4% |
| Age 70 to 74 | 7.6% | 12.7% |
| Age 75 to 79 | 6.6% | 10.6% |
| Age 80 or older | 6.1% | 9.7% |

– Insufficient sample

Note: Based on 278,420 GMAB contracts issued before 2013.

We have not shown some results for owners under age 55 because of low sample size.

**Table B4-2:** GMAB Cash Value Surrender Rates by Owners Taking Withdrawals in 2013 and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Did not take withdrawals in 2013** | | |
| Under age 50 | 3.9% | 17.8% |
| Age 50 to 54 | 4.2% | 19.2% |
| Age 55 to 59 | 5.4% | 21.2% |
| Age 60 to 64 | 6.7% | 24.5% |
| Age 65 to 69 | 8.0% | 23.8% |
| Age 70 to 74 | 9.4% | 26.2% |
| Age 75 to 79 | 9.6% | 22.6% |
| Age 80 or older | 8.2% | 12.3% |
| **Took withdrawals in 2013** | | |
| Under age 50 | 12.1% | – |
| Age 50 to 54 | 9.6% | – |
| Age 55 to 59 | 9.1% | 30.6% |
| Age 60 to 64 | 7.6% | 24.3% |
| Age 65 to 69 | 8.5% | 22.9% |
| Age 70 to 74 | 7.3% | 13.6% |
| Age 75 to 79 | 6.7% | 13.8% |
| Age 80 or older | 6.0% | 10.0% |

– Insufficient sample

Note: Based on 278,420 GMAB contracts issued before 2013.

We have not shown some results for owners under age 55 because of low sample size.

**Table B4-3:** GMAB Contract Surrender Rates by Owners Taking Withdrawals Before 2013 and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Did not take withdrawals before 2013** | | |
| Under age 50 | 5.0% | 14.4% |
| Age 50 to 54 | 5.0% | 17.6% |
| Age 55 to 59 | 5.4% | 19.7% |
| Age 60 to 64 | 7.0% | 21.8% |
| Age 65 to 69 | 7.8% | 22.4% |
| Age 70 to 74 | 8.0% | 20.9% |
| Age 75 to 79 | 7.9% | 19.0% |
| Age 80 or older | 7.1% | 12.1% |
| **Took withdrawals before 2013** | | |
| Under age 50 | 13.6% | 19.2% |
| Age 50 to 54 | 11.9% | 20.0% |
| Age 55 to 59 | 11.8% | 21.3% |
| Age 60 to 64 | 11.3% | 23.2% |
| Age 65 to 69 | 10.3% | 20.5% |
| Age 70 to 74 | 10.0% | 17.0% |
| Age 75 to 79 | 9.3% | 14.5% |
| Age 80 or older | 8.7% | 12.4% |

Note: Based on 278,419 GMAB contracts issued before 2013.

**Table B4-4:** GMAB Cash Value Surrender Rates by Owners Taking Withdrawals Before 2013 and by Presence of Surrender Charge

| | With charge | Without charge |
|---|---|---|
| **Did not take withdrawals before 2013** | | |
| Under age 50 | 4.3% | 18.2% |
| Age 50 to 54 | 4.3% | 20.6% |
| Age 55 to 59 | 5.6% | 22.3% |
| Age 60 to 64 | 6.5% | 25.3% |
| Age 65 to 69 | 7.7% | 24.5% |
| Age 70 to 74 | 7.7% | 23.0% |
| Age 75 to 79 | 7.5% | 22.0% |
| Age 80 or older | 6.4% | 11.3% |
| **Took withdrawals before 2013** | | |
| Under age 50 | 8.7% | 18.2% |
| Age 50 to 54 | 8.9% | 20.7% |
| Age 55 to 59 | 8.1% | 21.7% |
| Age 60 to 64 | 8.3% | 21.8% |
| Age 65 to 69 | 9.2% | 21.5% |
| Age 70 to 74 | 9.5% | 17.4% |
| Age 75 to 79 | 9.3% | 15.5% |
| Age 80 or older | 9.2% | 11.9% |

Note: Based on 278,419 GMAB contracts issued before 2013.

| **Table B4-5:** GMAB Contract Surrender Rates by Benefit Maturity Year and by Presence of Surrender Charge | | |
|---|---|---|
| | **With charge** | **Without charge** |
| 2014 | 13.0% | 13.5% |
| 2015 | 6.9% | 14.5% |
| 2016 | 5.5% | 20.7% |
| 2017 | 7.6% | 17.0% |
| 2018 | 6.7% | 17.1% |
| 2019 | 6.1% | 22.2% |
| 2020 | 5.3% | 19.2% |
| 2021 | 4.5% | 11.8% |
| 2022 or later | 3.1% | 5.9% |

Note: Based on 238,507 GMAB contracts issued before 2013.

Due to low sample sizes, we cannot show surrender rates split by other benefit maturity years.

| **Table B4-6:** GMAB Cash Value Surrender Rates by Benefit Maturity Year and by Presence of Surrender Charge | | |
|---|---|---|
| | **With charge** | **Without charge** |
| 2014 | 7.4% | 14.2% |
| 2015 | 5.5% | 16.3% |
| 2016 | 7.3% | 24.6% |
| 2017 | 6.0% | 17.4% |
| 2018 | 5.1% | 18.8% |
| 2019 | 4.8% | 24.2% |
| 2020 | 3.5% | 20.3% |
| 2021 | 2.3% | 11.5% |
| 2022 or later | 1.1% | 5.5% |

Note: Based on 238,507 GMAB contracts issued before 2013.

Due to low sample sizes, we cannot show surrender rates split by other benefit maturity years.

## Related Links

The following links are valid as of October 2015.

### LIMRA

*Variable Annuity Guaranteed Living Benefit Election Tracking Survey, Fourth Quarter 2013* (2014)

This survey tracks industry VA GLB election rates on a quarterly basis. GLB election rates for new VA sales are tracked by type of GLB, as well as by distribution channel.

**http://www.limra.com/Research/Abstracts/2014/Glimpse__Variable_Annuity_Guaranteed_Living_Benefit_(GLB)_Election_Tracking_Survey_(2013,_4th_Quarter).aspx?LangType=1033**

*Variable Annuity Guaranteed Living Benefits Utilization —2012 Experience* (2014)

Based on 2012 data for 22 companies.

**http://www.limra.com/Research/Abstracts/2014/Variable_Annuity_Guaranteed_Living_Benefits_Utilization_–_2012_Experience_(2014).aspx?LangType=1033**

*Variable Annuity Guaranteed Living Benefits Utilization — 2011 Experience* (2014)

Based on 2011 data for 19 companies.

**http://www.limra.com/Research/Abstracts/2014/Variable_Annuity_Guaranteed_Living_Benefits_Utilization_%E2%80%93_2011_Experience_(2014).aspx?**

*Variable Annuity Guaranteed Living Benefits Utilization: 2010 Data* (2013)

Based on 2010 data for 23 companies.

**http://www.limra.com/Research/Abstracts/2013/Variable_Annuity_Guaranteed_Living_Benefits_Utilization__2010_Data_Summary_Report.aspx?**

*Guaranteed Living Benefits Utilization: 2009 Data* (2011)
Based on 2009 data for 21 companies.

**http://www.limra.com/Research/Abstracts/2011/Guaranteed_Living_Benefits_Utilization__2009_Data_(2011).aspx?**

*Guaranteed Living Benefits Utilization: 2008 Data* (2009)
Based on 2008 data for 19 companies.

**http://www.limra.com/Research/Abstracts/2009/Guaranteed_Living_Benefits_Utilization__2008_Data_(2009).aspx?**

*Guaranteed Living Benefits Utilization: 2007 Data* (2009)
Based on 2007 data for 19 companies.

**http://www.limra.com/Research/Abstracts/2009/Guaranteed_Living_Benefits_Utilization__2007_**

# Related Links *(continued)*

**Data_(2009).aspx?**

*Guaranteed Living Benefits Utilization: 2006 Data* (2008)
Based on 2006 data for 19 companies.

**http://www.limra.com/Research/Abstracts/2008/Guaranteed_Living_Benefits_Utilization_--_2006_Data_(2008).aspx?LangType=1033**

## Non-LIMRA

*Unpredictable policyholder behavior challenges U.S. life insurers' variable annuity business,* Moody's Investor Service, June 2013
Unpredictable behavior by variable annuity policyholders will continue to pressure U.S. life insurers going forward, says Moody's Investors Service in its new special comment.

**https://www.moodys.com/research/Moodys-Unpredictable-policyholder-behavior-challenges-US-life-insurers-variable-annuity--PR_276484**

*Nearly 15% of Variable Annuity Policies With a Guaranteed Withdrawal Benefit Started Withdrawals Within the First 12 Months After Attaining Eligibility;* Milliman, June 2011
This Milliman survey provides insight into consumer use of guaranteed living benefits on variable annuities.

**http://www.prnewswire.com/news-releases/nearly-15-of-variable-annuity-policies-with-a-guaranteed-withdrawal-benefit-started-withdrawals-within-the-first-12-months-after-attaining-eligibility-123737939.html**

*Practice Note for the Application of C-3 Phase II and Actuarial Guideline XLII (2009),* American Academy of Actuaries, July 2009
This practice note was prepared by a work group set up by the Life Practice Note Steering Committee of the American Academy of Actuaries. It is an update of the September 2006 C-3 Phase II Practice Note and represents a description of practices believed by the VA Practice Note Work Group to be commonly employed by actuaries in the United States in 2009. It includes discussion of owner behavior (e.g., lapsation) when living benefits are present on the VA contract.

**http://www.actuary.org/pdf/life/c3p2_july09.pdf**

*"Guaranteed Living Benefits: Before the Meltdown," Product Matters!* June 2009.
This article describes a study by Milliman Inc. that explores overall living benefit utilization rates for a group of 21 companies.

**https://www.soa.org/library/newsletters/product-development-news/2009/june/pro-2009-iss-74-saip.pdf**

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