Variable Annuity Guaranteed Living Benefits Utilization

2011 EXPERIENCE

A Joint Study
Sponsored by the
Society of Actuaries
and LIMRA

A 2013 REPORT

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Executive Summary

LIMRA Variable Annuity Guaranteed Living Benefit Utilization Study (VAGLBUS) — 2011 Data is an annual update of earlier investigations, conducted since 2006.

The study examines the GLB utilization of over 3.4 million contracts that were either issued during or in force as of 2011. Nineteen insurance companies participated in this study. These 19 companies made up 51 percent of all GLB sales in 2011 and 58 percent of assets at year end, and make for a solid representation of the business.

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. 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 were elected for products that comprised 79 percent of new VA sales in 2011, according to LIMRA's Election Tracking Survey.[1] LIMRA estimates that GLB assets were $579 billion, constituting 36 percent of total VA assets as of year-end 2011.

Research on GLBs generally focuses on sales and elections rather than 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 guaranteed living benefits.

Guaranteed Lifetime Withdrawal Benefits (GLWBs)

Results based on 1,859,760 contracts issued by 17 companies

Buyer and Owner Profiles

- The average age of GLWB buyers in 2011 was 61.2 years. More than two thirds of new GLWB buyers in 2011 were Baby Boomers, aged 47–65.
- Rollover dollars are a growing source for GLWB funding. Nearly three fourths of 2011 buyers under age 70 used qualified money (i.e., IRAs) to buy a GLWB annuity. This trend

1 *Variable Annuity Guaranteed Living Benefits Election Tracking, 4th Quarter 2011*, LIMRA, 2012.

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 2011 was $110,600, slightly larger than the $104,100 received in 2010. The average contract value of GLWB contracts was $111,400 at the end of 2011 for all contracts in force.
- The buyers of GLWBs are equally split between males and females. However, the average premium from contracts bought by males was 20 percent larger than the average premium from contracts purchased by females.

Benefit Base

- At the beginning of 2011, 62 percent of contracts with GLWBs issued before 2011 had benefit bases that exceeded contract values (i.e., were "in the money"). Most of them are 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 $6,100.
- At year end, 95 percent of contracts had benefit bases exceeding the contract values. The gap between the average contract value and the average benefit base increased to $17,900. The average contract value stood at $112,400 while the average benefit base was $130,300 at year-end.

Withdrawal Activity

- Overall utilization rates remained level for contracts that were in force for an entire year. Twenty percent of contracts had at least some withdrawal activity during 2011. For 3 out of 4 contracts, these were systematic withdrawals.
- Once owners start to take withdrawals, they are likely to continue withdrawals.
- Contract benefits being in the money appeared to have had no major influence on withdrawal behavior of GLWB owners in 2011.
- The average median amount withdrawn was $5,600, representing 6.3 percent of the average beginning-of-year median contract value of $88,600.
- Ninety-three percent of GLWB customers who purchased their contracts in 2010 and took withdrawals that year also made withdrawals in 2011.
- 65 percent of owners over age 70 took withdrawals from annuities purchased with qualified money. The percent of owners taking withdrawals from their nonqualified annuities gradually reached to 50 percent among older owners.

- The withdrawal amount of one fifth of owners taking withdrawals exceeded 125 percent or more of the maximum withdrawal amount allowed in the contract. Younger owners are more likely to take withdrawals greater than the maximum amount allowed.
- Also, most excess withdrawals that exceed 125 percent of the annual benefit maximum amount come from non-systematic withdrawals.
- Nearly a quarter of 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.

Step-Up Activity

- Fifty-one percent of owners had step-up options available during 2011. Only 6 percent chose to step up their benefit bases.

Additional Premium and Net Flows

- Among contracts issued in 2010 or earlier, 7 percent received additional premium in 2011 and they were mostly from contracts issued in 2010.
- Younger owners were more likely to add premium than older owners.
- At the beginning of 2011, assets in GLWB contracts in the study amounted to $176.9 billion. Impacted by premium from newly issued contracts of $42.6 billion and investment losses $8.0 billion, the assets from these contracts stood at $207.2 billion. Outflows from partial withdrawals, full surrenders, deaths and annuitizations amounted to $8.2 billion.

Persistency

- Surrender rates are extremely low for VAs with GLWBs. Across all contracts, only 2.6 percent surrendered during 2011. This surrender rate was similar to that experienced in 2010.
- Among the owners under age 60 who took withdrawals in 2011, the surrender rate 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 2011.
- The surrender rate (2.8 percent) among owners age 60 or older who took withdrawals in 2011 was a bit lower than the surrender rate (3.1 percent) among owners age 60 or older who did not take withdrawals in 2011.
- The surrender rates were quite high among the owners who have either taken withdrawals below 75 percent of the maximum allowed in the contracts (5.5 percent) or among owners whose withdrawal amount was more than 150 percent of the maximum allowed in the

contracts (8.6 percent). The surrender rate among owners who took withdrawals between 75 percent to 125 percent of the maximum withdrawal amount allowed in the contracts is the lowest, only 0.9 percent.

- GLWB surrender rates were 7.3 percent among owners who were taking non-systematic withdrawals compared to 2.0 percent among owners who took withdrawals systematically in 2011.
- Surrender rates were lower for contracts that were in the money at the beginning of year.

Product and Benefit Characteristics

- The average buyer in 2011 paid about 233 basis points for a VA with a GLWB, as a percentage of contract value, VA subaccounts, or benefit base values. Including contracts issued in 2011, the average total contract fee for in-force contracts was 232 basis points.
- On average, owners who purchased contracts in 2011 can take lifetime benefits as early as age 51 and can elect the GLWB until they reach age 86. However, some contracts allow lifetime withdrawal benefits to begin as early as age 45 or as late as age 99 and maximum election ages to range from 75 to 99.
- In 90 percent of the contracts issued in 2011, 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). Only 17 percent reduce benefit bases on a dollar-for-dollar basis (usually up to the annual growth of the benefit base). Almost all contracts issued in 2011 allowed excess withdrawals if these satisfy RMDs.

Guaranteed Minimum Withdrawal Benefits (GMWBs)

Results based on 198,525 contracts issued by 12 companies

Benefit Base

- At the beginning of the year, 57 percent of contracts with GMWBs issued before 2011 had benefit bases that exceeded contract values. At the end of the year, 75 percent of contracts had contract values that were below the benefit base values, principally because of the flat market in 2011.
- For GMWBs, the ratio of contract value to benefit base worsened from 95 percent at the beginning of 2011 to nearly 89 percent by year end.

- The average contract value decreased from $111,900 at the beginning of the year to $104,700 at the end of 2011. At the end of 2011, the average benefit base stood at $117,100, with a gap of $12,400 compared to the average account value.

Withdrawal Activity

- Forty percent of GMWB contracts had at least some withdrawal activity during 2011 — the highest overall withdrawal activity for any of the GLBs. Three out of four withdrawals were through systematic withdrawal plans.
- The median withdrawal amount in GMWB contracts in 2011 was $6,200.
- The percent of owners taking withdrawals approached 90 percent in older ages for annuities purchased with qualified money. The percent of owners aged 70 or over taking withdrawals from their nonqualified annuities was 50 percent.
- GMWB owners aged 60 or older are more likely to take their withdrawals through SWPs and younger owners, particularly below age 60, are more likely to take withdrawals as a lump-sum or on an occasional basis.
- Around 70 percent of owners that took withdrawals in 2011 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 influence on withdrawal behavior of GMWB owners in 2011.

Step-Up Activity

- Forty percent of owners had step-up options available during 2011. Of these, only 1 in 6 chose to step up their benefit bases.

Additional Premium and Net Flows

- Among contracts issued in 2011 or earlier, only 6 percent received additional premium in 2011.
- At the beginning of 2011, assets in GMWB contracts amounted to $23.6 billion. Given the flat equity market in 2011, the assets from GMAB contracts stood at $20.8 billion. Outflows from partial withdrawals, full surrenders, deaths and annuitizations etc., amounted to $2.9 billion.

Persistency

- The surrender rate of GMWB contracts was 7.9 percent in 2011. For business sold before 2011, the cash value surrender rate was 7.8 percent.
- High surrender rates are also associated with younger owners, particularly those under age 60 who took withdrawals in 2011.
- Surrender rates for GMWB contracts that were under surrender charges were low, 4.3 percent for B-share and 2.5 percent for L-share contracts respectively. Where the surrender charges have expired in current or previous years, the surrender rate was 16.0 percent and 12.4 percent for B-share and L-share respectively.

Product and Benefit Characteristics

- The total charge for GMWB contracts (including M&E charges and rider fees) was around 1.95 percent of contract value for contracts issued in 2011.
- Unlike GLWB contracts, most GMWB contracts do not offer an automatic increase in benefit base in case the withdrawals are not taken immediately. Also, most GMWB contracts have caps on benefit bases.
- Annual step-up options are more common.

Guaranteed Minimum Accumulation Benefits (GMABs)

Results based on 331,309 contracts issued by 10 companies

Owner Profiles

- GMAB buyers are typically younger than any other GLB buyers. In 2011, the average age of GMAB buyers was 54.4 years; a third of buyers were under age 50.
- Three fourths of the GMAB contracts issued in 2011 were funded from qualified sources of money.
- The average premium for contracts issued in 2011 was $84,100.

Benefit Base

- At the beginning of the year, 24 percent of GMAB contracts issued before 2011 had benefit bases that exceeded contract values. At the end of 2011, 43 percent of contracts had their contract values lower than the benefit bases, largely because of flat equity market during 2011.

- For average GMABs, the ratio of contract value to benefit base deteriorated from 110 percent at the beginning of 2011 to 107 percent by year end.
- The average contract value decreased from $83,600 at the beginning of the year to $80,800 at the end of 2011. At the end of 2011, the average benefit base stood at $75,400, about $5,400 lower than the average contract value.
- Nearly all (90 percent) of the GMABs have benefit bases that are determined based on total premiums received, without any roll-up or ratcheting mechanisms.

Benefit Maturity

- Eighty-seven percent of GMAB contracts issued before 2011 in the study have maturity dates in 2013 or later. Nearly half of GMAB contracts in-force will mature between 2013 and 2016.

Withdrawal Activity

- Eighteen percent of GMAB contracts had at least some withdrawal activity during 2011.
- Withdrawal activity was much more common among qualified contracts owned by customers aged 70 or older. The percent of owners with withdrawals approached 85 percent in older ages for annuities purchased with qualified money.
- The percent of owners using systematic withdrawals (44 percent) is much lower in the case of GMAB owners compared with owners using systematic withdrawals in other GLB products.
- The median withdrawal amount in 2011 was $6,680.

Step-Up Activity

- Thirty-two percent of owners had step-up options available during 2011. Only a few percent of owners (3 percent) chose to step up their benefit bases in 2011.

Additional Premium and Net Flows

- At the beginning of 2011, assets in GMAB contracts in the study amounted to $28.3 billion At year-end assets reached $26.8 billion.

Persistency

- At surrender rates of 9.5 percent of contracts, GMABs have the highest overall surrender rates compared with other living benefits, and the highest surrender rates among VA contracts issued since 2004.

- Surrender rates of 15.4 percent were also quite high for GMAB contracts issued in 2004 or before, as the contracts came out of surrender charges.
- For contracts where surrender charges expired in 2011 the surrender rate was 22 percent. The surrender rate was 15 percent for contracts where surrender charges expired in previous years. For contracts still under surrender charges, the surrender rate was 6 percent.
- There appears to be no impact of in-the-moneyness on surrender activity.

Product and Benefit Characteristics

- Among GMAB contracts issued in 2011, the average total charge (M&E and rider fee) was 2.21 percent.
- Almost all GMAB contracts issued in 2011 guaranteed 100 percent of premium at benefit maturity.
- Ten-year (62 percent) and 7-year (38 percent) accumulation guarantees were the most common guarantee periods.

Guaranteed Minimum Income Benefits (GMIBs)

Results based on 901,026 contracts issued by 13 companies

Note: Due to sampling constraints, an alternative methodology was used for all GMIB analyses. For results reported in this chapter, metrics are calculated for each individual company, and then the median or mean of these metrics is reported. Each company thus contributes equally to the resulting aggregate metric. For more information please see the GMIB chapter introduction.

Owner Profiles

- The average age of GMIB owners was 63, as of year-end 2011. Just over one-quarter were aged 70 or older.
- Almost two thirds of the GMIB contracts were funded from qualified sources of money.
- The average contract value for contracts in force at the end of 2011 was $92,800.

Benefit Base

- At the beginning of the year, 4 out of 5 GMIB contracts issued before 2011 had benefit bases that exceeded contract values. At the end of 2011, this proportion rose to 96 percent, largely because of the flat equity market during 2011.

- On average, the ratio of contract value to benefit base deteriorated from 83 percent at the beginning of 2011 to 77 percent by year end.
- The average contract value decreased from $85,600 at the beginning of the year to $80,200 at the end of 2011. At the end of 2011, the average benefit base stood at $103,700, about $23,500 higher than the average contract value.
- Almost 8 in 10 GMIB contracts that were issued before 2011 had GMIB benefits that were based on the roll-up or higher of ratchet or roll-up calculation methods. Most roll-up rates ranged from 5 percent to less than 7 percent of the benefit base per year; only one quarter 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 22 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.

Annuitization

- Among contracts that reached their benefit maturities in 2010 or 2011 and were in force as of the beginning of 2011, approximately 3.5 percent annuitized their contracts in 2011. The overall annuitization rate for all in-force GMIB contracts was only 0.5 percent.
- Older owner ages, higher contract sizes, and higher benefit-base-to-contract-value ratios are associated with higher rates of annuitization.

Withdrawal Activity

- Twenty-one percent of GMIB contracts had at least some withdrawal activity during 2011.
- 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, under 30 percent across all ages.
- Two thirds of all GMIB withdrawal activity is in the form of systematic withdrawals.
- The median withdrawal amount in 2011 was $5,525.

Persistency

- Because GMIBs are the oldest GLB type, they have a higher proportion of contracts that have reached the end of the surrender penalty period. Among all contracts issued before 2011, 8.4 percent were surrendered in 2011, but rates were below 6.0 percent for contracts issued after 2004.
- For B-share contracts that still had a surrender charge in 2011, the surrender rate was 4.6 percent. For contracts where the surrender charges expired in 2011, the contract surrender rate was 17.9 percent. The surrender rate was 8.9 percent for contracts where surrender charges expired in previous years.
- Controlling for year of issue and withdrawal activity, higher in-the-moneyness is linked to lower surrender activity.

Chapter One

2011 EXPERIENCE

Guaranteed Lifetime Withdrawal Benefits

Chapter One: Guaranteed Lifetime Withdrawal Benefits

Guaranteed lifetime withdrawal benefits (GLWBs) have become the most popular type of guaranteed living benefit (GLB) in the variable annuity (VA) market since their introduction in 2004. 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 market performance of funds in their annuity. Typically, GLWB owners have flexibility in deciding when to start their withdrawals and can retain control over their assets. In some 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 usually the sum of premium payments. Many later versions enhance the benefit base to include investment growth or bonuses prior to withdrawals, or optional step-ups to include investment growth after withdrawals have commenced. 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 withdrawal benefits make VAs more attractive than other equity-based investment options that do not offer lifetime guarantees on future withdrawal values.

In 2011, new GLWB sales reached $65.7 billion, receiving two thirds of all GLB sales premiums. In 2011, sales of GLWBs increased by $3.8 billion over 2010, despite the de-risking changes that continued in 2011. GLWBs posted the highest election rates of any GLB type; and election rates, when any GLB was available. However, aggressive GMIB sales in 2011 lowered the GLWB election rates from a high 65 percent in the fourth quarter of 2010 to 59 percent in fourth quarter 2011.[2] At year end, assets in VAs with GLWBs grew 17 percent from $275 billion at the end of 2010 to $323 billion in 2011.

This chapter provides important insights about GLWB buyers in 2011 and the behavior of existing owners who bought their GLWBs before 2011. LIMRA's GLWB database contains a comprehensive and representative sample of GLWB contracts. The 2011 study is based on 1,914,074 GLWB contracts issued by 17 companies. Of these contracts, 1,474,981 were issued before 2011 and remained in force at the end of the year, while 384,761 contracts were issued in 2011 and remained in force as of December 31, 2011. The assets of in-force contracts in the study totaled $207 billion at year-end 2011, representing 64 percent of total industry GLWB assets from a total of 136 GLWB riders introduced between 2000 and 2011.

2 *Variable Annuity Guaranteed Living Benefits Election Tracking, 4th Quarter 2011*, LIMRA, 2012.

Buyer and Owner Profiles

In 2011, the average age of GLWB buyers was 61.2 years, a slight increase from 60.5 years in 2010. In 2009 and 2008, the average age of GLWB buyers in this study was 60.1 years and 61.0 years respectively (Table 1-1). While the inter-quartile range (representing the middle 50 percent) shifted downward from 2007 to 2009, in 2010 and 2011 the average lower quartile age increased to age 55 and 56 respectively. However, the average upper quartile age has remained at age 66 since 2009. GLWBs remain popular with the leading edge of the Baby Boomers (aged 56 to 65) who purchased nearly half of the contracts (46 percent) in 2011 (Figure 1-1).

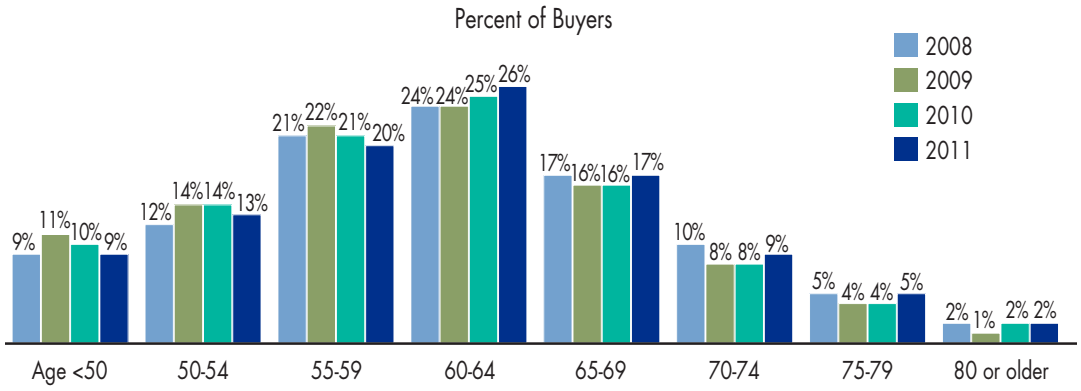
The average age of GLWB buyers in 2011 was **61.2** years.

Table 1-1: GLWB Average Age of Buyers

Contracts issued in	Mean age	Average age in lower quartile	Median age	Average age in upper quartile
2007	61.3	56.0	61.0	67.0
2008	61.0	55.0	61.0	67.0
2009	60.1	54.0	60.0	66.0
2010	60.5	55.0	61.0	66.0
2011	61.2	56.0	61.0	66.0

Note: Based on 1,633,419 contracts issued between 2007 and 2011 and still in force at the end of 2011.

Figure 1-1: GLWB Buyers by Age at Time of Purchase, 2008–2011



Note: Based on 1,392,157 contracts issued between 2008 and 2011, and still in force at the end of 2011.

GLWBs remain popular among pre-retirees for a couple of reasons. First, younger owners can take advantage of the deferral bonus of the non-withdrawal provision in GLWBs if they do not need immediate income, and thereby will grow the benefit base to maximize their retirement

income. Insurance companies have focused on marketing messages that highlight these benefits of a GLWB and how it addresses the need for securing guaranteed lifetime income in the future. Second, younger investors exposed to the turbulent market over the last few years want upside market potential of the variable annuity contract with protection from the lifetime income guarantee as a floor. However, the reason for the higher average age of GLWB buyers in 2011 may be the comparatively higher external exchanges after the equity market's partial recovery in 2009 and 2010. Older owners typically represent a disproportionate share of exchanged contracts.[3]

Attracting younger GLWB buyers could benefit insurance companies, as more Baby Boomers — particularly the leading edge of the Boomers who were near or very near to retirement in 2011 — become interested in annuities that can guarantee a part of their retirement income as long as they live. This increased demand is driven by the fact that many Baby Boomers will 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 quite 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 are assessing their mix of new and existing customers to manage their exposure to overall risk.

Advisors also increasingly consider protecting against longevity risk 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 that will mitigate part or all of this risk for their clients. In addition, GLWB riders also provide built-in flexibilities so that clients can trigger receiving income at any point — now or in the future. In the post-financial crisis settings, GLWBs continue to play an important role in clients' retirement portfolios.

However, companies should 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 emanate from issues such as potential growth in benefit bases, depending on customers' actual deferral periods before taking withdrawals, the funding sources, what percentage of customers would take withdrawals under the required minimum distribution (RMD) rule, and finally, the persistency of their contracts.

3 *U.S. Individual Annuity Yearbook 2011,* LIMRA, 2012.

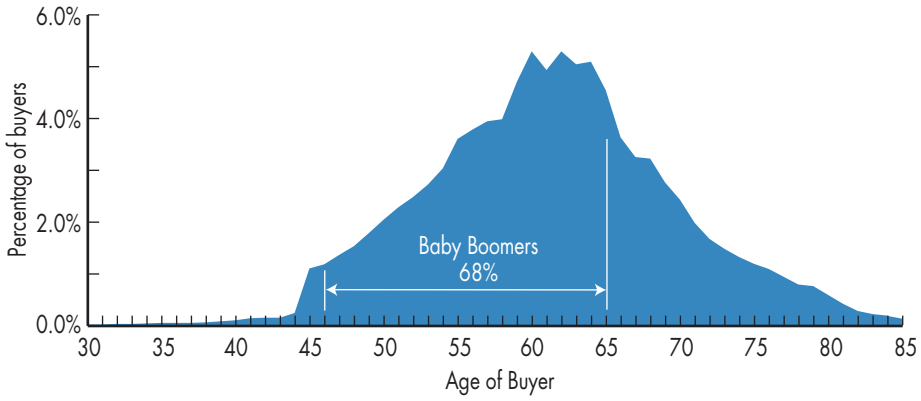
- If the contract is in-the-money — where the account value in the contract has been impacted by market volatility as well as influenced by asset allocation models offered.
- The competitiveness of the payout rates which are typically set by age bands.

Each year, buyers add uncertainty to the risk management of a company, as the behaviors of these customers may change the dynamics of its in-force book of business. They may have different withdrawal patterns based on sources of funding, and enhanced longevity risk along with the volatility in equity markets. These factors impact the pricing of the riders and long-term profitability as well as the overall risk management for companies.

Buyers by Age

The percent of new GLWB buyers in 2011 perceptibly increases starting at age 45 and reaches its highest points at ages 59 and 62 — important life-stage retirement inflection points for many retirees and pre-retirees (Figure 1-2). The percent of new buyers then starts to diminish with each increase in year of age. More than two thirds (68 percent) of GLWB buyers in 2011 were Baby Boomers (aged 47–65). Nearly half (47 percent) of the buyers were from the leading age Boomers (aged 56 to 65). Only 16 percent were ages 70 or above.

Figure 1-2: New GLWB Buyers in 2011 by Age



Note: Based on 384,761 GLWB contracts issued in 2011.

68% of GLWB buyers in 2011 were Baby Boomers.

If a company has a different mix of buyers than the industry, the company should examine a number of issues. First, is the company attracting buyers from its target segments? The company may consider improving its marketing message and campaigns to attract prospects from segments where there is growth and opportunity. Second, companies must study their own customer mix to assess potential customer

behavior with issues like withdrawals and surrenders. They should 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, the influence of rider features like step-ups in order to evaluate risk and pricing impact to their books of business including capital reserve requirements. It is encouraging that younger customers are buying GLWBs, but as these demographics drive behavior, companies will need to manage their risks efficiently.

Source of Funds

In 2011, 68 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 1-3). This trend reflects broader industry developments that LIMRA has tracked in the total variable annuity market, where VAs are increasingly being funded with tax-qualified money, the bulk of which is from rollovers.

Figure 1-3: GLWB Contracts by Source of Funds

Note: Based on 1,859,667 GLWB contracts still in force at the end of 2011.

The significance of more rollover dollars is important for insurance companies in two ways. First, LIMRA studies show that rollover dollars are a growing source for VA funding.[4] 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 to have guarantee on a portion of income in retirement. 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:

- The heavy use of qualified funds for GLWB purchase by younger buyers fits with similar behavior 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.[5] There are additional similarities. One

4 *Retirement Income Reference Book 2012,* LIMRA, 2012.

5 *Guaranteed Income Annuities,* LIMRA, 2010.

68% of GLWB sales in 2011 were from qualified savings. GLWBs are attracting more rollover dollars, allowing companies capturing these funds to organically grow their business.

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' where there are peaks at ages 59, and 62-63. To benefit from this trend, companies should direct their marketing and advertising messages to the Baby Boomers, highlight the GLWB's ability to create guaranteed lifetime income with upside potential and market downside protection, and emphasize the fact that pre-retirees and retirees can rollover qualified savings into plans and IRA accounts that can ensure a part of their income is guaranteed in retirement.

- Advisors also need to understand that these annuity buyers are more comfortable investing their qualified savings than their nonqualified savings. It appears that consumers intend to use their nonqualified savings for other investment or planning needs. Advisors and sales reps should contact prospective buyers shortly 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 a larger share of a customer's wallet. LIMRA research suggests that a recommendation from a financial planner or advisors influences rollover decisions. When a financial planner or an advisor has influence over the decisions, a majority of retirees and pre-retirees roll out their money from the plan.

LIMRA research shows that, as companies attract more rollover dollars, they will likely experience higher withdrawal rates from qualified funds, among owners aged 70½ and over as they withdraw funds subject to IRS RMDs. This will impact how companies manage their GLWB risks. Also, companies will need to address increased administrative issues and higher transaction costs pertaining to these withdrawal requests.

Table 1-2 shows the mean, median and inter-quartile age of 2011 GLWB buyers by demographic and different contract characteristics. The data shows minor variations in average purchase age by contract features such as nonqualified buyers are a little bit older than IRA buyers. Joint lives contracts are more appealing to slightly older investors. Auto-increase of benefit bases and no cap on benefit base increases are appealing to comparatively younger investors. In comparison to other channels, buyers in the bank channel are a bit older.

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

	Average Age			
	Mean	Lower Quartile	Median	Upper Quartile
Gender				
Male	61.2	56.0	61.0	66.0
Female	61.2	55.0	61.0	67.0
Market type				
IRA	60.2	55.0	61.0	65.0
Nonqualified	63.3	57.0	63.0	70.0
Share Class				
B-Share	61.0	55.0	61.0	66.0
L-Share	61.2	56.0	62.0	67.0
Single-Joint				
Single	60.6	54.0	60.0	66.0
Joint	61.7	57.0	62.0	67.0
Auto-increase of benefit base				
Simple interest	62.2	57.0	62.0	67.0
None	64.1	60.0	64.0	69.0
Cap on benefits				
Yes	62.3	57.0	62.0	68.0
No	60.7	55.0	61.0	66.0
Asset Allocation Restrictions				
Forced assets allocations	62.5	58.0	62.0	67.0
Other restrictions	63.7	59.0	64.0	69.0
May restrict allocations	61.8	57.0	62.0	67.0
Average Premium Size				
Under $25,000	58.0	52.0	58.0	64.0
$25,000 to $49,999	60.7	55.0	61.0	66.0
$50,000 to $99,999	61.7	56.0	62.0	67.0
$100,000 to $249,999	62.1	57.0	62.0	67.0
$250,000 to $499,999	62.3	57.0	62.0	67.0
$500,000 or higher	62.2	57.0	62.0	67.0
Distribution channel				
Career agent	60.7	55.0	61.0	66.0
Independent agent/financial planner/ independent B-D	60.8	55.0	61.0	66.0
Full Service Nat'l. Broker-Dealer	62.2	57.0	62.0	67.0
Bank	61.5	56.0	61.0	67.0

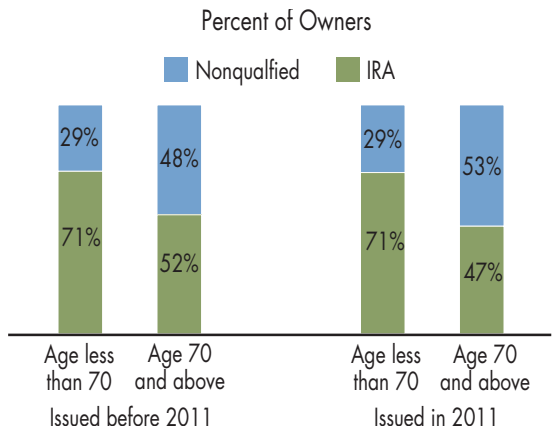
Note: Based on 1,474,981 GLWB contracts issued in 2011 and still in force at the end of 2011.

We have not shown some measures related to channels 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.

Ownership of Qualified and Nonqualified Annuities

There is a distinct shift taking place in ownership of GLWB annuities (Figure 1-4). As younger investors purchase VAs with qualified funds, there is a gradual but significant change in the mix of GLWB ownership.

Figure 1-4: GLWB Ownership of Annuity by Source of Funds and Age



Note: Based on 1,859,665 GLWB contracts still in force at the end of 2011.

Individuals under age 70 using qualified savings emerge as the primary market segment for GLWB annuities. In 2011, 70 percent of owners under age 70 funded their annuities with qualified money. In contrast, just under half of owners aged 70 or older funded contracts with qualified sources in 2011, yet there was a higher use of qualified savings for contracts issued before 2011. However, qualified investments for owners over age 70 may not be a suitable investment in many GLWB riders as RMD withdrawals may not allow guaranteed roll-ups of benefit bases or certain growth of guaranteed income.

As we will see later, source of funds and age are perhaps the most important factors in determining what percent of owners take withdrawals from their GLWB contracts. Therefore, this shift toward qualified annuity ownership naturally will have a major impact on how many customers will withdraw from their variable annuities in the future, and when they will start their withdrawals. Such withdrawal activity will influence the cash flow required to meet withdrawal requests as well as capital reserve requirements, depending on the performance of underlying investments.

GLWB Owner and Contract Characteristics

Table 1-3 provides the summary of GLWB owner and contract characteristics at the end of 2011.

Table 1-3: GLWB Owner and Contract Characteristics

	Issued before 2011	Issued in 2011	All contracts in force	Average premium (for contracts issued in 2011)
Age of Owner				
Age 59 & under	32%	41%	34%	$99,375
60 to 64	24%	26%	24%	$119,224
65 to 69	20%	17%	20%	$118,718
70 to 74	13%	9%	11%	$114,857
75 to 79	7%	5%	7%	$117,036
80 or older	4%	2%	4%	$126,419
Average age	63 years	61 years	63 years	$110,615
Gender				
Male	50%	51%	50%	$120,682
Female	50%	49%	50%	$100,326
Market type				
IRA	67%	68%	67%	$107,233
Nonqualified	33%	32%	33%	$117,684
Distribution channel				
Career agent	18%	N/A	19%	N/A
Independent agent/financial planner/independent B-D	46%	44%	46%	$106,556
Full Service Nat'l. Broker-Dealer	18%	19%	18%	$126,663
Bank	16%	15%	16%	$107,988
Cost structure				
B-share	55%	55%	55%	$108,173
L-share	33%	26%	31%	$121,038
Contract value, end of 2011 as percent of contracts issued				
Under $25,000	15%	15%	15%	N/A
$25,000 to $49,999	19%	20%	19%	N/A
$50,000 to $99,999	28%	29%	28%	N/A
$100,000 to $249,999	29%	28%	29%	N/A
$250,000 or higher	9%	8%	9%	N/A

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

	Issued before 2011	Issued in 2011	All contracts in force	Average premium (for contracts issued in 2011)
Contract value, end of 2011 as percent of contract value				
Under $25,000	2%	2%	2%	N/A
$25,000 to $49,999	6%	7%	7%	N/A
$50,000 to $99,999	18%	20%	18%	N/A
$100,000 to $249,999	39%	40%	39%	N/A
$250,000 or higher	35%	31%	34%	
Average contract value, end of 2011	$112,365	$107,859	$111,433	N/A
Median contract value, end of 2011	$75,070	$75,662	$75,209	N/A
Average premium received in 2011		$110,615		$110,615

Note: Percentages are based on number of contracts unless stated otherwise. Based on contracts still in force at the end of 2011. "Issued before 2011" based on 1,474,981 GLWB contracts, "Issued in 2011" based on 384,761 GLWB contracts, and "All contracts in force" based on 1,859,742 GLWB contracts.

We have not shown some measures related to channels 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.

Key Findings

- B-share contracts are the most common cost structures (55 percent) while L-share contracts made up 26 percent of new issues in 2011.
- In general, the composition of 2011 GLWB contracts by channel resembles VA sales market share by channel in 2011. The exceptions are the career agent channel, which is under-represented within GLWB contract premium relative to the overall VA industry, and the direct channel which is not represented in GLWB contracts.

$110,600 was the average premium for GLWB contracts issued in 2011. The median premium was **$77,000.**

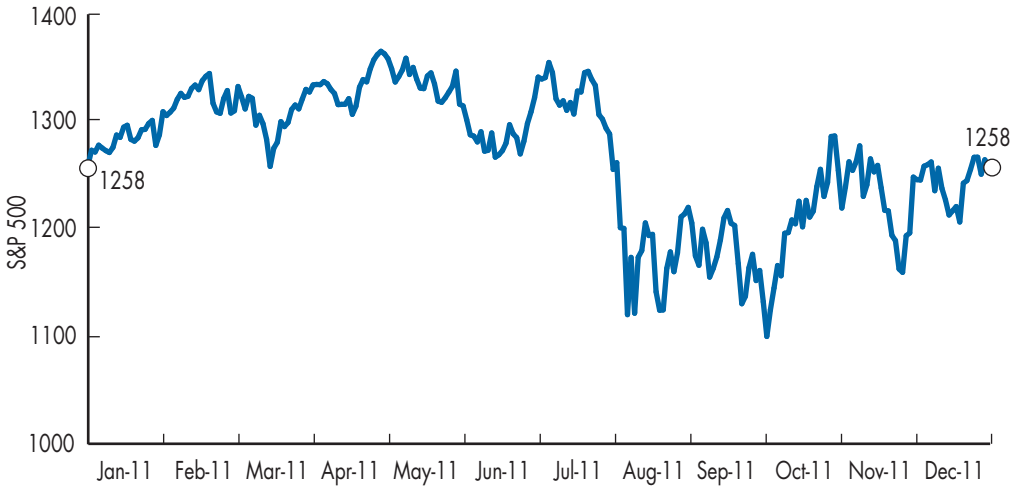
- By the end of 2011, 4 in 10 in-force contracts with GLWBs had account values of $100,000 or more. Thirty-eight percent of contracts issued in 2011 that had contract values of $100,000 or more constituted 70 percent of GLWB account values at year end.
- The average contract value for all GLWB contracts remained very attractive at $111,400 at year-end 2011, despite very weak equity market returns during the year. The median contract value of GLWB contracts issued in 2011 was $75,209.

- The average premium from contracts bought by males was 20 percent larger than contracts purchased by females. The biggest contracts were for older males who purchased nonqualified contracts through the full service national B-D channel. However, the buyers of GLWBs are equally split between males and females.
- The average nonqualified GLWB premium was $117,700, almost 10 percent higher than qualified GLWB contracts, largely due to higher premium received from older buyers who tend to buy more nonqualified contracts.

Benefit Base

2011 was a tumultuous year for the equity market. The market began on a positive note with the tailwind of substantial market appreciation in 2010, with a 13 percent positive return for S&P 500. The positive note quickly ended as the year progressed with the challenges in the global economy and political dysfunction resulting in U.S. debt downgrade. Throughout the year, the fear of double-dip recessions took hold, and consumer confidence plummeted. While unemployment and corporate earnings improved over the year, there was a strong and sustained volatility for much of the year. The S&P 500 started 2011 at 1258 and ended at the same value by year-end (Figure 1-5). While the volatility index in S&P 500 remained within a range of 14 to 22 in the first half of the year, the volatility rose to 43 during the second part of the year.

Figure 1-5: S&P 500 Index, January – December 2011



Note: *Yahoo Finance,* February 2013

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. Also with a guarantee of lifetime benefit option, particularly on joint lives, insurers are also exposed to longevity risk. The performance of underlying investments may remain vulnerable to a complex mixture of risk arising from equity, interest rates and the correlation thereof.

Understanding the details behind the flat equity market performance and heightened volatility in 2011 is important for analyzing the benefit bases of GLWB contracts as well as understanding the withdrawal behavior of GLWB owners in such an economic environment. The benefit bases in many of the GLWB riders are guaranteed a roll-up in case of deferral of withdrawals. As the benefit base grows and the contract values remain flat, the ratios of benefit base to contract values for a large portion of GLWB contracts are expected to worsen. On the other hand, increased volatility and uncertainty may encourage many owners to exercise their option to receive guaranteed lifetime withdrawal from their contracts.

86% was the ratio of contract value to benefit base at the end of 2011, down from **95%** at the beginning-of-year.

At the beginning of 2011, 62 percent of contracts with GLWBs issued before 2011 were in the money. At the beginning of the year, the average difference between the benefit base and the contract value was approximately $6,100 for these contracts. On average, contract values were around 95 percent of the benefit bases across all contracts (Table 1-4). The median contract value was roughly $4,100 lower than the median benefit base.

Table 1-4: GLWB Benefit Bases and Contract Values, at the Beginning of 2011

	Benefit Base Amount	Contract Value	
		Amount	Percent of benefit base
Sum	$177,064,154,203	$168,229,850,033	95.0%
Average	$122,420	$116,312	95.0%
Median	$82,125	$77,994	95.0%
Percent of contracts where benefit base was greater than contract value		62%	

Note: Based on 1,446,371 GLWB contracts issued before 2011. Excludes contracts for which the GLWB benefit bases could not be determined.

As we mentioned earlier, the 2011 equity market was characterized by volatility. Though the first few months saw considerable gain, the S&P 500 experienced double-digit declines in the middle of the year. When stocks recovered in the final few months of the year, the index recovered only some of its earlier gains. As a result, the number of contracts remaining in the money experienced a negative slide compared with the situation in 2010. While at the beginning-of-year, 62 percent of GLWB contracts were in the money, by year-end 2011, 95 percent of the contracts were in the money. The reason for this considerable plunge of almost all contracts being in the money by year end was dual: the flat market returns in 2011 that kept the account value declining after expenses; and guaranteed roll ups in many contracts that pushed the benefit bases higher.

Overall account values remained around 86 percent of the benefit bases (Table 1-5). This ratio of benefit base to account value was back to the level experienced at year-end 2009.[6] However, it is still much better than year end 2008 after the market plunge, when the average account value was 74 percent of the benefit base. However experience in 2011 demonstrates again how the market risk leaves its impact on escalating risks insurance companies assume by offering living benefit guarantees.

Table 1-5: GLWB Benefit Bases and Contract Values, at End-of-Year 2011

	Benefit Base Amount	Contract Value	
		Amount	Percent of benefit base
Sum	$191,874,115,536	$165,515,079,604	86.3%
Average	$130,282	$112,384	86.3%
Median	$87,015	$75,095	86.3%
Percent of contracts where benefit base was greater than contract value		95%	

Note: Based on 1,472,763 GLWB contracts issued before 2011. Excludes contracts for which the GLWB benefit bases could not be determined.

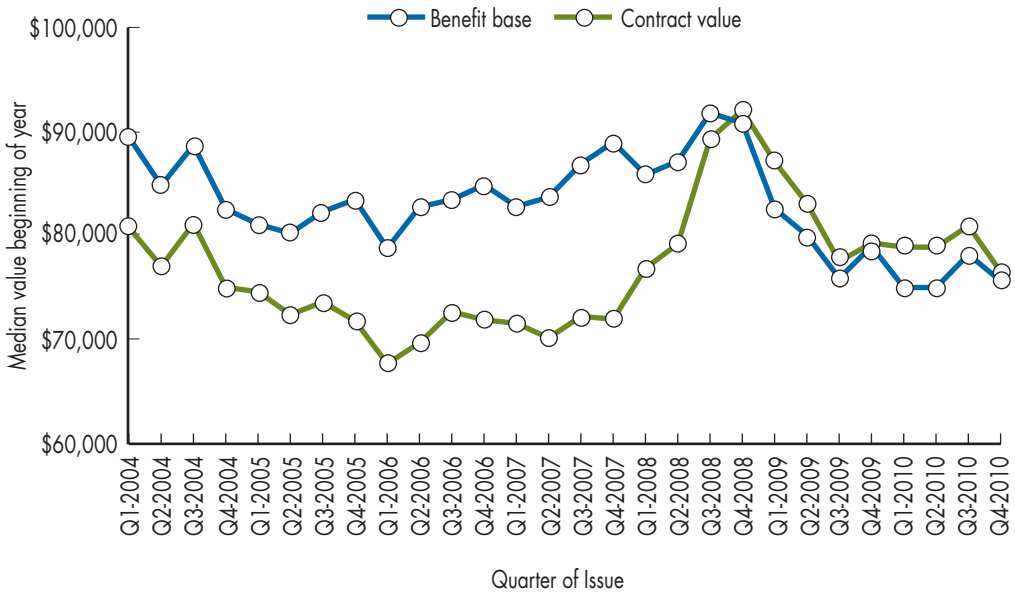
At year-end 2011, the average benefit base stood at $130,300 for all GLWB contracts. The average difference between the benefit base and contract value was $17,900, almost triple the difference at the beginning of the year. The average difference between the median benefit base and median contract value worsened to $11,900 at year end.

When a contract is issued will impact if, and how much a contract might be in the money. Some 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 and then, a flat return in 2011.

6 *Guaranteed Living Benefits Utilization — 2009 Data,* LIMRA, 2010.

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 flat market in 2011 (Figure 1-6). 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 the beginning of 2011. Contracts issued in 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 and later had nearly identical contract values and benefit bases, these contract values rose with market gains in 2010, and had limited time to grow benefit bases. For contracts issued in late 2008 and later, the average contract value was higher than the average benefit base as these contracts experienced positive gains in market recovery in 2009 and 2010.

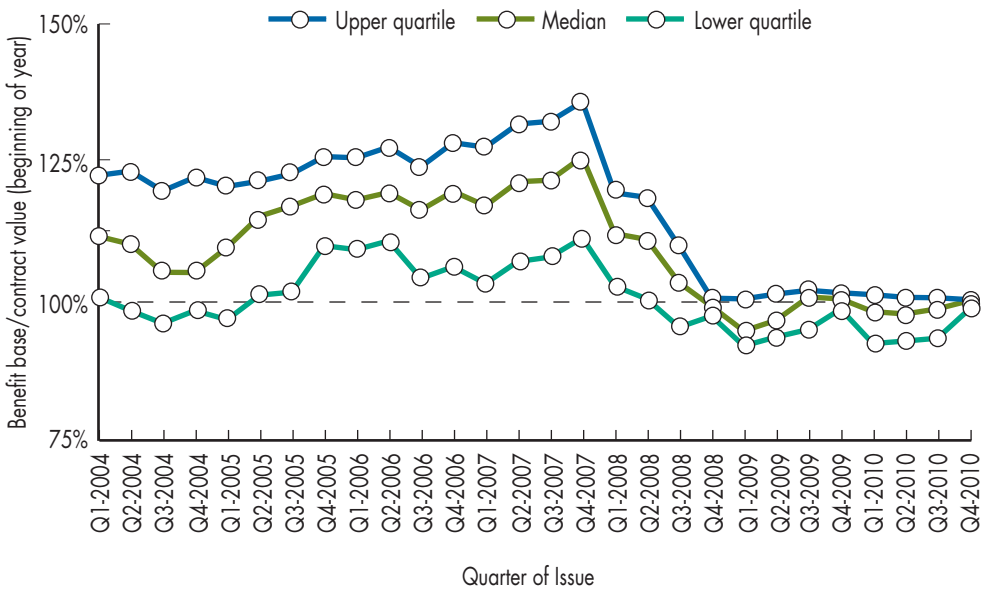
Figure 1-6: GLWB Contract Value vs. Benefit Base, Beginning of 2011



Note: Based on 1,433,537 GLWB contracts issued between 2004 and 2010. Excludes contracts for which the GLWB benefit bases could not be determined.

Looking at the quartile ranges of the benefit base to contract value ratios, contracts issued before 2008 had the largest deviation of contract value to benefit base values (Figure 1-7).

Figure 1-7: GLWB Benefit Base to Contract Value, Beginning-of-Year 2011



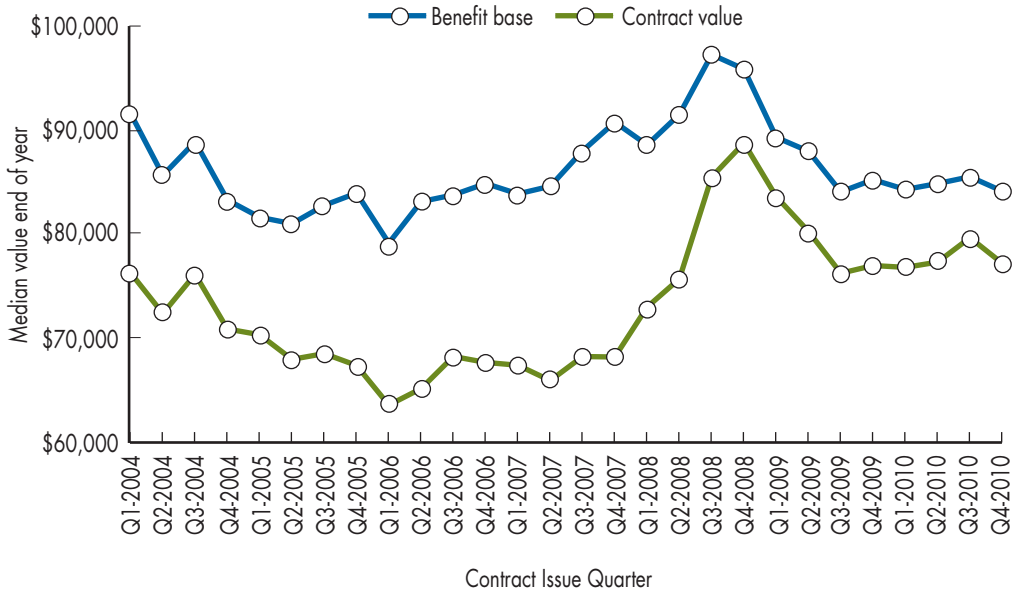
Note: Based on 1,433,537 GLWB contracts issued between 2004 and 2010. Excludes contracts for which the GLWB benefit bases could not be determined.

The upper and lower quartiles refer to the distribution of benefit base to contract value ratios, not the distribution of contract values. The inter-quartile range gives a sense of how widely (or narrowly) distributed the ratios are. In this case, the data show that the median ratio of contracts issued from the period Q1-2004 through Q4-2007 had a benefit base that ranged between 105 percent to 126 percent of the contract value as of the beginning-of-year; and that half of all contracts issued during this period had ratios that ranged from 96 percent to 136 percent of contract values.

In addition, for contracts issued between 2004 and 2007, a quarter of the contracts had benefit bases that were more than 120 percent of contract values, and one quarter of contracts had benefit bases that were less than 110 percent of contract values. 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 year-end 2011, the relative relationship between benefit base and contract value worsened (Figure 1-8) compared to Figure 1-6. The median contract value fell from $78,000 at the beginning of 2011 to $75,100 at the end of the year, a 3.7 percent loss. However, the benefit bases improved 6 percent from $82,100 at the beginning-of-year to $87,000 at the end of year.

Figure 1-8: GLWB Contract Value vs. Benefit Base, End-of-Year 2011



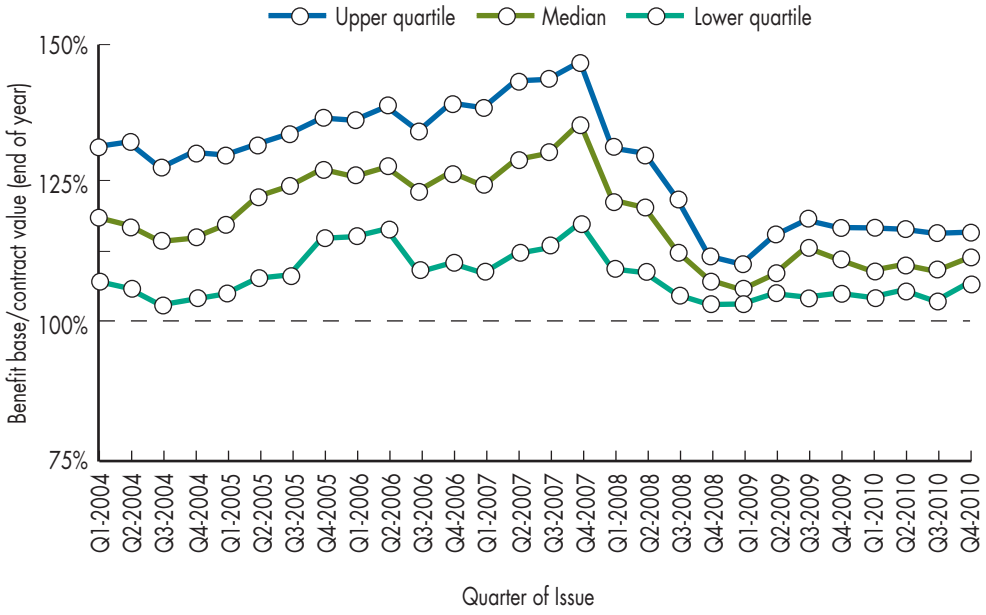
Note: Based on 1,456,947 GLWB contracts issued in 2004 through 2010 and still in force at the end of 2011. Excludes contracts for which the GLWB benefit bases could not be determined.

The slight loss in account value, coupled with benefit base increase, amplified the difference between account values and benefit bases for almost all contracts, irrespective of issue date. For contracts issued prior to Q4 2008, the gap remained quite substantial. One principal reason is that contracts issued before Q4 2008 enjoyed richer benefit and roll-up features compared to contracts issued after the market crisis, where most benefits and roll-up rates were adjusted down considerably.

The inter-quartile analysis shows how the distribution of benefit base to contract values ratios at year end 2011 (Figure 1-9) widened compared to ratios in the beginning-of-year in Figure 1-7. The median ratios of contract values to benefit bases in contracts issued from Q1-2004 through Q4-2007 ranged from 105 percent to 126 percent at the beginning-of-year now increased to a range of 115 percent and 136 percent at year-end. Half of all contracts issued during this period had benefit bases between 103 percent and 147 percent of contract values.

Even the lower quartile line for contracts issued after 2008 shows that more than three fourths of the contracts issued during this period were above the 100 percent line i.e., they were in-the-money.

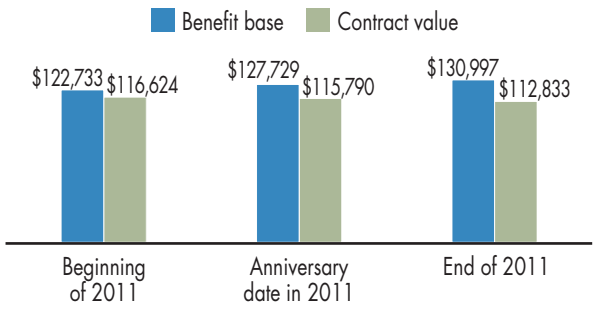
Figure 1-9: GLWB Benefit Base to Contract Value, End-of-Year 2011



Note: Based on 1,456,947 GLWB contracts issued between 2004 and 2010. Excludes contracts for which the GLWB benefit bases could not be determined.

Out of more than 1.36 million contracts — for which companies reported both contract values and benefit bases at the beginning-of-year, on anniversary date and at end of year, the average contract value declined from $116,600 at the beginning of the year to $112,800 at the end of 2011, registering a loss of 3.3 percent (Figure 1-10). During this time, the average benefit base grew from $122,700 to $131,000. On the contract anniversary date, the benefit base registered an increase of 2.6 percent from $122,700 at the beginning of the year to $127,700 on the anniversary date, mainly driven by deferral bonuses for non-withdrawals. At the end of 2011, there was a gap of $18,200 between the average contract value and average benefit base.

Figure 1-10: GLWB Average Contract Values and Benefit Bases at Beginning-of-Year, on Anniversary Date, and at End-of-Year 2011



Note: Based on 1,361,510 GLWB contracts issued before 2011 and still in force at the end of 2011. Excludes contracts for which the GLWB benefit bases (as of the beginning of the year, the contract's anniversary date, or the end of the year) could not be determined.

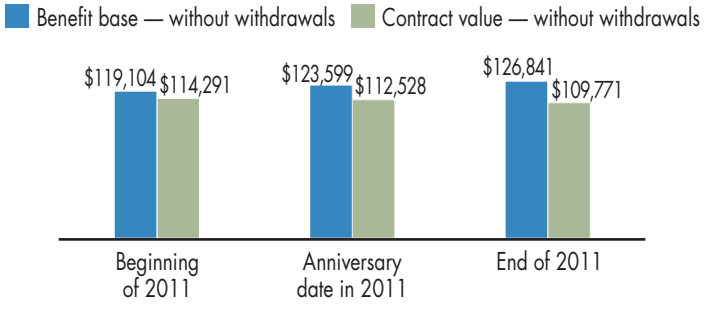
Across these 1.36 million contracts, the benefit bases totaled $178.4 billion as of year-end 2011, compared with contract values of $153.6 billion. Almost three quarters (72 percent) of the $24.7 billion difference between benefit bases and contract values reflects contracts with account balances of $100,000 or more, even though they represent only 39 percent of all contracts.

Benefit Base for Contracts With Withdrawals vs. Without Withdrawals

As long as the benefit base remains close to the account value, at least when owners are starting to take withdrawals, insurance companies run very little risk in managing their business, providing the owners are not very young. That means they have long lifetime withdrawal periods, and the risk of sequence of returns may happen. Our benefit base analysis can be further expanded for contracts that had withdrawals and that did not have withdrawals in 2011. 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 real risk exists with the contracts that are already utilizing guaranteed withdrawal riders as the account values in these contracts are declining faster in absence of any market growth. In these cases, the contract may run out of money if negative returns happen early in the withdrawal phase, due to the impact of the sequence of returns.

For in-force contracts issued before 2011 that did not have withdrawals in 2011, the benefit base rose steadily from $119,100 to $123,600 on contract anniversary date and to $126,800 by year end, registering a 6.5 percent increase in total (Figure 1-11). This increase can be attributed mainly to auto-increases of benefit bases for contracts with non-withdrawals. The average account value of these contracts was $114, 300 at the beginning of 2011 and decreased to $109,800 by year-end, a loss of 4.0 percent during 2011. The gap between the benefit base and account value at the beginning was $4,800, and then expanded to $17,000 by year-end, creating a gap of nearly 16 percent with the average account value.

Figure 1-11: GLWB Average Contract Values and Benefit Bases for Contracts Without Withdrawals



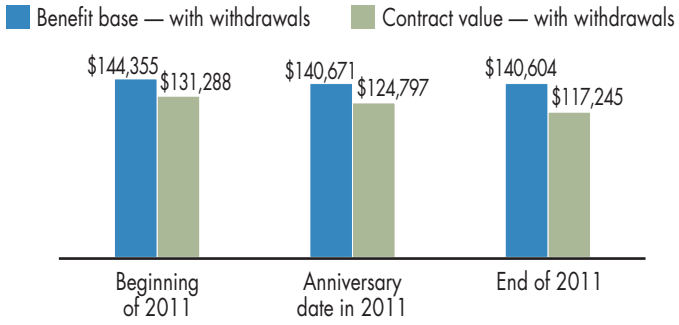
Note: Based on 995,955 GLWB contracts issued before 2011 and still in force at the end of 2011 where there were no withdrawals made or current-year premium received. Excludes contracts for which the GLWB benefit bases or contract values could not be determined.

Among contracts that incurred withdrawals in 2011, the widening gap between the benefit base and account values was more prominent (Figure 1-12). The average benefit base declined 2.6 percent from $144,400 at the beginning of the year to $140,600 at year end. The average contract value declined 10.7 percent from $131, 300 at the beginning of the year to $117, 200 by year end. The gap between the benefit base and the account value at the beginning was $13,100, lagging 10 percent from the beginning of account value. By the end of the year, the gap widened to $23,400 or 20 percent of the ending account value. Unless positive and robust market returns occur, it is likely that many of these contracts will remain in the money.

At year end, the difference between the average benefit base and average account value for contracts without withdrawals was **16%** of the average account value.

The difference between the average benefit base and average account value for contracts with withdrawals was **20%** of the average account value.

Figure 1-12: GLWB Average Contract Value and Average Benefit Base for Contracts With Withdrawals



Note: Based on 261,629 GLWB contracts issued before 2011 and still in force at the end of 2011 where there were withdrawals made, however no current-year premium received. Excludes contracts for which the GLWB benefit bases or contract values could not be determined.

Withdrawal Activity

Utilization

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

Determining whether a contract owner has actively "used" a guaranteed lifetime withdrawal benefit during the year is straightforward. If partial withdrawals have occurred, then benefit utilization has occurred. However, determining whether the contract owner will continue to take withdrawals up to the maximum allowed under the terms of the benefit, or whether benefits will be taken 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).

Because the present study was based on a single calendar year, we could not track withdrawal activity over time. To try and assess overall withdrawal behavior, we asked companies to provide cumulative total withdrawals prior to 2011 (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 will 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 a systematic withdrawal plan or program (SWP) or through occasional withdrawals?
- Amount of withdrawals. Are withdrawal amounts within the maximum annual income amount allowed in their contracts?

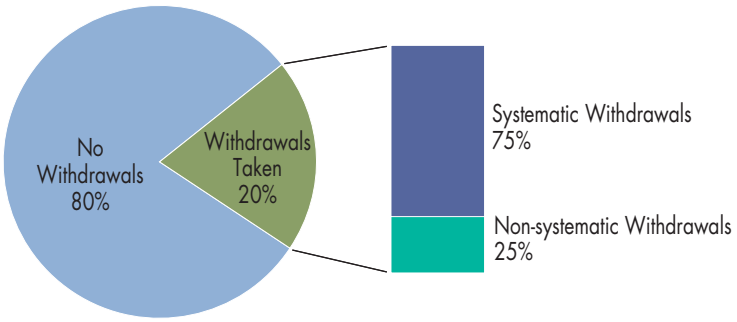
If customers take withdrawals on a continuous basis, through SWPs, and withdrawal amounts remain within the maximum allowed, it is very likely the owners are utilizing the GLWB in their contracts. Our findings suggest that most are.

Overall Utilization for Contracts Issued Before 2011

For 1,475,000 VA contracts with GLWBs issued before 2011 and still in force at the end of 2011, only 20 percent had some withdrawal activity during 2011 (Figure 1-13). For 3 out of 4 contracts, these withdrawals were systematic withdrawals.

20% of all contracts had some withdrawal activity during 2011.

Figure 1-13: GLWB Overall Utilization of Withdrawals



Note: Based on 1,474,979 GLWB contracts issued before 2011 and still in force at the end of 2011.

For contracts issued before 2011 and with withdrawals in 2011:

- The total withdrawal amount from GLWB contracts during 2011 was $3.1 billion, or 1.8 percent of assets in force at the beginning of the year.
- Among contracts with partial withdrawals, the median amount withdrawn was $5,592, representing 6.3 percent of the median beginning-of-year contract value of $88,609 in contracts that had withdrawals.

$5,600 was the median GLWB withdrawal amount in 2011.

- The average withdrawal amount for contracts issued before 2011 that incurred withdrawals in 2011 was $10,300. The average withdrawal rate was 7.8 percent based on the average beginning-of-year contract value of $131,406. This average is impacted by younger owners that withdraw amounts that significantly exceed their withdrawal benefit maximum. A larger than normal percentages of these owners are taking partial surrenders and may eventually surrender their contracts.

Overall utilization rates remained level for contracts that were in force for an entire year.

- 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 2010 with withdrawal activity in that year, 93 percent continued withdrawals in 2011. Our previous annual studies also found a high percent of owners starting withdrawals and continuing in the following year, which strongly indicates that owners who commence withdrawals are likely to continue withdrawing for their lifetimes.
- The median systematic withdrawal amount was $5,353 and amounted to 5.8 percent based on beginning-of-year account value of $92, 800.

Based on a constant group of 13 companies that provided data in the previous year's VA GLB Utilization Study, overall utilization rates have remained level for contracts that were in force for an entire year. Utilization rates in 2008 were 21 percent for contracts issued before 2008 and remaining in force that year; utilization rates in 2009 were 19 percent for contracts issued before 2009 and remaining in force in 2009. The GLWB utilization rates in 2010 were 20 percent for contracts issued before 2010 and remaining in force at end of 2010. The GLWB utilization rates in 2011 were 20 percent for contracts issued before 2011 and remaining in force at end of 2011. In 2009, the overall utilization rate was slightly lower because of relaxation of RMD rules in that year for economic hardship.

93% of GLWB customers who purchased their contracts in 2010 and took withdrawals in 2010 also made withdrawals in 2011. Owners who have commenced withdrawals are likely to continue withdrawing for their lifetime.

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 impact 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.

We also need to emphasize that GLWBs are the most popular annuity products for younger investors 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 approached this demand for guaranteed lifetime income with two major focuses — 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 have shown earlier, a majority of GLWB buyers are below age 60, and are at or near their 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.[7]

The overall utilization rate for GLWB contracts over the past few years has remained around 20 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 these other factors that have an impact on GLWB owner withdrawal behavior.

[7] *Annuitization Study,* LIMRA, 2010.

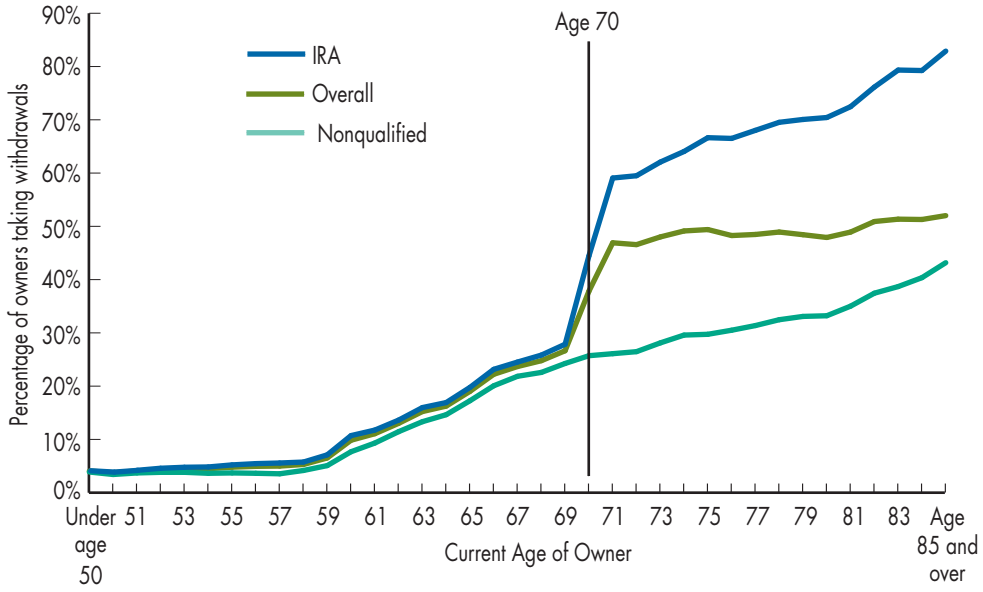
Withdrawal Activity by Source of Funds

65% of 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 2011 GLWB utilization rate is quite high for older customer segments (Figure 1-14).

Figure 1-14: GLWB Utilization by Source of Funds and Age of Owners



Note: Based on 1.474,902 GLWB contracts issued before 2011 and still in force at the end of 2011.

The withdrawal behavior of GLWB owners can be categorized into three life stages: pre-retirement phase, entering-in-retirement phase and the RMD phase. Up to 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 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 GLWB contracts, 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 60 percent by age 72 and slowly rises to 80 percent after age 80. Sixty-five 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. Forty percent of these customers take withdrawals at age 84.

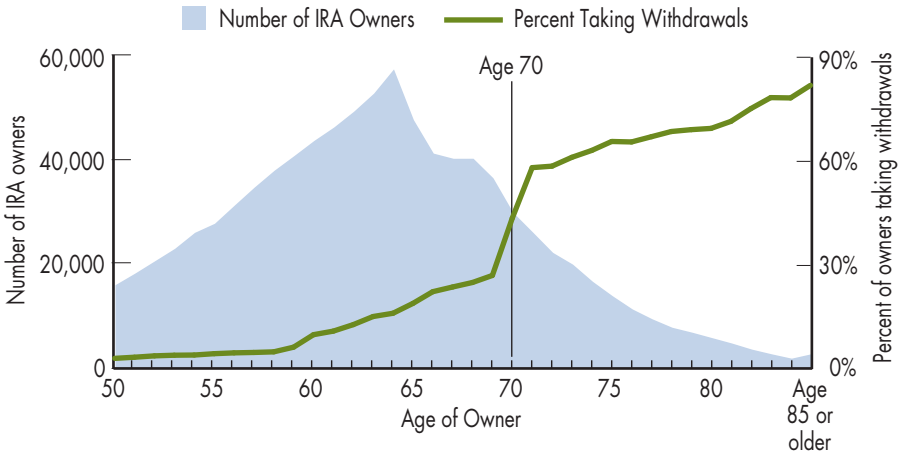
The overall percent of older owners taking withdrawals closely follows the percent of customers withdrawing from nonqualified annuities, since more customers aged 70 or over own a nonqualified annuity (and the majority of them are not taking withdrawals). However, this pattern will change as more customers with qualified annuities age and are required to start to withdraw due to RMDs (see Figure 1-15). While 70 percent of contracts issued before 2011 that are owned by individuals under age 70 were funded with qualified money, we see that almost half of the contracts owned by customers age 70 or above are nonqualified.

A shift will take place as owners (aged 65–69 today) with qualified annuities are required to start taking withdrawals in the next few years due to RMDs.

Insurance companies managing GLWB rider risk should distinguish and evaluate this risk based on the sources of funding. 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 (Figure 1-15).

Figure 1-15: GLWB Utilization by IRA Owners



Note: Based on 984,429 GLWB contracts, funded by IRA money, issued before 2011 and still in force at the end of 2011.

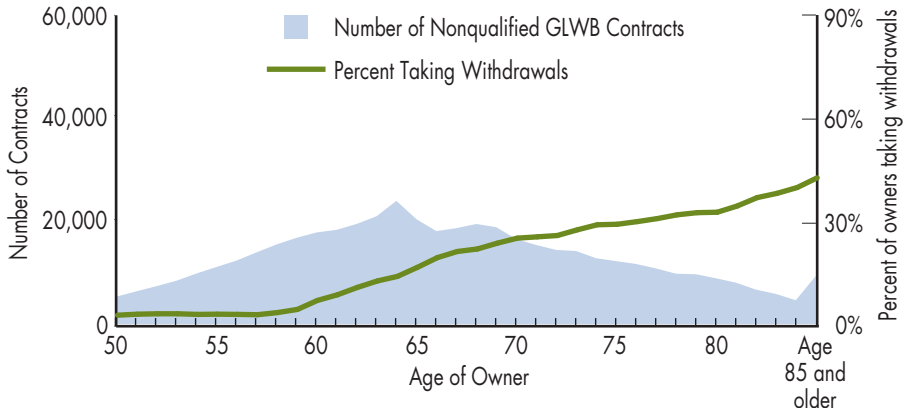
- In the 2011 study, there were only 185,000 GLWB owners aged 70 or over who funded their contracts with qualified money. They represent only 19 percent of all GLWB owners who funded their annuities with qualified savings. In the next 5 years, another 21 percent of owners (more than 206,000) currently between ages 65 and 69 will reach age 70½ and a majority of them will take withdrawals from their contracts to meet RMDs.

In 2011, only **19%** of current qualified owners were aged 70 or above and almost two thirds of them took withdrawals. In the next 5 years, another **21%** will reach RMD age.

- In 2011, almost two thirds (65 percent) of owners over age 70, who funded their GLWB contracts with qualified savings, took withdrawals. In comparison, only 24 percent of owners aged 65–69 took withdrawals in 2011. The need to take RMDs will essentially drive the withdrawal behavior for the 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 comparison, 35 percent of nonqualified annuity owners were aged 70 or above. The percent of nonqualified owners taking withdrawals in this age group was 31 percent in 2011, less than half of the percentage of owners withdrawing from their qualified annuity (Figure 1-16).

Figure 1-16: GLWB Utilization by Owners With Nonqualified Funds



Note: Based on 439,500 GLWB contracts, funded by nonqualified savings, issued before 2011 and still in force at the end of 2011.

It is important for companies to look at their own in-force business and evaluate how their customer mix can impact risk and cash-flow. For insurance companies, qualified annuities could cost more to administer than nonqualified contracts as more customers begin taking withdrawals at age 70½, even though companies may receive fees on GLWB bases for lifetime withdrawal guarantees. As more, younger investors buy annuities with qualified sources of funds, the disparity between the cost of offering qualified annuities and nonqualified annuities will continue to increase.

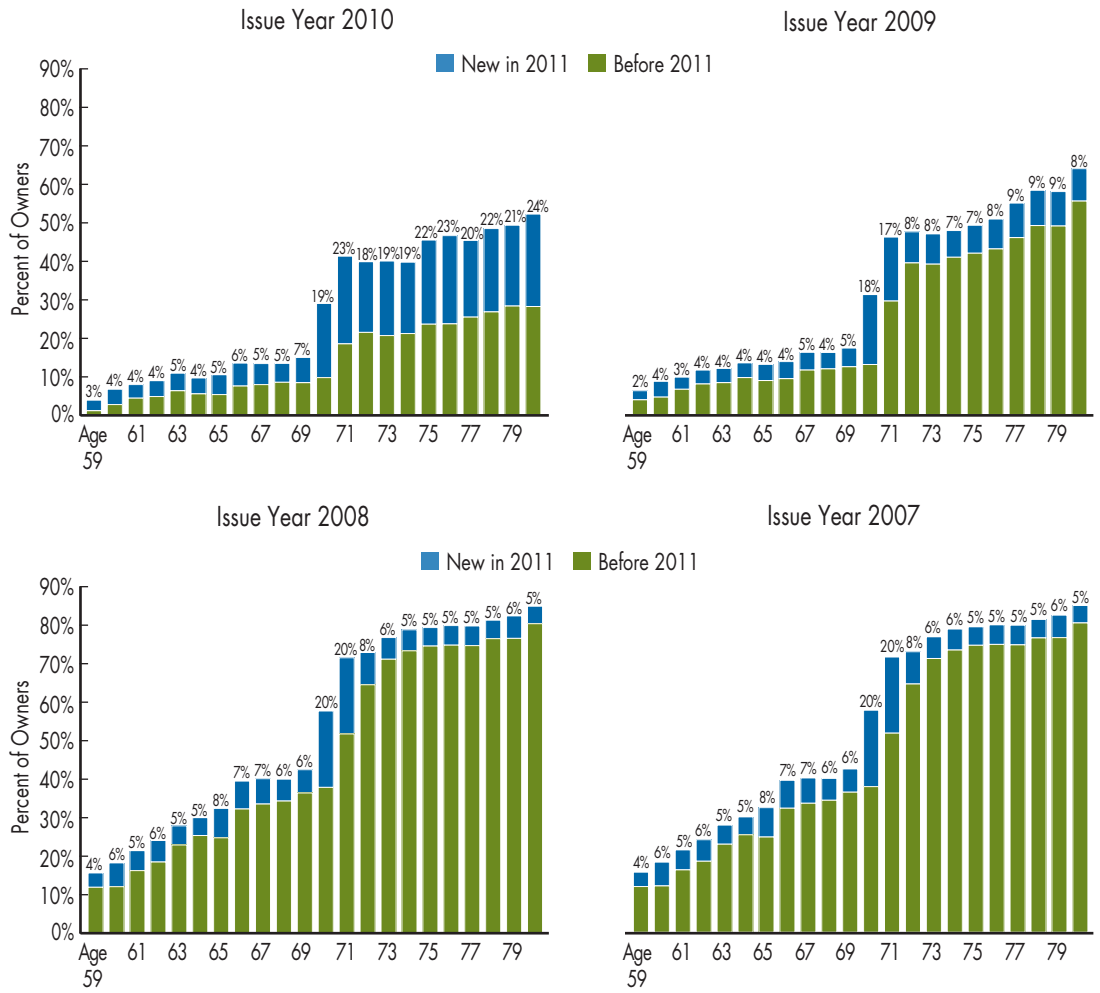
A sizeable proportion of current retirees also has access to defined benefit pension plans and may not need to use the guaranteed withdrawal benefits from their annuities today. However, withdrawal activity may go up considerably, particularly among the Baby Boomers since fewer will have defined benefit pensions as a source of guaranteed income.

Appendix B shows the percent of owners taking withdrawals in 2011 from their IRA and nonqualified annuities and their observed and predicted statistical relationships.

Taking First Withdrawal From IRA Annuity in 2011

There is a distinct pattern of withdrawal behavior from IRA-funded GLWB annuities, principally driven by age and the need to take RMDs. Figure 1-17 shows the percent of owners taking their first withdrawals in 2011 by each of the last four issue years from 2006 to 2010.

Figure 1-17: GLWB First Withdrawals in 2011 (IRA Contracts Only)



Note: Based on 802,575 IRA GLWB contracts issued from 2007 to 2010 and remaining in force at the end of 2011. Top blue colored portion of each column represents percent of owners taking withdrawals in 2011 for the first time, green bar represents cumulative percent of owners who took withdrawals before 2011. 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 2010. The Y-axis shows the percent of customers who took withdrawals before 2011 and in 2011, combined. The green bar for each age shows the cumulative percent of customers who took their withdrawals before 2011 and the blue colored bar shows the percent of owners taking their first withdrawals from the contracts in 2011.

The percent of qualified owners turning ages 70, 71, or 72 taking withdrawals are around 20+/-3%, no matter when they bought their contracts.

For many of the 2010 buyers, 2011 was the first complete year they owned their annuities and also the first year of their withdrawals. From the 2010 buyers, only a small percent of owners under age 70 took their first withdrawals in 2011. The percent of owners taking withdrawals slightly rose with each increment in age; it remained within a range of 3 percent to 7 percent. However, one fifth (19 percent) of these owners who turned age 70 in 2011 took their first withdrawals. Another 23 percent of owners who turned ages 71 and 18 percent of owners who turned age 72 in 2011 also took a withdrawal in that year. Nearly one fourth or more of owners aged 73 or over took withdrawals in 2011. The reason more owners over age 70 took withdrawals in 2011 was that many IRA annuity owners deferred their RMD withdrawals in 2010, 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 when an owner turns age 70½. Each year after that, the RMD must be taken no later than December 31.

However, owners who bought their annuities in 2009 had at least two full years to take withdrawals from their annuities — 2010 and 2011. For owners under age 70, we see almost identical behavior as for 2010 buyers — marginal increments ranging from 2 to 5 percent who withdrew from their annuities for the first time in 2011. Similar to 2010 buyers, 18 percent of the 2009 buyers who turned age 70 in 2011 took withdrawals. For owners who turned age 71, 17 percent took their first withdrawals in 2011 while owners aged 72 or older, and around 8 percent of 2009 buyers in each age took their first withdrawals in 2011.

Owners who bought their annuities in 2008 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 who are aged 70 or under — within a range of 4 to 7 percent — rising with age. However, similar to contracts issued in other years, 20 percent of owners who reached ages 70 and 71 respectively in 2011 took first withdrawals from their contracts in 2011. Eight percent of owners who turned age 72 in 2011 took withdrawals. Afterwards, only 5 to 6 percent of 2008 buyers aged 73 or over took their first withdrawals in 2011. We witnessed an almost identical trend in owner withdrawal behavior for IRA annuity contracts issued in 2007.

Many insurance companies provide tools to encourage GLWB buyers to 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. Most companies allow that if the annual RMD amount exceeds the annual guaranteed income amount, it will not be treated as an excess withdrawal. Also, practically 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, 33 and 20 percent respectively, no matter when they bought their contracts. Before age 70, the percent of customers taking their first withdrawals ranges from 2 to 7 percent, consistent across different years of issue.

Table 1-6: GLWB Percent of Owners Taking First Withdrawal in 2011 (IRA)

Turning to Age	Contracts Issued in 2007	Contracts Issued in 2008	Contracts Issued in 2009	Contracts Issued in 2010
Duration	**4 – 4.99 years**	**3 – 3.99 years**	**2 – 2.99 years**	**1 – 1.99 year**
Age 59-69	4% – 8%	3% – 8%	2% – 5%	3% – 7%
Age 70	20%	20%	18%	19%
Age 71	20%	20%	17%	23%
Age 72	8%	8%	8%	18%
Age 73 and over	5% – 6%	5% – 6%	7% – 9%	19% – 24%

Note: Based on 802,575 IRA GLWB contracts issued from 2007 to 2010 and remaining in force at the end of 2011.

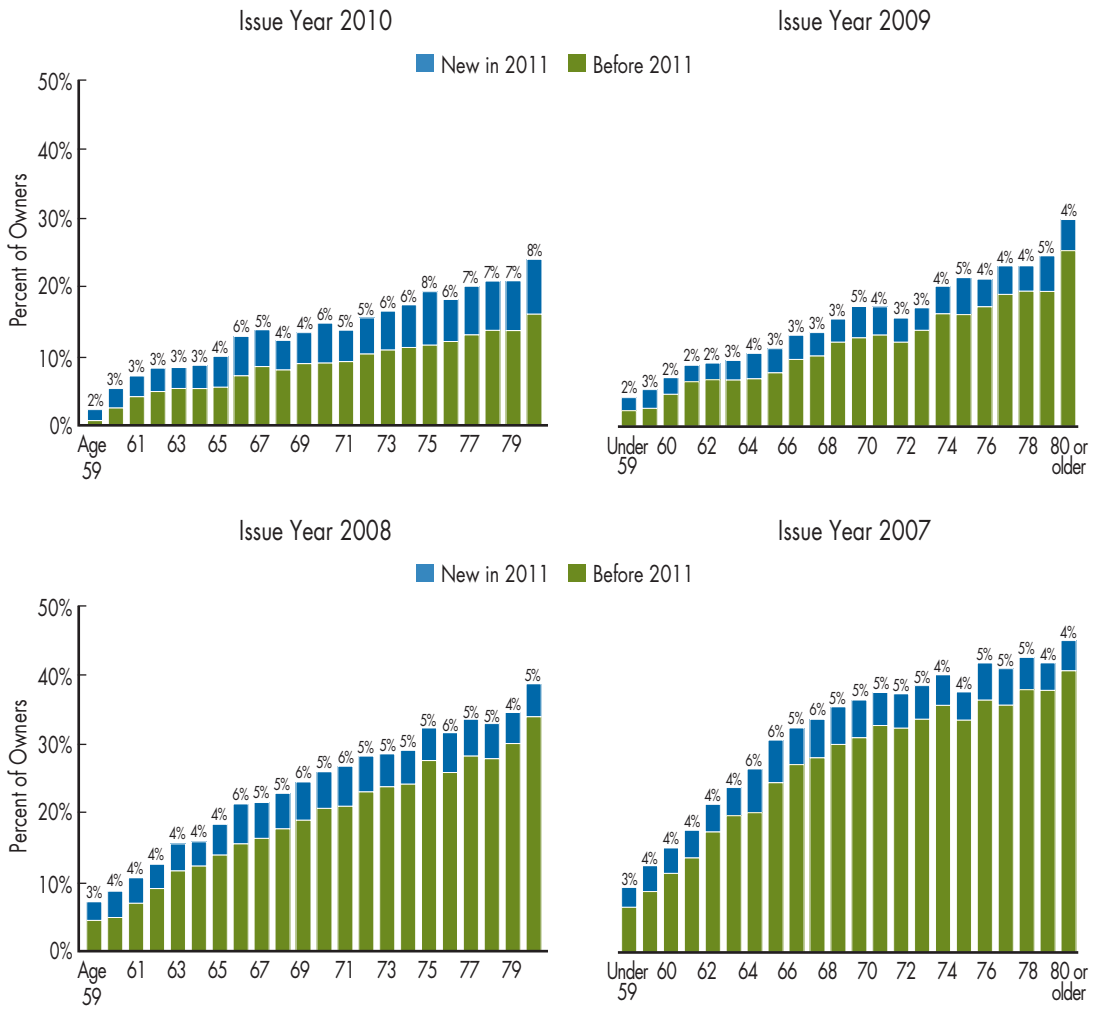
- The percent of owners under age 70 taking their first withdrawals in 2011 for contracts issued in each of the last four years show identical ranges: 2 percent to 7 percent.
- Roughly 20 percent (±3 percent) of owners at age 70 and 71 took their first withdrawals in 2011.
- Contracts in their first full year of ownership (1— 1.99 years) experienced 18 to 24 percent of owners taking their first withdrawals that satisfy RMDs.
- For older contracts, 8 percent of owners took withdrawals at age 72. For owners age 73 and older, 5 to 9 percent of owners took first withdrawals in 2011.

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

Taking First Withdrawal From Nonqualified Annuity in 2011

The percent of nonqualified annuity owners taking their first withdrawals in 2011 reflects a more streamlined withdrawal behavior. Figure 1-18 shows the percent of nonqualified owners taking their first withdrawals in 2011 by individual issue years from 2007 to 2010.

Figure 1-18: GLWB First Withdrawals in 2011 (NQ Contracts Only)



Note: Based on 376,487 nonqualified GLWB contracts issued from 2007 to 2010 and remained in force at the end of 2011. Top blue colored portion of each column represents percent of owners taking withdrawals in 2011 for the first time, green bar represents cumulative percent of owners who took withdrawals before 2011. The overall column height represents percent of all owners who took withdrawals to date.

Because there is no need to take RMDs, we see that the percent of nonqualified owners taking their first withdrawals increases slowly with age, in a linear way. Only a small percent of owners aged 70 or under took their first withdrawals in 2011. The percent of owners taking withdrawals slightly rises with each increment in age; however, it remained within a range of 2 to 8 percent, similar to the behavior we saw with IRA owners. However, there was slight uptick at age 60 and 65 where many riders provide higher step-up payout rates. For ages 70 and over, the percent of customers taking their first withdrawals increases by 1 to 2 percent for each year of age.

The rate of increase of the percent of customers taking their first withdrawals from nonqualified annuities is somewhat lower for contracts issued before 2010. The percent of 2010 buyers who have completed at least one full year of annuity ownership, took their first withdrawals in a range of 2 to 8 percent, rising slowly from age 59 to age 80 (Table 1-7). Many of these owners may have already decided to take withdrawals when they purchased the contracts. The percent of 2009, 2008 and 2007 buyers taking their first withdrawals ranges from 2 to 6 percent.

For 2010 buyers, only 19 percent of owners aged 75 took any withdrawals from their nonqualified annuity, while a cumulative 21 percent of 2009 owners aged 75 took withdrawals. Among the 2008 buyers, 33 percent of owners aged 75 have withdrawn since the contracts were issued. Among 2007 buyers, 37 percent of owners aged 75 took withdrawals during the duration of their contracts.

Table 1-7: GLWB Percent of Owners Taking First Withdrawal in 2011 (Nonqualified)

Turning to Age	Contracts Issued in 2007	Contracts Issued in 2008	Contracts Issued in 2009	Contracts Issued in 2010
Duration	**4 – 4.99 years**	**3 – 3.99 years**	**2 – 2.99 years**	**1 – 1.99 year**
Age 59-69	3% – 6%	3% – 6%	2% – 4%	2% – 6%
Age 70 and over	4% – 5%	4% – 6%	4% – 5%	5% – 8%

Note: Based on 376,487 nonqualified GLWB contracts issued from 2007 to 2010 and remained in force at the end of 2011.

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

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 during 2007 to 2011 (5 years of withdrawal history), and assessed what percent of those buyers began taking their first withdrawals from 2007 to 2011.

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

	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
Age 57	3%																		
Age 58	3%	2%																	
Age 59	3%	4%	5%																
Age 60	6%	7%	6%	7%															
Age 61	5%	5%	5%	6%	8%														
Age 62		6%	5%	6%	6%	10%													
Age 63			5%	5%	5%	7%	9%												
Age 64				5%	5%	5%	7%	10%											
Age 65					8%	9%	7%	8%	12%										
Age 66						7%	9%	8%	9%	14%									
Age 67							7%	8%	7%	8%	13%								
Age 68								6%	7%	6%	7%	15%							
Age 69									6%	8%	7%	8%	16%						
Age 70										20%	23%	9%	26%	27%					
Age 71											20%	33%	9%	33%	33%				
Age 72												8%	20%	5%	28%	34%			
Age 73													6%	8%	4%	27%	33%		
Age 74														6%	9%	4%	29%	38%	
Age 75															5%	9%	5%	25%	35%
Age 76																5%	8%	4%	29%
Age 77																	5%	8%	5%
Age 78																		5%	8%
Age 79																			6%
Cumulative	21%	24%	27%	29%	31%	39%	39%	40%	41%	57%	71%	73%	76%	79%	79%	79%	79%	81%	82%
Percent of owners taking withdrawals in all subsequent years	3%	2%	4%	6%	6%	9%	8%	9%	11%	13%	12%	13%	15%	23%	26%	28%	27%	30%	27%

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

Note: Based on 136,436 qualified contracts issued in 2007 and still in force at the end of 2011.

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 taking withdrawals ranged from 7 to 16 percent, increasing by 1 or 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 RMD needs.
- 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 61–69 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

- In their fourth year of ownership, we see an almost identical percent of owners taking their first withdrawals. Owners who turned ages 60–69 in 2010 and took their first withdrawals remained within an incremental range 2 to 3 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 33 percent respectively. Twenty 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, 8 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 in 2011 took their first withdrawals.
- Eight 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. The pool of IRA owners who have not yet taken their RMD withdrawals is shrinking. The percent of owners taking their first withdrawals among the older owners is expected to go down in future years

If we avoid the anomalies of the withdrawal pattern in 2009, there is a consistent owner withdrawal behavior, defined by their 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.

In the last row of the table, it shows what percentage of owners who had taken withdrawals in 2007, in their first year of ownership, did continue to take withdrawals in all subsequent years. For example, 16 percent of 69 year old owners who purchased their annuities in 2007 took their first withdrawals in 2007. We have found that 15 out 16 owners who started their withdrawals in 2007 also took withdrawals in all subsequent years, from 2008 to 2011, from their IRA annuities. In other words, 94 percent of the owners who started taking withdrawals in their first year continued their withdrawals through 2011. Once the owners, across all ages, begin to take withdrawals, they are more likely to utilize the lifetime withdrawal benefit provided they do not surrender their contracts in later years.

Withdrawal Activity for Nonqualified Contracts Issued in 2007

For nonqualified annuity owners, aged 57 to 69, we see a similar first-year withdrawal pattern (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
Age 57	2%																		
Age 58	2%	2%																	
Age 59	3%	3%	3%																
Age 60	5%	5%	5%	6%															
Age 61	4%	4%	4%	4%	6%														
Age 62		4%	4%	5%	5%	7%													
Age 63			4%	4%	5%	5%	8%												
Age 64				4%	4%	4%	5%	7%											
Age 65					6%	7%	6%	8%	10%										
Age 66						6%	7%	6%	8%	12%									
Age 67							5%	6%	5%	7%	12%								
Age 68								6%	6%	6%	7%	12%							
Age 69									6%	6%	6%	7%	14%						
Age 70										6%	6%	6%	7%	14%					
Age 71											5%	6%	6%	8%	14%				
Age 72												5%	7%	6%	8%	16%			
Age 73													5%	7%	6%	9%	16%		
Age 74														4%	5%	6%	8%	18%	
Age 75															4%	5%	5%	8%	18%
Age 76																6%	6%	6%	9%
Age 77																	5%	6%	7%
Age 78																		5%	4%
Age 79																			4%
Cumulative	15%	17%	21%	23%	25%	29%	32%	33%	35%	36%	37%	37%	39%	39%	37%	41%	40%	42%	42%
Percent of owners taking withdrawals in all subsequent years	1%	1%	3%	5%	5%	6%	7%	7%	9%	11%	11%	11%	13%	13%	12%	14%	15%	16%	15%

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

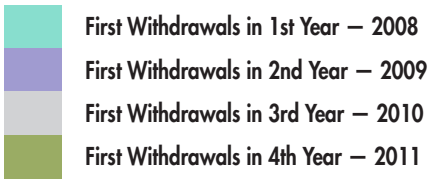
Note: Based on 84,003 qualified contracts issued in 2007 and still in force at the end of 2011.

After the first year, 5 to 8 percent of owners took 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 2009, 2010 and 2011. In 2011, across all ages, the percent of owners taking withdrawals remained within a band of 4 percent to 6 percent, slightly lower than 2010 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 used SWPs to receive their regular withdrawals.

Tables 1-10 and 1-11 show the history of first withdrawals of 2008 buyers over the last four years. These tables essentially confirm the conclusions we have reached with 2007 buyers and illustrate how 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)

	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**
Age 57	3%																		
Age 58	2%	2%																	
Age 59	3%	3%	4%																
Age 60	6%	5%	5%	5%															
Age 61		4%	5%	5%	5%														
Age 62			5%	5%	5%	8%													
Age 63				5%	4%	5%	8%												
Age 64					5%	5%	5%	7%											
Age 65						7%	6%	6%	11%										
Age 66							7%	6%	7%	12%									
Age 67								7%	5%	7%	11%								
Age 68									7%	5%	7%	12%							
Age 69										7%	5%	7%	15%						
Age 70											22%	21%	10%	24%					
Age 71												22%	29%	12%	29%				
Age 72													11%	22%	11%	32%			
Age 73														9%	17%	12%	30%		
Age 74															9%	16%	13%	35%	
Age 75																8%	16%	12%	33%
Age 76																	9%	17%	13%
Age 77																		8%	17%
Age 78																			7%
Cumulative	**14%**	**15%**	**18%**	**20%**	**19%**	**25%**	**26%**	**26%**	**30%**	**31%**	**45%**	**62%**	**64%**	**66%**	**66%**	**69%**	**68%**	**72%**	**70%**
Percent of owners taking withdrawals in all subsequent years	**2%**	**1%**	**3%**	**5%**	**5%**	**7%**	**7%**	**6%**	**10%**	**11%**	**10%**	**11%**	**14%**	**20%**	**21%**	**25%**	**23%**	**28%**	**25%**



Note: Based on 105,849 qualified contracts issued in 2008 and still in force at the end of 2011.

Table 1-11: GLWB First Withdrawals for 2008 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
Age 57	1%																		
Age 58	2%	1%																	
Age 59	2%	3%	2%																
Age 60	4%	4%	4%	4%															
Age 61		4%	3%	4%	5%														
Age 62			3%	3%	4%	6%													
Age 63				4%	3%	5%	7%												
Age 64					4%	4%	4%	7%											
Age 65						4%	4%	5%	8%										
Age 66							6%	5%	6%	10%									
Age 67								5%	4%	6%	11%								
Age 68									5%	4%	6%	11%							
Age 69										5%	5%	6%	13%						
Age 70											5%	5%	7%	12%					
Age 71												6%	4%	7%	14%				
Age 72													5%	5%	7%	17%			
Age 73														5%	4%	7%	16%		
Age 74															5%	5%	7%	17%	
Age 75																5%	4%	8%	17%
Age 76																	6%	5%	7%
Age 77																		5%	5%
Age 78																			5%
Cumulative	9%	11%	13%	16%	17%	19%	22%	22%	23%	25%	27%	28%	29%	29%	30%	34%	33%	35%	34%
Percent of owners taking withdrawals in all subsequent years	1%	1%	2%	4%	5%	6%	6%	6%	7%	9%	10%	10%	12%	11%	13%	16%	15%	16%	16%

First Withdrawals in 1st Year — 2008
First Withdrawals in 2nd Year — 2009
First Withdrawals in 3rd Year — 2010
First Withdrawals in 4th Year — 2011

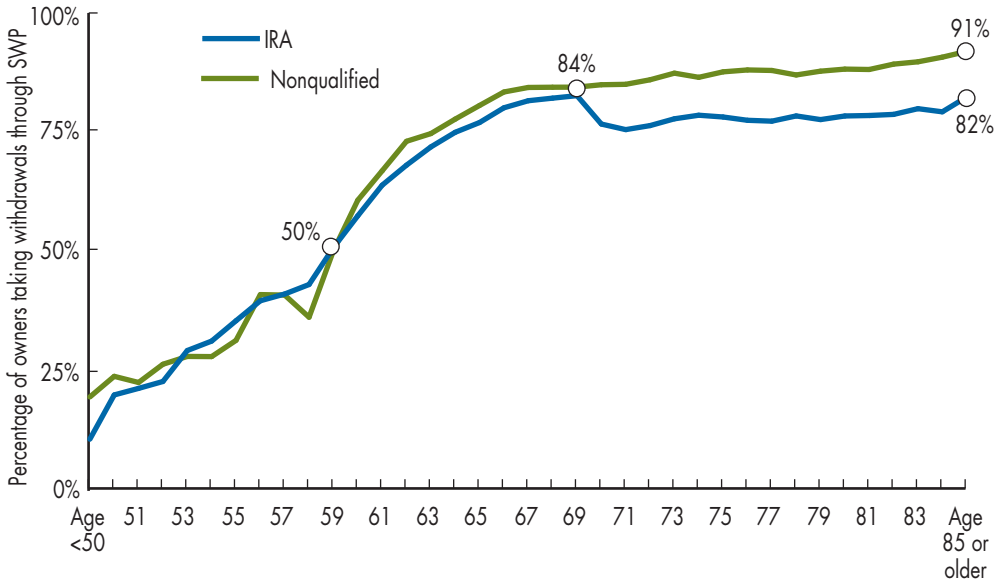
Note: Based on 48,359 nonqualified contracts issued in 2008 and still in force at the end of 2011.

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 — whether through a systematic withdrawal plan or program (SWP) or through occasional withdrawals. All insurance companies allow GLWB owners to use SWPs to take withdrawals, and typically companies categorize withdrawals through SWPs as lifetime withdrawals under the benefit. In general, withdrawals through SWPs can be viewed as customer affirmation to take withdrawals on a continuous basis, and strongly indicate that customers are utilizing the GLWB in their contracts.

Overall, 75 percent of owners took withdrawals using an SWP (Figure 1-19). Seventy-three percent of IRA owners, and 82 percent of nonqualified owners who took withdrawals in 2011, used a SWP. At age 50, only 20 percent of IRA owners and 23 percent of nonqualified owners who took withdrawals in 2011 used SWPs. The rest of the owners took them through occasional withdrawals.

Figure 1-19: GLWB Withdrawals With Systematic Withdrawal Plans



Note: Based on 291,026 GLWB contracts that were issued before 2011, still in force at the end of 2011, and that took withdrawals in 2011.

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.

- Below age 60, only one-third of owners who were taking withdrawals, either from qualified or nonqualified GLWBs, used a SWP. At age 59, half of the owners use SWPs for receiving their income.
- From age 60 to 69, 75 percent of qualified owners and 79 percent of nonqualified owners who took withdrawals in 2011 used SWPs.
- After age 70, the owners were very likely to use SWPs, with 77 percent of qualified owners and 87 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 $5,353 and the average was $8,750 in 2011. Table 1-12 shows the average and median withdrawal amount for owners who took withdrawals in 2011 through a SWP 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 age 70 or older owners most likely remain within the maximum income amount allowed. The median withdrawal amounts for both qualified and nonqualified owners age 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 taking withdrawals.

$5,353 was the median withdrawal amount in an SWP; **$6,771** the median withdrawal amount when taken on non-systematic basis.

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	$15,090	$15, 441	$9, 482	$8,402
Age 60–69	$10,456	$9,421	$6,625	$5,576
Age 70 or older	$7,009	$8,429	$4,353	$5,314
Total	$8,673	$8,918	$5,306	$5,445

Note: Based on 219,675 contracts issued before 2011 and still in force at the end of 2011 and took withdrawals in 2011 through a SWP.

The average withdrawal amounts in Table 1-12 are actually partial withdrawal amount among those who had systematic withdrawals during 2011. Some of the owners who took SWP withdrawals also took occasional withdrawals. For example, GLWB owners took $1.71 billion

in 2011 designated as systematic withdrawals. Another 0.2 billion was withdrawn via partial withdrawals. Owners of nonqualified annuities took 90 percent of their total withdrawal amount ($558 million) through SWPs, and another $59 million on an occasional basis. Owners of IRA annuities took 88 percent of their total withdrawals ($1.2 billion) through SWPs and another $155 million on an occasional basis.

The median occasional or non-systematic withdrawal amount in 2011 was $6,771 and the average was $15,332. For those under age 60, particularly nonqualified owners 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	$21,624	$28, 594	$11, 100	$12,000
Age 60–69	$17,607	$19,685	$8,786	$8,788
Age 70 or older	$8,211	$15,621	$4,444	$7,000
Total	**$14,100**	**$19,711**	**$6,393**	**$8,484**

Note: Based on 71,351 contracts issued before 2011 and still in force at the end of 2011 and took withdrawals in 2011 on an occasional or non-systematic basis.

GLWB owners took more than $1 billion in non-systematic withdrawals in 2011.

Systematic withdrawals from GLWB contracts in 2011 totaled to $1,922.2 million of nearly $3.0 billion or 64 percent (Table 1-14). Owners aged 70 or more accounted for 42 percent of the total amount withdrawn in 2011, owners aged between 60 and 69 accounted for another 44 percent. Though owners under age 60 had higher average withdrawal amounts, they were responsible for only 14 percent of the total withdrawal amount.

Table 1-14: GLWB Withdrawal Amount as Percent of Total Withdrawal Amount

	Occasional Withdrawals		Systematic Withdrawals		
Age	**IRA**	**Nonqualified**	**IRA**	**Nonqualified**	**Total Withdrawals**
Under age 60	8%	3%	2%	1%	$420.3 million
Age 60–69	11%	4%	21%	7%	$1,318.7 million
Age 70 or older	7%	3%	21%	12%	$1,277.2 million
Total	**26%**	**10%**	**44%**	**20%**	**$3,016.2 million**

Note: Based on 291,026 GLWB contracts issued before 2011 and remained in force at the end of 2011 and took withdrawals in 2011.

Withdrawals Exceeding Benefit Maximums

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 withdrawal amount in a contract year, it is considered to 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 the beginning of 2011. 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.

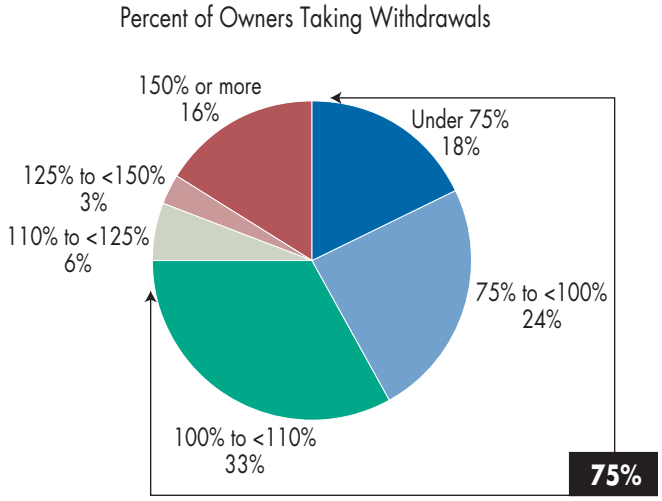
- If company provided beginning-of-year maximum withdrawal amount, then it equals partial withdrawals divided by this amount.
- If company did not provide beginning-of-year maximum withdrawal amount, then the percent of maximum annual benefit = (partial withdrawals divided by beginning-of-year maximum withdrawal percentage) x (beginning-of-year benefit base).
- If company did not provide beginning-of-year maximum withdrawal amount OR beginning-of-year maximum withdrawal percentage, the percent of maximum annual benefit = (partial withdrawals divided by maximum withdrawal percentage from rider specs) x (beginning-of-year benefit base).

For withdrawals exceeding benefit maximums, we looked at the relationship of customers' actual withdrawal amounts in calendar-year 2011 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 the beginning of the year by at least 10 percent, then we considered the contract to have exceeded the benefit maximum.

In this section, we will look at the relationship of customers' actual withdrawal amounts in calendar year 2011 to the maximum withdrawal amounts allowed in the contracts. 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 the beginning of the year by at least 10 percent, then we considered the withdrawal to have exceeded the benefit maximum.

Figure 1-20 shows the degree to which withdrawals were higher or lower than maximum withdrawal amounts allowed in the contract.

Figure 1-20: GLWB Actual Withdrawals as a Percentage of Maximum Withdrawals Allowed

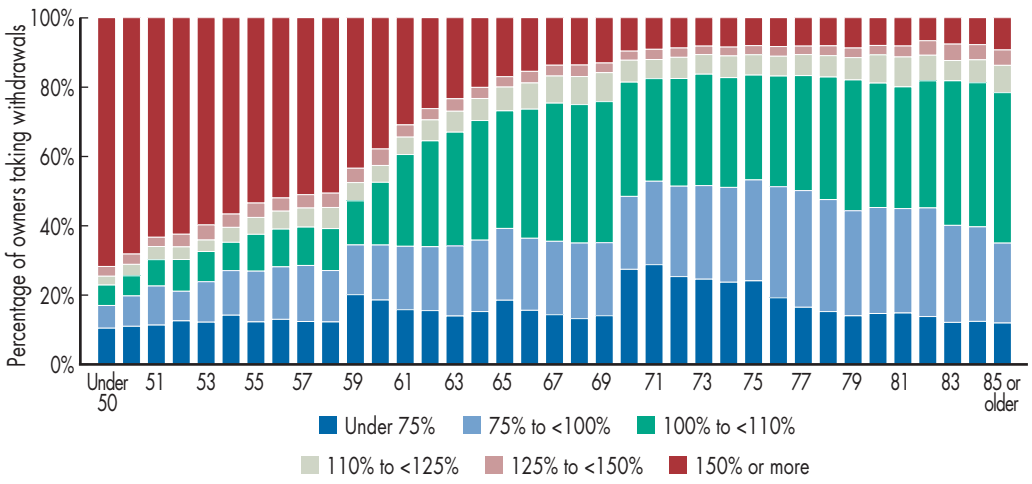


Note: Based on 289,827 GLWB contracts issued before 2011 and remaining in force at the end of 2011 and took withdrawals in 2011.

Roughly 75 percent of owners who took withdrawals in 2011 withdrew income that was close to the maximum amount calculated, up to or below 110 percent. Six percent of owners withdrew 110 to 125 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, just under one fifth of owners took withdrawals that exceeded the maximum withdrawal amount by 25 percent or more.

Looking at the age of owners and their withdrawal amount in relation to maximum withdrawal amounts allowed, we see that younger owners are more likely to take 125 percent or more of the maximum amount allowed (Figure 1-21), the top two bars in the chart.

Figure 1-21: GLWB Withdrawals as a Percentage of Maximum Annual Benefit Amount by Age



Note: Based on 289,826 GLWB contracts issued before 2011, still in force at the end of 2011, and that took withdrawals in 2011.

Withdrawal amounts of 63 percent of owners who took withdrawals in 2011 remained within 75 percent to 125 percent of the benefit maximum allowed in their contracts (Table 1-15). One fifth (18 percent) and 15 percent of owners' withdrawal amounts remained either below 75 percent or exceeded 150 percent of more of the benefit maximum allowed in the contracts respectively. Only 3 percent of owners' withdrawals fall into 125 percent to 150 percent of the maximum withdrawals allowed.

Only **1 in 6** owners aged 60 or over took withdrawals 125 percent or more of the maximum amount allowed; some possibly due to RMD requirements.

Six in 10 owners under age 60 and taking withdrawals exceeded 125 percent or more of the benefit maximum, most of them taking 150 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 16 percent of owners over age 60 and taking withdrawals exceeded 125 percent 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.

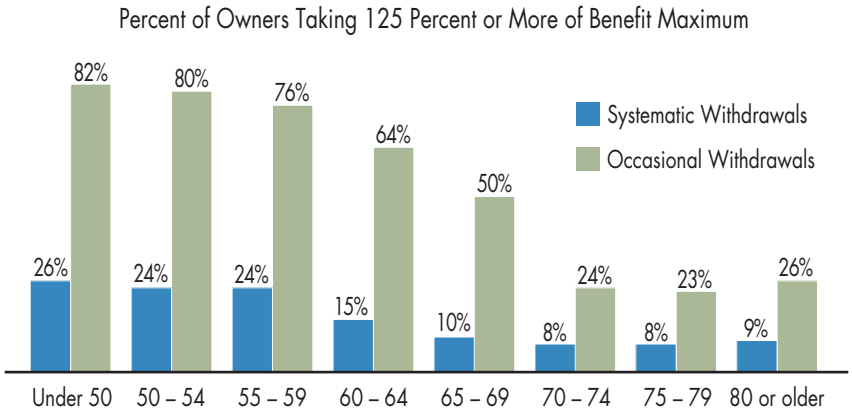
Table 1-15: Percent of GLWB Owners Taking Withdrawals as Percent of Benefit Maximum

	Withdrawal Amount as Percent of Benefit Maximum Allowed in the Contract					
Age	Less than 75%	75% to <100%	100% to <110%	110% to <125%	125% to <150%	150% or more
Under 50	10%	7%	6%	3%	3%	71%
50 to 54	12%	11%	8%	4%	4%	61%
55 to 59	15%	15%	12%	5%	4%	49%
60 to 64	15%	19%	30%	6%	4%	26%
65 to 69	15%	21%	38%	8%	3%	15%
70 to 74	26%	25%	31%	6%	3%	9%
75 to 79	18%	32%	33%	6%	3%	8%
80 to 84	14%	30%	38%	7%	3%	8%
85 or older	12%	24%	43%	8%	4%	9%
All ages	**18%**	**24%**	**33%**	**6%**	**3%**	**16%**

Note: Based on 289,826 GLWB contracts issued before 2011 that took withdrawals in 2011.

A strong indicator of whether owners are likely to exceed the benefit maximum is the method they use for withdrawals — systematic or occasional. Most excess withdrawals that exceed 125 percent of the annual benefit maximum amount come from occasional withdrawals (Figure 1-22).

Figure 1-22: GLWB Withdrawals to Maximum Amount by Age



Note: Based on 282,930 GLWB contracts issued before 2011, still in force at the end of 2011, and that took withdrawals in 2011.

Six in 10 withdrawals in the contracts that have excess withdrawals (125 percent or more of the benefit maximum) come from occasional withdrawals. Nearly half of all occasional withdrawals (46 percent) exceed 125 percent or more allowed in the contract. On the other hand, only 10 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 if we consider withdrawals between 110 to 125 percent of benefit maximum, there is only another 7 percent of SWP users that would fall into that category. Almost 3 in 4 owners take withdrawals through a SWP; and when most of them withdraw amounts within the benefit maximum, it can be concluded that they are utilizing the lifetime guaranteed withdrawal benefit rider.

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

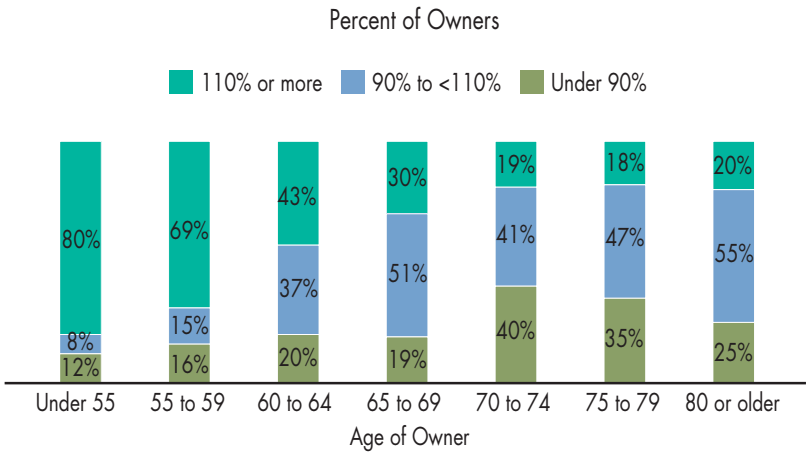
We also examined how the proportion of the benefit maximum withdrawn varies by contract size. It might be expected that larger contract sizes are linked to wealthier and more sophisticated owners who are more likely to be working with financial advisors and who are less inclined to exceed the GLWB benefit 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 1-23, 1-24, and 1-25 illustrate the proportion of owners withdrawing amounts within ±10 percentage points of the benefit maximum and the proportion of owners withdrawing amounts above or below this range, by age and contract size. If efficiency was 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. Among owners aged 60 to 64, the proportion increases slightly, from 37 percent of owners with contract sizes under $100,000 to 45 percent of owners with contracts worth $250,000 or more. But among owners aged 65 or older (who make up 79 percent of all individuals taking withdrawals), there is little or no change with increasing contract size; in fact, the proportion drops slightly for those aged 80 or older.

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 55 taking more than 110 percent of the benefit maximum drops 34 percentage points between contract sizes under $100,000 and contract sizes of $250,000 or more, the proportion taking 90 percent to less than 110 percent of the benefit maximum increases only 19 percentage points. In short, owners of VAs 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 benefit offers.[8]

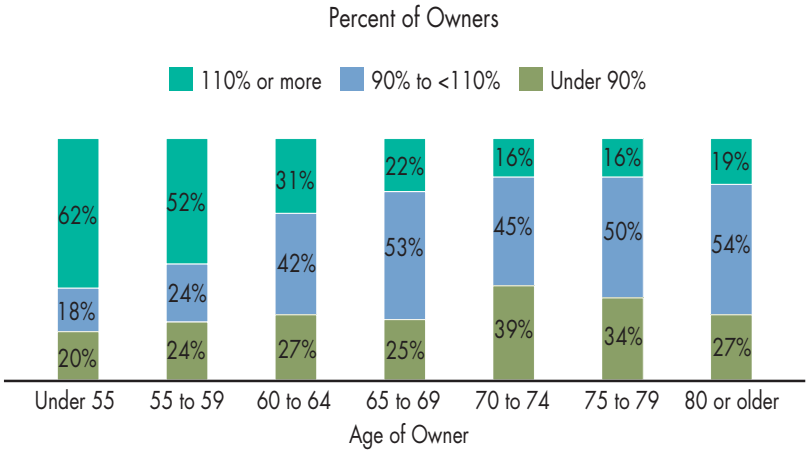
[8] Results were also examined separately for IRA and nonqualified contracts. The effect of contract size was slightly more pronounced for IRAs, particularly among younger owners, but not materially different than the overall results.

Figure 1-23: GLWB Withdrawals to Maximum Amount by Age, Contract Sizes Under $100,000



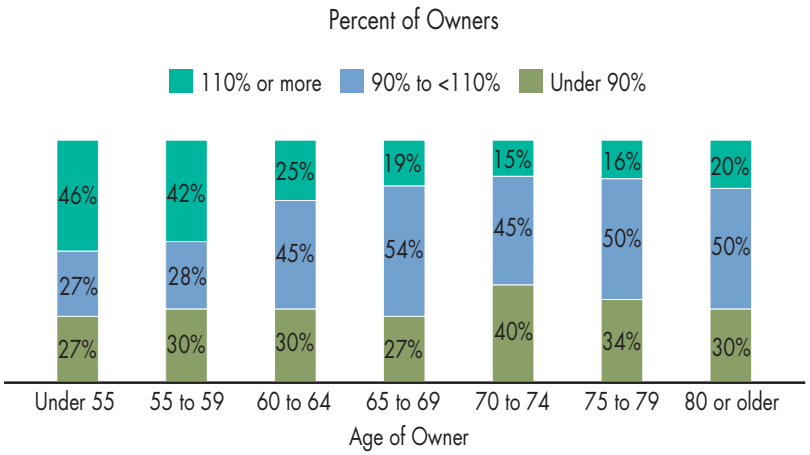
Note: Based on 160,306 GLWB contracts issued before 2011, still in force at the end of 2011, and that took withdrawals in 2011.

Figure 1-24: GLWB Withdrawals to Maximum Amount by Age, Contract Sizes $100,000 to $249,999



Note: Based on 93,130 GLWB contracts issued before 2011, still in force at the end of 2011, and that took withdrawals in 2011.

Figure 1-25: GLWB Withdrawals to Maximum Amount by Age, Contract Sizes $250,000 or More

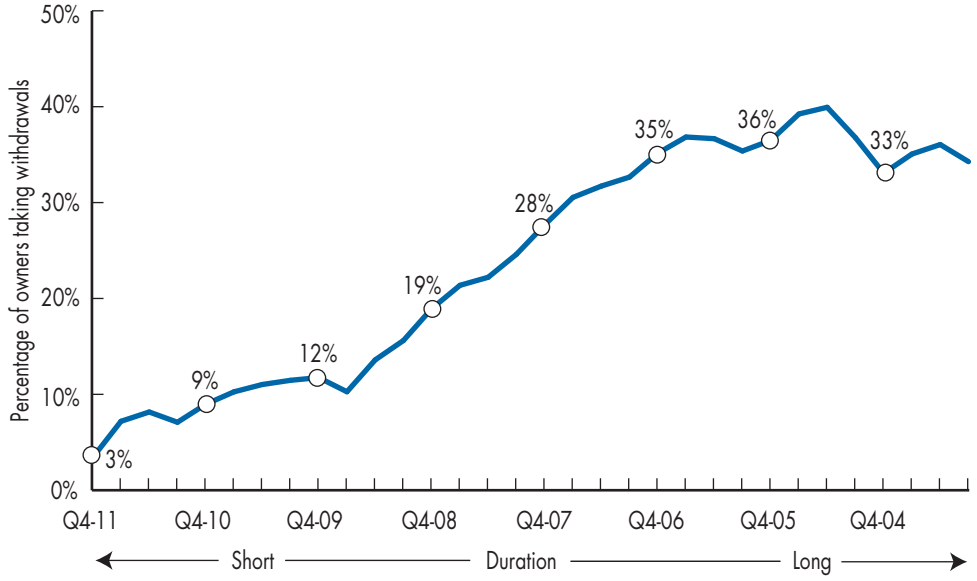


Note: Based on 36,390 GLWB contracts issued before 2011, still in force at the end of 2011, and that took withdrawals in 2011.

Withdrawal Activity by Duration

Contract duration (i.e., the number of years since the contract was purchased) can be an important measure in determining what proportion of new buyers or existing owners take withdrawals from their annuities. Companies can also use contract duration to gauge their company's marketing effectiveness, to set expectations with customers (e.g., when and how they should start withdrawals), and to train and educate customers and the sales force. 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 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 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.

Figure 1-26: GLWB Overall Utilization Rates by Contract Duration



Note: Based on 1,843,917 GLWB contracts issued from 2004 through 2011 and still in force at the end of 2011.

Owners who bought their GLWB annuity in Q4 2011 had only 3 months maximum to set up withdrawals and receive payments. Only 3 percent of these owners took withdrawals from their annuities (Figure 1-26). As the contract duration increases, withdrawal activity increases, reaching nearly 9 percent among customers who owned the contract for one full year (as of year-end 2011). The overall utilization rate on a full-year basis rises to 12 percent for 2-year-old contracts, 22 percent for 3-year-old contracts and above 30 percent for 5- to 6-year-old contracts (Table 1-16).

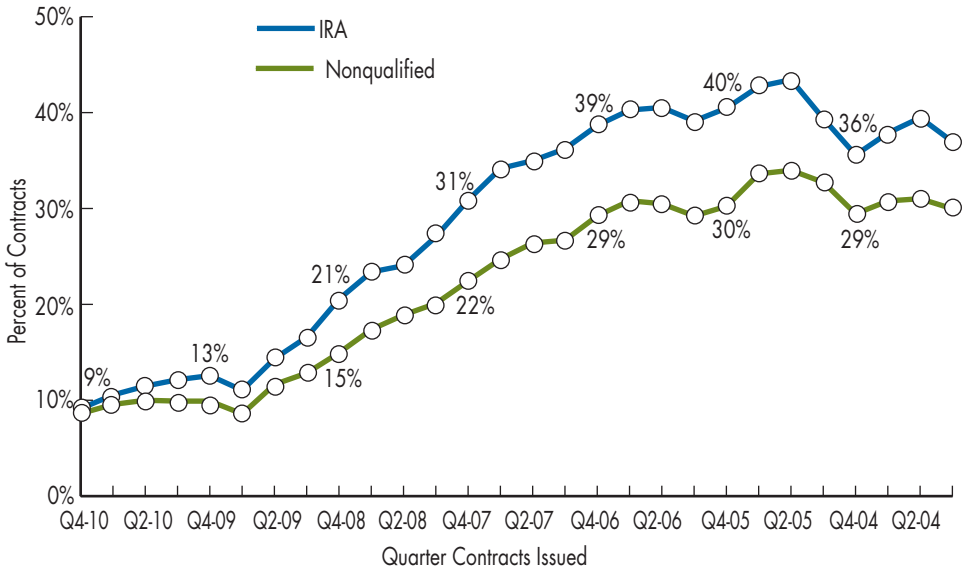
Table 1-16: GLWB Overall Percent of Contracts Taking Withdrawals by Year of Issue

Year of Issue	Overall Percent of Contracts Taking Withdrawals in 2011
2004	34.6%
2005	37.9%
2006	36.0%
2007	30.4%
2008	21.8%
2009	12.5%
2010	10.3%
2011	6.5%

Note: Based on 1,843,917 GLWB contracts issued from 2004 to 2011 and remained in force at the end of 2011.

How do the overall utilization rates by contract duration periods differ between qualified and nonqualified contracts? A consistent pattern of withdrawal activity emerges: as contract owners become older, more buyers decide to withdraw, regardless of whether the annuity was funded with qualified or nonqualified sources (Figure 1-27), though the percent of owners taking withdrawals from IRA annuities are higher than that from nonqualified annuities.

Figure 1-27: GLWB Overall Utilization Rates by Contract Duration and Source of Funds



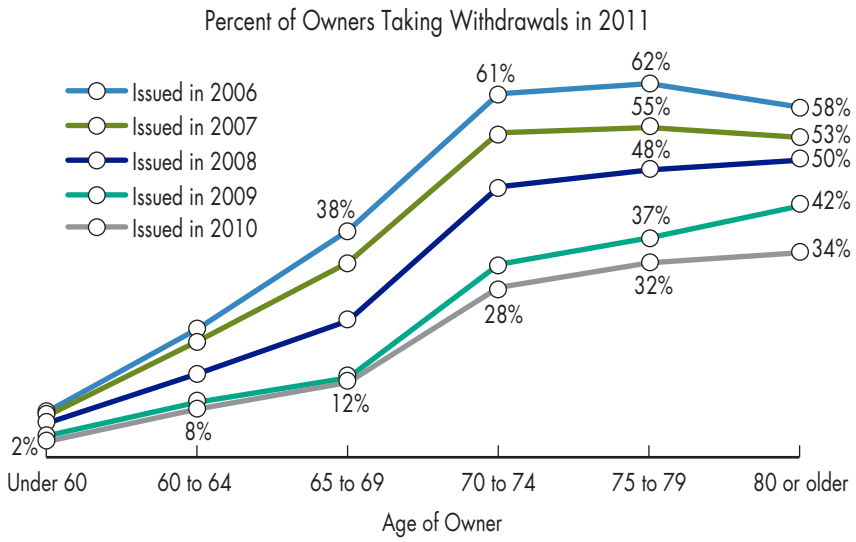
Note: Based on 1,459,082 GLWB contracts issued from 2004 to 2010 and still in force at the end of 2011.

The growth in the percent of customers taking withdrawals is similar to the rates displayed in Figure 1-26. In general, around 10 percent of customers take withdrawals in their first year of ownership and an additional 10 percent take withdrawals in their second year of ownership. After that, the rate of owners commencing their withdrawals slows down to an incremental rate of 5 percent per year. 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 for customers reaching age 70½, 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 1-28). For contracts purchased by individuals under age 60, the overall utilization rate is stable across different issue years. Withdrawals among these younger age groups are uncommon.

Figure 1-28: GLWB Overall Utilization Rates by Contract Duration and Current Owner Age



Note: Based on 1,396,736 GLWB contracts issued between 2006 through 2010 and still in force at the end of 2011.

From age 60 and up, withdrawal activity goes up as owners begin to retire or need to make withdrawals to satisfy RMDs. For example, among contracts issued in 2010 that were in force for at least a year, the overall withdrawal rate among owners between ages 65 and 69 was 23 percent. However, among contracts issued in 2006 that were owned for at least five years, the overall withdrawal rate rose to 38 percent, indicating a marginal rise of 3 percent in withdrawal activity for this age group for each year of duration.

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

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.

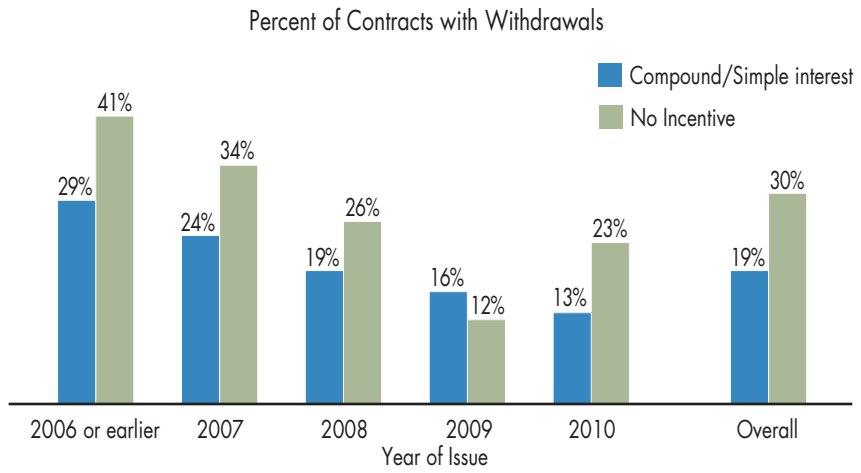
Withdrawals in Contracts With Non-Withdrawal Incentives

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 compound basis, may ensure that a 55-year-old customer investing $100,000 in 2011 would have a guaranteed benefit base of almost $200,000 in 2021, 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 $10,000. 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.

Figure 1-29: GLWB Withdrawal Activity in Contracts With/Without Non-Withdrawal Incentives



Source: Based on 813,695 GLWB contracts issued by nine insurance companies which offer both types — bonus for non-withdrawals or no bonus. All contracts were issued before 2011 and still in force at the end of 2011.

Examining more than 810,000 contracts from nine companies that offer both a deferral bonus and no increase to the benefit base when the owner defers withdrawals, withdrawal activity is lower for all issue years (except 2009) when a contract had incentives for non-withdrawals (Figure 1-29). Even among longer-duration contracts, a larger percent of owners take withdrawals from their contracts when no incentive is present. On an aggregate basis, when benefit bases grow at a compound or simple interest rate, the percent of contracts with withdrawals in 2011 was 19 percent. Among contracts with no incentives, the percent of owners taking withdrawals in 2011 was 30 percent.

19% of owners took withdrawals when deferral incentives were available — much lower than the **30%** of owners taking withdrawals when no incentives were available.

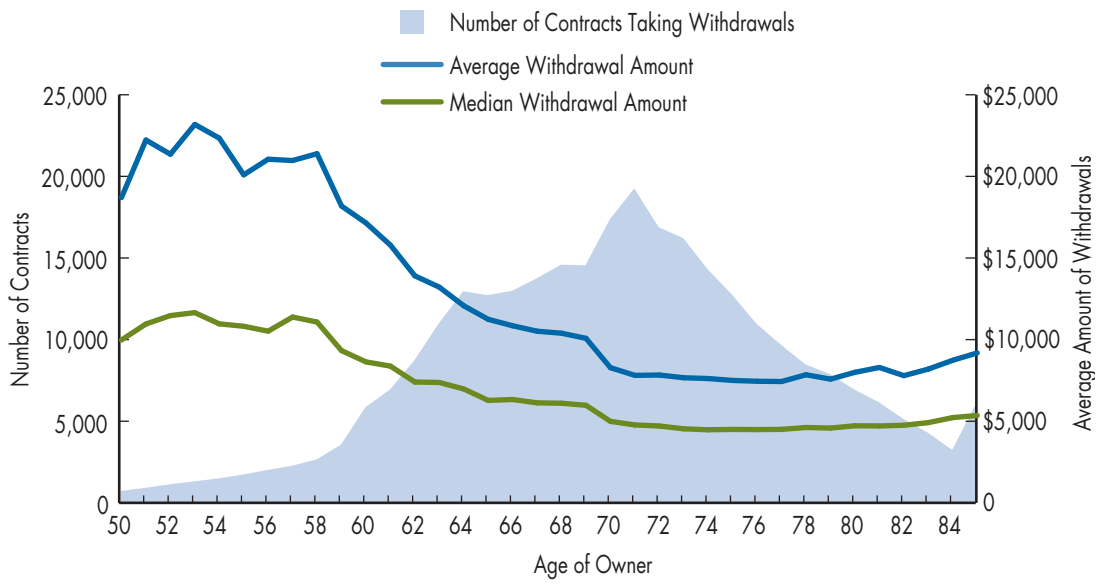
These findings suggest that pre-withdrawal benefit base growth does provide an incentive for owners to postpone withdrawals. The contracts where companies offer both incentives for non-withdrawals or no incentives represent almost half of all the GLWB contracts in the study. It is likely that owner expectations of when to take withdrawals are set during the purchase process.

Average Withdrawal Amounts

The median withdrawal amount was $5,592 in 2011 for contracts issued before 2011 that were in force at year-end 2011.

On average, owners under age 60 took withdrawals ranging from $17,000 to $23,000 (Figure 1-30). However, these owners constituted only 7 percent of all contracts that had withdrawals in 2011. Even the median withdrawal amount for this age group ranges from $10,000 to $11,000. Given the large average withdrawals, it is likely that these contracts were partially surrendered.

Figure 1-30: GLWB Amount of Average Withdrawals by Current Owner Age



Note: Based on 300,918 GLWB contracts issued before 2011, still in force at the end of 2011, and that had partial withdrawals in 2011.

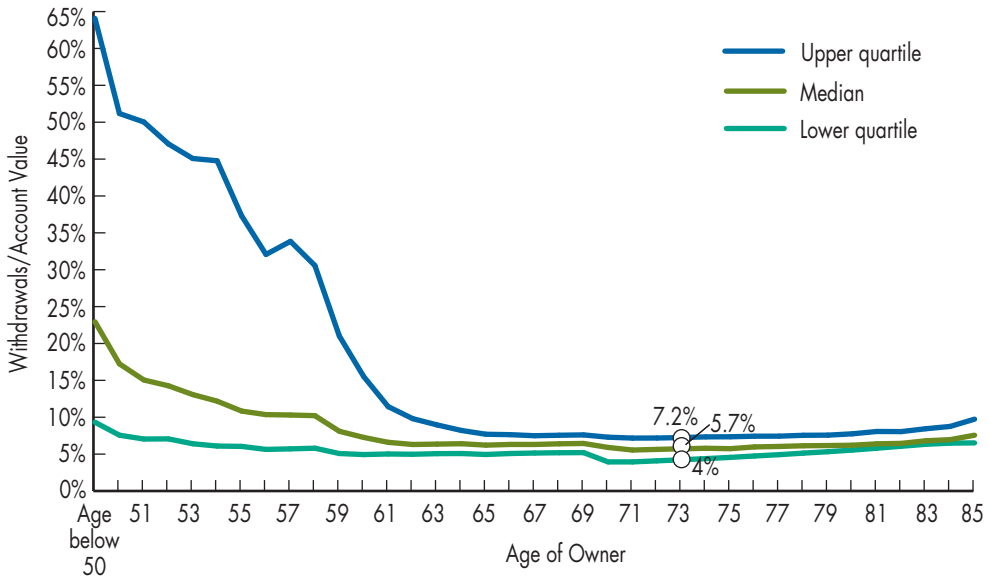
$5,592 was the median withdrawal amount for contracts that had withdrawals in 2011.

However, beginning at age 60, an increasing number of owners took withdrawals, and a more sustainable withdrawal pattern and amount come into view. The median withdrawal amount at various ages ranges from $4,500 to $8,600 and the average withdrawal amount ranges from $7,000 to $15,000 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.

Average Withdrawal Amount vs. Contract Value and Benefit Base

In order to provide some context for the average withdrawal amount, we assessed the average withdrawal amount in relation to both contract value and the benefit base. Figure 1-31 shows the median withdrawal amount for all ages and also the quartile distribution of the withdrawal amounts in 2011.

Figure 1-31: GLWB Withdrawals to Average Contract Value Ratio
(For Contracts With Withdrawals Only)

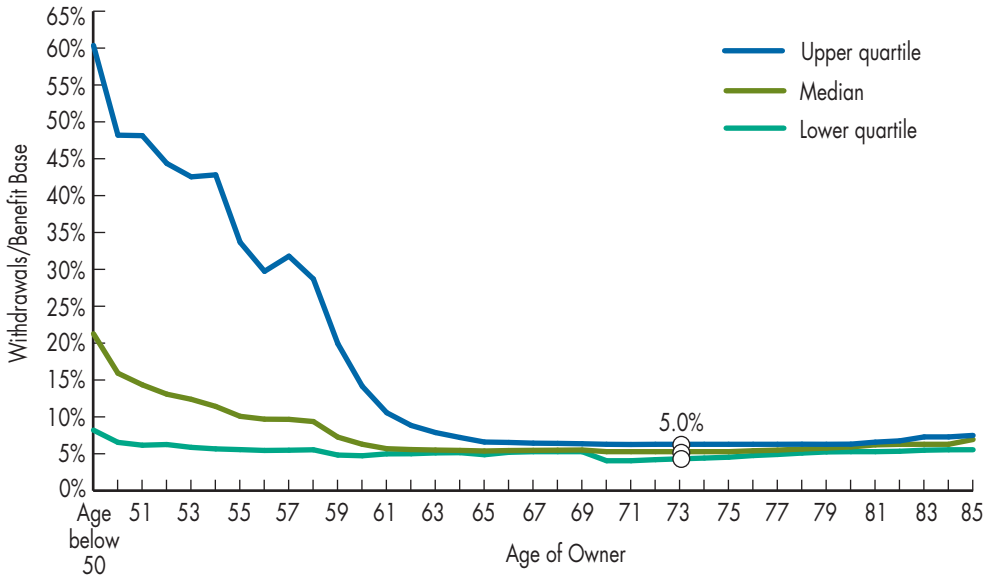


Note: Based on 300,918 GLWB contracts issued before 2011, still in force at the end of 2011, and that had partial withdrawals in 2011. Percent of average account value (AV) withdrawn is calculated for every contract: as partial withdrawals divided by (BOY AV + EOY AV)/2.

The distribution of the average account value withdrawn shows that, for owners age 65 or over, the median, the upper quartile and the lower quartile values are almost identical. The pattern also indicates that the majority of owners taking withdrawals at older ages are withdrawing at similar ratios from their account values, for example, for owners at age 73, around 6 percent. For owners under age 60, the median of the ratios is higher than that of older owners, ranging between 7 to 20 percent, and gets higher with younger owners. Also there is a wide difference between the median and the upper quartile values, indicating that 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 average withdrawal amount to the average benefit base ratio supports the same conclusion that we reached earlier that the mean withdrawal amount is unduly weighted by very large withdrawals taken by a few younger owners (Figure 1-32). The distribution of ratios of average withdrawal amount to benefit base shows that the median, the upper quartile and the lower quartile values are almost identical for owners age 65 or over. The ratios also indicate that the majority of owners taking withdrawals in older ages are withdrawing at a rate of around 5 percent of their benefit base values. A typical GLWB maximum payout rate in these ages is around 5 percent.

Figure 1-32: GLWB Withdrawals to Average Benefit Base Ratio
(For Contracts With Withdrawals Only)

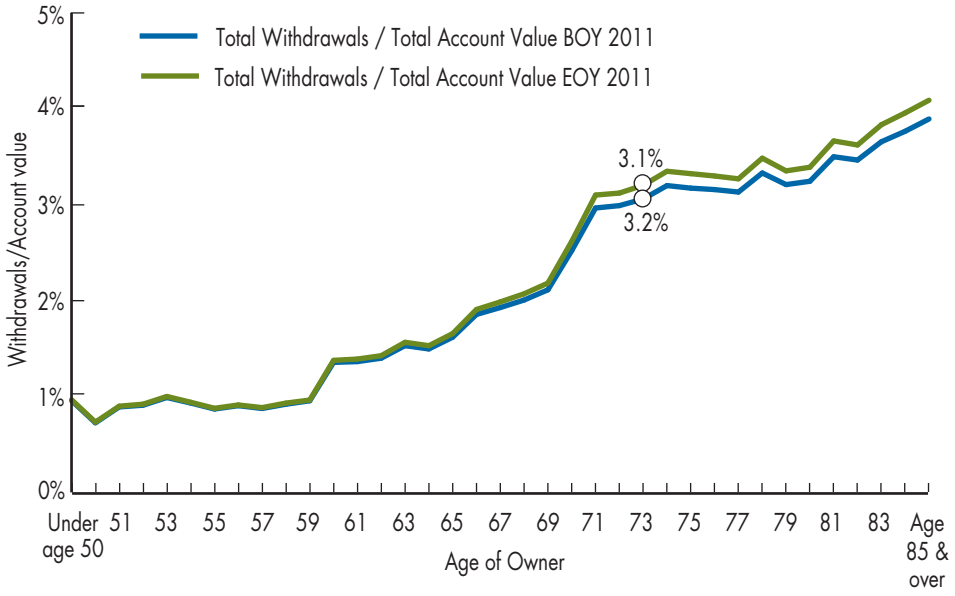


Note: Based on 300,918 GLWB contracts issued before 2011, still in force at the end of 2011, and that had partial withdrawals in 2011. Percent of average benefit base (BB) withdrawn is calculated for every contract: as partial withdrawals divided by (BOY BB + EOY BB)/2.

Total Withdrawal Amount vs. Total Contract Value

Another measure of GLWB risk originating in customer behavior can be ascertained by comparing the ratio of total withdrawal amount at beginning-of-year (BOY) to contract values at BOY and the ratio of total withdrawal amount to end-of-year (EOY) contract values. This measure can be calculated at two levels. First, total withdrawals during 2011 can be divided by total contract values at BOY and EOY, for all contracts in force. Second, the same ratios can be computed only for the subset of contracts that experienced withdrawals in 2011. The first measure provides a view of risk from total 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 1-33: GLWB Total Withdrawals to Total Contract Value (All Contracts)



Note: Based on 1,474,979 GLWB contracts issued before 2011 and in force at the end of 2011.

In 2011, for all contracts in force, the ratio of total withdrawals to BOY contract values was 1.81 percent, (in other words, the outflow from beginning assets was at a rate of 1.81 percent). However, the ratio rose to 1.87 percent when total withdrawals were compared to total assets at the end of year. The adverse ratio was due to the flat equity market in 2011. The ratio at BOY was lower than the corresponding ratio for EOY contract values across all ages (Figure 1-33). When the ratio of total withdrawal amounts to account values at EOY is higher than the ratio calculated at BOY, it means that the total contract value has not improved sufficiently due to investment gains despite withdrawals. The greater the upward shift during

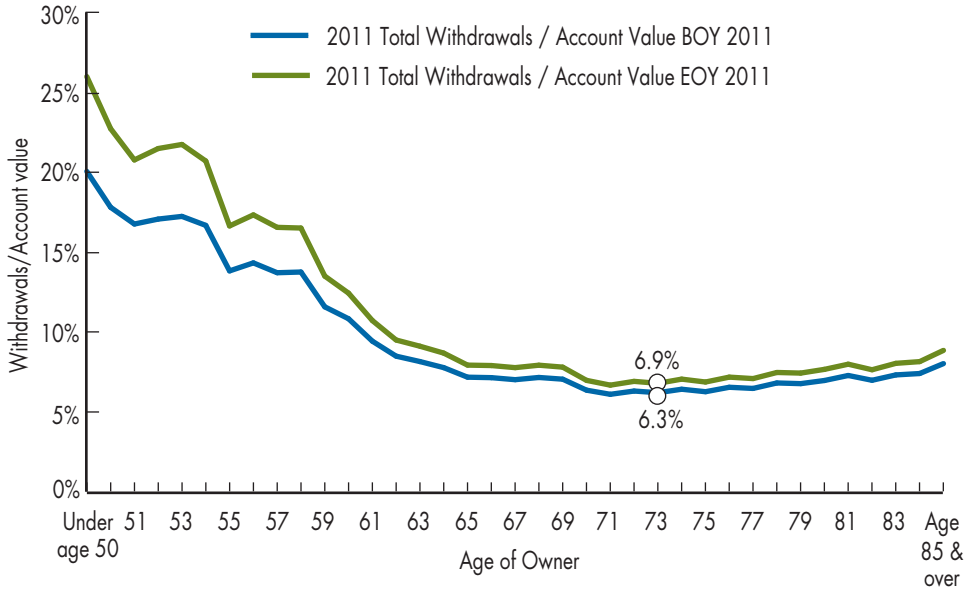
With the flat market in 2011, the ratio of total withdrawals to total contract values worsened during the year, thus increasing the overall risk.

the year, the greater the risk exposure for the companies, insofar as withdrawal provisions in the GLWB rider are concerned.

For example, customers aged 73 held $4.1 billion in 34,000 contracts at BOY. The total withdrawal amount taken by these customers during 2011 was $124.7 million, and the ratio of total withdrawals to contract values at the BOY was 3.1 percent. However, during the year the contract values fell to $3.9 billion, after the withdrawals that had occurred. The ratio of withdrawal amounts to contract values for 73-year-old owners thereby worsened from 3.1 percent at the BOY to 3.2 percent at year-end.

Insurance companies should also examine the risks associated with the subset of contracts that took withdrawals in 2011. Due to the flat market in 2011 and the withdrawal effect, the ratio of withdrawals to contract value got worse for contracts that had withdrawals (Figure 1-34). For example, among owners aged 73 who made withdrawals in 2011, the ratio went from 6.3 percent of the contract value at BOY to 6.9 percent of the contract value at EOY — a 9 percent decrease. Overall for all the contracts that had withdrawals in 2011, there was a slight decrease in account value of 2.1 percent.

Figure 1-34: GLWB Total Withdrawals to Total Contract Value (For Contracts With Withdrawals Only)



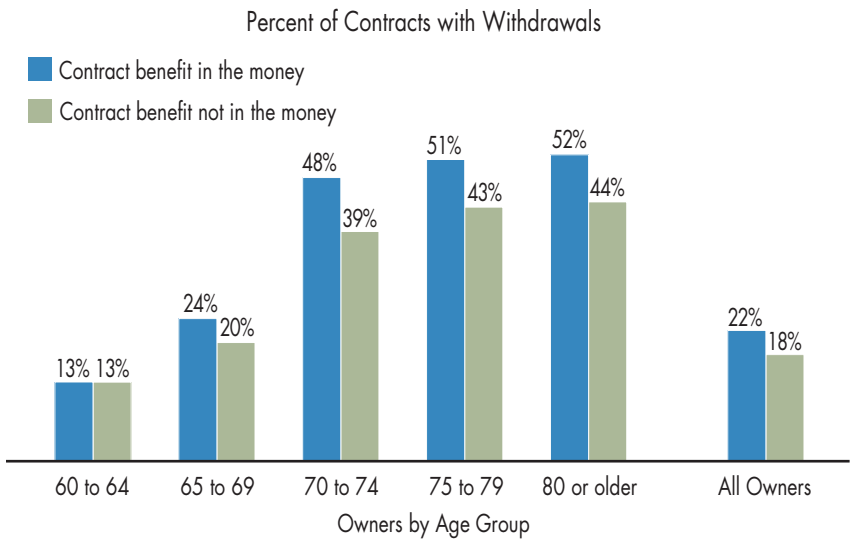
Note: Based on 293,993 GLWB contracts issued before 2011, in force at the end of 2011, and that took partial withdrawals in 2011.

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

The equity market meltdown from 2008–2009, and the financial uncertainties of a weak economy that persisted through 2011, could have encouraged more GLWB owners to start their lifetime withdrawals from their contracts. The flat equity market performance and heightened volatility in 2011 gave us with an important opportunity to understand the withdrawal behavior of GLWB owners. This incentive to exercise their option to receive guaranteed lifetime withdrawals from their contracts was particularly compelling when most GLWB contracts were in-the-money. Yet our findings indicate that despite the market volatility, and resulting benefits being in-the-money, it did not appreciably alter customer withdrawal behavior in 2011 (Figure 1-35).

Contract benefits being in-the-money appears to have little influence on withdrawal behavior of GLWB owners in 2011.

Figure 1-35: GLWB Withdrawal Rates for Contracts In-the-Money vs. Not In-the-Money



Note: Based on 1,447,859 GLWB contracts issued before 2011 and still in force at the end of 2011. Percentages refer to the number of contracts in each category that had partial withdrawals during 2011.

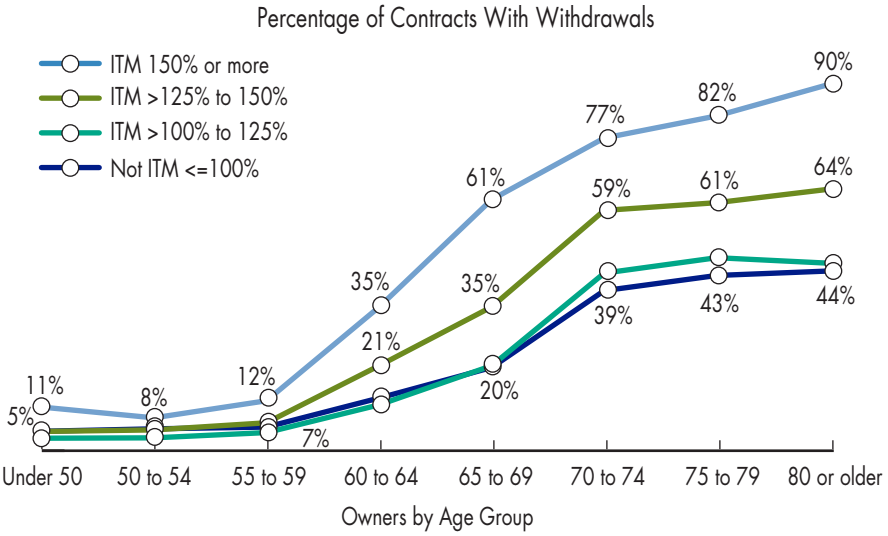
From the perspectives of in the money analysis, the GLWBs are, in essence, the owners' options of receiving a series of lifetime income. Naturally, as the value of the contract declines with market losses, the value of the guarantee increases. However, as the GLWB owners are not professional investors, and as their annuity purchase decisions are result of complicated emotional and financial factors, and given the role their annuities play in their future

The overall utilization rate for contracts with benefits that were in-the-money at the beginning of the year was **22%** compared to **18%** for contracts with benefits that were not in-the-money.

retirement plans, we should not expect that all annuity owners will act to optimize the value of the guarantees or their put-options in isolation.

At the beginning of 2011, 62 percent of GLWB contracts issued before 2011 were in the money. The overall utilization rate for contracts with benefits that were in the money at the beginning of the year was 22 percent compared to 18 percent for contracts with benefits that were not in the money. These overall utilization ratios among contracts in-the-money and not-in-the-money have remained almost unchanged from the overall utilization rates that we calculated for owners' behavior in 2010. The overall utilization did not change when more contracts were in the money during the year after experiencing heightened market volatility and negative or no market returns in 2011.

Figure 1-36: GLWB Withdrawal Rates for Contracts by Degree of In-the-Money vs. Not In-the-Money



Note: Based on 1,447,859 GLWB contracts issued before 2011 and still in force at the end of 2011.
Percentages refer to the number of contracts in each category that had partial withdrawals during 2011
In-the-money (ITM) = benefit base divided by account value at the beginning-of-year

Though Figure 1-36 shows increased levels of withdrawal activity with increasing levels of in-the-moneyness, for example for contracts with benefit bases 150 percent or more of the

contract value, the higher percentage of owners taking withdrawals is driven by older contracts purchased before 2008. As we saw earlier, the contracts issued between 2004 and 2008 were more likely than contracts issued after 2008 to be in the money in 2011, and the percentage of owners taking withdrawals increases with contract duration and age.[9] Also, fewer contracts had withdrawals in 2011 that were purchased recently by older owners age 70 and over (Figure 1-17 and Figure 1-18).

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. During this time period, nearly all of these contracts were in the money in years 2009, 2010, and 2011, yet we did not observe any 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, when the contracts' account values were likely to be well below their benefit bases following the major drop in contract values in 2008. Instead, as we explained, attained age and the need for RMDs for IRA contracts explained much of the pattern we observed.

Interestingly, there are no significant differences in withdrawal rates by in-the-money status even when the contracts are split by funding sources (i.e., qualified or nonqualified assets).[10]

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-only contracts. Companies report that nearly a quarter (24 percent) of GLWB contracts had payouts based on joint lives.

24% of GLWB contracts had payouts based on joint lives.

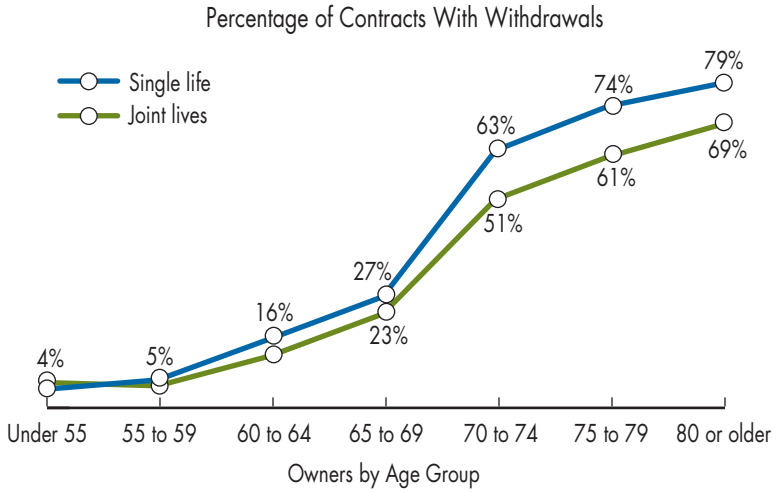
[9] In a separate analysis, we controlled for year of issue and assessed the impact on the in-the-moneyness result. Some of these results are based on small samples where a single company dominates the result and thus were unreportable; however, it is clear that year of issue (and indirectly, age) accounts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

[10] We did the same analysis for contracts issued before 2009 and still remaining in force at the end of 2009, when more than 90 percent of the contracts were in the money, with similar results.

Overall, 22 percent of single life contract owners took withdrawals in 2011 compared to 19 percent of joint lives contract owners. The percent of IRA owners taking withdrawals from joint lives contracts (21 percent) is slightly lower than the percent of owners taking withdrawals from single life contracts (24 percent). This could be due to the fact that most joint lives payouts are newer features in the contracts, and that joint lives payout rates were typically lower.

For GLWB contracts funded with qualified savings, issued before 2011 and still in force at the end of 2011, the percent of owners taking withdrawals was higher for single-life contracts with owners aged 70 or over (Figure 1-37). However, there was no appreciable difference in withdrawal activity among contracts for owners under age 70.

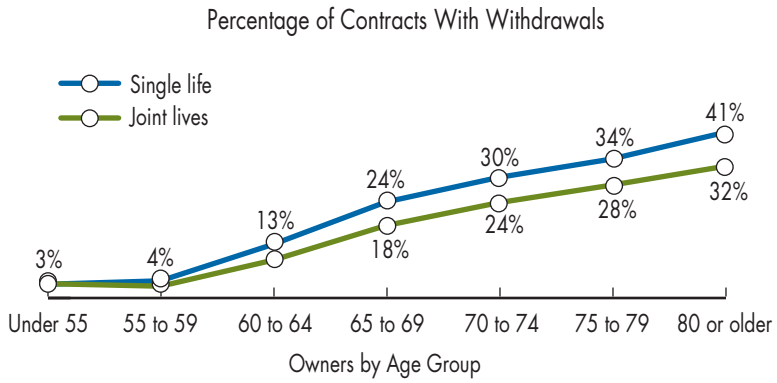
Figure 1-37: GLWB Withdrawal Rates for Single and Joint Lives Contracts (IRA)



Note: Based on 998, 299 GLWB qualified contracts issued in or before 2011 and still in force at the end of 2011. Percentages refer to the number of contracts in each category that had partial withdrawals during 2011.

However, in nonqualified GLWB contracts, for almost all age groups, the percent of owners taking withdrawals is lower in joint life contracts than in single life contracts (Figure 1-38).

Figure 1-38: GLWB Withdrawal Rates for Single and Joint Lives Contracts (NQ)



Note: Based on 482,456 GLWB nonqualified contracts issued in or before 2011 and still in force at the end of 2011. Percentages refer to the number of contracts in each category that had partial withdrawals during 2011.

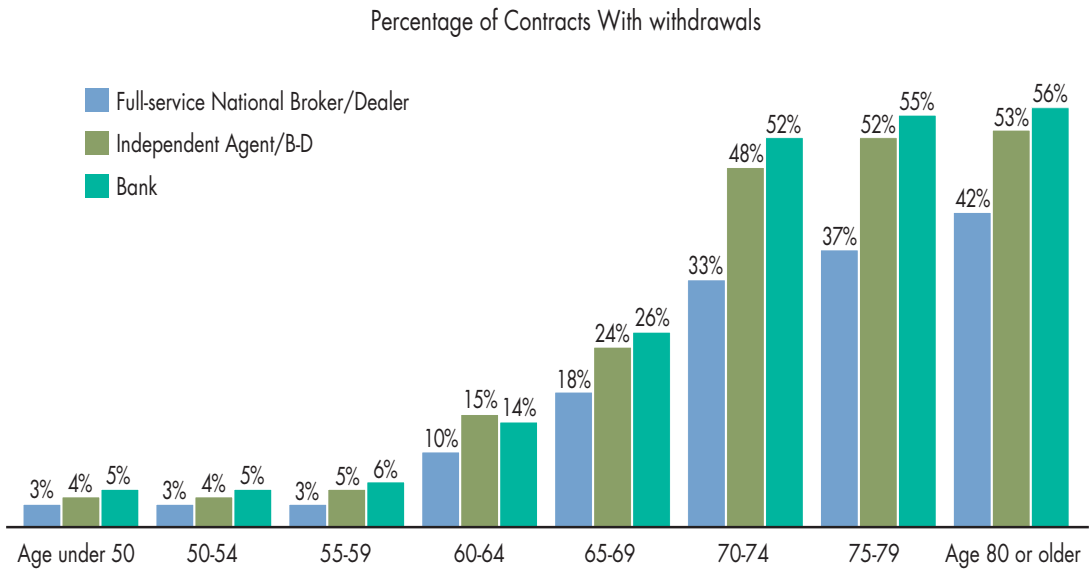
Lower payout rates in joint lives contracts, lack of consumer knowledge regarding the risk of outliving a spouse/partner, and newer designs may be reasons why owners are taking fewer withdrawals from joint lives contracts than from single life contracts.

Withdrawal Activity by Channel

The percent of GLWB owners aged 65 or over taking withdrawals in 2011 was highest in the bank channel.

If we look at distribution channels, we find more bank GLWB owners took withdrawals in 2011 than in any other channel (Figure 1-39). Overall, 24 percent of bank channel owners took withdrawals, 3 percent higher than in the independent B-D channel (21 percent). Full-service national B-D channel experienced the lowest overall percentage of owners taking withdrawals (17 percent).

Figure 1-39: GLWB Withdrawal Rates by Distribution Channels



Note: Based on 1,474,333 GLWB contracts issued before 2011 and still in force at the end of 2011. Percentages refer to the number of contracts in each category that had partial withdrawals during 2011. We have not shown other measures like percent of owners taking withdrawals in Career and 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 seen before — the percent of owners taking withdrawals remains modest up to age 69; then at age 70 and over the percent of owners taking withdrawals increases, once again, due to RMDs.

Utilization for Contracts Issued in 2011

Withdrawal activity for contracts issued in 2011 (and still in force at the end of the year) was less common than among contracts issued before 2011 (Table 1-17). Overall, 6.5 percent of contracts issued in 2011 had some withdrawal activity; 5.4 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 4 percent of contracts had begun withdrawals. After 11 months (contracts issued in February), 7 percent had withdrawal activity.

Table 1-17: GLWB Utilization by Month of Issue, Contracts Issued in 2011

Month Issued	Percent With Partial Withdrawal	Median Amount Withdrawn	Median Amount Withdrawn, Annualized*
January	N/A	N/A	N/A
February	7%	$4,433	$4,835
March	8%	$3,879	$4,655
April	8%	$3,676	$4,901
May	8%	$3,398	$5,097
June	8%	$2,781	$4,767
July	8%	$2,342	$4,684
August	7%	$1,941	$4,658
September	7%	$1,446	$4,338
October	6%	$986	$3,944
November	4%	$651	$ 3,906
December	1%	N/A	N/A
Total	**6%**	**$2,712**	**$4,648**

Note: Based on 24,864 contracts out of 384,761 contracts issued in 2011 that had partial withdrawals. We have shown some measures as N/A 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 amounts were annualized by multiplying them by 12 / (13 – months since beginning-of-year).

The median amount withdrawn during 2011 was $2,712; withdrawal amounts were highest among contracts issued earlier in the year. When the amounts withdrawn are annualized, the median values are generally between $4,000 and $5,100, which represent about 5 percent of current-year premium and closely resemble the results for contracts issued in earlier years.

Utilization by Selected Characteristics

Utilization of GLWBs varies substantially across a variety of owner, contract, and benefit characteristics for contracts issued before 2011 (Table 1-18). These patterns are consistent across utilization measurements, such as the percent of contracts with systematic withdrawals or the withdrawal rate weighted by contract value.[11]

Table 1-18: GLWB Utilization by Selected Characteristics

	Unweighted		Weighted by BOY 2011 Contract Value	
	Partial withdrawals	Systematic withdrawals	Partial withdrawals	Systematic withdrawals
Age of owner				
Under 50	4%	0%	5%	2%
50 to 54	4%	1%	5%	3%
55 to 59	5%	2%	7%	5%
60 to 64	13%	9%	16%	14%
65 to 69	23%	18%	26%	22%
70 to 74	45%	35%	45%	34%
75 to 79	48%	39%	48%	36%
80 or older	50%	42%	48%	41%
Market type				
IRA	22%	16%	25%	19%
Nonqualified	18%	15%	20%	17%
Gender				
Male	20%	15%	23%	18%
Female	21%	16%	23%	18%
Distribution channel				
Independent B-D	21%	17%	25%	20%
Full service Nat'l B-D	17%	13%	18%	17%
Bank	24%	18%	27%	21%
Contract value, end of 2011				
Under $25,000	17%	11%	24%	12%
$25,000 to $49,999	20%	15%	23%	16%
$50,000 to $99,999	21%	16%	23%	17%
$100,000 to $249,999	20%	16%	22%	18%
$250,000 to $499,999	23%	19%	24%	20%
$500,000 or higher	22%	18%	23%	18%

[11] This measure of utilization should not be equated with the percentage of contract value withdrawn.

Table 1-18: GLWB Utilization by Selected Characteristics *(continued)*

	Unweighted		Weighted by BOY 2011 Contract Value	
	Partial withdrawals	Systematic withdrawals	Partial withdrawals	Systematic withdrawals
Asset allocation restrictions				
Forced asset allocation model	21%	15%	24%	18%
Limitations on fund selection & other restrictions	25%	20%	29%	23%
Dynamic asset allocation model	17%	14%	20%	17%
May restrict asset allocations	20%	14%	21%	15%
No restrictions	32%	25%	40%	32%

Note: Based on 1,474,977 GLWB contracts issued before 2011 and still in force at the end of 2011. 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 some measures related to 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.

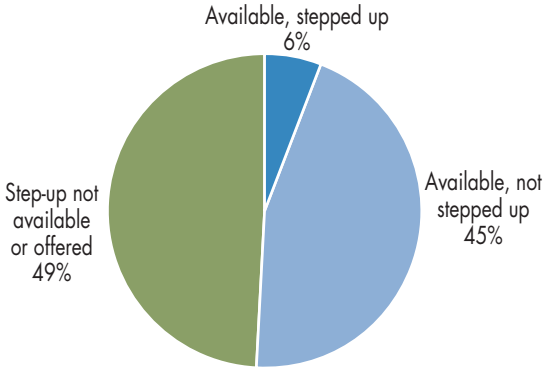
- Older owners are much more likely to take withdrawals, especially systematic withdrawals, than are younger owners. In part, this activity reflects RMDs from IRAs after age 70½. Overall utilization is only slightly higher among VA owners in IRAs (22 percent) than nonqualified VA owners (18 percent).
- Differences across channels in part reflect the age profiles of their customer bases. For example, a larger proportion of bank-issued contracts than independent B-D issued contracts are owned by individuals aged 70 or older, 24 percent vs. 21 percent, respectively.
- Owners with larger VA contract values are slightly more apt to take withdrawals than owners with smaller contract values.

Step-Up Activity

All GLWB contracts allow owners to step up the value of their benefit bases one or more times if their contract values, through positive market performance, increase above the level of the benefit bases. Sometimes the use of these features results in an increase in fees. In general, these step-up options are time-bound; the owner most often needs to choose to step up during specified contract anniversaries, or sometimes must wait several years before the first step-up opportunity while others offer automatic step-ups. Therefore, not all contracts were able to step up the values of their benefit bases during 2011.

- Fifty-one percent of owners had step-up options available during 2011. Only 12 percent of these contracts stepped up their benefit bases (Figure 1-40). Almost all step-ups occurred in contracts where the benefit base was less than 100 percent of the account value.

Figure 1-40: GLWB Step-Up Activity



Note: Based on 815,952 GLWB contracts issued before 2011 and still in force at the end of 2011. "Step-up not available" includes contracts with step-up options that did not allow step-ups during 2011.

- Owners who chose to step up their benefit bases raised their benefit base on average by 7.1 percent (median 7.6 percent). However if the step-up was available, but the owner chose not to step up, their benefit base grew on average 2.8 percent until the anniversary date. This analysis was based on a limited number of contracts that received no premium and took no withdrawals (in order to determine actual investment performance).

Table 1-19 shows step-ups in contracts were availed mostly by younger owners as well as from contracts issued in 2009. Also owners with higher value contracts are more likely to take advantage of the benefit of step-ups when available.

Table 1-19: GLWB Step-Ups by Selected Characteristics

	Percent of Contracts			
	Available, stepped up	Available, not stepped up	Not available during the year	Step up not offered
Age of owner				
Under 50	11%	53%	30%	6%
50 to 54	10%	43%	38%	9%
55 to 59	7%	43%	41%	9%
60 to 64	6%	44%	41%	9%
65 to 69	5%	45%	41%	9%
70 to 74	4%	45%	41%	10%
75 to 79	4%	45%	41%	10%
80 or older	3%	50%	43%	4%
Contract value, beginning of 2011				
Under $25,000	7%	56%	27%	10%
$25,000 to $49,999	6%	47%	38%	9%
$50,000 to $99,999	6%	44%	41%	9%
$100,000 to $249,999	6%	42%	44%	8%
$250,000 to $499,999	7%	41%	44%	8%
$500,000 or higher	8%	38%	47%	7%
Issue year of contracts				
2005	2%	77%	16%	5%
2006	1%	57%	28%	14%
2007	1%	50%	37%	12%
2008	8%	45%	35%	12%
2009	14%	33%	49%	4%
2010	5%	39%	49%	7%

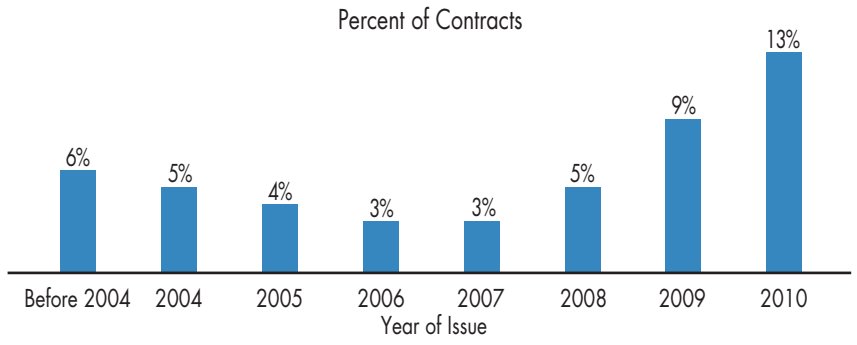
Note: Based on 839 145 GLWB contracts issued before 2011 and still in force at the end of 2011.

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. Among contracts issued before 2011:

- Nearly $4.0 billion were received in additional premium in 2011 for contracts issued before 2011.
- Seven percent received additional premium in 2011. Contracts issued in 2010 were more likely than contracts issued in earlier years to have additional premium (13 percent) as shown in Figure 1-41.
- Younger owners are more likely to add premium than older owners. For example, 13 percent of owners under age 50 added premium, compared with 4 percent of owners aged 70 or older. Ten percent and 8 percent of owners age 50–59 and age 60–64 respectively added additional premium to their contracts in 2011.
- More contracts (8.3 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 certain time limit (4.8 percent).

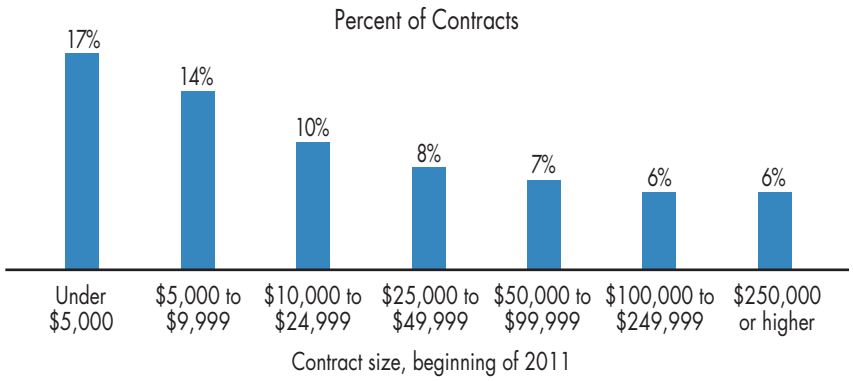
Figure 1-41: GLWB Percentage of Contracts Receiving Additional Premium



Note: Based on 1,515,992 contracts issued before 2011 and still in force at the end of 2011.

Nearly 1 in 6 (17 percent) contracts receiving additional premiums had BOY contract values under $5,000 (Figure 1-42). The average additional premium received in 2011 was $35,452 (median of $10,000).

Figure 1-42: GLWB Percent of Contracts Receiving Additional Premium by Size of Contract



Note: Based on 1,515,992 contracts issued before 2011 and still in force at the end of 2011.

Premiums received for newly-issued and existing contracts far exceed outflows associated with withdrawals, surrenders, deaths, and annuitizations, $46.6 billion and $8.3 billion, respectively (Table 1-20). The total number of GLWB contracts in force grew by over 22 percent during 2011. At year-end, GLWB assets were $207.2 billion, 17 percent higher than $176.9 billion at the beginning of 2011.

Table 1-20: GLWB Net Flows

	Dollars (billions)	Contracts	Average contract size
In force, beginning of 2011	$176.9	1,528,778	$115,736
Premium received			
Newly issued contracts	$42.6	385,098	$110,634
Existing contracts	$4.0	n/a	n/a
Benefits paid			
Partial withdrawals	$3.5	n/a	n/a
Full surrenders	$3.9	45,422	$85,030
Annuitizations	$<0.1	733	$145,725
Death/Disability	$0.8	8,172	$105,198
Investment growth	($8.0)	n/a	n/a
In force, end of 2011	**$207.2**	**1,859,544**	**$111,435**

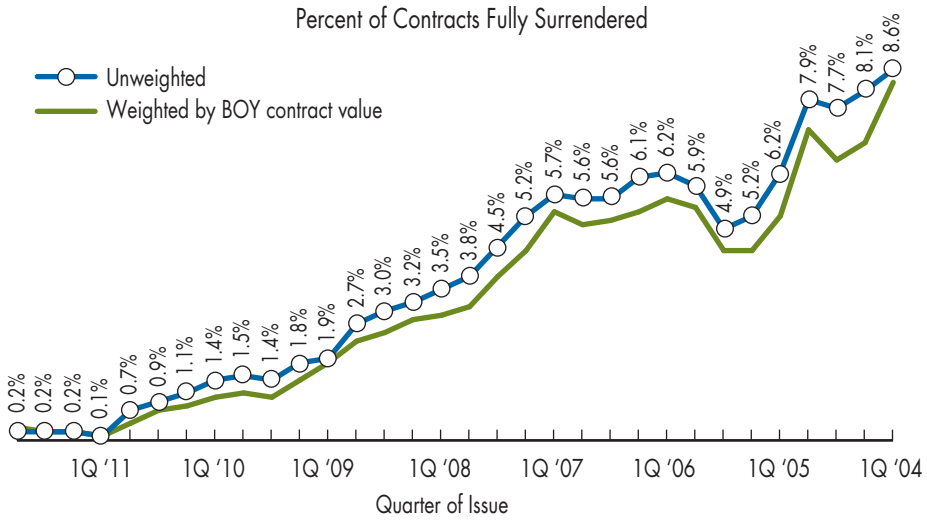
Note: Based on 1,913,876 GLWB contracts in the study. Dollar values for contracts issued before 2011 that terminated during the year were set equal to either the beginning-of-year contract value (if termination occurred before contract anniversary date) or the anniversary contract value (if termination occurred on or after the contract anniversary date). Dollar values for contracts issued in 2011 that terminated during the year were set equal to the current-year premium.

Persistency

2011 GLWB surrender rate remained low at **2.6%,** the same as 2010.

Surrender activity among 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 are taking withdrawals regularly, then insurers may have payouts that are larger or longer than anticipated. On the other hand, the presence of living benefits on VAs may lead owners to keep their contracts beyond the surrender penalty period, thereby keeping more of an insurer's fee-generating assets under management. This tendency could occur even when benefits are not currently 'in the money,' because the benefit provides the owner with a hedge against future losses.

Figure 1-43: GLWB Surrender Rate by Quarter of Contract Issue



Note: Based on 1,721,226 GLWB contracts issued in 2011 or earlier. For a description of the surrender rate calculation method, please see Appendix A.

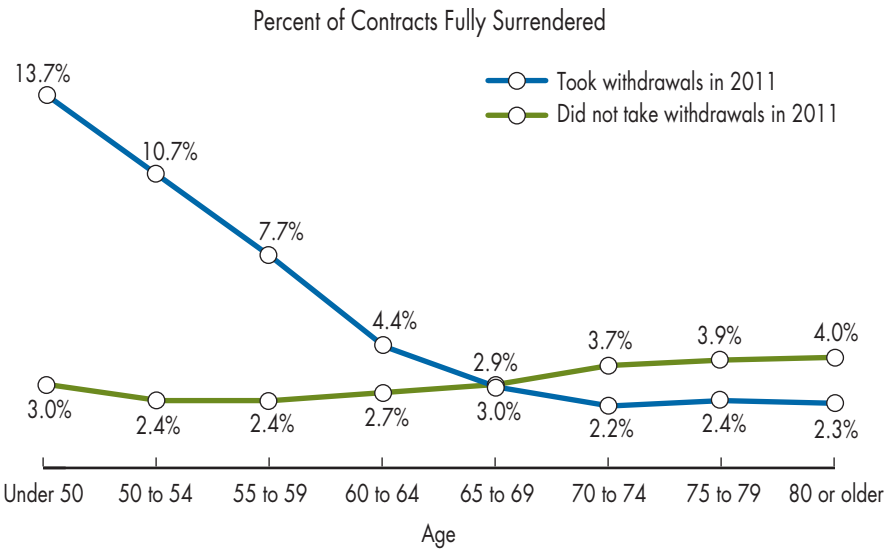
Surrender rates for VAs with GLWBs in 2011 were relatively low, even among contracts issued 5 years earlier (Figure 1-43). Across all contracts, only 2.6 percent surrendered during 2011, almost unchanged from the surrender rate experienced in 2010. The contract surrender rates in 2011 were a bit higher than 1.8 percent experienced in 2009. For business issued before 2011, cash value surrender rates were 2.2 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 2.4 percent in 2011.[12]

[12] Based on analysis of LIMRA's U.S. Annuity Persistency Survey data.

Surrender Activity of Owners Taking Withdrawals

Higher surrender rates are associated with younger owners, particularly those under age 60 who took withdrawals before or in 2011. 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 with occasional withdrawals. Moreover, their average withdrawal amount is much higher, and not likely supported by the guaranteed benefit base in their contracts. It is likely that these younger owners are really taking partial surrenders. These younger owners who took withdrawals in 2011 were also very likely to fully surrender their contracts (Figure 1-44).

Figure 1-44: GLWB Surrender Rate by Owners Taking Withdrawals in 2011



Note: Based on 1,523,374 GLWB contracts issued before 2011.

Fourteen percent of owners under age 50, 11 percent of owners between age 55 and 54, and 8 percent of owners between age 55 and 59 who took withdrawals during 2011 subsequently surrendered their contracts by the end of the year. For this group, their average withdrawal amount was $23,200. Some of these younger owners might have emergency needs, others might have become dissatisfied with their contracts or they were influenced by their advisors to surrender the contracts.

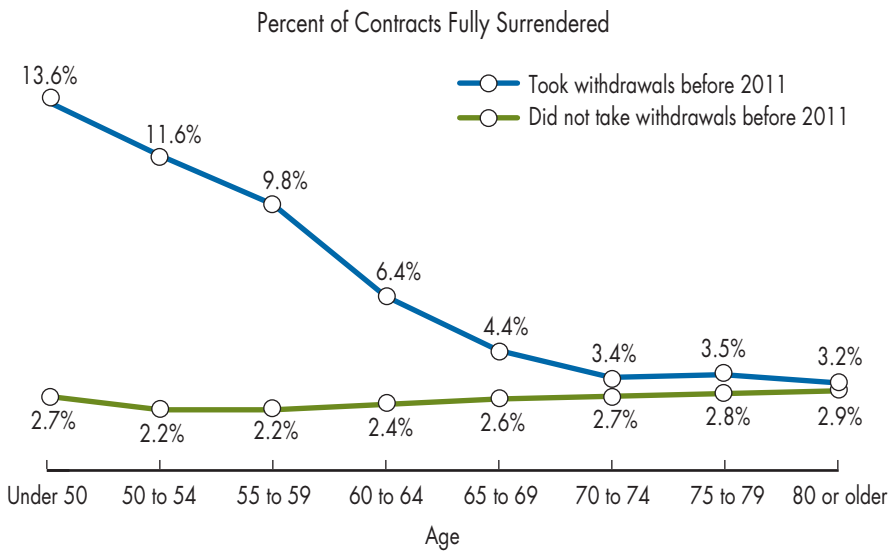
9.5% is the surrender rate among owners under age 60 who took withdrawals in 2011.

2.5% is the surrender rate among owners under age 60 who did not take any withdrawals in 2011.

The surrender rate among owners under age 60 who took withdrawals in 2011 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 2011. The surrender rate (2.8 percent) for owners age 60 or older who took withdrawals in 2011 was slightly lower (3.1 percent) than those from the same age group who did not take withdrawals. Most notably, the surrender rates among owners under age 60 who did not take withdrawals remain very low (2.5 percent).

Past withdrawals can also indicate whether younger owners will fully surrender contracts in future. Figure 1-45 shows the surrender rate for owners who took withdrawals before 2011.

Figure 1-45: GLWB Surrender Rate by Owners Taking Withdrawals Before 2011



Note: Based on 1,429,907 GLWB contracts issued before 2011.

In general, GLWB surrender rates are very low for those who are not taking withdrawals.

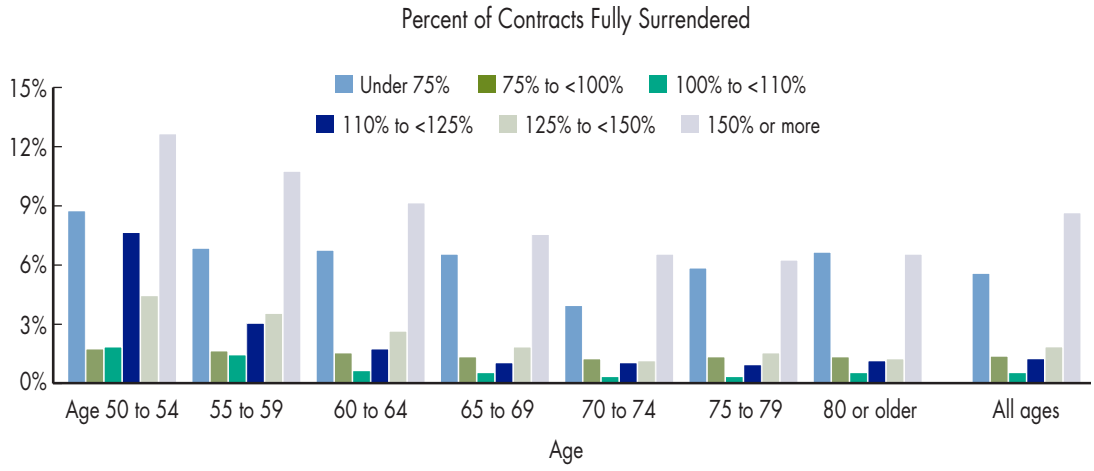
As we have seen before, younger owners are the most likely to take withdrawals that exceed the benefit maximum. We believe that this activity represents an increased likelihood that their contracts will surrender. For contracts where owners under age 60 took withdrawals, either in the current year or in the past years, there was an increased

likelihood they would surrender their contracts (Figure 1-44 and Figure 1-45). However, this increased surrender activity did not occur for owners over age 60 taking out 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 are not taking 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.

Surrender Activity by Owners Taking Withdrawals Exceeding Benefit Maximum

Figure 1-46 shows the surrender rates among owners who have taken withdrawals in 2011 by withdrawal amounts exceeding the benefit maximum. Surrender rates among the owners who have taken withdrawals below 75 percent of the maximum allowed in the contracts and the owners who have taken more than 150 percent of the maximum allowed in the contracts are quite high.

Figure 1-46: GLWB Surrender Rate by Owners Taking Withdrawals in Relation to Benefit Maximum Allowed



Note: Based on 300,011 GLWB contracts issued before 2011 that also had withdrawals in 2011.

The surrender rates show a U-shaped relationship to percent of maximum withdrawn — those with very low and very high ratio of withdrawals to maximum allowed have higher surrender rates than those in the middle categories. Surrender rates among the owners who have taken withdrawals in 2011 of between 75 percent to 125 percent of the maximum withdrawal amount allowed in the contracts is quite low. This is true across all age groups.

81% of all contracts surrendered in 2011 came from owners who withdrew either 75 percent or less, or 150 percent or more, of the maximum withdrawal amount allowed in their contracts.

This group of owners constituted more than 60 percent of all owners who took withdrawals in 2011. As a group, the surrender rate among these owners is very low, only 0.9 percent. Surrender rate is the lowest (0.5 percent) among owners who were taking between 100 percent to <110 percent of the maximum benefit allowed. The owners who withdrew between 125 percent to <150 percent of the maximum withdrawal amount are few, only 3 percent and the surrender rate for them is also low at 1.8 percent.

However, one fifth of all owners who took withdrawals in 2011 were the owners who took <75 percent of the maximum withdrawal amount allowed in the contract. Surrender rate for this group is quite high at 5.5 percent and noticeably high 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. Though these owners are only one fifth of all owners taking withdrawals, they accounted for 43 percent of the value of cash surrenders in 2011.

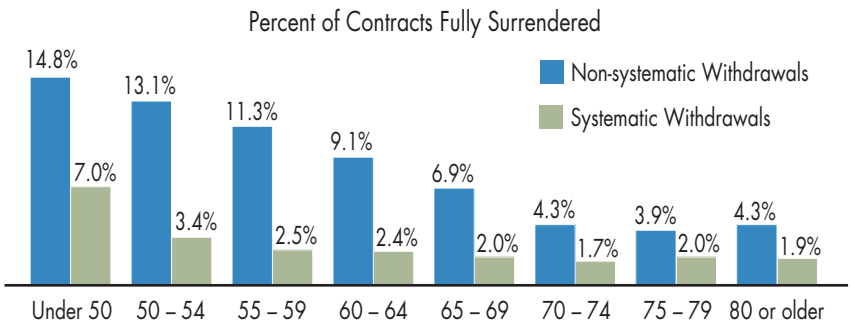
Slightly less than one fifth (17 percent) of GLWB owners took withdrawals of 150 percent or more of the maximum withdrawal amount allowed in their contracts. Surrender rates among these contracts are the highest across all age groups. Their withdrawals were partial surrender of their contracts and most of them surrendered fully before the end of the year. These owners are responsible for almost half (46 percent) of all GLWB contracts surrendered in 2011 and 36 percent of the cash surrender values in 2011.

In summary, the GLWB owners in two extremes — those taking 75 percent or less, or 150 percent or more of the maximum withdrawal amount allowed in their contracts accounted for 35 percent of all owners who took withdrawals in 2011. But they were responsible for 81 percent of contracts surrendered and 80 percent of cash surrender values in 2011. So any withdrawal behavior not in line with maximum withdrawal amount is a reliable indicator of surrender behavior of GLWB owners.

Surrender Activity by Owners Taking Systematic Withdrawals

Another strong indicator of whether owners are likely to surrender the contracts is what method they use for their withdrawals — whether systematic or non-systematic. We have seen before the owners who are using systematic withdrawals are less likely to take more than the benefit maximum and most excess withdrawals are being made by younger owners.

Figure 1-47: GLWB Surrender Rate by Withdrawal Methods



Note: Based on 302,888 GLWB contracts issued before 2011 that also took withdrawals in 2011.

Overall, the surrender rate among owners who took non-systematic withdrawals in 2011 was 7.3 percent while the surrender rate among owners who withdrew systematically was a very low 2.0 percent. Non-systematic withdrawals are often above or below the benefit maximum withdrawal value; and, since non-systematic withdrawals are linked with younger owners, it is highly indicative of higher surrender rates, especially among owners at younger ages (Figure 1-47).

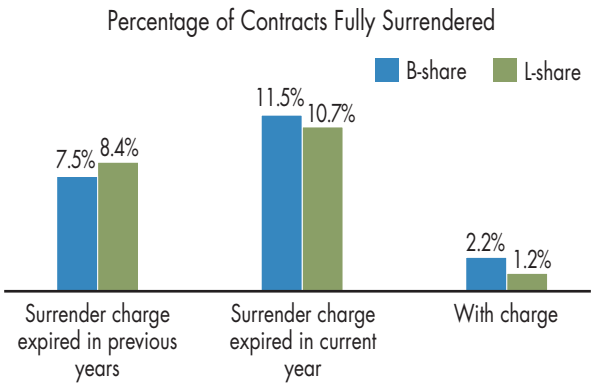
GLWB surrender rates are **7.3%** among owners who are taking non-systematic withdrawals compared to **2.0%** among owners who took withdrawals systematically in 2011.

Owners using a non-systematic withdrawal method accounted for a quarter of all owners taking withdrawals, but they account for over 55 percent of all surrendered contracts and half of cash surrender values in 2011. Surrender rates among older owners who were taking non-systematic withdrawals are also nearly double than older owners who were taking systematic withdrawals.

Surrender Activity by Share Class

Looking at the surrender rates by the presence of surrender charges shows that persistency among contracts with surrender charges is higher than in contracts without surrender charges. Almost all (98 percent) of B-share contracts and more than two-thirds (68 percent) of L-share contracts were within the CDSC periods in 2011. With B- and L-share combined, 86 percent of these GLWB contracts were under surrender penalty. The surrender rates for B-share and L-share contracts with a surrender charge are 2.2 percent and 1.2 percent respectively. The overall surrender rate for B-share and L-share contracts that did not have surrender charges or came out of the surrender charge period was 9.6 percent compared with 1.9 percent for contracts that had surrender charges. Figure 1-48 shows the surrender rates for contracts by share classes.

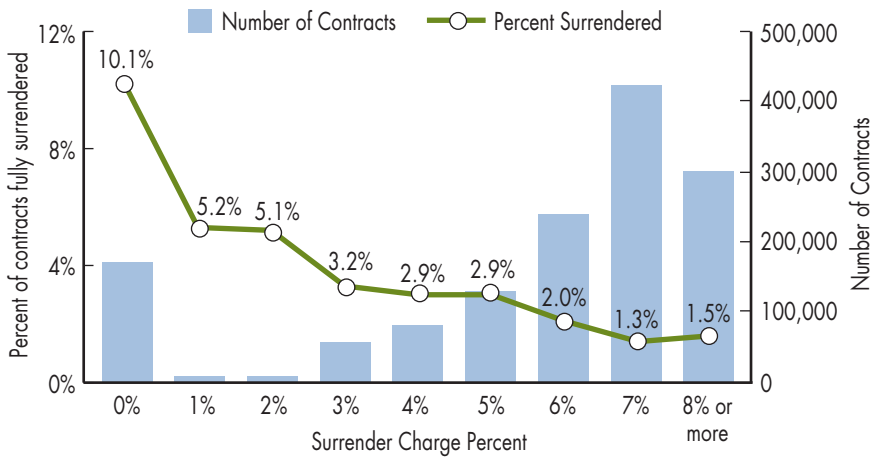
Figure 1-48: GLWB Surrender Rate by Share Classes



Note: Based on 1,327,927 B-share and L-share GLWB contracts issued before 2011. We have not shown some measures related to other 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.

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 (Figure 1-49). At the end of 2011, more than 80 percent of the contracts (nearly 1.2 million contracts) had surrender charges of 4 percent or more. Only 12 percent of the contracts (around 170,000 contracts) were free of surrender charges.

Figure 1-49: GLWB Surrender Rate by Surrender Charge Percent

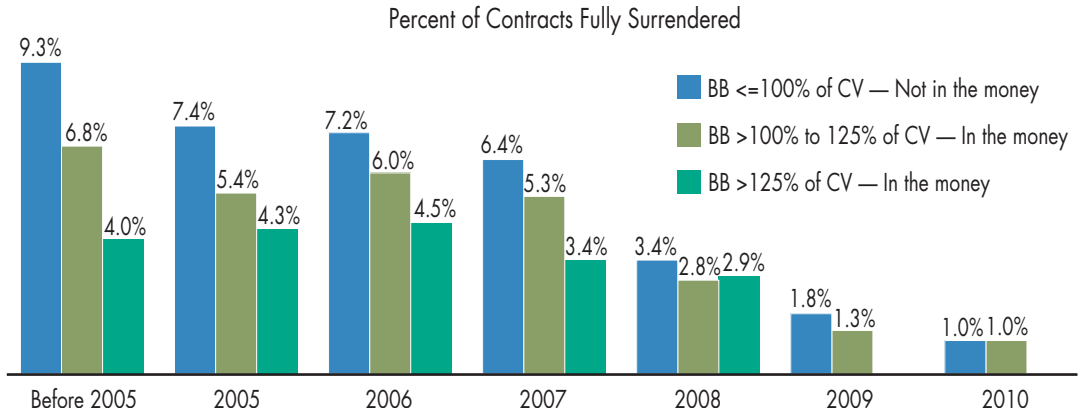


Based on 1,413,652 GLWB contracts issued before 2011. This analysis excludes C-share and other types of contracts that did not have any surrender charge schedule.

Surrender Activity by Degree of in-the-Moneyness

Another important analysis of the surrenders rates involves whether the contracts are in the money or not. Surrender rates for all issue years are lower when the contracts are in the money (Figure 1-50).

Figure 1-50: GLWB Surrender Rate by Degree of in-the-Moneyness



Note: Based on 1,494,868 GLWB contracts issued before 2011. We have not shown some measures related to issue year 2009 and 2010 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.

However, the results need to be evaluated with the real situation. First of all, not many contracts, particularly contracts issued before 2008, were 'not in the money' at the beginning of 2011 where the benefit base was lower than the contract value. Second, the benefit base of these contracts being lower than their account value were most likely caused by when owners took withdrawals exceeding the benefit maximums, resulting in pro-rata adjustments. Contracts that were in the money were most likely the contracts where owners were taking withdrawals within the benefit maximums, or through SWPs, or where owners have not yet started their withdrawals. Looking at the surrender rates only from the degree of moneyness may not be an adequate measure in understanding the persistency risk. We have already seen owners' surrender behavior is closely connected with their withdrawal behavior.

However, insurance companies assume more risk as the business is left with more contracts in the money as a result of less surrender, and as it needs to fulfill its commitment on withdrawal guarantees if the owner decides to start or continue withdrawals.

Insurance companies should consider surrender rates and their strong relationship to owner withdrawal behavior, to allow for better risk management of their book of business. There are some clear conclusions that may impact how companies manage expectations and long-term profitability:

- The overall surrender rates for GLWB contracts are very low.
- Though duration and surrender charge rates present in the contracts influence the persistency, it is customers under age 60 that are taking withdrawals are contributing toward high surrender rates.
- Owners who take too little or too big an withdrawal amount compared to the benefit maximums allowed in the contract are likely to fully surrender the contract subsequently.
- Surrender rate among owners under age 65 who have not started taking withdrawals is very low, and it may be expected that they will use the rider benefits.
- Owners who are taking withdrawals through a 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.

Table 1-21: GLWB Surrender Rates

	Percent of Contracts Surrendered	Percent of Contract Value Surrendered
All contracts issued before 2011	2.6%	2.2%
Year of issue		
Before 2004	5.3%	5.0%
2004	8.1%	7.2%
2005	5.5%	4.9%
2006	5.8%	5.2%
2007	4.7%	4.1%
2008	3.1%	2.6%
2009	1.6%	1.3%
2010	1.0%	0.7%
Age of owner		
Under 50	3.4%	2.6%
50 to 54	2.7%	2.2%
55 to 59	2.7%	2.2%
60 to 64	3.0%	2.4%
65 to 69	3.0%	2.5%
70 to 74	3.1%	2.7%
75 to 79	3.2%	2.9%
80 or older	3.1%	2.6%
Contract value, beginning of 2011		
Under $25,000	5.0%	4.4%
$25,000 to $49,999	3.3%	3.3%
$50,000 to $99,999	2.6%	2.6%
$100,000 to $249,999	2.2%	2.2%
$250,000 or higher	2.4%	2.4%
Gender		
Male	3.0%	2.5%
Female	2.9%	2.4%
Market type		
IRA	2.8%	2.3%
Nonqualified	3.3%	2.9%

Table 1-21: GLWB Surrender Rates *(continued)*

	Percent of Contracts Surrendered	Percent of Contract Value Surrendered
Distribution channel		
Career agent	2.4%	2.0%
Independent B-D	3.2%	2.7%
Full Service Nat'l B-D	2.2%	2.0%
Bank	3.6%	2.9%
Cost structure		
B-share	2.4%	1.8%
L-share	4.0%	3.5%

Note: Based on 1,523,378 contracts issued before 2011. For a description of the surrender rate calculation method, please see Appendix A.

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.

- Although older owners are about as likely to surrender their contracts as younger owners, their contract values tend to be higher (Table 1-21). This situation results in relatively higher contract-value-weighted surrender rates for older age groups.
- GLWBs issued through banks have the highest surrender rates.
- C-share cost structures, which have no surrender charges, tend to have higher surrender rates than B-shares, or L-shares.
- Nearly all contracts issued during 2011 remained in force at the end of that year (99.9 percent).

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 1-22).

Table 1-22: GLWB Product and Benefit Characteristics

	Issued in 2006 or earlier	Issued in 2007	Issued in 2008	Issued in 2009	Issued in 2010	Issued in 2011
Number of contracts:	242,470	255,214	313,446	348,242	369,604	385,098
Avg. mortality and expense charge	1.44%	1.39%	1.40%	1.39%	1.41%	1.30%
Average benefit fee	0.65%	0.67%	0.80%	0.96%	1.01%	1.03%
Average number of subaccounts	63	62	62	73	62	57
Product has fixed account						
Yes	76%	81%	84%	95%	98%	97%
No	24%	19%	16%	5%	2%	3%
Product still available as of 12-31-11						
Yes	31%	32%	33%	36%	79%	98%
No	69%	68%	67%	64%	21%	2%
Rider still available as of 12-31-11						
Yes	13%	16%	26%	60%	82%	98%
No	87%	84%	74%	40%	18%	2%
Cap on benefits						
Yes	23%	36%	32%	29%	32%	34%
No	77%	64%	68%	71%	68%	66%
Benefit fee basis						
Account value	32%	19%	5%	5%	8%	14%
Benefit base	40%	68%	90%	94%	91%	56%
VA subaccounts	26%	12%	5%	1%	1%	30%
Other	2%	1%	0%	0%	0%	0%
Average maximum age at election	88	85	85	89	90	86
Average minimum age at onset of lifetime benefits	56	58	58	53	52	51
Average maximum age at onset of lifetime benefits	98	98	98	96	96	95

Table 1-22: GLWB Product and Benefit Characteristics *(continued)*

	Issued in 2006 or earlier	Issued in 2007	Issued in 2008	Issued in 2009	Issued in 2010	Issued in 2011
Asset allocation restrictions						
Forced asset allocation model	42%	44%	36%	30%	30%	36%
Limitations on fund selection	9%	4%	5%	6%	8%	9%
Other restrictions	12%	21%	28%	9%	4%	4%
May restrict allocations	7%	9%	10%	12%	12%	11%
No restrictions	0%	0%	0%	0%	0%	0%
Dynamic asset allocation	30%	22%	20%	43%	46%	40%
Step-up availability*						
Quarterly or more frequently	6%	13%	22%	3%	0%	0%
Annually	90%	86%	77%	96%	100%	100%
Every 3 years	2%	0%	0%	0%	0%	0%
Every 5 years	2%	1%	1%	1%	0%	0%
Benefit base automatically increases if withdrawals are deferred						
Yes, based on simple interest	35%	29%	27%	21%	26%	33%
Yes, based on compound interest	36%	34%	55%	68%	68%	63%
No	29%	37%	18%	11%	6%	4%
Payments can continue to spouse after owner's death						
Yes	33%	53%	65%	60%	61%	66%
No	67%	47%	35%	40%	39%	34%
Maximum annual withdrawal percent						
3% or under	0%	0%	0%	1%	4%	11%
>3% to 4%	3%	3%	5%	26%	37%	34%
>4% to 5%	59%	61%	66%	53%	46%	43%
>5% to 6%	4%	6%	9%	8%	12%	12%
>6% to 7%	34%	29%	20%	11%	1%	1%
>7%	0.0%	0.0%	0.2%	0.1%	0.0%	0.0%
Impact on benefit base if excess withdrawals are taken						
Pro rata	91%	88%	92%	92%	91%	90%
Dollar-for-dollar	9%	11%	7%	12%	13%	17%
None if RMDs from IRA	89%	86%	89%	88%	88%	98%
Other	22%	37%	39%	32%	32%	27%
Among contracts with maximum charge info provided						
Standard rider charge	0.70%	0.67%	0.80%	0.96%	1.01%	1.04%
Maximum rider charge	1.36%	1.45%	1.52%	1.51%	1.60%	1.58%

*If the benefit fee was based on the higher of contract or account value, then the basis categorization was determined for each individual contract.

**Among contracts that allowed multiple step-ups

Note: Based on 1,891,509 GLWB contracts issued in 2011 or before

Key Findings

- The average buyer in 2011 paid about 233 basis points for a VA with a GLWB, as a percentage of contract value, VA subaccounts, or benefit base values. Including contracts issued in 2011, the average total contract fee was 232 basis points.
- Most contracts — especially those issued more recently — 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.
- On average, owners who bought contracts in 2011 can take lifetime benefits as early as age 51 and can elect the GLWB until they reach age 86. However, some allow lifetime benefits to begin as early as age 45 or as late as age 99; maximum election ages range from 75 to 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 all contracts with GLWBs have spousal lifetime withdrawal privileges.
- Six in 10 GLWB contract designs offer compound-interest growth of the benefit base if withdrawals are not taken.
- While nine of 10 VAs with GLWB issued before 2009 allowed 4 percent or more annual withdrawal maximums, companies were issuing a larger percentage of contracts with lower payout rates in 2009. In 2011, almost half (45 percent) of the contacts issued had maximum payouts under 4 percent.
- Withdrawals that exceed annual maximums lead to reductions in benefit bases or loss of lifetime guarantees. In 90 percent of the contracts, 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). Only 17 percent reduce benefit bases on a dollar-for-dollar basis (usually up to the annual growth of the benefit base). Almost all contracts issued in 2011 allowed excess withdrawals if these satisfy RMDs.

Chapter Two

2011 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 until the guaranteed payments were exhausted, even if the contract value itself had already fallen to zero. The benefit base was usually the sum of premium payments and there was no lifetime guarantee. Later versions enhanced the benefit base to include step-ups or bonuses prior to withdrawals or optional step-ups to reflect investment growth after withdrawals have commenced.

Although not guaranteed for life, a GMWB contract can be effectively used by investors to provide guaranteed period-certain payments, while keeping the flexibility of control over assets and remaining invested in the market. Also, the maximum annual withdrawal amount (as a percentage of the benefit base) for a GMWB is generally higher than that of a GLWB.

During the last few years, there was little innovation with GMWB riders. New sales for GMWB riders remained stuck at low levels. New sales of GMWBs in 2011 were $2.2 billion; and election rates, when any GLB was available, remained low, around 2 to 3 percent.[13] From 2007–2008, GMWBs enjoyed an election rate ranging from 6 to 9 percent. With lifetime withdrawal guarantees becoming more popular, the period-certain withdrawal guarantee has become almost nonexistent.

This chapter is based on $20.8 billion of annuity assets from 198,525 GMWB contracts issued by 12 companies. Of these contracts, 191,291 were issued before 2011 and were in force as of December 31, 2011. LIMRA estimates that industry GMWB assets totaled $39 billion at the end of 2011. This study represents 53 percent of industry GMWB assets from a total of 22 GMWB riders introduced between 2000 and 2011.

13 *Variable Annuity Guaranteed Living Benefits Election Tracking. 4th Quarter 2011,* LIMRA, 2012.

Benefit Base

At the beginning of 2011, 57 percent of contracts with GMWBs issued before 2011 had benefit bases that exceeded contract values (i.e., were 'in the money'). Of these contracts, the average difference between the benefit base and contract value was approximately $6,000. On average, contract values were around 95 percent of the benefit bases (Table 2-1).

Table 2-1: GMWB Benefit Bases and Contract Values, at the Beginning of 2011

	Benefit Base Amount	Contract Value	
		Amount	Percent of benefit base
Sum	$21,433,236,668	$20,342,837,684	95%
Average	$117,932	$111,933	95%
Median	$75,096	$72,824	97%
Percent of contracts where benefit base > contract value		57%	

Note: Based on 181,742 contracts issued before 2011. Excludes contracts for which the GMWB benefit bases could not be determined.

Table 2-2: GMWB Benefit Bases and Contract Values, Year-End 2011

	Benefit Base Amount	Contract Value	
		Amount	Percent of benefit base
Sum	$22,391,170,139	$20,014,993,864	89.4%
Average	$117,140	$104,709	89.4%
Median	$74,587	$67,714	90.8%
Percent of contracts where benefit base > contract value		75%	

Note: Based on 191,148 contracts issued before 2011. Excludes contracts for which the GMWB benefit bases could not be determined.

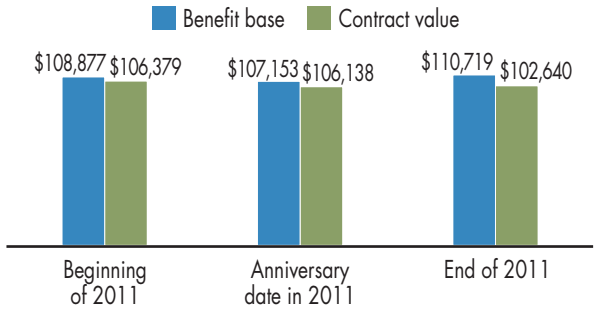
75% percent of contracts were in-the-money at year-end 2011.

In 2011, the S&P 500 index experienced zero percent return. In the absence of any equity gains, the value of many GMWB contracts went down because of fees, withdrawals taken on some contracts during the year, and conservative or balanced asset allocation restrictions. As a result, a significant proportion of contracts (75 percent) were in the money (Table 2-2). The average difference between the benefit base and contract value deteriorated to $12,431 by year end from $6,000 at the beginning of the year. On average, contract values were around 89.4 percent of the benefit bases, a significant decline from the beginning of the year. At the end of 2011, the average benefit base and contract value stood at $117,100 and $104,700 respectively for all GMWB contracts.

Benefit Base for Contracts With Withdrawals vs. Without Withdrawals

For in-force contracts issued before 2011 that did not have withdrawals in 2011, the benefit base rose slightly from $108,900 to $110,700 by year end, up 2 percent (Figure 2-1). Such a minor increase in the benefit base is primarily because few GMWB riders offered an automatic increase of benefit bases in case of non-withdrawals. The fact is evident in the anniversary values of these contracts which remained static at beginning-of-year levels. On the other hand, the contract values, in absence of equity market gains in 2011, fell 4 percent by year end, even when there were no withdrawals.

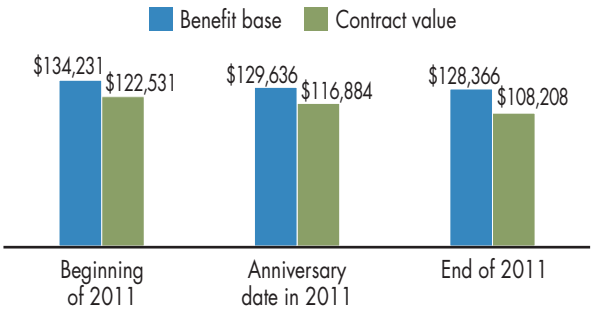
Figure 2-1: GMWB Contract Value and Benefit Base for Contracts Without Withdrawals



Note: Based on 94,741 contracts issued before 2011 and still in force at the end of 2011 where there were no withdrawals made or current year premium received. Excludes contracts for which the GMWB benefit bases or contract values on anniversary days could not be determined.

For GMWB contracts that incurred withdrawals in 2011, the average benefit base dropped 4 percent from $134,200 at the beginning of year to $128,400 at year end. The average contract value decreased 12 percent during the year, lagging the benefit base by more than $20,000 (Figure 2-2).

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



Note: Based on 71,480 contracts issued before 2011 and still in force at the end of 2011 where there were withdrawals made, but no current-year premium received. Excludes contracts for which the GMWB benefit bases or contract values on anniversary dates could not be determined.

Withdrawal Activity

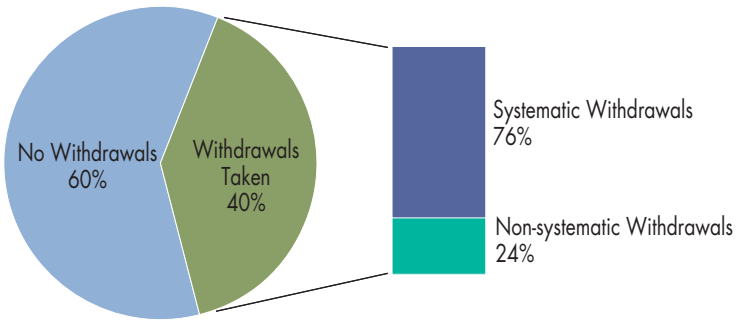
Overall Utilization for Contracts Issued Before 2011

For contracts with GMWB riders issued before 2011 and still in force at the end of the year, 40 percent had at least some withdrawal activity during 2011 (Figure 2-3). Seventy-six percent of these contracts had systematic withdrawals.

40% of GMWB contracts had at least some withdrawal activity during 2011.

Withdrawal activity in two consecutive years is a more reliable indicator of a contract owner's intention to make ongoing annual withdrawals. Of those contracts issued in 2010 with withdrawal activity in 2010, 96 percent had withdrawal activity in 2011. This high percentage indicates that owners who have commenced withdrawals are likely to continue utilizing the withdrawal benefit rider.

Figure 2-3: GMWB Overall Utilization of Withdrawals



Note: Based 191,291 GMWB contracts issued before 2011 and still in force at the end of 2011.

Based on 77,282 GMWB contracts issued before 2011 and remaining in force at the end of 2011, with withdrawals in 2011:

$6,200 was the median withdrawal amount from GMWB contracts in 2011.

- Total withdrawals amounted to nearly $856 million from 77,260 GMWB contracts.
- The median withdrawal amount was $6,174 or around 7.5 percent of the median contract value of $81,500 at the beginning of year. The average withdrawal amount was $11,082 or 9.0 percent based on the average beginning-of-year contract value of $123,084.
- The median systematic withdrawal amount was $5,888. The mean was $8,851.
- Among contracts with partial withdrawals, the median amount withdrawn was $6,000, representing 7.4 percent of the median beginning-of-year contract value of $81,215.

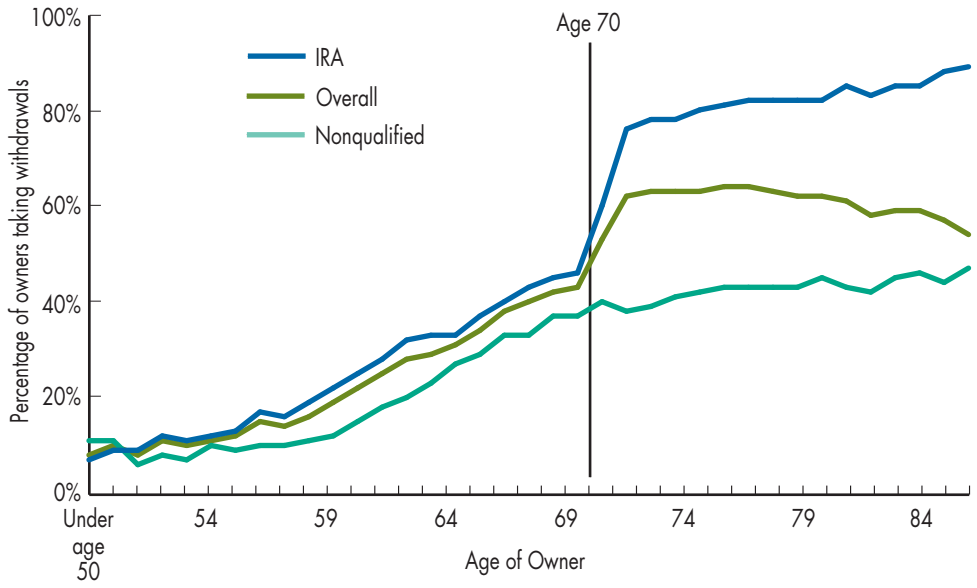
Using a constant group of 10 companies that provided data in last year's utilization study, overall utilization rates rose in 2010 for contracts that were in force for an entire year. Utilization rates in 2009 were 33 percent for contracts sold before 2009 and remaining in force that year; utilization rates in 2010 were 39 percent for contracts sold before 2010 and remaining in force in 2010. The overall utilization rate (40 percent) among all GMWB owners in 2011 was relatively unchanged from 2010. It should be noted here that withdrawal utilization rates in 2009 were greatly impacted by relaxation of required minimum distribution (RMD) rules in 2009, so many IRA annuity owners over age 70½ deferred their withdrawals.

Withdrawal Activity by Source of Funds

The percent of older GMWB owners taking withdrawals approached **90%** for annuities purchased with qualified money.

The analysis of withdrawals by GMWB owners by 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 in GMWB contracts over the past two years has been around 40 percent. Examining withdrawal activity by source of funds and owner age, we see that the 2011 GMWB utilization rate was in fact quite high for certain customer segments (Figure 2-4).

Figure 2-4: GMWB Utilization by Source of Funds and Age of Owners



Note: Based on 191,290 GMWB contracts issued before 2011 and still in force at the end of 2011. Percentages refer to the number of contracts in each age that had partial withdrawals during 2011.

Withdrawal rates for customers under age 70 who used either qualified or nonqualified money to buy their contracts remained under 50 percent. After age 70, the need for RMDs from qualified GMWB annuities forces owners to take withdrawals and the withdrawal rate quickly jumps quickly to near 80 percent by ages 71–72. The percent of these customers withdrawing then slowly rises to 90 percent by age 85.

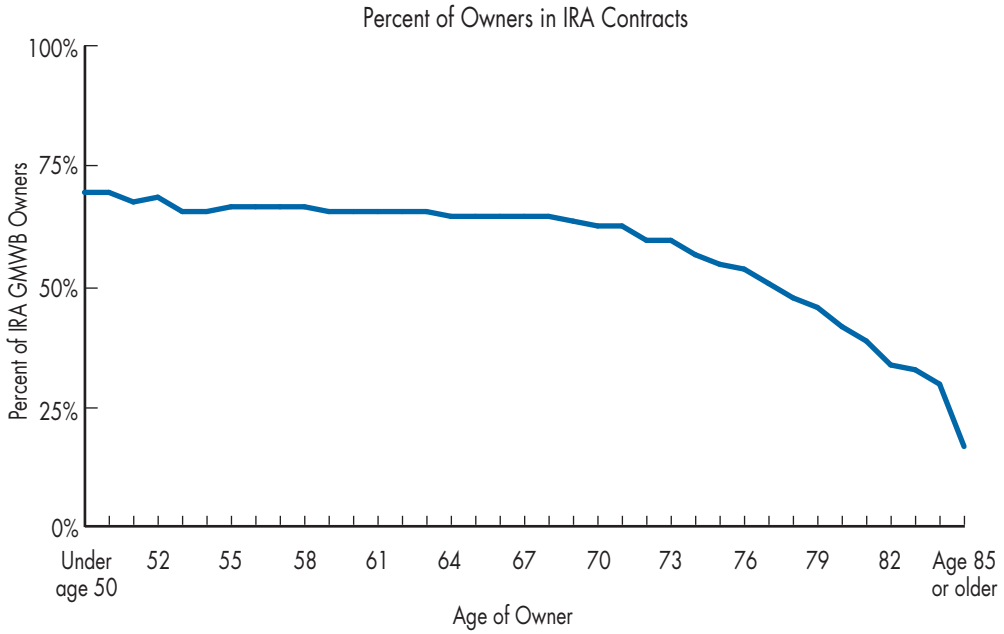
GMWB owners are less likely to take withdrawals if they use nonqualified money. Nonetheless, there is a steady increase in the proportion of owners who take withdrawals as they advance in age. The percent of customers withdrawing at age 85 approached nearly 50 percent.

59% of all GMWB contracts were qualified by year-end 2011.

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 owners age.

By the end of 2011, qualified GMWB contracts constituted 59 percent of all GMWB contracts (112,467 contracts out of a total of 191,290), while 41 percent of GMWB contracts were sourced from nonqualified savings. However, qualified contracts are more likely to have owners younger than age 70 (Figure 2-5).

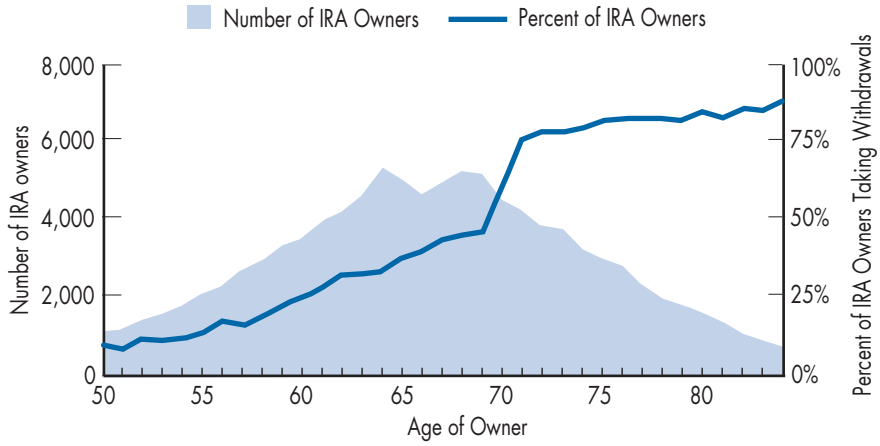
Figure 2-5: GMWB Contracts Funded by Qualified Savings



Note: Based on 191,290 GMWB contracts issued before 2011 and still in force at the end of 2011.

This reflects broader industry developments, with annuities increasingly being funded with qualified money by younger owners from rollovers from retirement plans. Seventy percent of owners under age 50 have funded their GMWB annuities with qualified money. Nearly two thirds of GMWB contracts (78,300 contracts) are sourced by qualified funds, for owners aged 70 or less. At the end of 2011, there were 34,200 GMWB owners over age 70 (less than one third of total IRA owners) who funded their contracts with qualified money. However, there were 38,400 nonqualified GMWB owners (nearly half of all nonqualified owners) who were over age 70.

Figure 2-6: GMWB Withdrawals by IRA Owners



Note: Based on 112, 467 GMWB IRA contracts issued before 2011 and still in force at the end of 2011.

IRA owner withdrawal patterns can be clearly discerned in two stages — before age 70 and after age 70 (Figure 2-6). While the percent of owners aged 50 taking withdrawals was only 9 percent, the percent of owners taking withdrawals increased with each age increment, and grew to 45 percent at age 69. The need to take RMDs drives the percent of owners taking withdrawals at age 70 and 71 to 60 percent and 76 percent respectively. After that, the percent of owners taking withdrawals increased slowly with age to 90 percent by age 85.

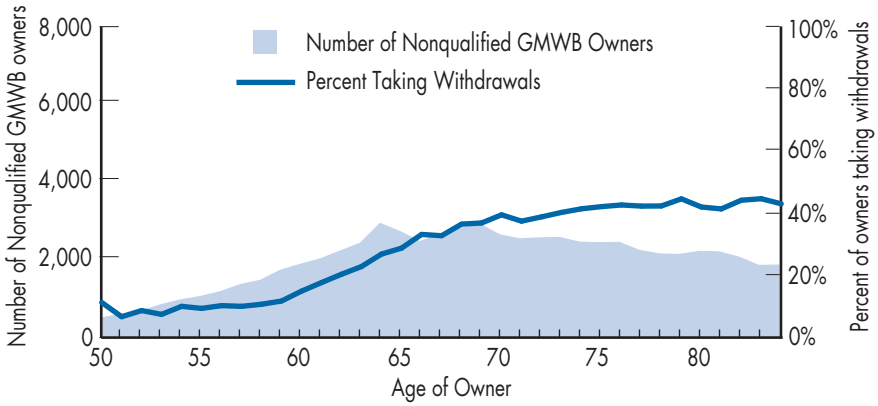
Need to take RMDs drives the percent of owners taking withdrawals at ages 70 and 71 to **60%** and **76%** respectively.

The need to take RMDs from qualified GMWB contracts will continue to drive the withdrawal behavior for these contract owners in the next few years. At the end of 2011, more than 40 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.

50% of nonqualified owners aged 70 or over took withdrawals in 2011.

In comparison to one third of IRA GMWB owners aged 70 or over, 50 percent of nonqualified GMWB annuity owners were aged 70 or above. The percent of nonqualified owners taking withdrawals in this age group was 43 percent in 2011, nearly half of the percentage of owners withdrawing from their qualified annuity (Figure 2-7). Another one third of nonqualified GMWB owners were aged 60–69 and 28 percent of these owners took withdrawals during the year.

Figure 2-7: GMWB Withdrawals by Nonqualified Owners

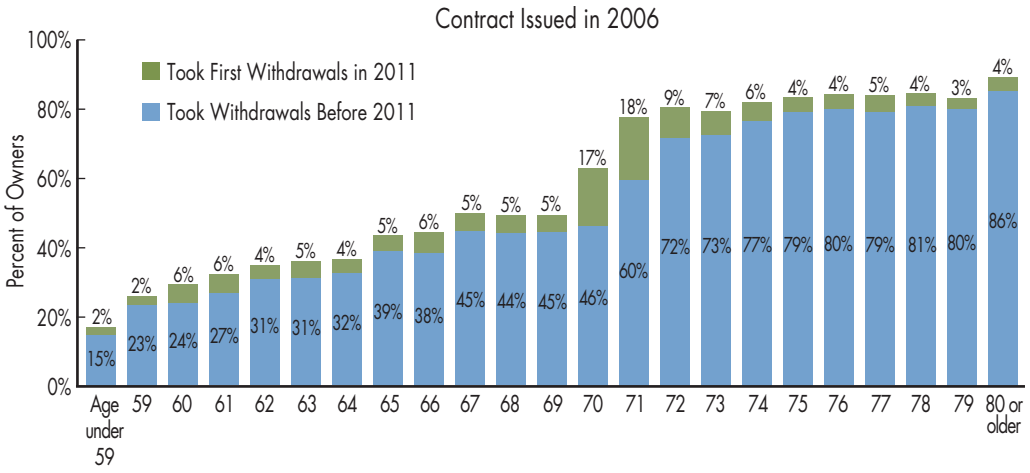


Note: Based on 78,823 GMWB contracts, funded by nonqualified savings, issued before 2011, and still in force at the end of 2011.

Taking First Withdrawal From IRA Annuity in 2011

There is a distinct pattern of withdrawal behavior from IRA-funded GMWB annuities, principally driven by age and the need to take RMDs. Figure 2-8 shows the percent of owners taking their first withdrawals in 2011 for GMWB contracts issued in 2006.[14]

Figure 2-8: GMWB First Withdrawals in 2011 (IRA Contracts Only)



Note: Based on 30,301 IRA contracts issued in 2006 and remaining in force at the end of 2011. Top green colored portion of each column represents percent of owners taking withdrawals in 2011 for the first time, blue bar at the bottom represents percent of owners who took withdrawals before 2011 and overall column height represents percent of all owners who took withdrawals to-date since issue.

The Y-axis shows the cumulative percent of GMWB owners who took their withdrawals before 2011 and for the first time since issue in 2011. The blue bar represents percent of owners who took withdrawals before 2011 and green bars at the top for each age shows the percent of customers who took their first withdrawals from their contracts in 2011.

This analysis is based on owners who bought their GMWB annuities in 2006, giving us a much clearer picture of IRA owner withdrawal behavior. Owners who bought their annuities in 2006 had five to six 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 4 to 6 percent — with the cumulative percent rising with age. In 2011, 17 percent of owners that turned age 70, and 18 percent of owners that turned age 71, took their first withdrawals. After age 71, the percent of owners taking their first withdrawals goes down quickly from 9 percent at age 72 to settle at around 4 percent for owners aged 75 and older.

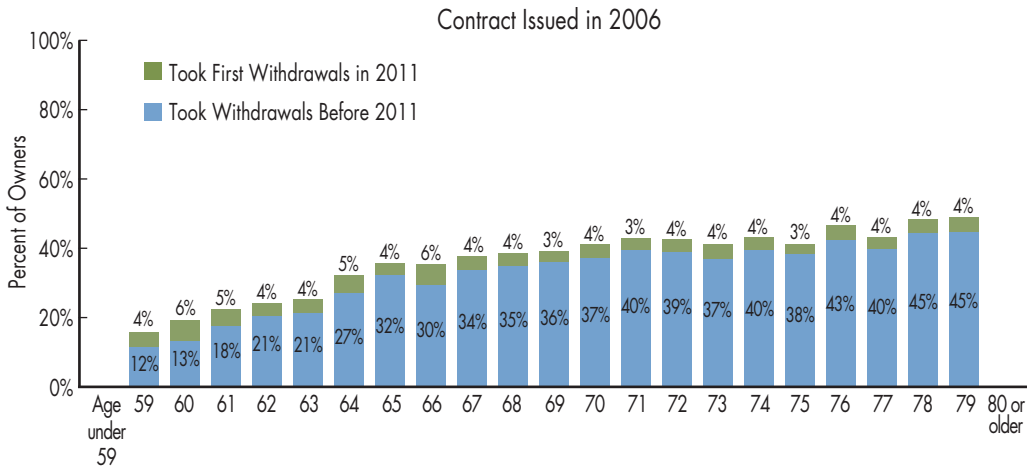
[14] Due to low contract samples in issue years 2007 to 2010 in each individual ages, the analysis represents contracts issued in 2006.

Many insurance companies encourage annuity buyers to take withdrawals, particularly to satisfy RMDs as they turn age 70½. Most companies do not treat the annual RMD amount, if it exceeds the annual guaranteed income amount, as excess withdrawals. Also, all companies administer easy-to-use tools to compute the RMD amount for the annuity, and manage RMDs through systematic withdrawal programs.

Taking First Withdrawal From Nonqualified Annuity in 2011

The percent of nonqualified annuity owners taking their first withdrawals in 2011 reflects more streamlined withdrawal behavior. Figure 2-9 shows the percent of nonqualified owners taking their first withdrawals in 2011 for contracts issued in 2006.[15]

Figure 2-9: GMWB First Withdrawals in 2011 (NQ Contracts only)



Note: Based on 20,078 nonqualified contracts issued in 2006 and remained in force at the end of 2011. Top green portion of each column represents percent of owners taking withdrawals in 2011 for the first time, blue bar at the bottom represents percent of owners who took withdrawals before 2011 and overall column height represents percent of all owners who took withdrawals to-date. Results for contracts owned by individuals age 59 or under and age 80 or older not shown due to sampling limitations.

The Y-axis shows the percent of customers who took withdrawals before 2011 and who took withdrawals for the first time in 2011 combined. The bar at the top for each age shows the percent of customers who took their first withdrawals from the contracts in 2011.

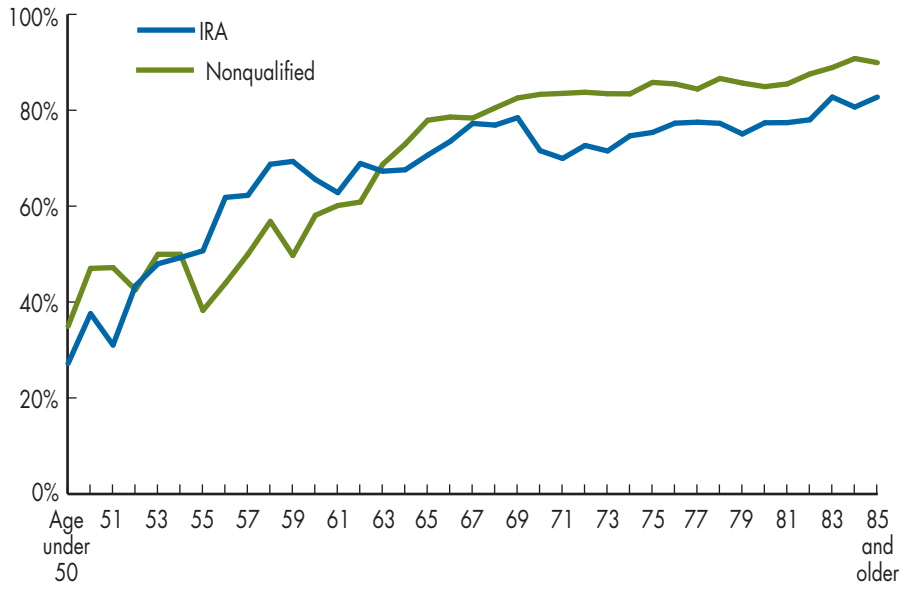
Because there is no requirement to take RMDs, in general, the percent of nonqualified owners taking their first withdrawals remained within a tight range — 3 percent to 6 percent — irrespective of age.

[15] Due to low contract samples in issue years 2007 to 2010 in each individual age group, the analysis represents GMWB contracts issued in 2006.

Systematic Withdrawal Activity

Systematic withdrawal plans or programs (SWPs) are a reliable measure of owners' intentions to continue withdrawals once they have taken their first withdrawals. Looking at what percentage of owners took withdrawals through an SWP is an important comparison to owners taking random or occasional withdrawals from their GMWB annuities. 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 strong indication that the customers are utilizing the GMWB in their contracts.

Figure 2-10: GMWB Withdrawals With Systematic Withdrawal Plan



Note: Based on 77,260 GMWB contracts issued before 2011 and remaining in force at the end of 2011.

Overall, 76 percent of GMWB owners taking withdrawals were using an SWP. Nearly three fourths (73 percent) of IRA owners and 81 percent of nonqualified owners who were taking withdrawals used an SWP. As Figure 2-10 shows, older GMWB owners are more likely to take their withdrawals through SWPs and younger owners, particularly below age 60, are more likely to take withdrawals on a lump-sum or occasional basis. Beyond age 70, the owners taking withdrawals from nonqualified annuities tend to use more SWPs, and 90 percent of nonqualified owners age 85 or older used SWPs.

Table 2-3 shows the average withdrawal amount for occasional and SWP withdrawals for both qualified and nonqualified contracts. Though the average withdrawal amount should vary by the benefit base amount and the number of years of guaranteed withdrawal, it appears, from looking at average withdrawal amounts through SWPs, that younger owners use shorter guaranteed withdrawal periods than do older owners.

Table 2-3: GMWB Withdrawal Types and Average Amount by Source of Funds

	Occasional Withdrawal Average Withdrawal Amount		Systematic Withdrawal Average Withdrawal Amount	
Age	**IRA**	**Nonqualified**	**IRA**	**Nonqualified**
Under 60	$18,186	$27,580	$16,467	$17,511
Age 60-69	$17,015	$17,605	$13,402	$10,880
Age 70 or more	$9,394	$18,767	$7,825	$8,622
Total	**$13,026**	**$19,626**	**$10,160**	**$9,432**

Note: Based on 77,260 GMWB contracts issued before 2011 and remaining in force at the end of 2011.

Systematic withdrawals in GMWB contracts in 2011 totaled $577.8 million of nearly $856 million, or 68 percent (Table 2-4). Owners aged 70 or over accounted for half of the total amount withdrawn in 2011. Though owners under age 60 had higher average withdrawal amounts, they were responsible for only 10 percent of the total withdrawal amount. Many of these GMWB owners — particularly the owners who take occasional withdrawals — are likely partially surrendering their contracts.

Table 2-4: GMWB Withdrawal Amounts as Percent of Total Withdrawal Amount

	Occasional Withdrawal		Systematic Withdrawal		
Age	**IRA**	**Nonqualified**	**IRA**	**Nonqualified**	**Total Withdrawals**
Under 60	3%	2%	4%	1%	$92.7 million
Age 60-69	10%	4%	20%	7%	$336.9 million
Age 70 or more	8%	5%	21%	15%	$426.3 million
Total	**21%**	**11%**	**45%**	**23%**	**$855.9 million**

Note: Based on 77,260 GMWB contracts issued before 2011 and remaining in force at the end of 2011.

Withdrawals Exceeding Benefit Maximum

GMWB riders provide a specified annual withdrawal amount for a certain period of time, typically at a withdrawal rate of 7 to 10 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 will cause the benefit base and ensuing withdrawal amount to be reduced for subsequent years.

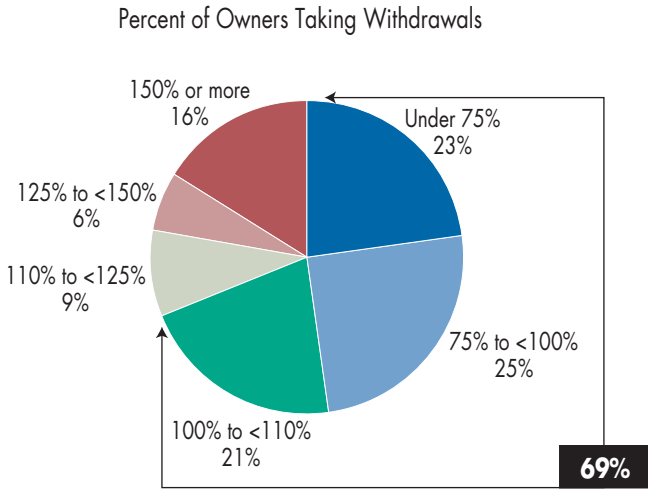
LIMRA asked participating companies to provide this maximum amount as of the beginning of 2011. If companies did not provide the maximum withdrawal amount but provided the benefit base, as well as the maximum percentage of this base that could be withdrawn each year, then we estimated the maximum amount.

In this section, we will look at the relationship of customers' actual withdrawal amounts in calendar year 2011 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 bases can vary under certain circumstances during the year (e.g., if additional premium is received, or positive market returns step up the benefit base). 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 the beginning of the year by 10 percent or more, then we considered the withdrawals to be exceeding the benefit maximum. We calculated the maximum withdrawal amount based on reported maximum annual withdrawal percentage multiplied by average benefit base.

For withdrawals exceeding benefit maximums, we looked at the relationship of customers' actual withdrawal amounts in calendar-year 2011 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 the beginning of the year by at least 10 percent, then we considered the contract to have exceeded the benefit maximum.

Figure 2-11 shows the percent of owners taking withdrawals and their withdrawal amounts in relation to maximum withdrawal amount allowed in the contract.

Figure 2-11: GMWB Actual Withdrawals as a Percentage of Maximum Withdrawals Allowed

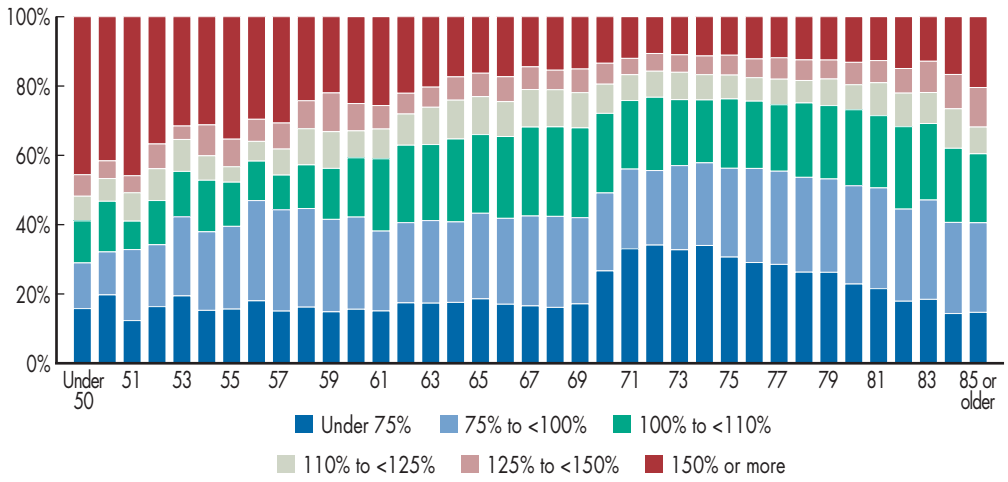


Note: Based on 72,198 GMWB contracts issued before 2011 and remaining in force at the end of 2011 that had withdrawals.

Around 70 percent of owners that took withdrawals in 2011 withdrew within 110 percent of the maximum withdrawal amount allowed in the contract. Nine percent of owners withdrew 110 to 125 percent of maximum amount allowed. Some of these owners, if older, may have remained within the withdrawal limit allowed because of a higher RMD from their IRA annuities. However, around 22 percent of owners taking withdrawals exceeded the maximum withdrawal amount by 25 percent or more. It is safe to assume that most of these owners took excess withdrawals that would negatively impact their withdrawal benefits in the future.

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 125 percent or lower of the amount allowed (Figure 2-12).

Figure 2-12: GMWB Withdrawals to Maximum Annual Benefit Amount by Age



Note: Based on 72,198 GMWB contracts issued before 2011 and remaining in force at the end of 2011 that had withdrawals.

While a quarter of owners took 75 percent or less of the maximum withdrawal amount allowed in the contract, they clearly show the impact of RMDs in their withdrawal rates. Before age 70, around 15 percent of owners took 75 percent or less of their maximum withdrawal amount. However, between ages 70 and 74, the percent of owners taking 75 percent or less of the withdrawal amount almost doubled. Many of these owners took only the minimum distribution required under the law which ranges typically between 3.65 to 4.20 percent. These minimum distribution rates of their qualified assets at these ages are below the maximum withdrawal rate allowed in a typical GMWB contract.

It is notable that the percent of owners taking 150 percent or more than the maximum withdrawal amount allowed in the contracts is lowest with owners between ages 71 and 78 — around 11 percent for each individual age (Figure 2-12). A portion of owners aged 80 or older may be taking 125 percent or more than withdrawals allowed in the contract to meet higher RMDs from their qualified assets.

Almost 4 in 10 GMWB owners under age 60 taking withdrawals exceeded 125 percent or more of the benefit maximum (Table 2-5); 32 percent took 150 percent or more. It's likely that many of these younger owners intended to partially surrender their contracts as opposed to taking regular withdrawals under the terms of the GMWB benefit.

Table 2-5: GMWB Withdrawals to Maximum Annual Benefit Amount by Age

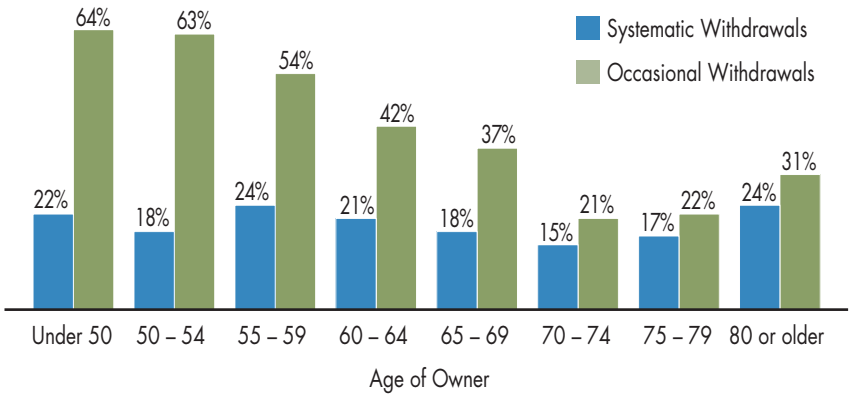
	Percent Taking Withdrawals to Maximum Annual Benefit Amount					
Age	**Under 75%**	**75% to <100%**	**100% to <110%**	**110% to <125%**	**125% to <150%**	**150% or more**
Under 60	16%	24%	13%	8%	7%	32%
Age 60–69	17%	25%	24%	10%	6%	18%
Age 70 or more	27%	25%	21%	8%	6%	13%
All ages	**23%**	**25%**	**21%**	**9%**	**6%**	**16%**

Note: Based on 72,198 GMWB contracts issued before 2011 and remaining in force at the end of 2011.

On the other hand, a quarter of owners between ages 60 and 69 taking withdrawals exceeded 125 percent of their benefit maximum. Only 1 in 5 owners over age 70 who took withdrawals exceeded 125 percent of the maximum withdrawal amount allowed in 2011. A portion of these owners may be taking excess withdrawals to satisfy their RMDs, and many GMWB riders will 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 2-13).

Figure 2-13: GMWB Withdrawals to Maximum Amount by Age



Note: Based on 72,181 GMWB contracts issued before 2011 and remaining in force at the end of 2011 that had withdrawals.

Overall, one third of owners who took occasional withdrawals had excess withdrawals, while only 19 percent of owners with SWP withdrawals had excess withdrawals. Moreover, more than 60 percent of the occasional withdrawals exceeding the benefit maximums came from owners aged 70 or under. However, this is a relatively small percentage of contracts. To put it into context, owners who took withdrawals occasionally were just a quarter of the total number of owners taking withdrawals in 2011. This also supports our earlier contention that many of these younger GMWB owners were very likely in the process of surrendering their contracts. We'll see further evidence in the persistency of GMWB contracts later in the chapter.

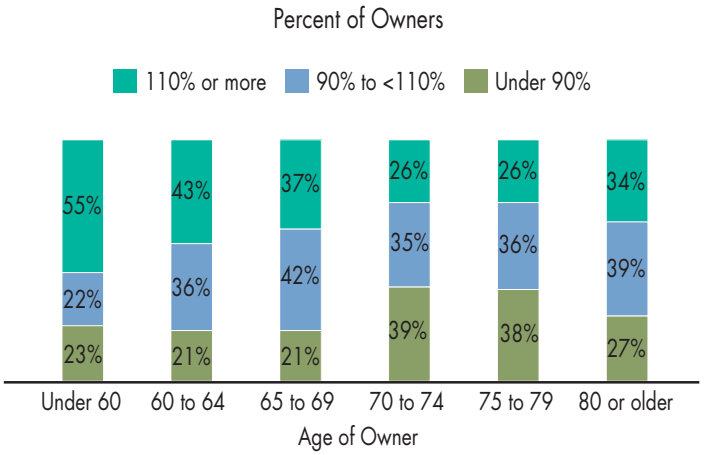
We also examined how the proportion of the benefit maximum withdrawn varies by contract size. It might be expected that larger contract sizes are linked to wealthier and more sophisticated owners who are more likely to be working with financial advisors and who are less inclined to exceed the GMWB benefit 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 2-14 and 2-15 illustrate the proportion of owners withdrawing amounts within ±10 percentage points of the benefit maximum and the proportion of owners withdrawing amounts above or below this range, by age and contract size. If efficiency was 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. Among owners under age 60, the proportion increases slightly, from 22 percent of owners with contract sizes under $100,000 to 28 percent of owners with contracts worth $100,000 or more. But among owners aged 60 or older (who make up 94 percent of all individuals taking withdrawals), there is little or no change with increasing contract size; in fact, the proportion drops slightly for those aged 70 or older.

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 110 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 6 percentage points. Similar increases in the percentage taking less than 110 percent of the benefit maximum occur for older age groups. In short, owners of VAs 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.[16] For both GLWBs and GMWBs, larger contract sizes are associated with a greater tendency toward withdrawals that are less than the benefit maximum.

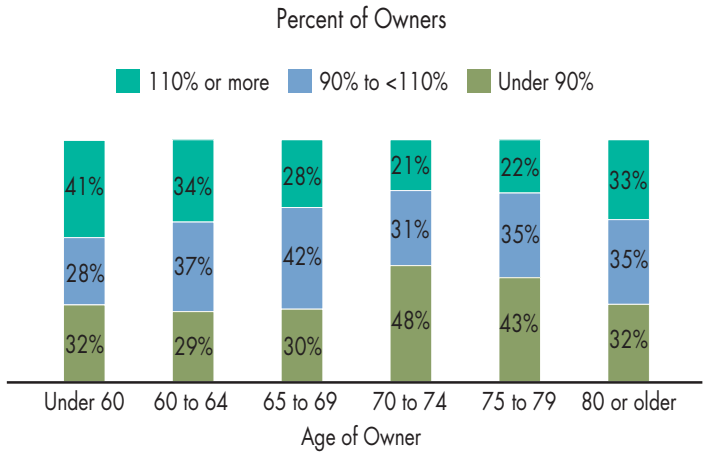
[16] As was observed for GLWBs, there was no significant difference for IRA and nonqualified contracts.

Figure 2-14: GMWB Withdrawals to Maximum Amount by Age, Contract Sizes Under $100,000



Note: Based on 42,647 GMWB contracts issued before 2011, still in force at the end of 2011, and that took withdrawals in 2011.

Figure 2-15: GMWB Withdrawals to Maximum Amount by Age, Contract Sizes $100,000 or More



Note: Based on 29,551 GMWB contracts issued before 2011, still in force at the end of 2011, and that took withdrawals in 2011.

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 age 71 and 72 to meet their RMDs. In contrast, nonqualified contracts show an incremental and steady increase of the number of owners taking withdrawals.
- Once owners start to take withdrawals, they are likely to continue withdrawals.
- Three 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 are very likely to be a partial surrender of their contracts. Younger owners are also more likely to take withdrawals exceeding the benefit maximum.

It is important for companies to look at their own business and evaluate how their customer mix can impact risk and cash-flow. For insurance companies, qualified annuities could cost more to administer than nonqualified contracts as more customers begin taking withdrawals at age 70½, even though companies may receive fees on benefit bases for minimum withdrawal guarantees. Also it is clear that companies assume more risk from customer withdrawal behavior on assets funded by qualified money than they assume from a nonqualified block of business. As more investors buy and hold qualified annuities, the disparity between the risk and cost of offering qualified annuities and nonqualified annuities will continue to increase.

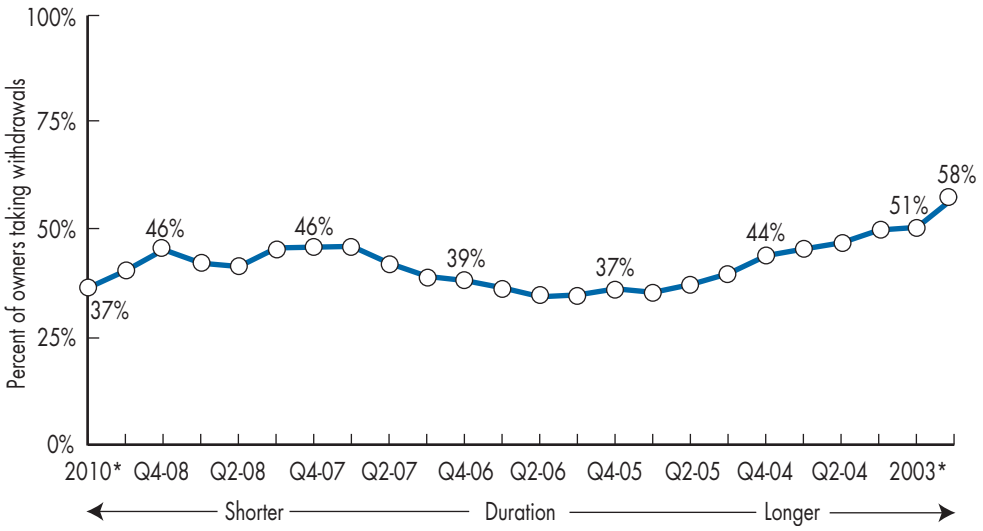
Withdrawal Activity by Duration

Contract duration (i.e., how long ago the contract was purchased) can be an important measure in 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. In some cases, 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 many of the GMWB customers would take withdrawals, and the resulting cash flow needed to manage existing book of business.

GMWB owners who bought their contracts in 2010 had the shortest time horizon (12 months to 24 months) to set up withdrawals and receive withdrawal benefits. However, 37 percent of these owners initiated withdrawals from their annuities in 2011 (Figure 2-16). As the contract duration increases, withdrawal activity increases slightly, reaching around 45 percent among customers who owned the contract for three full years (as of year-end 2011). Though we see a dip in overall utilization rates (between 35 to 40 percent) among contracts issued in 2005 and 2006, the overall utilization rate on a full-year basis reached more than 50 percent for contracts issued in 2002 and 2003.

Figure 2-16: GMWB Overall Utilization Rates by Contract Duration



Note: Based on 187,880 GMWB contracts issued between 2002 and 2010 and still in force at the end of 2011. Percentages refer to the number of contracts in each quarter that had partial withdrawals during 2011. Because of the low sample size for contracts issued in each quarters for years 2009 -2010 and 2002 -2003, the percent of owners taking withdrawals were shown on an annual basis for those years

More contracts issued after 2007 allow for higher maximum withdrawal percentages; for example, it is common to see a maximum withdrawal percentage of 7 percent 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

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

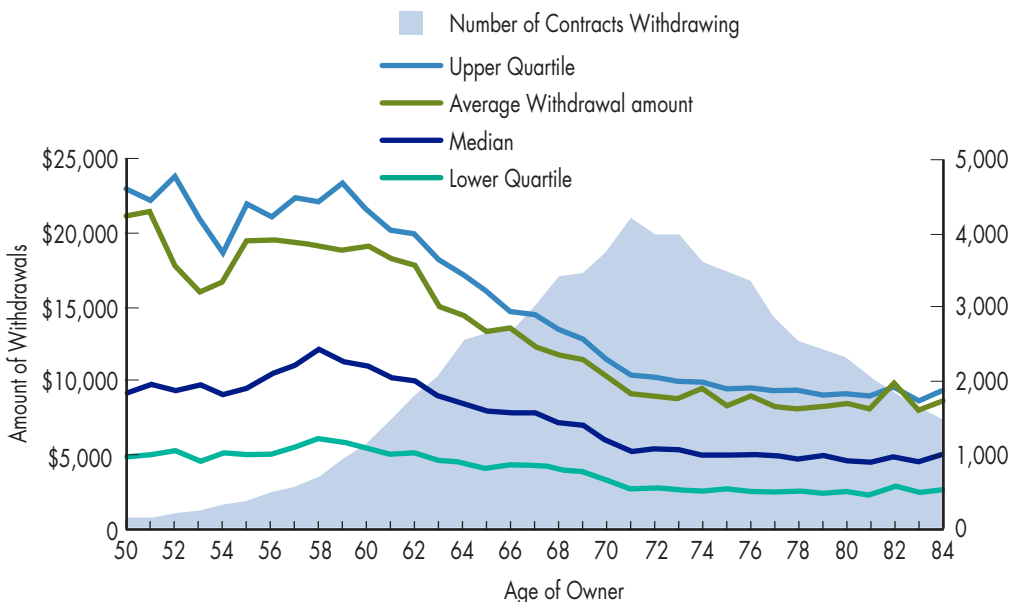
among recently-issued contracts. All of these reasons may have contributed to higher withdrawal activity in more recently issued contracts.

However this incremental growth pattern in GMWB contracts is different than that of GLWB owners where we see steady increase in the percent of owners taking withdrawals for longer duration contracts. It appears that a significant portion of owners taking 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 would maintain their withdrawal behavior, at least in the short term.

Average Amount of Withdrawals

The median amount of withdrawals from GMWB contracts was $6,174 for contracts issued before 2011 that were in force at the end of 2011. The average amount of withdrawals was $11,082.

Figure 2-17: GMWB Average Amount of Withdrawals by Owners' Current Age



Note: Based on 77,282 GMWB contracts issued before 2011, still in force at the end of 2011, that had incurred withdrawals.

Some owners in their 50s took withdrawals of more than $15,000 from their contracts (Figure 2-17). However, there were not a lot of contracts that had withdrawals from this age group, in the low hundreds for each age. It is safe to assume that many of these withdrawals were partial surrenders of the contracts, unconnected to regular withdrawals as part of the

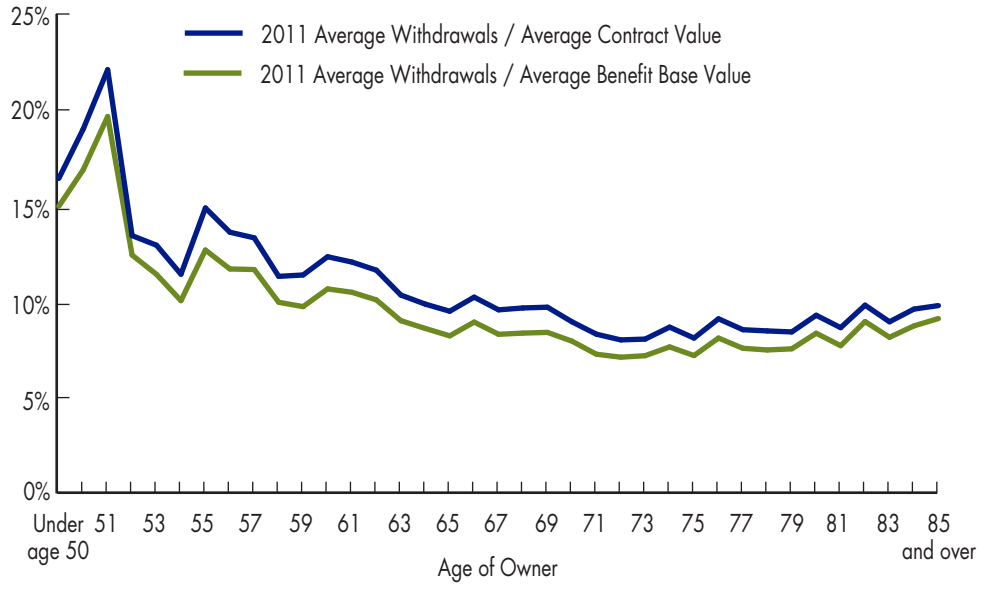
GMWB benefit and were taken sporadically, not through a systematic withdrawal plan. A comparison of the average amount withdrawn to the average contract value shows that the average withdrawal percentage, 10 to 20 percent, is very high for younger owners.

However, after age 60, as the number of GMWB owners increases, a more sustainable withdrawal pattern and average withdrawal amount emerges. The withdrawals by owners between age 60 and 69 are a mix of both occasional withdrawals and systematic withdrawals. A smooth trend appears particularly for owners over age 70 with their average withdrawal amounts around $9,000. Average withdrawal amounts for this age group are commensurate with (or slightly above) the maximum withdrawal amount supported by the GMWB benefit base.

Ratio of Withdrawal to Contract Value and Benefit Base

For all GMWB contracts, the ratio of withdrawal amount to average contract value (average of contract values at the beginning and end of year) is slightly higher than the ratio of withdrawal to average benefit base (Figure 2-18). Unlike the experience in 2010 when equity market gain was moderate, and as a result, the difference between these metrics narrowed, we see the average difference has worsened slightly with a 1 to 2 percent gap as a result of no equity market gains in 2011.

Figure 2-18: GMWB Withdrawal Amount to Average Contract Value and Benefit Base



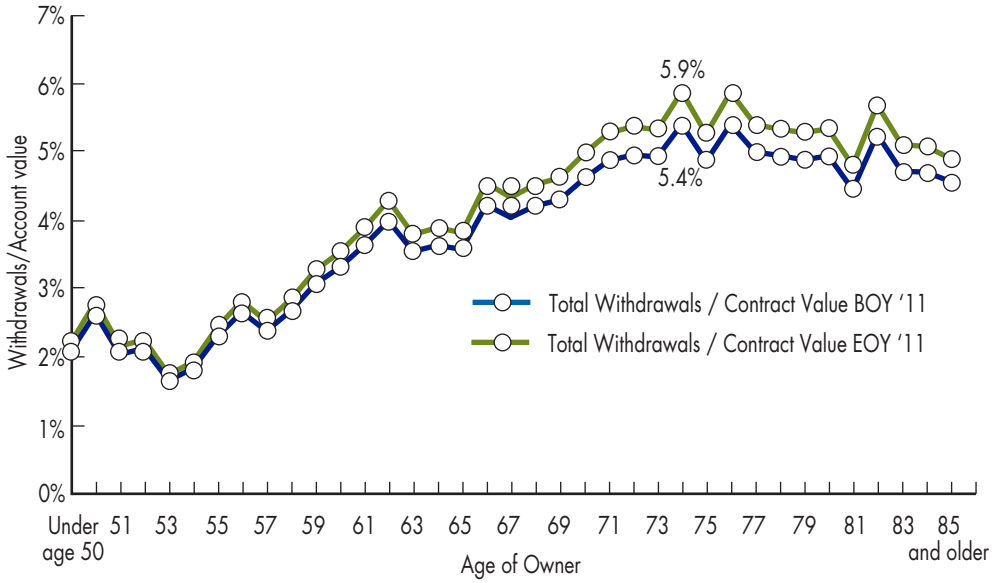
Notes: The ratio of withdrawals to average contract values is calculated as the average of withdrawal amounts divided by the average of beginning and ending contract values. The ratio of withdrawals to average benefit base is calculated as the average of withdrawal amounts divided by the average of beginning and ending benefit bases. In both cases, only the 74,260 GMWB contracts that were sold before 2011, were still in force at the end of 2011, had withdrawals in 2011, and had benefit base information were considered.

While a higher ratio of withdrawals to contract values compared with the ratio of withdrawals to benefit bases may be detrimental to an insurance company's profitability, it is beneficial for customers. Owners benefit by avoiding the risk of running out of money for the projected number of years that the GMWB assets are expected to last.

Ratio of Withdrawal Amount to Contract Value

Another measure of GMWB risk originating in customer behavior can be ascertained by comparing the ratio of withdrawal amount to beginning-of-year (BOY) contract values and the ratio of withdrawal amount to end-of-year (EOY) contract values. This measure can be calculated at two levels. First, risk associated with all contracts in the book can be ascertained by a ratio of total withdrawals in 2011 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 2011. 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 the withdrawal mode.

Figure 2-19: GMWB Total Withdrawals to Total Contract Value (All Contracts)



Note: Based on 181,707 contracts sold before 2011 that were still in force at the end of 2011.

In 2011, the ratio of total withdrawal amounts to BOY contract values for all contracts in force throughout the year was lower than the corresponding ratio for EOY contract values across all ages (Figure 2-19). Owners took $819 billion in withdrawals at a rate of 4.03 percent from $20.3 billion, based on the BOY account values of in-force contracts. Based on EOY account value, the rate of withdrawals or outflow was 4.32 percent.

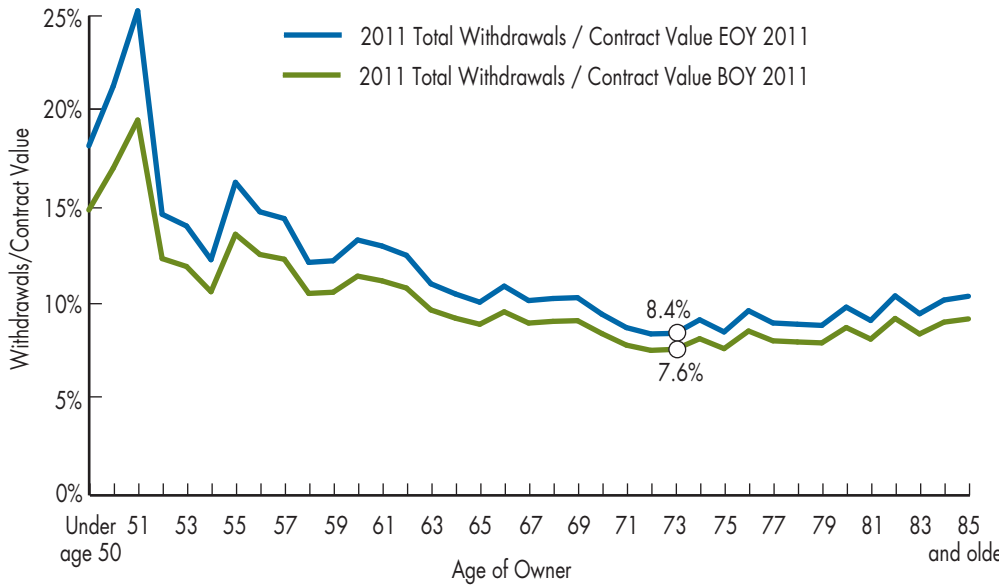
With no equity market gains in 2011, the ratio of withdrawals to contract values worsened during the year.

As long as the ratio of withdrawal amounts to account values at the end of the year remains below the ratio calculated at the beginning of year, it means that the total contract values improved due to investment gains despite withdrawals, and the risk related to withdrawals from contract values has improved. This did not happen in 2011, due to flat equity market gains, and insurance companies experienced reduced account value base to support the cash outflow from withdrawals. The greater the upward shift during the year, the worse it is in risk exposure, when it comes to withdrawal provisions in the GMWB rider.

For example, customers aged 74 held $609 million in 5,425 GMWB contracts at BOY. The total withdrawal amount taken by 3,608 (or 64 percent) customers during 2011 was $32.9 million. The ratio of total withdrawals to contract values at the beginning of year was 5.4 percent. However, due to no investment gains during the year, the total contract value declined to $560 million after the withdrawals that occurred within almost two thirds of the contracts. The ratio of withdrawal amounts to contract values for 74-year-old owners thereby worsened from 5.4 percent at BOY to 5.9 percent at EOY.

Insurance companies should also examine the risks associated with the subset of contracts that had withdrawals in 2011. Due to no equity market gains in 2011 and the withdrawal effect, the ratio of withdrawals to contract value worsened for contracts that had withdrawals (Figure 2-20). For example, among owners aged 73 who made withdrawals in 2011, the ratio deteriorated from 7.6 percent of the contract value at the BOY to 8.4 percent of the contract value at EOY — a 10 percent decline. Overall for all contracts that had withdrawals in 2011, there was an average decline of 12 percent in account values between the beginning and end of account values for the year.

Figure 2-20: GMWB Total Withdrawals to Total Contract Value (for Contracts With Withdrawals Only)



Note: Based on 74,260 GMWB contracts issued before 2011, in force at the end of 2011, that had partial withdrawals in 2011.

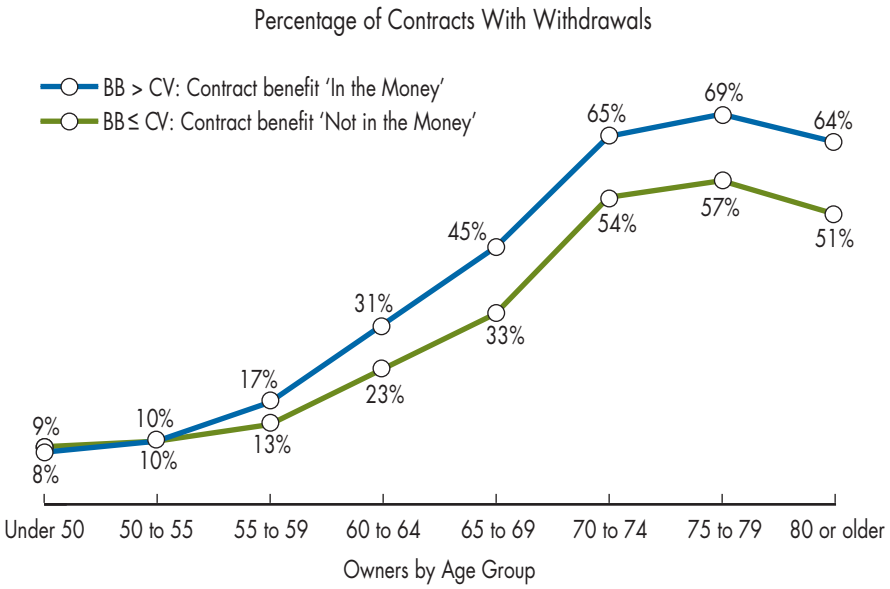
Withdrawal Activity in Contracts in-the-Money or Not in-the-Money

A contract benefit being in-the-money appeared to have no influence on withdrawal behavior of GMWB owners in 2011.

The 2008–2009 market downturn caused massive losses in account values of annuity contracts, causing most GMWB benefits to be "in the money" meaning the benefit base was higher than the account value. Many of these contracts experienced a strong market recovery in the later part of 2009, a moderate market gain in 2010, and a flat market in 2011. At the end of 2011, still 75 percent of GMWB contracts had account values lower

than the benefit bases guaranteed. Under these market circumstances, many GMWB owners could have been encouraged to take advantage of the GMWB riders from their contracts, particularly when their benefits were in the money. Yet the findings indicate that market volatility, or mixed market gains resulting in GMWB contract benefits being in the money, did not impact customers' withdrawal behaviors significantly in 2011.

Figure 2-21: GMWB Withdrawal Rates for Contracts in-the-Money vs. Not in-the-Money



Note: Based on 181,741 GMWB contracts issued before 2011 and still in force at the end of 2011 where both account values and benefit bases at the beginning of 2011 were available. Percentages refer to the number of contracts in each category that had partial withdrawals during 2011

Among the 181,741 GMWB contracts issued before 2011 and still in force at the end of 2011, there was no strong indication that average owners were motivated to take withdrawals from contracts that were in the money versus contracts not in the money (Figure 2-21). The overall utilization rate for contracts with benefits that were in the money at the beginning of the year was 45 percent. For the 42 percent of all GMAB contracts where benefits were not in the money at the beginning of 2011, the utilization rate during the year was 36 percent. The percent of owners taking withdrawals when the contracts are in the money are higher among older customers, for example, age 60 or more.

Looking at the percent of GMWB customers taking withdrawals, whether they are in the money or not, it appears that more owners take withdrawals when they are in the money to a greater degree. Though the figure shows increased levels of withdrawal activity when the contracts are in the money, we believe the higher percent of owners withdrawing is really a function of older contracts purchased before 2008 — the market crisis. There are a few main reasons for such increased withdrawal activity among contracts in the money.

First, the contracts issued between 2005 and 2008 (constituting more than 70 percent of all GMWB contracts) were more likely to be in the money, as these contracts lost most value in the market crisis. We have seen before that the percent of owners taking withdrawals is really a function of owner age and source of funds. The owners who bought their annuity before 2008 are now older, and many of them needed to take RMDs, irrespective of whether or not their contracts were in the money.

Second, though owners over age 60 show more withdrawal activities, owners under age 60 do not demonstrate any indication of increased withdrawal activity. They are substantial in number and possibly have the most to gain financially (or may beat the odds) if they start to take guaranteed minimum withdrawals early.

Third, we have seen that once owners start to take withdrawals, they are more likely to continue their withdrawals in subsequent years. The owners who started withdrawals a few years ago are more likely to have contract values in the money as their account values, pressured by cash outflows from withdrawals, are more prone to suffer from market volatility than owners who started withdrawals in recent years.

Fourth, we have not seen any heightened withdrawal activity looking back just after the market crisis in 2008 and 2009. In fact fewer owners took withdrawals from their qualified annuities, as RMD rules were relaxed in 2009.

We also did not see significant difference in withdrawal rates by 'in the money' status when the contracts were analyzed by funding sources (i.e., qualified or nonqualified assets).

Utilization by Selected Characteristics

Utilization of GMWBs varies substantially across a variety of owner, contract, and benefit characteristics for contracts sold before 2011 (Table 2-6). 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.[17]

Table 2-6: GMWB Utilization by Selected Characteristics

	Unweighted		Weighted by 2011 Contract Value	
	Partial withdrawals	Systematic withdrawals	Partial withdrawals	Systematic withdrawals
Age of owner				
Under 50	8%	3%	15%	7%
50 to 54	10%	5%	15%	9%
55 to 59	16%	9%	24%	17%
60 to 64	27%	18%	35%	26%
65 to 69	40%	30%	44%	34%
70 to 74	61%	45%	62%	46%
75 to 79	63%	50%	62%	48%
80 or older	57%	48%	53%	42%
Market type				
IRA	46%	33%	51%	38%
Nonqualified	33%	27%	35%	27%
Contract value, end of 2011				
Under $25,000	36%	25%	44%	29%
$25,000 to $49,999	40%	30%	44%	32%
$50,000 to $99,999	42%	32%	45%	34%
$100,000 to $249,999	41%	31%	44%	33%
$250,000 to $499,999	45%	34%	47%	36%
$500,000 or more	42%	31%	43%	31%

Note: Based on contracts sold before 2011 and still in force at the end of 2011. 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 other measures like percent of owners taking withdrawals by channels or asset allocation restrictions 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.

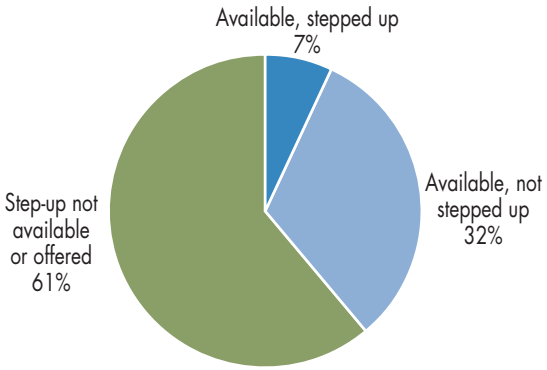
[17] This measure of utilization should not be equated with the percentage of contract value withdrawn.

- Similar to GLWBs, 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.
- Likewise, owners of VAs with larger contract values are more apt to take withdrawals than owners with smaller contract values.

Step-Up Activity

Most contracts with GMWBs (94 percent) allow owners to step up the value of their benefit bases one or more times if their contract values have risen or withdrawals are deferred. In general, these step-up options are time-bound; the owner must choose to step up around specified contract anniversaries, and sometimes must wait several years before the first step-up opportunity. Moreover, contract values must actually be higher than benefit bases in order for step-up opportunities to exist. Therefore, not all owners of contracts with step-up options were able to step up the value of their benefit bases during 2011.[18]

Figure 2-22: GMWB Step-Up Activity



Note: Based on 171,695 contracts sold before 2011 and still in force at the end of 2011. "Step-up not available" includes contracts with step-up options that did not allow step-ups during 2011.

Thirty-nine percent of owners had step-up options available during 2011. Of those, only 1 in 6 chose to step up their benefit bases (Figure 2-22). A majority of the owners who bought their contracts in 2009 or in 2010 enjoyed step-ups in 2011.

- Older contracts (for example those issued in 2005) are less likely to have contract values that exceed benefit bases than are more recent contracts (issued in 2008 or after). This is because withdrawals have decreased the benefit base value. Therefore, older contracts are less likely to be able to step up the value of their benefit bases.
- GMWB contracts issued in 2007 and later are more likely to allow step ups in the contract as an incentive. Most of the contracts that benefit from step ups are from these contracts.

[18] More recent GMWB designs, introduced during and after 2006, offer more frequent step-up opportunities.

Additional Premium and Net Flows

Many retail variable annuities 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 will incorporate premium that is received within a certain time period after the issue of contract. Among contracts sold in 2011 or earlier:

- Only 6 percent of owners chose to add premium in their contracts in 2011. However, only 2 percent of contracts issued before 2011 received additional premium during 2011.
- The average additional premium in 2011 was $22,944, with a median of $6,000.
- Younger owners are more likely to add premium than older owners. For example, 5 percent of owners under age 60 added premium, compared with 1 percent of owners aged 70 or older.
- Smaller account balances are associated with a greater likelihood of additional premiums. Among contracts with beginning-of-year balances under $5,000, 6 percent received additional premium in 2011; among contracts with balances of $100,000 or more, 2 percent received additional premium in 2011.

Premium received in new and existing contracts constituted less than one third of the outflows associated with partial withdrawals, full surrenders, deaths, and annuitizations (Table 2-7). The total number of GMWB contracts in force declined about 0.9 percent during 2011.

Table 2-7: GMWB Net Flows

	Dollars (billions)	Contracts	Average Contract Size
In force, beginning of 2011	**$23.57**	**210,192**	**$112,148**
Premium received			
Newly issued contracts	$0.77	7,243	$106,481
Existing contracts	$0.11	n/a	n/a
Benefits paid			
Partial withdrawals	$0.94	n/a	n/a
Full surrenders	$1.75	16,596	$105,441
Deaths	$<0.1	575	$151,673
Annuitizations	$0.20	1,751	$98,273
Investment growth	($0.71)	n/a	n/a
In force, end of 2011	**$20.78**	**198,510**	**$104,704**

Note: Based on 210,192 contracts. Dollar values for contracts sold before 2011 that terminated during the year were set equal to either the beginning-of-year 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 2011 that terminated during the year were set equal to the current-year premium.

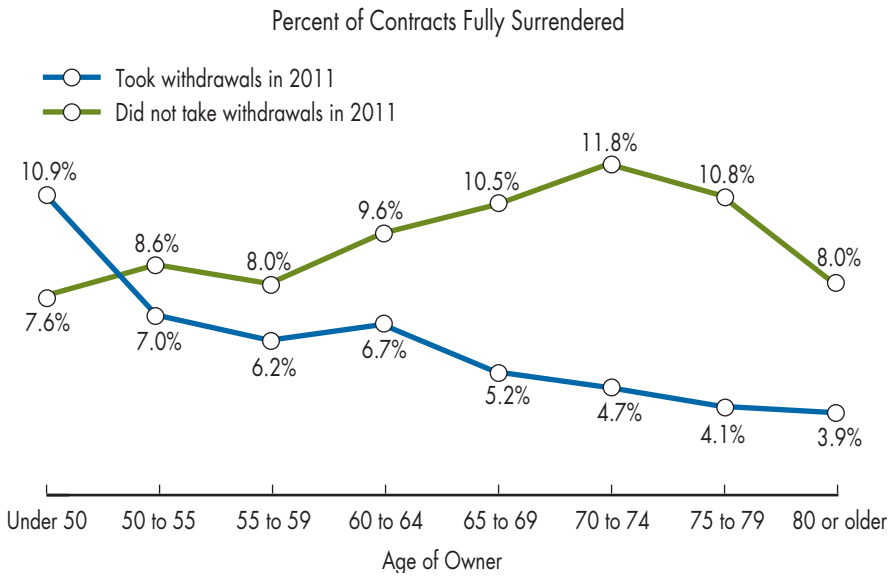
Persistency

GMWB contract surrender rate in 2011 was **7.9%**.

Surrender rates among GMWB contracts in 2011 were 7.9 percent and 7.8 percent based on cash surrender value.

However, high surrender rates in 2011 were associated with owners who did not take withdrawals in 2011. When the GMWB owners, particularly owners over age 70 took withdrawals, the surrender rates are relatively low, 4 to 5 percent (Figure 2-23).

Figure 2-23: GMWB Surrender Rates by Owners Taking Withdrawals in 2011

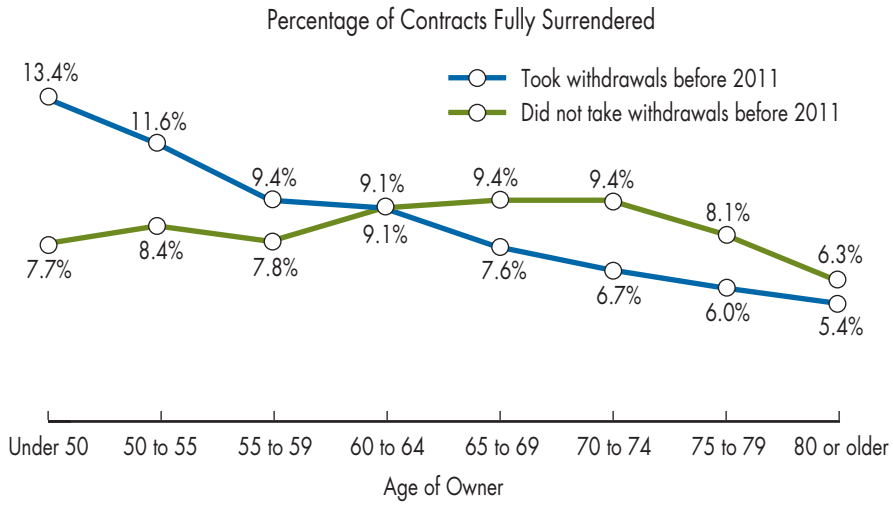


Note: Based on 208,126 GMWB contracts issued before 2011.

High surrender rates are also associated with younger owners, particularly those under age 60 who took withdrawals in 2011. 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. These facts lead to the conclusion that these younger owners are really practicing partial surrenders. Some of these younger owners might have emergency needs, while others might find the contracts no longer meet their needs.

Past withdrawals can also indicate increased likelihood that younger owners will fully surrender earlier than normal. Figure 2-24 shows the surrender rates for owners who took withdrawals before 2011.

Figure 2-24: GMWB Surrender Rates by Owners Taking Withdrawals Before 2011



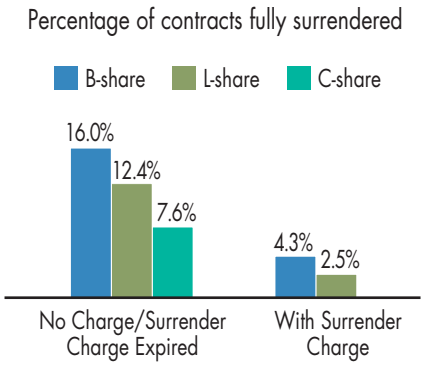
Note: Based on 208,669 GMWB contracts issued before 2011.

Nearly 11 percent of owners under age 60 who took withdrawals before 2011 surrendered their contracts by the end of 2011. In contrast, only 8 percent of owners under age 60 who did not take withdrawals before 2011 surrendered their contracts in 2011. Surrender rates among owners who did not take withdrawals before 2011 were higher among older owners. It is possible that many of these owners did not need the withdrawal guarantees or funds for immediate use.

Persistency among contracts with surrender charges is higher than in contracts without surrender charges. The surrender rate in 2011 was 4.2 percent for contracts with surrender charges and more than four times that amount (18.8 percent) for contracts that exited the surrender penalty period in 2011. Among contracts that had exited the surrender penalty period in 2010 or earlier, the contract surrender rate was 10.8 percent.

Figure 2-25 illustrates the surrender rates for contracts by presence of surrender charges and share classes. At the beginning of 2011, 46 percent of the GMWB contracts had no surrender charges.

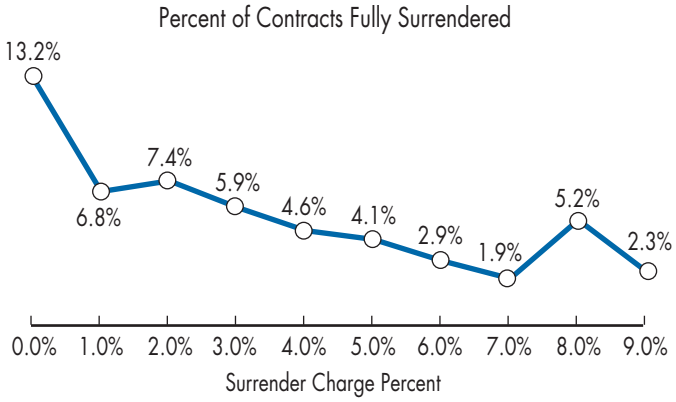
Figure 2-25: GMWB Surrender Rates in 2011 by Share Classes



Note: Based on 190,526 GMWB contracts issued in or before 2011.

The surrender of contracts is also influenced by rate of surrender charge present in the contract. Contracts with higher surrender charges have lower surrender rates and vice versa (Figure 2-26).

Figure 2-26: GMWB Surrender Rates in 2011 by Surrender Charge Present



Note: Based on 193,907 GMWB contracts issued before 2011.

Surrender rates for GMWB contracts are not as low for VAs with GLWBs, and are comparable to overall retail VA persistency. Across all contracts, 7.9 percent surrendered during 2011. For business sold before 2011, cash value surrender rates were 7.8 percent (Table 2-8).

Table 2-8: GMWB Surrender Rates

	Percent of Contracts Surrendered	Percent of Contract Value Surrendered
All contracts	**7.9%**	**7.8%**
Year of issue		
Before 2004	10.2%	10.4%
2004	11.1%	11.2%
2005	7.6%	7.3%
2006	7.6%	8.0%
2007	6.9%	6.7%
2008	5.7%	5.0%
2009*	na	na
2010*	na	na
Age of owner		
Under 50	8.5%	7.7%
50 to 54	8.9%	8.7%
55 to 59	8.1%	8.2%
60 to 64	9.1%	8.6%
65 to 69	8.6%	8.6%
70 to 74	7.8%	7.9%
75 to 79	6.7%	6.6%
80 or older	5.7%	5.6%
Contract value, beginning of 2011		
Under $25,000	9.5%	8.7%
$25,000 to $49,999	7.8%	7.8%
$50,000 to $99,999	7.6%	7.6%
$100,000 to $249,999	7.5%	7.5%
$250,000 or higher	8.0%	7.9%
Gender		
Male	8.0%	7.9%
Female	7.9%	7.7%
Market type		
IRA	7.9%	7.6%
Nonqualified	8.0%	8.2%

Table 2-8: GMWB Surrender Rates *(continued)*

	Percent of Contracts Surrendered	Percent of Contract Value Surrendered
Cost structure		
A-share*	na	na
B-share	6.1%	5.6%
C-share	7.6%	6.8%
L-share	11.3%	11.9%
O-share/level load*	na	na
Other*	na	na

Note: Based on 208,670 contracts sold before 2011. For a description of the surrender rate calculation method, please see Appendix A.

* We have not shared these measures 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

The features of GMWBs are similar to those of GLWBs, with some important differences (Table 2-9). GMWBs tend to be less expensive, are much less likely to reward delayed withdrawals with automatically increasing benefit bases, and often have higher maximum annual withdrawal percentages.

Table 2-9: GMWB Product and Benefit Characteristics

	Issued in 2005	Issued in 2006	Issued in 2007	Issued in 2008	Issued in 2009	Issued in 2010	Issued in 2011
Average M & E charge	1.31%	1.28%	1.44%	1.47%	1.39%	1.34%	1.25%
Average benefit fee	0.60%	0.58%	0.54%	0.60%	0.72%	0.74%	0.70%
Average number of subaccounts	50	55	48	51	46	44	46
Product has fixed account							
Yes	82%	88%	61%	53%	11%	12%	50%
No	18%	12%	39%	47%	89%	88%	50%
Product still available as of 12-31-2011	18%	11%	28%	29%	42%	37%	
Yes	40%	54%	77%	84%	86%	86%	91%
No	60%	46%	23%	16%	14%	14%	9%
Rider still available as of 12-31-2011	23%	12%	21%	35%	75%	97%	
Yes	10%	13%	38%	45%	91%	91%	50%
No	90%	87%	62%	55%	9%	9%	50%
Cap on benefits							
Yes	66%	81%	47%	45%	4%	9%	50%
No	34%	19%	53%	55%	96%	91%	50%
Benefit fee basis							
Benefit base	61%	48%	49%	65%	91%	88%	50%
Account value	37%	49%	46%	30%	6%	12%	50%
VA subaccounts	2%	2%	4%	4%	1%	-	-
Other	<1%	<1%	1%	1%	1%	-	-
Average maximum age at election	81	80	83	83	85	84	77
Asset allocation restrictions							
Forced asset allocation model	55%	50%	55%	68%	95%	91%	50%
Limitations on fund selection	2%	2%	4%	4%	1%	-	-
Other restrictions	5%	3%	3%	1%	-	9%	50%
No, but may restrict	30%	41%	31%	23%	2%	-	-
No restrictions	8%	4%	7%	4%	2%	-	-

Table 2-9: GMWB Product and Benefit Characteristics *(continued)*

	Issued in 2005	Issued in 2006	Issued in 2007	Issued in 2008	Issued in 2009	Issued in 2010	Issued in 2011
Among contracts with maximum charge info. provided							
Maximum rider charge	1.26%	1.25%	0.87%	0.81%	0.77%	0.76%	0.75%
Step-up use restrictions							
Can be used multiple times	89%	94%	94%	98%	99%	91%	50%
Can be used once	11%	6%	6%	2%	-	9%	50%
No	-	-	-	-	1%	<1%	-
Step-up availability							
Quarterly or more frequently	0%	0%	4%	17%	1%	0%	0%
Annually	77%	78%	60%	52%	92%	100%	100%
Every 3 years	1%	2%	2%	2%	2%	0%	0%
Every 5 years	22%	20%	34%	29%	5%	0%	0%
Benefit base automatically increases if withdrawals are not taken immediately							
Yes, based on compound interest	0%	1%	2%	2%	2%	0%	0%
Yes, based on simple interest	21%	9%	18%	24%	4%	12%	50%
No	79%	90%	80%	74%	94%	88%	50%
Maximum annual withdrawal percentage							
5%	33%	33%	22%	22%	2%	0%	5%
6%	0%	0%	1%	0%	0%	0%	0%
7%	62%	64%	74%	77%	98%	91%	50%
10%	5%	4%	3%	1%	0%	9%	50%
Impact on benefit base if excess withdrawals are taken — Yes							
Yes, pro rata	31%	19%	46%	51%	95%	100%	100%
Yes, dollar-for-dollar	2%	5%	16%	24%	7%	3%	0%
Yes, none, if RMDs from IRA	61%	49%	50%	67%	97%	91%	50%
Other	67%	63%	54%	50%	4%	0%	0%

Note: Based on 217,427 contracts sold before 2011.

Key Findings

- In terms of annual withdrawal maximums, 7 percent is by far the most common, followed by a 5 percent maximum (usually limited to GMWBs that have benefit bases that automatically increase if withdrawals are delayed).
- In case of excess withdrawals, many of the GMWB contracts offer pro-rata reductions in the benefit base.
- Unlike GLWB contracts, most GMWB contracts do not offer an automatic increase in benefit base in case the withdrawals are not taken immediately. Also, most GMWB contracts have caps on benefit bases.
- Annual step-up options are more common.

Chapter Three

2011 EXPERIENCE

Guaranteed Minimum Accumulation Benefits

Chapter Three: Guaranteed Minimum Accumulation Benefits

Guaranteed minimum accumulation benefit (GMAB) riders in variable annuities guarantee that the contract owner will receive a minimum amount 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 accumulation benefit rider 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 owners' 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 on their maturity date. This makes it even more important for companies to scrutinize the persistency patterns of contracts with these benefits.

Though sales of contracts with GMABs were around $3.1 billion in 2011, and slightly less than $3.7 billion in 2010, election rates remain very low (around 3 percent) when the rider is available throughout the year.[19] This chapter is based on an analysis of 365,801 VA contracts with GMABs, issued by 10 companies. Of these contracts, 303,537 were issued before 2011 and were in force as of December 31, 2011. A total of 27,772 contracts were issued in 2011 and were in force at the end of that year. More than 40 percent of the contracts that remained in force in 2011 were issued in 2006 or before.

These results represent a total of 30 GMAB riders introduced between 1999 and 2011. This analysis represents in-force GMAB contracts, valued at $26.8 billion at year-end 2011.

19 *Variable Annuity Guaranteed Living Benefits Election Tracking. 4th Quarter 2011,* LIMRA, 2012.

Owner Profiles

GMAB buyers are typically younger than any other GLB buyers. In 2011, the average age of GMAB buyers was 54.4 years. On average, this was 3 years older than those in our 2010 study. Almost a third of buyers (31 percent) in 2011 were under age 50. The percent of GMAB buyers under age 50 increased from 30 percent in 2007 and 2008, to 45 percent in 2009 and 2010. Another one third of buyers traditionally are between ages 50 and 59.

The average age of GMAB buyers was **54.4** in 2011.

In 2011, the 10 companies issued 27,772 GMAB contracts. Only 7 percent of those were purchased by owners aged 70 and over. The average premium received for GMAB contracts in 2011 was $84,140 — lower than other GLB contracts, reflecting the lower investable assets of the younger customer base (Table 3-1). However, on average, this was $9,400 higher than in 2010, driven by larger IRA contracts.

Table 3-1: GMAB Owner and Contract Characteristics

	Issued Before 2011	Issued in 2011	All Contracts in Force	Average Premium (For Contracts Issued in 2011)
Age of Owner				
Under 50	20%	31%	21%	$58,063
50 to 54	13%	16%	13%	$79,585
55 to 59	16%	19%	16%	$93,212
60 to 64	18%	18%	17%	$105,593
65 to 69	13%	10%	13%	$100,195
70 to 74	9%	4%	9%	$104,291
75 to 79	6%	2%	6%	$107, 583
80 or older	5%	0%	5%	$112,126
Average age/premium	59.5 years	54.4 years	59.1 years	$84,140
Gender				
Male	49%	49%	49%	$91,650
Female	51%	51%	51%	$76,969
Market type				
IRA	66%	74%	67%	$79,230
Nonqualified	34%	26%	33%	$98,278
Distribution channel				
Career agent	19%	66%	23%	–
Independent B-D	44%	19%	42%	–
Full-Service Nat'l. B-D	9%	2%	9%	–
Bank	26%	14%	25%	–

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

	Issued Before 2011	Issued in 2011	All Contracts in Force	Average Premium (For Contracts Issued in 2011)
Cost structure				
B-share	78%	83%	78%	$84,791
C-share	2%	1%	2%	–
L-share	18%	11%	18%	–
O-share	2%	5%	2%	–
Other				
Contract value, end of 2011 as percent of contracts				
Under $25,000	29%	29%	29%	N/A
$25,000 to $49,999	23%	22%	23%	N/A
$50,000 to $99,999	24%	23%	24%	N/A
$100,000 to $249,999	19%	20%	19%	N/A
$250,000 or higher	5%	6%	5%	N/A
Contract value, end of 2011 as percent of contract value				
Under $25,000	5%	4%	5%	N/A
$25,000 to $49,999	10%	10%	10%	N/A
$50,000 to $99,999	21%	20%	21%	N/A
$100,000 to $249,999	35%	37%	35%	N/A
$250,000 or higher	29%	29%	29%	N/A
Average contract value, end of 2011	$80,71	$83,196	$80,891	N/A
Median contract value, end of 2011	$47,390	$49,357	$47,615	N/A
Average premium received		$84,140		

Note: Based on 331,309 GMAB contracts still in force at the end of 2011. "Issued before 2011" based on 303,537 contracts; "Issued in 2011" based on 27,772 contracts. Percentages are based on number of contracts unless stated otherwise. We have not shown some measures related to channels 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.

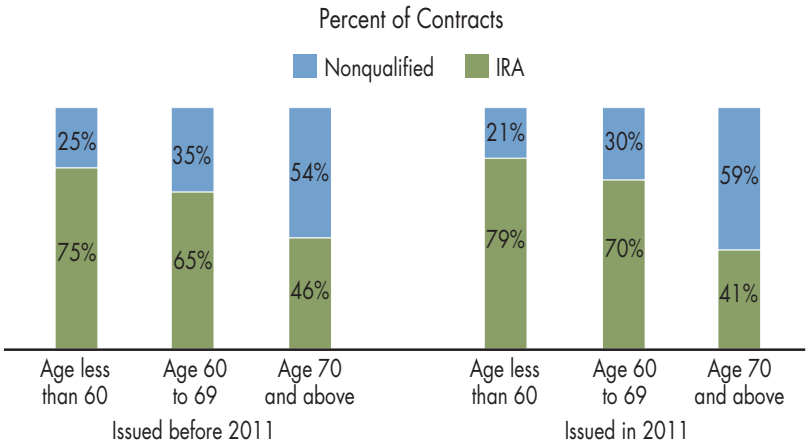
Key Findings

- More than 80 percent of the contracts issued in 2011 were B-share contracts; while L-share contracts made up one tenth of new issues in 2011.
- Career agents issued two thirds, independent B-Ds issued one fifth, and banks issued 14 percent of GMAB contracts in 2011.
- The average premium received for GMABs was $84,100.
- Average nonqualified premiums of $98,300 were almost 25 percent higher than qualified purchases of $79,200.

Ownership of Qualified and Nonqualified GMAB Annuities

For GMAB contracts issued in 2011, three quarters were qualified, while two thirds of contracts issued before 2011 were qualified. This aligns with a broader industry shift that LIMRA has tracked in the total variable annuity market, where annuities are increasingly being funded with tax-qualified money, the bulk of which likely comes from rollovers from younger individuals.

Figure 3-1: GMAB Ownership by Source of Funds and Age



Note: Based on 331,294 contracts issued in 2011 or before and still in force at the end of 2011.

Based on contracts issued in 2011 and still in force at the end of 2011, 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 3-1). In contrast, among owners aged 70 or over, 6 in 10 fund their GMAB annuities with nonqualified sources.

74% of GMAB contracts issued in 2011 were qualified, while two thirds of contracts issued before 2011 were qualified.

- GMABs can be appropriate annuity investments for conservative to moderate investors who have a long-term investment horizon, typically 7 to 10 years. 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 limited downside risk. While growth from market gains in fixed indexed annuities is subject to many complex calculations, a variable annuity 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. This suggests that an effective strategy for insurance companies is to broaden the market appeal of their GMAB products to attract more of the nonqualified assets from younger as well as older investors, and to position the GMAB as an effective alternative to fixed-rate deferred annuities or indexed annuity products.
- 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, or 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 RMD withdrawals. Companies should make a concerted effort to retain these assets and, when appropriate, guide the client to use the annuity for lifetime income.

Benefit Base

At the beginning of 2011, the average GMAB account value of $83,600 exceeded the average benefit base of $76,000 by 10 percent (Table 3-2). At the beginning of 2011, 24 percent of GMAB contracts issued before 2011 still had benefit bases that exceeded the contract values (i.e., were 'in the money'). This measure was certainly an improvement over 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 3-2: GMAB Benefit Base and Contract Value, at the Beginning of 2011

	Benefit Base Amount	Contract Value	
		Amount	Percent of benefit base
Sum	$22,869,879,814	$25,149,276,970	110%
Average	$76,030	$83,608	110%
Median	$44,701	$49,297	110%
Percent of contracts where benefit base exceeded the account value		24%	

Note Based on 300,801 GMAB contracts issued before 2011. Excludes contracts for which the GMAB benefit bases could not be determined.

Table 3-3: GMAB Benefit Base and Contract Value, at Year-End 2011

	Benefit Base Amount	Contract Value	
		Amount	Percent of benefit base
Sum	$22,024,067,132	$23,605,034,890	107%
Average	$75,380	$80,792	107%
Median	$43,885	$47,327	108%
Percent of contracts where benefit base exceeded the account value		43%	

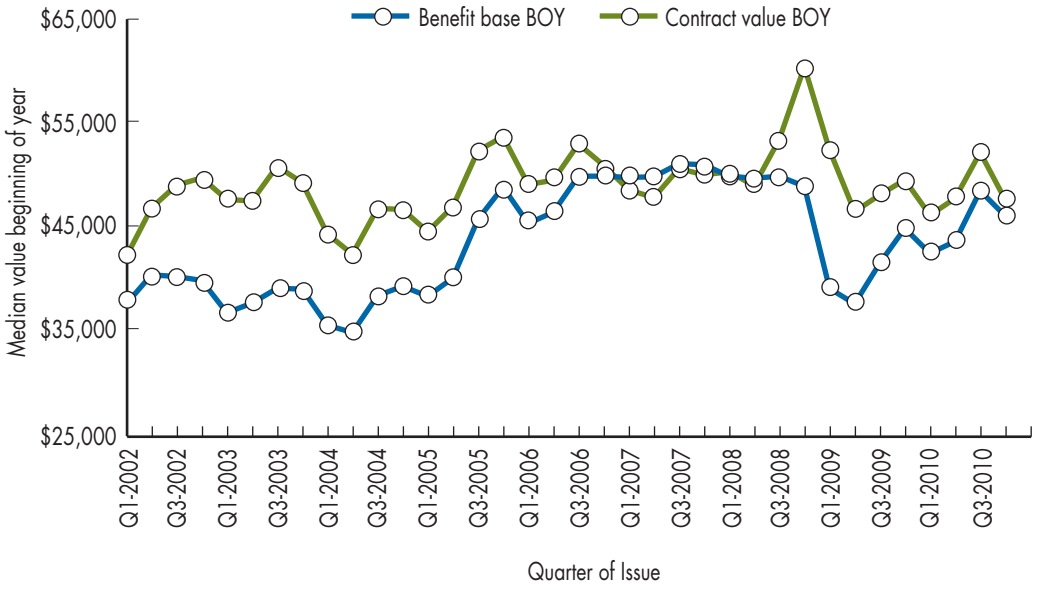
Note: Based on 292,172 GMAB contracts issued before 2011 and remaining in force at the end of year. Excludes contracts for which the GMAB benefit bases could not be determined.

43% of GMAB contracts were in-the-money at the end of 2011 compared to **24%** at the beginning of 2011.

However, the equity market in 2011 was flat. As a result, by the end of 2011, average GMAB account values fell 3 percent from $83,600 to $80,800 (Table 3-3). The average benefit base also fell slightly from $76,000 to $75,400. However, even this small decrease in account values pushed 43 percent of the GMAB contracts to be in the money at the end of year. This underscores the inherent risk of GMAB riders to an insurance company caused by market loss and heightened market volatility.

Because most GMAB contracts have existed for several years (nearly half of the contracts were issued in 2006 and before), a large segment of the contracts went through considerable market volatility — involving both gains in 2005–2007, and deep losses during the market crisis in 2008–2009. The contracts issued in 2005, for example, experienced a brief period of market gains in 2006–2007, 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 market crisis. However contracts issued in late 2008 and early 2009, at the bottom of the market crisis, had contract values higher than the benefit base, though only a short time has elapsed (Figure 3-2). Overall, at the beginning of 2011, median contract values for contracts were considerably higher than the median benefit base for almost all GMAB contracts except those issued in 2007 and early 2008.

Figure 3-2: GMAB Contract Value vs. Benefit Base, Beginning of 2011



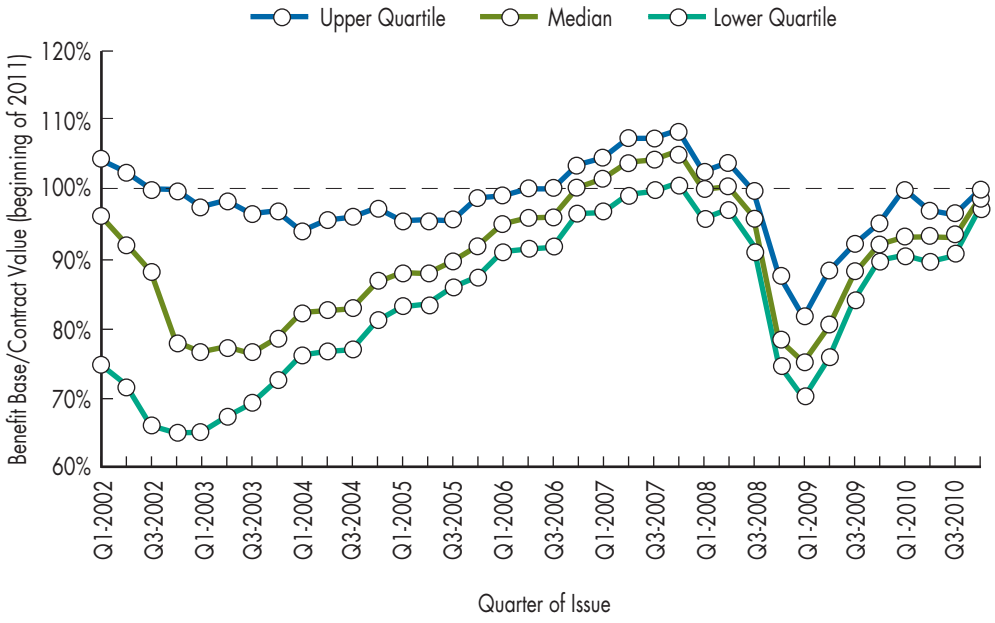
Note: Based on 296,068 GMAB contracts issued between 2002 and 2010. Excludes contracts for which the GMAB benefit bases could not be determined.

Figure 3-2 shows three distinct categories of contracts, marked by their issue years. Overall, contracts issued between Q1 2002 and Q4 2006 — 48 percent of in-force GMAB contracts — had median account values exceeding the median benefit base amounts within a wide range of $1,100 to $11,700. For contracts issued between Q1 2007 and Q2 2008 — one fourth of in-force contracts — the median account value remained lower than the benefit base amount (i.e., was in the money within a range of $500 to $2,000). Contracts issued between Q3 2008 and Q4 2010 — around 28 percent of all contracts — received the benefit of market

gains during 2009 – 2010 and had median contract values higher than the median benefit base. The favorable difference between the median contract value and the median benefit base of these contracts ranged from $1,500 to $13,300.

However, not all GMAB contracts — for example, those issued during 2002–2006 —were out of the money. Figure 3-3 shows the comparison between the ratio of the median benefit base to median contract value for GMABs at the beginning of 2011, as well as the inter-quartile range to understand how widely (or narrowly) distributed the ratios were.

Figure 3-3: GMAB Ratio of Benefit Base to Contract Value, Beginning of 2011



Note: Based on 363,933 GMAB contracts issued between 2002 and 2010. Excludes contracts for which the GMAB benefit bases could not be determined.

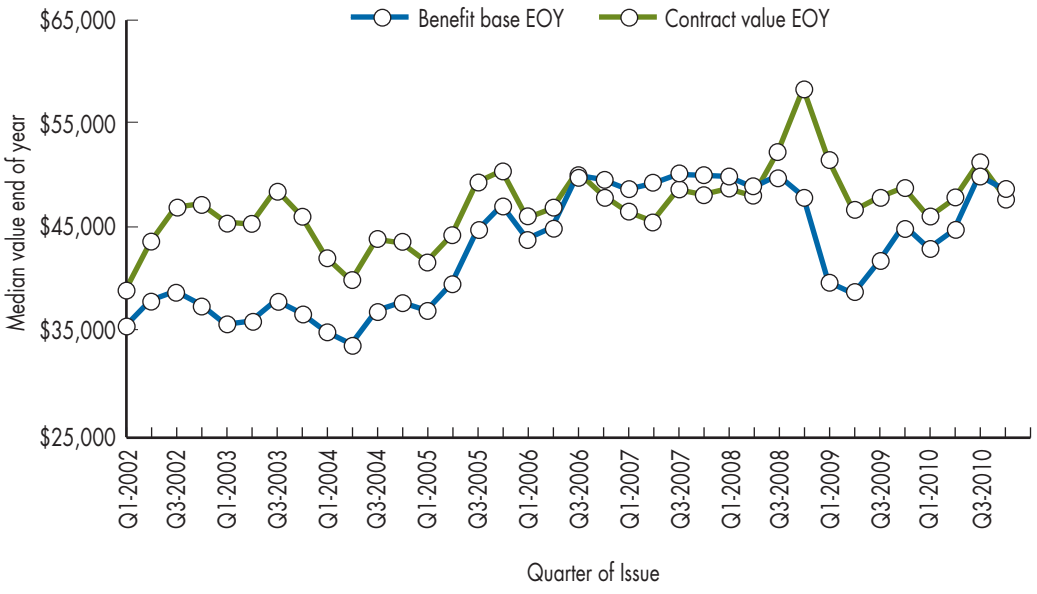
The upper and lower quartiles in Figure 3-3 refer to the distribution of benefit-base to contract-value ratios, not to the distribution of contract values. For example, for contracts issued in Q1 2002, the typical (median) contract had a benefit base that was around 96 percent of the contract value at the beginning of 2011; one quarter of the contracts had benefit bases that were more than 104 percent of contract values; and one quarter of contracts had benefit bases that were less than 75 percent of contract values. Nearly three-fourths of all contracts issued in Q1 2002 had benefit bases that were below 100 percent of contract values (i.e., were out of the money). For contracts issued in every quarter from 2002 and 2006, slightly less than a quarter had favorable benefit base to contract value ratios.

The data also show that the average benefit base for contracts issued from Q1 2007 to Q2 2008 had the greatest difference in average contract values — for 75 percent of those contracts the deviation between average benefit base and average contract value ranged from 96 percent to 108 percent at the beginning of year.

During 2011, the equity market remained relatively flat, and so the contract values did not grow. The ratio of benefit base to contract value worsened. The median contract value fell from $49,300 at the beginning of 2011 to $47,300 by the end of the year. However, the decline in the ratio was not uniform across all contracts issued at different time periods.

At the end of 2011, the gap between the account value and the benefit base in GMAB contracts had tightened, particularly for contracts that were issued in 2006 or before (Figure 3-4). For these contracts, contract values exceeded benefit values by a range of $400 to $10,700. However, the unfavorable margin between contracts issued in 2007 and early 2008 increased; and, at the end of the year the median contract values lagged behind the median benefit base values in a range of $800 to $3,600. This switched again for contracts issued in late 2008. For example, the contracts issued in the first quarter of 2009 achieved the most favorable margin between the median contract values and the median benefit base — $11,800 more than the benefit base — due to buying the GMAB contract at low market and subsequent market recovery in 2009 and 2010.

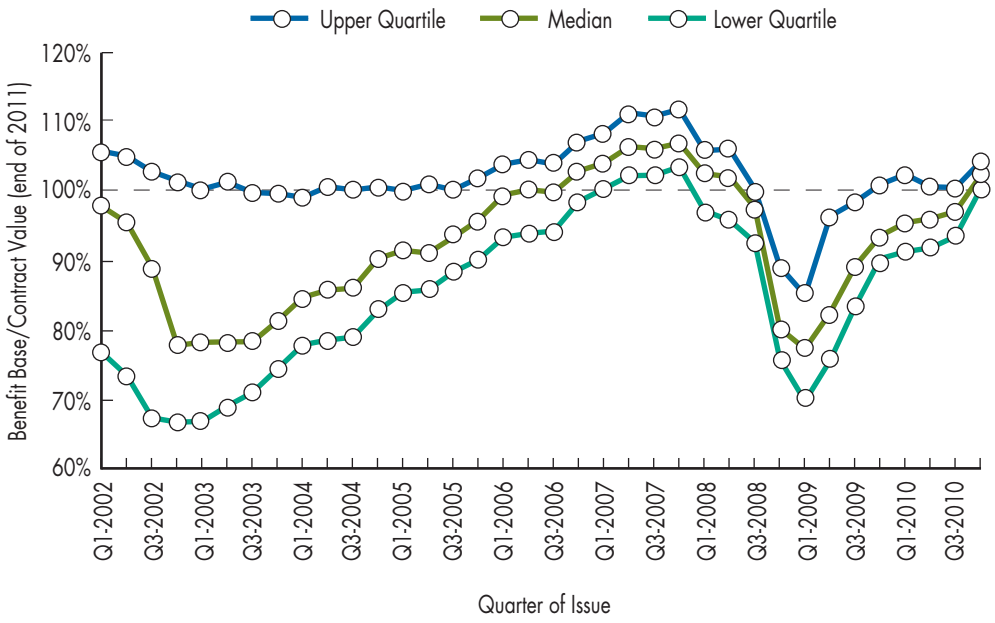
Figure 3-4: GMAB Contract Value vs. Benefit Base, End of 2011



Note: Based on 288,388 GMAB contracts issued between 2002 and 2010 and remaining in force at end of 2011. Excludes contracts for which the GMAB benefit bases could not be determined.

At year end, a larger percentage of GMAB contracts were in the money. Figure 3-5 shows the comparison between the ratio of benefit base to contract value for GMAB contracts at year end by quarter of issues, and the distribution of ratios in quartiles.

Figure 3-5: GMAB Ratio of Benefit Base to Contract Value Distribution at Year-End 2011



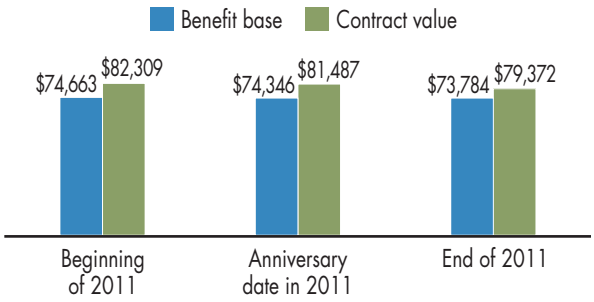
Note: Based on 288,388 GMAB contracts issued between 2002 and 2010. Excludes contracts for which the GMAB benefit bases could not be determined

Given the absence of market gains and the presence of annuity expenses, around a quarter of GMAB contracts issued in or before 2006 — almost half of all GMAB contracts in the study — had benefit base to contract value ratios above 100 percent, though the other three quarters of contracts remained out of the money. Nearly three fourths of GMAB contracts issued between Q1 2007 to Q2 2008 were in the money at year-end. Most of the contracts issued between Q2 2008 and Q4 2010 — almost 30 percent of the book of business — were out of the money. Overall, 43 percent of all GMAB contracts were in the money at the end of 2011.

Nearly three fourths of GMAB contracts issued between Q1 2007 and Q2 2008 were in-the-money at the end of 2011.

The average contract value decreased from $82,300 at the beginning of 2011 to $79,400 at the end of 2011, losing 4 percent in value (Figure 3-6). On the anniversary date in 2011, the average benefit base of $74,300 was slightly lower than the average benefit base of $74,000 at the beginning of the year, driven by withdrawals that occurred prior to the anniversary date. GMAB riders typically reduce the benefit base with each withdrawal. At the end of 2011 the average contract value of $73,800 was about $5,600 larger than the average benefit base value.

Figure 3-6: GMAB Average Contract Values and Benefit Bases at Beginning-of-Year, on Anniversary Date, and at End-of-Year 2011



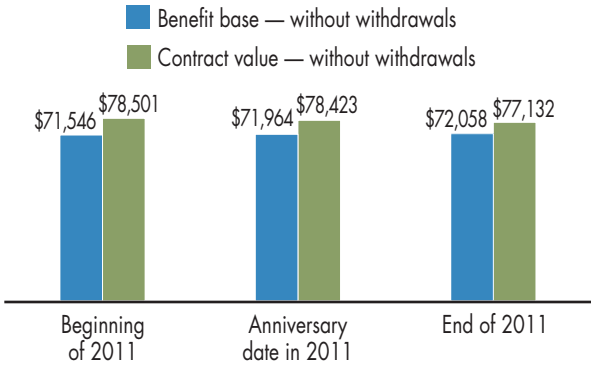
Note: Based on 223,130 GMAB contracts issued before 2011 and still in force at the end of 2011. Excludes contracts for which the GMAB benefit bases (as of the beginning of the year, the contract's anniversary date, or the end of the year) could not be determined.

Across all 223,130 GMAB contracts where companies reported both contract values and benefit bases, benefit bases totaled $16.5 billion as of year-end 2011, compared with account balances of $17.7 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 2011 that did not have withdrawals in 2011, the average benefit base remained relatively flat — $71,500 at the beginning of the year compared to $72,000 on the anniversary date and $72,100 by year-end (Figure 3-7). 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 decreased slightly during the year, given the absence of market gains. At the end of the year, the average contract value was $5,000 larger than the average benefit base value for contracts without withdrawals.

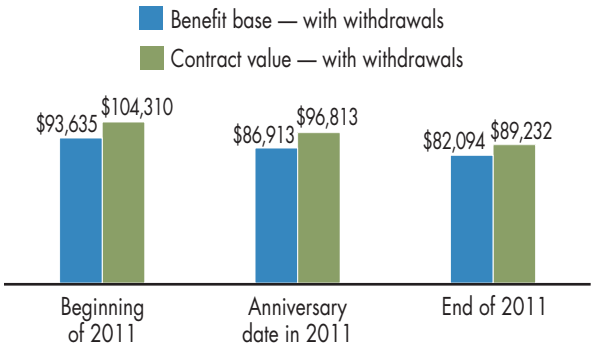
Figure 3-7: GMAB Contract Value and Benefit Base for Contracts Without Withdrawals



Note: Based on 173,322 GMAB contracts issued before 2011 and still in force at the end of 2011 where there were 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 2011, the average benefit base declined 12 percent, from $93,600 at the beginning of the year to $82,100 at year-end. The average contract value declined by 14 percent, but was $7,100 above the benefit base (Figure 3-8).

Figure 3-8: GMAB Contract Value and Benefit Base for Contracts With Withdrawals

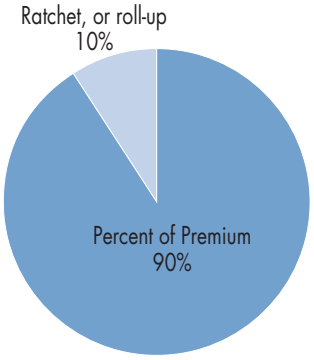


Note: Based on 38,627 GMAB contracts issued before 2011 and still in force at the end of 2011 where there were withdrawals made, but no current-year premium received. Excludes contracts for which the GMAB benefit bases or contract values could not be determined.

GMAB Benefit Calculation Method

Nine out of 10 GMABs have benefit bases that are determined based on total premiums received, without any roll-up or ratcheting mechanisms (Figure 3-9).

Figure 3-9: GMAB Benefit Calculation Method



Note: Based on 303,537 GMAB contracts issued before 2011.

At the beginning of 2011, contracts with the single-year ratchet method had an 8 percent gap between the contract value and the benefit base (Table 3-4). However, at the end of the year, the average account value of these contracts was 4 percent higher than the average benefit base. For percent of premium contracts, the average account value was 8 percent higher than the average benefit base at year-end.

Table 3-4: GMAB Benefit Base and Contract Value, at the Beginning and End of 2011, by Benefit Calculation Method

	Beginning of 2011			End of 2011		
Benefit Calculation Method	Average Benefit Base	Average Account Value	Account Value/ Benefit Base	Average Benefit Base	Average Account Value	Account Value/ Benefit Base
Percent of premium	$74,072	$81,741	110%	$73,153	$78,878	108%
Ratchet — single year	$85,155	$92,386	108%	$84,979	$88,141	104%

Note: Based on 223,130 GMAB contracts issued before 2011. Excludes contracts for which GMAB benefit bases could not be determined.

As a result, at the end of 2011, the difference between the contract value and the benefit base decreased as contract values for all types of GMABs were lower, compared with the benefit bases that remained mostly flat. The average account value for contracts where the benefit base is calculated based on percent of premium fell by 4 percent while the average account value for contracts with ratchets fell by 6 percent during the year.

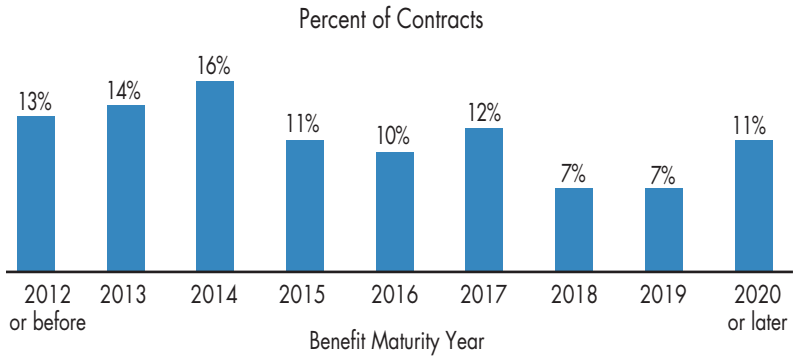
Benefit Maturity

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 (87 percent) have benefit maturity dates in 2013 or later (Figure 3-10). Nearly half of GMAB contracts in force will mature between 2013 and 2016.

Figure 3-10: GMAB Percentage of Contracts by Benefit Maturity Year

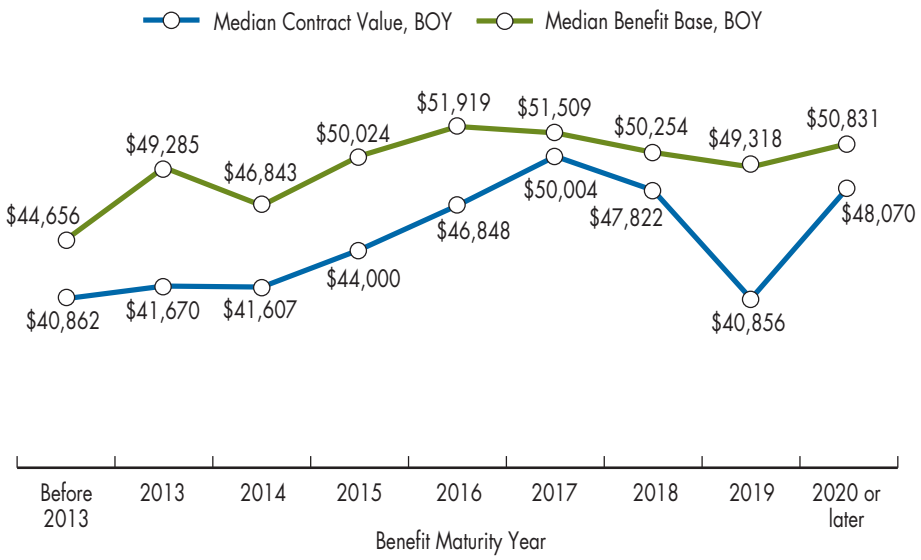


Note: Based on 295,657 contracts issued before 2011. Excludes contracts for which GMAB benefit maturity year could not be determined.

Year of Benefit Maturity

Most GMAB benefits mature 7 to 10 years after they are elected. Contracts with benefit maturities that occur before 2016 — 53 percent of all GMAB contracts — typically have median account values that exceed the median benefit bases, which is favorable for providers (Figure 3-11). The difference between the median contract value and the median benefit base ranges from a favorable 3,800 to $7,600 for GMAB contracts where guarantees may accrue in the next five years. However, the difference between contract values and benefit base remains narrow among contracts with benefit maturities between 2017 and 2018, in a range of $1,500 and $2,400. Most of the contracts with maturities in 2017 and 2008 were issued in 2007 and 2008. The contracts that will mature in 2019 have median contract value exceeding the median benefit value by $8,500 at the beginning of the year.

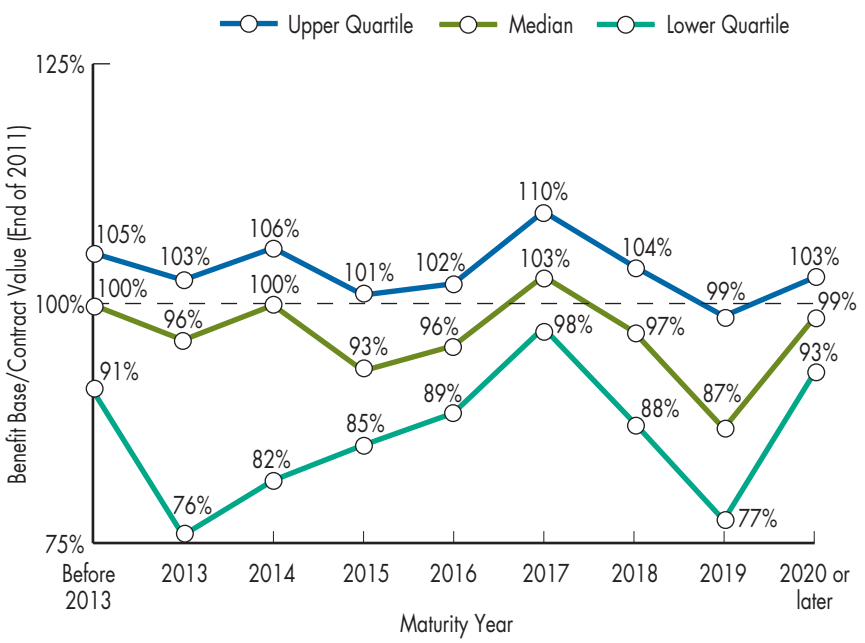
Figure 3-11: GMAB Benefit Bases and Contract Values by Benefit Maturity Year



Note: Based on 295,641 GMAB contracts issued before 2011. 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 the end of 2011 is shown in Figure 3-12. 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 favorable or unfavorable their own book of business is compared with this industry snapshot at the end of 2011.

Figure 3-12: GMAB Median Benefit Base to Median Contract Value Ratio at End of 2011, by Maturity Year



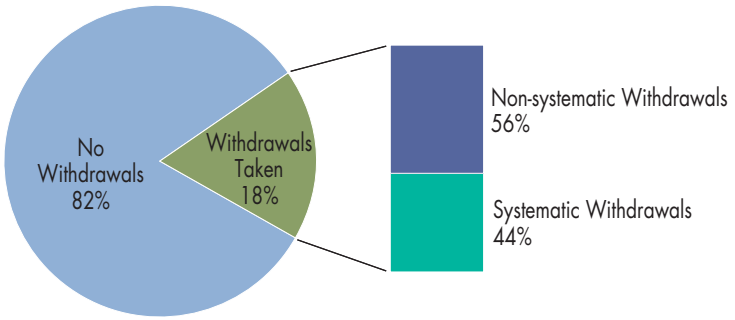
Note: Based on 291,571 GMAB contracts issued before 2011.

More than a quarter of the contracts for all years except those maturing in 2019 were in the money (i.e., benefit base to contract value ratios for more than a quarter of these contracts were above 100 percent) with benefit maturity before 2016 (Figure 3-12). For example, for contracts maturing before 2013, a quarter of their contract benefit bases were at least 5 percent higher than their contract values; and, for another quarter of the contracts, benefit bases were between 100 percent to 105 percent of their contract values. Overall, across all years, the benefit bases for a quarter of the contracts were between 99 and 110 percent of their contract values, and half of the contracts had benefit bases between 87 and 103 percent of their contract values at the end of 2011.

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 303,537 GMAB contracts issued before 2011 and still in force at the end of the year, 18 percent had some withdrawal activity during 2011 (Figure 3-13), very similar to experience in 2010. For 44 percent of contracts, these withdrawals were systematic withdrawals.

Figure 3-13: GMAB Overall Withdrawals



Note: Based 303,537 GMAB contracts issued before 2011 and still in force at the end of 2011.

Highlights below are based on GMAB contracts that had withdrawals in 2011:

- The percent of GMAB owners using systematic withdrawals is much lower compared with owners using systematic withdrawals in other GLB products.
- The total withdrawals amounted to $792 million for the year, of which $175 million were withdrawn through systematic withdrawals.
- The median withdrawal amount was $6,680. The average withdrawal rate was 10 percent based on the average beginning-of-year median contract value of $65,700.
- Median systematic withdrawal amount during the year was $4,800.

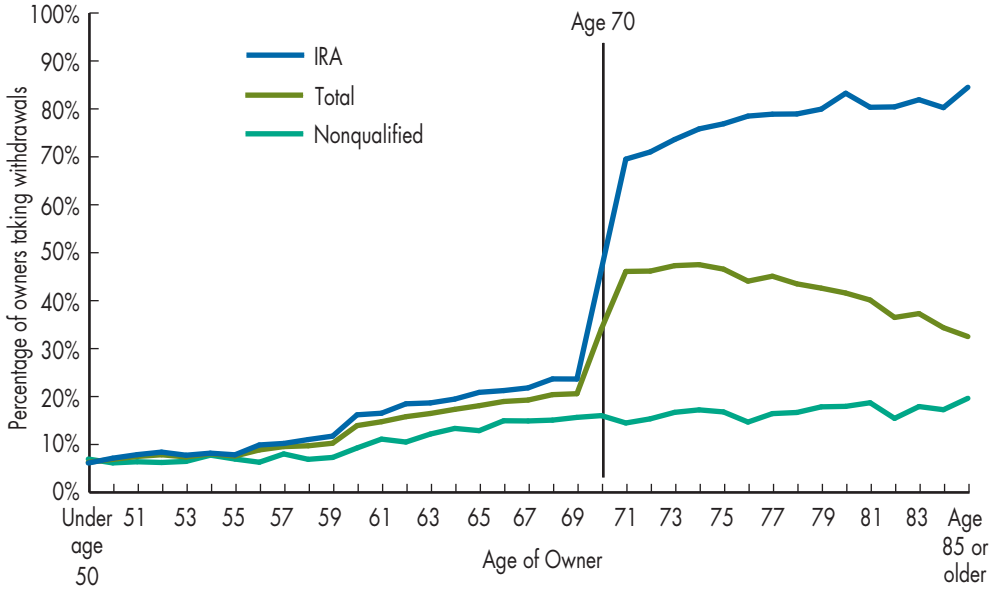
18% of GMAB owners took withdrawals in 2011.

Withdrawal Activity by Source of Funds

The percent of older customers with withdrawals approached **85%** for annuities purchased with qualified money.

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 among owners who funded their annuities with qualified funds (Figure 3-14), the same as we saw with other GLB riders.

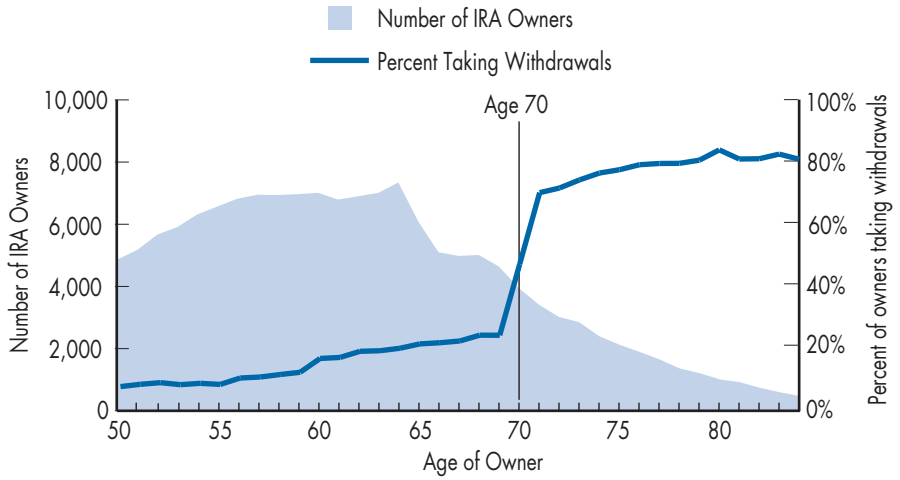
Figure 3-14: GMAB Withdrawals by Fund Source and Owner Age



Note: Based on 303,522 GMAB contracts issued before 2011 and still in force at the end of 2011. Percentages refer to the number of contracts in each age group that had partial withdrawals during 2011.

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 70 percent by ages 71–72. After age 72, the percent of these customers withdrawing slowly rises to 80 percent by age 85. Owners are less likely to take withdrawals if they used nonqualified money, and the percent of nonqualified customers withdrawing remains less than 20 percent for all ages.

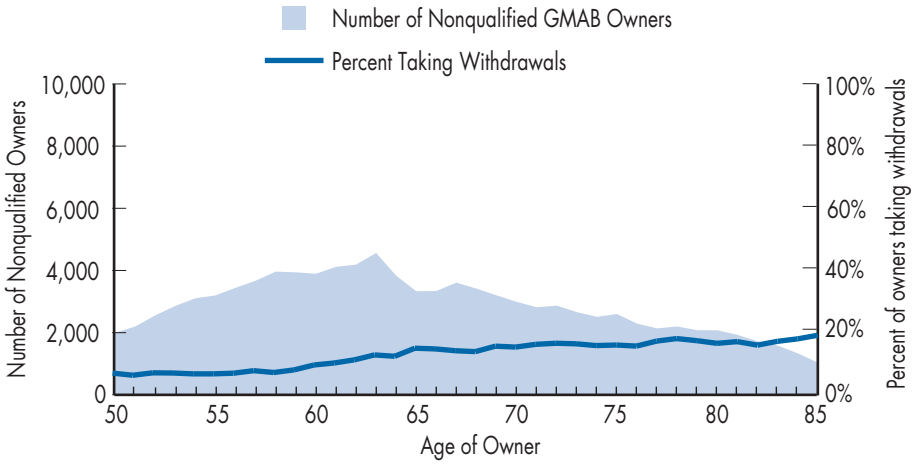
Figure 3-15: GMAB Withdrawals by IRA Owners



Note: Based on 200,203 GMAB contracts, funded by IRA money, issued before 2011 and still in force at the end of 2011.

In 2011, only 14 percent of GMAB owners who funded their annuities with qualified sources were age 70 or over (Figure 3-15). Nearly three fourths of these owners took withdrawals in 2011. On the other hand, 12 percent of owners who were aged 69 or under took withdrawals in 2011.

Figure 3-16: GMAB Withdrawals by Nonqualified Owners



Note: Based on 103,319 GMAB contracts, funded by nonqualified savings, issued before 2011 and still in force at the end of 2011.

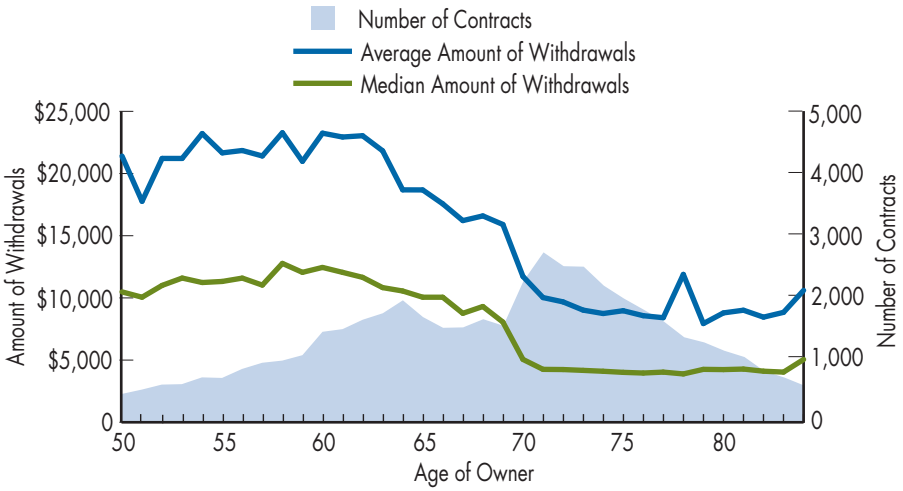
Only 12 percent of nonqualified owners took withdrawals in 2011 (Figure 3-16). The percent of owners taking withdrawals increases very slowly with age. Seventeen percent of owners

aged 70 or over and 10 percent of owners aged 69 or under took withdrawals from their GMAB contracts.

Average Amount of Withdrawals

The average amount of withdrawals in GMAB contracts was $14,800 for contracts issued before 2011 that were in force at the end of 2011. The median amount was $6,680.

Figure 3-17: GMAB Average Amount of Withdrawals by Owner Age



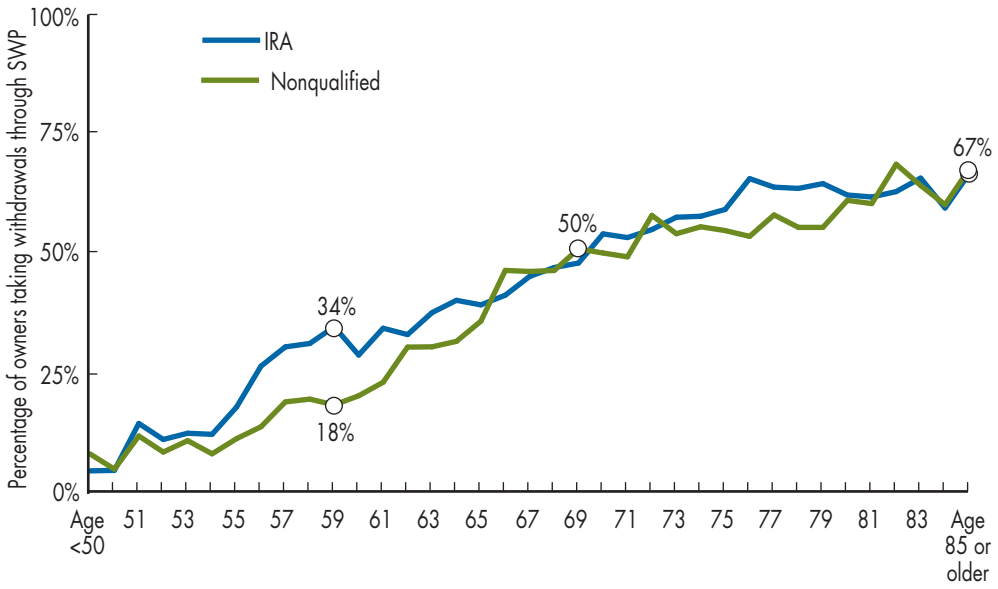
Note: Based on 53,470 GMAB contracts issued before 2011, still in force at the end of 2011, and that had incurred withdrawals in 2011.

Some owners in their 50s and 60s took average withdrawals of more than $15,000 from their contracts (Figure 3-17). Despite only 11 percent of owners taking withdrawals, their high withdrawal amounts accounted for almost 70 percent of all withdrawals in 2011. 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 the RMD needs.

Systematic Withdrawal Activity

One fifth of GMAB owners are taking withdrawals, most of which are to satisfy RMD requirements when taken by older owners. When older owners take withdrawals, many of them take advantage of a systematic withdrawal plan (SWP) or program (Figure 3-18). All insurance companies allow owners to use SWPs, particularly to satisfy RMD requirements. Typically companies treat such 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 3-18: GMAB Withdrawals With Systematic Withdrawal Plans

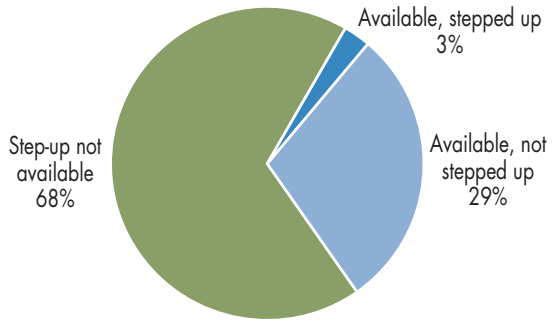


Note: Based on 52,927 GMAB contracts that were issued before 2011, still in force at the end of 2011, and that had withdrawals in 2011.

Overall, 43 percent of IRA owners took withdrawals using SWPs while 41 percent of nonqualified owners used SWPs. However, use of an SWP is higher among older owners. For example, 29 percent of IRA owners under age 70 used SWPs for withdrawals, and the rest took withdrawals non-systematically or occasionally. On the other hand, 58 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.

Step-Up Activity

Figure 3-19: GMAB Step-Up Activity



Note: Based on 262,660 GMAB contracts issued before 2011 and still in force at the end of 2011. "Step-up not available" includes contracts with step-up options that did not allow step-ups during 2011.

Most GMAB contracts do not allow owners to step up the value of their benefit bases if their contract values have risen. However, some GMAB contracts allow the ability to lock in accumulated growth in contract values on contract anniversaries with a reset feature in the benefit base — with the provision that the contract is reset or restarted for another fixed period of time, typically 10 years. Many contracts also state that the client must request the step-up only within a certain time frame after the anniversary date.

Thirty-two percent of owners had step-up options available in 2011. Only a small percentage of owners (3 percent) chose to step up their benefit bases (Figure 3-19).

It appears that the few GMAB owners that stepped up the value of their benefit base tended to see greater growth than those that did not.

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 2010 or earlier:

- Six percent received additional premium in 2011. Fourteen percent of contracts issued in 2010 and 9 percent of contracts issued in 2009 added premium in 2011, respectively. Contract owners with lower account values were more likely to add premium.
- The average additional premium in 2011 was $19,950, with a median of $4,900.
- Younger owners are more likely to add premium than older owners. For example, 9 percent of owners under age 50 added premium, compared with 5 percent of owners aged 70 or older.

Among contracts issued in 2011, the average premium was $84,200, and the median was $50,000.

Premium received and new contracts issued were offset by outflows associated with partial withdrawals, full surrenders, deaths, and annuitizations (Table 3-5). The total number of GMAB contracts in force remained essentially flat during 2011.

Table 3-5: GMAB Net Flows

	Dollars (in Billions)	Contracts	Average Contract Size
In force, beginning of 2011	**$28.34**	**337,919**	**$83,858**
Premium received			
Newly issued contracts	$2.35	27,857	$84,235
Existing contracts	$0.40	N/A	N/A
Benefits paid			
Partial withdrawals	$1.04	N/A	N/A
Full surrenders	$2.28	32,297	$70,180
Deaths	$0.16	2,054	$78,180
Annuitizations	<$0.1	125	$67,221
Investment growth	($0.78)	N/A	N/A
In force, end of 2011	**$26.82**	**331,284**	**$80,976**

Note: Based on 365,776 GMAB contracts. Dollar values for contracts issued before 2011 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 2011 that terminated during the year were set equal to the current-year premium.

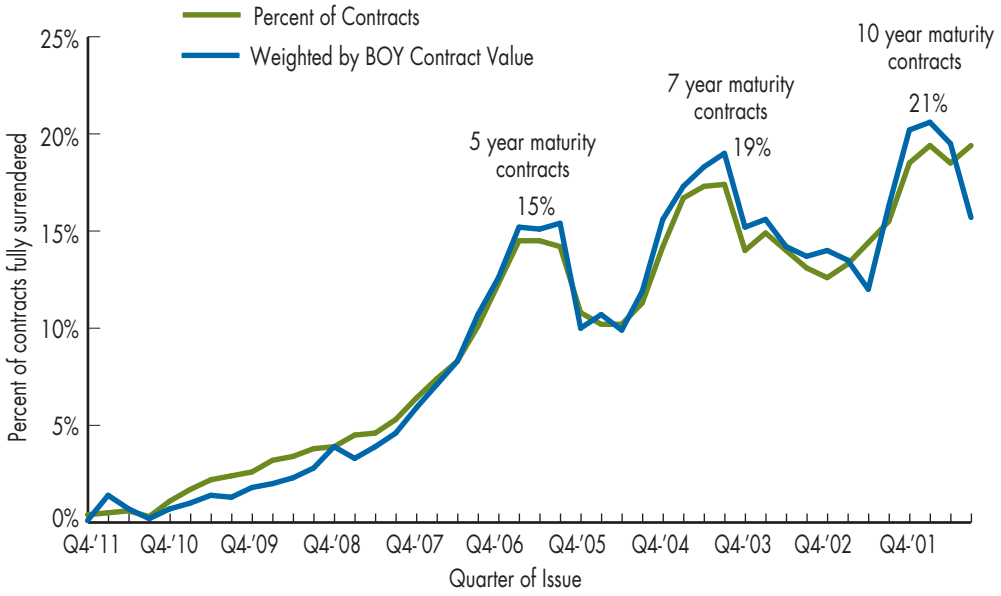
Persistency

GMABs have the highest overall surrender rates (9.5 percent) compared with other living benefits, and the highest surrender rates among VA contracts issued since 2004. However, it is expected that surrender rates would 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.

9.5% was the surrender rate for GMAB contracts in 2011.

Surrender rates of 15.4 percent are extremely high for GMAB contracts issued in 2004 or before (Figure 3-20). Some contracts completed their fifth contract year in 2011 — coming out of surrender charges, and possibly reaching the 5-year benefit maturity period when some accumulation guarantees expired. Seven- and ten-year duration contracts that were issued in 2003 and 2001 respectively — many of which were out of surrender charges — also had high surrender rates, ranging from 15 to 20 percent. Nearly all contracts (99.6 percent) issued in 2011 remained in force at the end of that year.

Figure 3-20: GMAB Surrender Rate by Quarter of Contract Issue



Note: Based on 354,191 GMAB contracts issued in or before 2011.

Surrender Activity by Share Class

Surrender rates among contracts with surrender charges were lower than in contracts without surrender charges. Irrespective of share classes, the surrender rate for contracts where charges expired in 2011 was 22 percent — more than triple of the surrender rate (6 percent) of contracts where charges exist. The surrender rate of contracts that expired in previous years was 15 percent. Figure 3-21 illustrates the surrender rates for contracts by share classes.

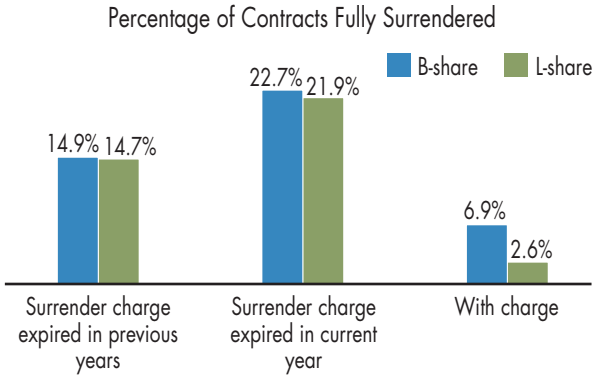
More than 70 percent of GMAB contracts, with B- and L-share combined, were within the CDSC periods in 2011. The surrender rates for B-share and L-share contracts with a surrender charge were 6.9 percent and 2.6 percent respectively.

6% was the surrender rate for GMAB contracts when early surrender charges were present.

15% of contracts were surrendered where charges expired in previous years.

22% of contracts were surrendered where charges expired in the current year.

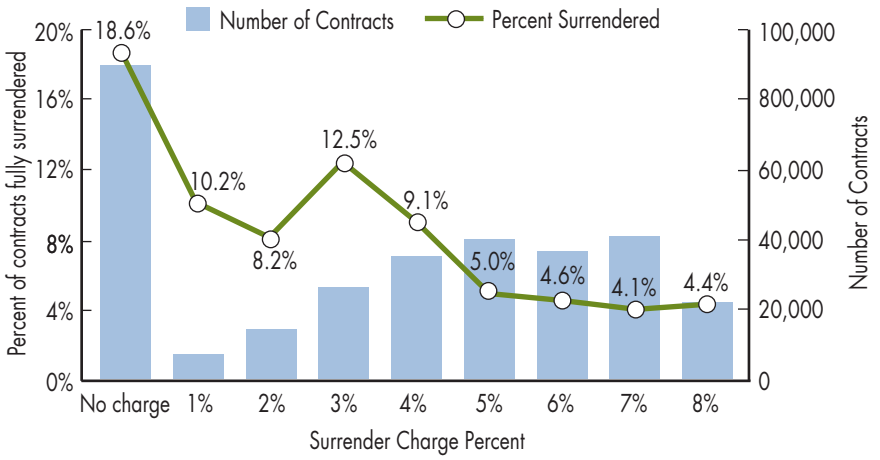
Figure 3-21: GMAB Surrender Rate in 2011 by Share Classes



Based on 320,970 GMAB contracts issued before 2011. We have not shown some measures related to other 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

Contract surrender is influenced by the rate of surrender charge present. Naturally, contracts with the likelihood of higher penalties have lower surrender rates and vice versa (Figure 3-22). Nearly a third of GMAB contracts (30 percent) were free of surrender charges in 2011. Also the contracts free of surrender charges accounted for 28 percent of total account value of the contracts.

Figure 3-22: GMAB Surrender Rate in 2011 by Surrender Charge Present

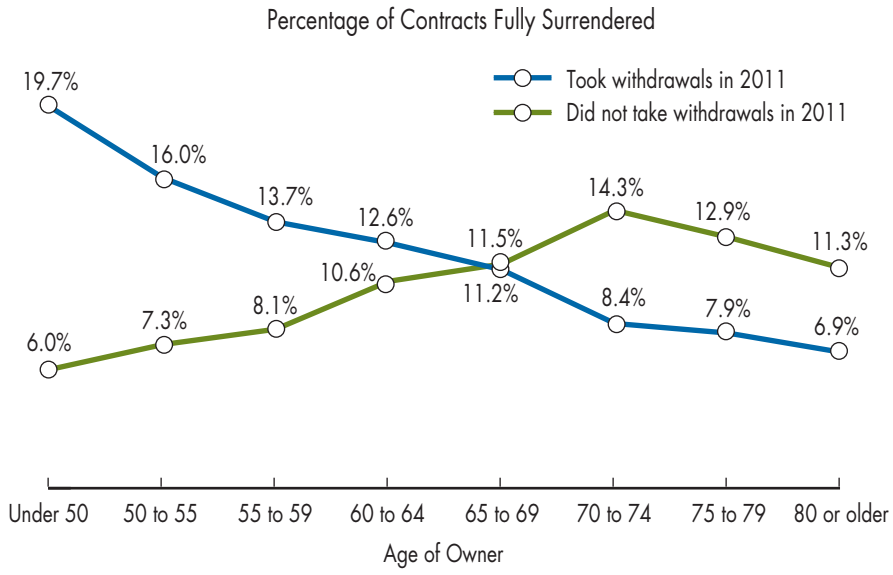


Note: Based on 325,786 GMAB contracts issued before 2011.

Surrender Activity by Owners Taking Withdrawals

Higher GMAB surrender rates are also associated with younger owners, particularly those under age 60 who took withdrawals before or in 2011. We have already seen that even though younger owners own a significant portion of GMABs, some of them are taking large average amounts of withdrawals. It is likely that these younger owners are really taking partial surrenders. Owners under age 60 who took withdrawals in 2011 were also very likely to fully surrender their contracts compared to older owners (Figure 3-23).

Figure 3-23: GMAB Surrender Rate in 2011, by Owners Taking Withdrawals in 2011



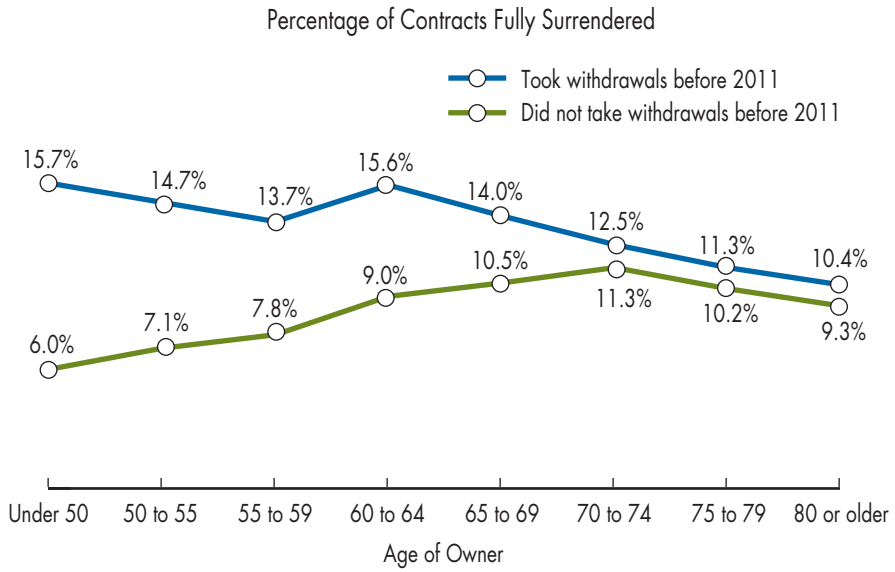
Based on 338,340 GMAB contracts issued before 2011.

Twenty percent of owners under age 50, 16 percent of owners between ages 50 and 54, and 14 percent of owners between ages 55 and 59 who took withdrawals during 2011 subsequently surrendered their contracts by the end of 2011. For this group, their average withdrawal amount was $20,500.

It should be noted that many of the GMAB owners may be surrendering the contracts because the contract benefit matured. Benefit maturity in the contract 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 have not taken any withdrawals in 2011. But for many younger owners, taking withdrawals may be early indicator that they may fully surrender their contract.

Past withdrawals can also indicate whether younger owners are more likely to fully surrender contracts in the future. Figure 3-24 shows the surrender rate for owners who took withdrawals before 2011.

Figure 3-24: GMAB Surrender Rate by Owners Taking Withdrawals Before 2011

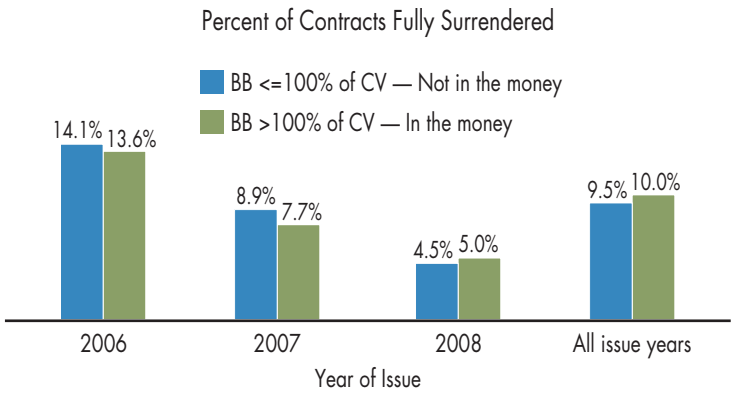


Based on 338,340 GMAB contracts issued before 2011.

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, and reviewing contracts by issue years, there appears to be no impact of in-the-money on surrender activity (Figure 3-25). This makes sense, as the GMAB owners purchased the product to avoid loss of principal in market volatility during a fixed period of time. Unless their investment objectives have changed, they should hold on to their contract until its maturity date.

Figure 3-25: GMAB Surrender Rate by Degree of in-the-Moneyness



Note: Based on 335,576 GMAB contracts issued before 2011. We have not shown surrender rates for other years 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 is greater than account value

Surrender activity is highest for older owners, as the contracts come out of surrender charges and also at the end of benefit maturity period (Table 3-6).

Table 3-6: GMAB Surrender Rates

	Percent of Contracts Surrendered	Percent of Contract Value Surrendered
All contracts	9.5%	9.5%
Year of issue		
Before 2004	14.4%	14.8%
2004	16.5%	17.7%
2005	10.6%	10.6%
2006	13.9%	14.6%
2007	8.0%	7.9%
2008	4.6%	4.0%
2009	3.3%	2.3%
2010	1.8%	1.1%
Age of owner		
Under 50	7.0%	6.5%
50 to 54	8.0%	7.6%
55 to 59	8.6%	8.6%
60 to 64	10.9%	10.4%
65 to 69	11.4%	11.3%
70 to 74	11.8%	11.5%
75 to 79	10.8%	11.0%
80 or older	9.8%	9.0%
Contract value, beginning of 2011		
Under $25,000	9.5%	9.5%
$25,000 to $49,999	9.0%	9.0%
$50,000 to $99,999	9.1%	9.1%
$100,000 to $249,999	9.5%	9.5%
$250,000 to $499,999	9.7%	9.8%
$500,000 or higher	10.5%	10.5%

Table 3-6: GMAB Surrender Rates *(continued)*

	Percent of Contracts Surrendered	Percent of Contract Value Surrendered
Gender		
Male	9.8%	9.8%
Female	9.2%	9.2%
Market type		
IRA	8.9%	8.9%
Nonqualified	12.1%	12.3%
Share Class		
B-Share	8.9%	8.8%
L-Share	12.1%	12.3%

Note: Based on 338,342 GMAB contracts issued before 2011. For a description of the surrender rate calculation method, please see Appendix A.

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.

Key Findings

- There is little difference between persistency in contracts funded by nonqualified and qualified money. There is even less difference among contracts owned by male or female owners, or by the size of contracts.
- Nearly all contracts issued during 2011 remained in force at the end of that year (99.6 percent).

Product and Benefit Characteristics

GMABs are the least expensive living benefits, especially for contracts issued before 2011. Most cost around 0.40 to 0.80 percent of contract value — either including or excluding any fixed account balance (Table 3-7).

Table 3-7: 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
Average Mortality and expense charge	1.47%	1.45%	1.45%	1.47%	1.47%	1.45%	1.40%
Average benefit fee	0.37%	0.45%	0.46%	0.57%	0.62%	0.75%	0.81%
Average number of subaccounts	63	65	68	68	67	54	54
Product has fixed account							
Yes	75%	88%	87%	90%	85%	89%	85%
No	25%	12%	13%	10%	15%	11%	15%
Product still available as of 12-31-2011							
Yes	22%	42%	43%	44%	35%	80%	98%
No	78%	58%	57%	56%	65%	20%	2%
Rider still available as of 12-31-2011							
Yes	13%	35%	39%	52%	57%	98%	99%
No	87%	64%	61%	48%	42%	2%	1%
Cap on benefits							
Yes	54%	38%	31%	22%	28%	27%	41%
No	46%	62%	69%	78%	72%	73%	59%
Benefit fee basis							
Benefit base	46%	39%	32%	17%	6%	6%	11%
Account value	10%	14%	18%	30%	34%	32%	42%
VA subaccounts	34%	42%	46%	51%	60%	62%	47%
Other	10%	5%	4%	2%	0%	0%	0%
Average maximum age at election	83	80	80	80	80	80	78
Step-up if available*							
Annually	57%	68%	74%	82%	81%	87%	80%
Every 3 years	0%	1%	1%	14%	19%	13%	20%
Every 5 years	43%	31%	25%	4%	0%	0%	0%

Table 3-7: 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
Asset allocation restrictions							
Forced asset allocation model	49%	55%	59%	56%	37%	35%	52%
Limitations on fund selection	10%	5%	3%	2%	2%	1%	1%
Other restrictions	6%	9%	9%	12%	17%	19%	27%
Dynamic asset allocations	31%	30%	28%	30%	44%	45%	20%
No restrictions	4%	1%	1%	0%	0%	0%	0%
GMAB roll-up percent							
100% of premium	95%	94%	92%	92%	99%	100%	100%
Over 100%	5%	6%	8%	8%	1%	0%	0%
Waiting period							
5-year	7%	0%	0%	0%	0%	0%	0%
7-year	33%	40%	43%	30%	34%	40%	38%
10-year	60%	60%	57%	70%	66%	60%	62%
Among contracts with maximum charge info. provided							
Standard rider charge	0.33%	0.44%	0.45%	0.57%	0.62%	0.75%	0.81%
Maximum rider charge	0.68%	0.85 %	0.84 %	0.83%	0.79%	0.78%	0.84%

*Among contracts that allow multiple step-ups.

Note: Based on 365,801 GMAB contracts issued in or before 2011.

Key Findings

- Unlike GMWBs, almost 6 in 10 contracts have GMAB fees that are based on the account value (or VA subaccounts only). Maximum fees rarely exceed 100 basis points.
- The average buyer of a VA with a GMAB in 2011 paid 81 basis points as the rider fee. Combined with M&E charges, the total charge was around 2.21 percent for contracts issued in 2011.
- In the case of withdrawals, virtually all GMAB contracts practice pro-rata reduction in benefit base. None of the contracts offer dollar-for-dollar withdrawal options.
- Seven-year and 10-year guarantees are the most common guarantee periods.
- Annual step-up options have become more common, and caps on benefits have increased in prevalence.

Chapter Four

2011 EXPERIENCE

Guaranteed Minimum Income Benefits

Chapter Four: Guaranteed Minimum Income Benefits

Guaranteed minimum income benefits (GMIBs) are the second most popular type of GLB in the VA market. In 2011, sales of GMIBs were estimated at more than $25 billion, up more than 50 percent from the 2010 estimated total of $16 billion. GMIB election rates, when any GLB was available, were high — around 23 percent throughout 2011 — attracting 26 percent of VA sales with a GLB rider.[20] 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 generous withdrawals into the design, blurring the distinction between GLWBs and GMIBs.

To ensure that no company's individual results can be identified, all analyses in LIMRA's GLB utilization studies must a) be based on at least five companies, and b) have no single company representing more than 50% of the contracts in each analysis. While these criteria were met for the analyses reported for other GLB types and for GMIBs in previous years, they were not met for GMIBs in this year's study. Accordingly, we are not reporting any GMIB analyses using our standard methodology, in which metrics such as percentage of owners taking withdrawals and surrender rates are calculated across contracts. This standard method implicitly "weights" results based on the number of contracts contributed by each company. In other words, the reported metric based on all companies will more closely resemble the metric based on those companies with more contracts in the analysis.

We used an alternative, "unweighted" methodology instead. For results reported in this chapter, metrics are calculated for each individual company, and then the median or mean of these metrics is reported.* Each company thus contributes equally to the resulting aggregate metric. As with regular "weighted" analyses, all results had to have at least five companies' contracts represented. In addition, company metrics based on fewer than 100 contracts were excluded from analysis. Because of this difference in calculation methods, direct comparisons with GMIB analyses in previous years should be interpreted with caution.

*** For most analyses the median was reported, because median results tend to be more stable than means. The exceptions were analyses in which the proportion of contracts with particular characteristics were reported (e.g., the percentage of contracts owned by male vs. female owners) because mean results always summed to 100 percent.**

20 *Variable Annuity Guaranteed Living Benefits Election Tracking. 4th Quarter 2011*, LIMRA, 2012.

Nearly all GMIBs have waiting periods that last 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. In 2011, very few contracts reached their maturity dates, so utilization based on annuitization was extremely rare.

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 percent to 6 percent annually). After the market crisis of 2008 and 2009, companies made their GMIBs less generous by changing the growth rates and annuitization factors that determine guaranteed payout amounts.

GMIB analyses are based on a total of 901,206 VAs, issued by 13 companies. These results represent a total of 45 GMIB riders introduced between 1995 and 2011.

At year-end 2011, LIMRA estimates the GMIB assets in the industry at $180 billion.[21] The in-force GMIB contracts in the current study represent $80 billion in assets as of December 31, 2011 — 44 percent of total industry assets.

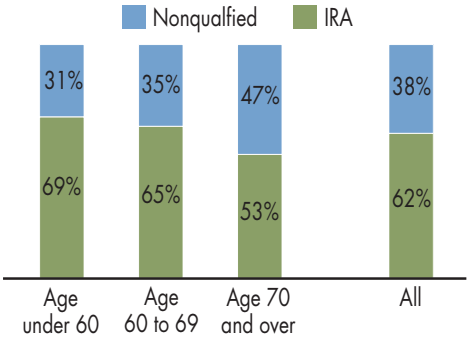
21 *Variable Annuity Guaranteed Living Benefits Election Tracking. 4th Quarter 2011,* LIMRA, 2012.

Owner Profiles

Source of Funds and Ownership of GMIBs

Almost two thirds (62 percent) of all GMIB contracts at the end of 2011 were funded from qualified sources of money, part of a trend toward a greater share of annuity contracts being funded from qualified sources or rollover assets rather than nonqualified sources (Figure 4-1). Funding a GMIB with qualified savings is more common among younger buyers, particularly those under age 70. While the owners under age 60 constitute more than one third of GMIB owners in the study, 7 out of 10 of their contracts were funded by qualified savings. This trend indicates that insurance companies can leverage their products to receive a bigger share of rollover assets, as Baby Boomers start to retire or plan for guaranteed income in retirement.

Figure 4-1: GMIB Ownership of Annuity by Source of Funds and Age



Note: Based on 823,629 GMIB contracts issued before or in 2011 and still in force at the end of 2011.

Based on contracts issued before or in 2011 and still in force at the end of the year, owners aged 70 or over represent over a quarter of the GMIB contracts. To benefit from the popularity of GMIBs among younger consumers, companies should direct their marketing message to attract savings from qualified accounts like IRAs and rollover assets.

GMIB Owner and Contract Characteristics

Table 4-1 provides a summary of GMIB owner and contract characteristics at the end of 2011.

Table 4-1: GMIB Owner and Contract Characteristics

	GMIB Contracts In force
Age of owner	
Under 50	11%
50 to 54	10%
55 to 59	15%
60 to 64	19%
65 to 69	18%
70 to 74	13%
75 to 79	9%
80 or older	5%
Average age	62.9
Gender	
Male	52%
Female	48%
Market type	
IRA	62%
Nonqualified	38%
Contract value, end of 2011 as percent of contracts	
Under $25,000	26%
$25,000 to $49,999	21%
$50,000 to $99,999	25%
$100,000 to $249,999	21%
$250,000 or higher	7%
Contract value, end of 2011 as percent of contract value	
Under $25,000	4%
$25,000 to $49,999	8%
$50,000 to $99,999	19%
$100,000 to $249,999	35%
$250,000 or higher	34%
Average contract value, end of 2011	$92,835
Median contract value, end of 2011	$54,732

Note: Based on 823,630 GMIB contracts still in force at the end of 2011

Benefit Base

At the beginning of 2011, 4 out of 5 GMIB contracts issued before 2011 had benefit bases that exceeded contract values (i.e., were 'in the money'), still recovering from market losses over the last few years. The average difference between the median benefit base and contract value was approximately $13,800, almost 30 percent smaller than the benefit base (Table 4-2).

Table 4-2: GMIB Benefit Bases and Contract Values, at the Beginning of 2011

	Benefit Base Amount	Contract Value	
		Amount	Percent of benefit base
Average	$103,189	$85,603	83%
Median	$64,756	$50,961	79%
Percent of contracts where benefit base was greater than contract value			83%

Note: Based on 820,390 contracts issued before 2011. Excludes contracts for which the beginning-of-year GMIB benefit base could not be determined.

Table 4-3: GMIB Benefit Bases and Contract Values, at Year-End 2011

	Benefit Base Amount	Contract Value	
		Amount	Percent of benefit base
Average	$103,681	$80,161	77%
Median	$65,080	$47,589	73%
Percent of contracts where benefit base was greater than contract value			96%

Note: Based on 723,038 contracts issued before 2011. Excludes contracts for which the end-of-year GMIB benefit base could not be determined.

With the flat equity market in 2011, some of the contracts experienced a decline in account value. As a result, most GMIB contracts (96 percent) had benefit bases higher than their contract values at the end of year (Table 4-3). The average difference between the median benefit base and contract value deteriorated from $13,800 at the beginning of the year to $17,500 by the end of the year. Across all contracts, median contract values went down nearly 7 percent while the median benefit base went up by 1 percent due to auto roll-ups and other incentives allowed in the contracts. At year-end 2011, the median benefit base stood at $65,100, almost 40 percent higher than median contract value of $47,600.

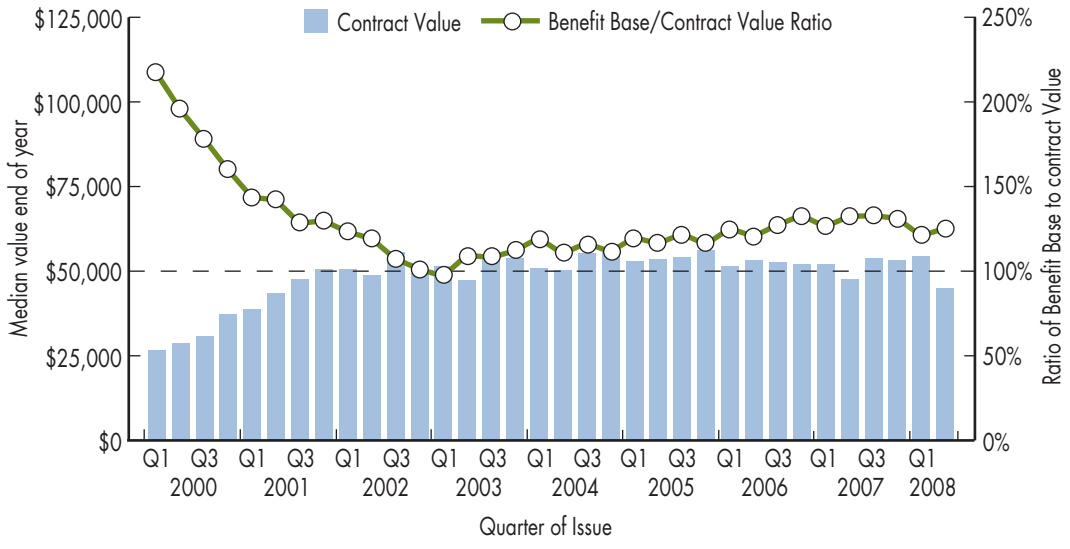
The ratio of contract value to benefit base worsened in 2011; the average benefit base was 40 percent higher than the average contract value at end of year.

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, and then a flat return in 2011.

Figure 4-2 shows the median of unweighted-average-contract-value and the ratios of median of unweighted average benefit base to median of unweighted average contract value by quarter of issues. Contracts sold before 2001 are more likely to have benefit base to contract value ratios exceeding 150 percent. 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.

The benefit base to contract value ratios improved for contracts issued in 2003 or later. This change can be explained in part by new benefit calculation methods introduced during this time. 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. Contracts issued in 2007 and early 2008 were most impacted by market losses, and their benefit bases remain in a range of 130 to 140 percent above their contract values.

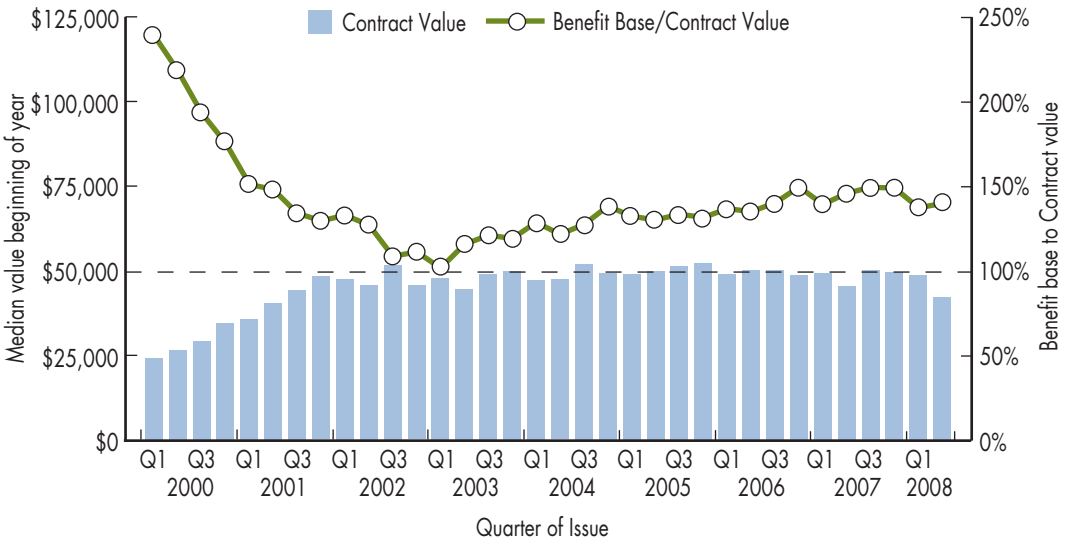
Figure 4-2: GMIB Contract Value vs. Benefit Base, Beginning of 2011



Note: Based on 802,033 GMIB contracts issued before 2011. Excludes contracts for which the benefit bases could not be determined.

By year-end 2011, the ratio of benefit base to contract values overall had declined (Figure 4-3). The median contract value decreased from $51,000 at the beginning of 2011 to $47,600 at the end of the year, a loss of 7 percent. For the typical contract, the gap between benefit base and contract value did not shrink, as its benefit base rose during the year, particularly for contracts that did not have withdrawals.

Figure 4-3: GMIB Contract Value and Benefit Base, Year-End 2011

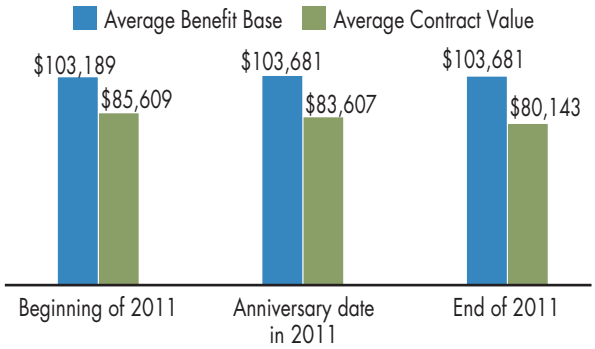


Note: Based on 793,612 GMIB contracts issued before 2011. Excludes contracts for which the benefit bases could not be determined.

A wide gap between contract values and benefit bases persisted at end of year for contracts issued in or before 2000 (benefit base above 150 percent of contract value). A considerable gap also existed for contracts issued between 2002 and 2008 where the benefit base remained between 110 to 150 percent above contract values.

The average contract value decreased from $85,600 at the beginning of the year to $80,100 at the end of 2011, a decline of 6.4 percent (Figure 4-4). On the anniversary date, the average benefit base increased slightly from $103,200 at the beginning of the year to $103,700, possibly due to roll-up and step-up provisions. At the end of 2011, the average benefit base was $103,700, a difference of $23,500 compared with the average contract value.

Figure 4-4: GMAB Average Contract Values and Benefit Bases at Beginning-of-Year, on Anniversary Date, and at End-of-Year 2011



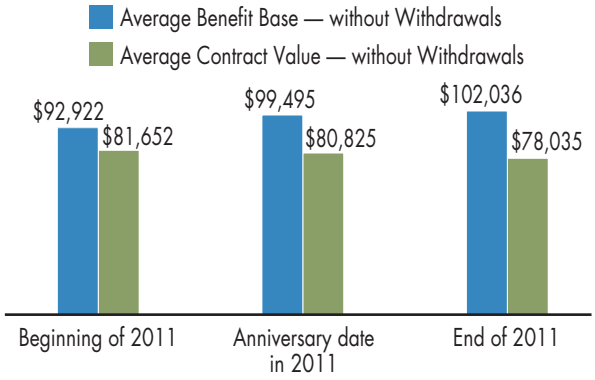
Note: Based on 804,806 GMIB contracts issued before 2011 and still in force at the end of 2011. Excludes contracts for which the GMIB benefit bases (as of the beginning of the year, the contract's anniversary date, or the end of the year) could not be determined.

However, this analysis combines contracts that did not have withdrawals with those that had withdrawals in 2011. The following two charts show the movements in account value and benefit bases for contracts with withdrawals and without withdrawals separately during the year.

Benefit Base for Contracts With Withdrawals vs. Without Withdrawals

For in-force contracts issued before 2011 that did not have withdrawals (or additional premium) during the year, the average benefit base rose steadily from $92,900 to $99,500 on the anniversary date, to $102,000 by year-end, registering an 9.8 percent overall increase (Figure 4-5). The reason for such increases can be attributed to automatic roll-up of benefit base in the case of non-withdrawals, in absence of equity market gains in 2011 (for contracts with ratcheting benefit bases). The median contract value was down 4.4 percent during 2011.

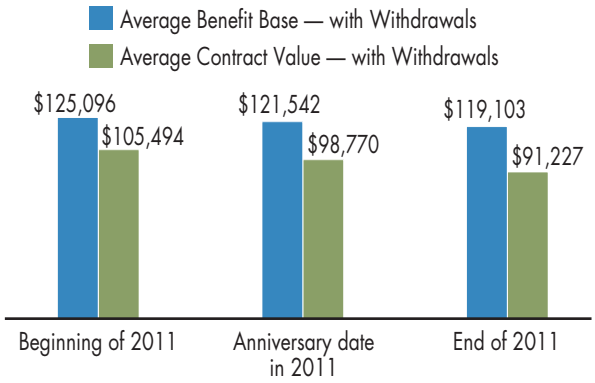
Figure 4-5: GMIB Average Contract Value, Average Benefit Base for Contracts Without Withdrawals



Note: Based on 581,133 GMIB contracts issued before 2011 and still in force at the end of 2011 where there were no withdrawals made or current year premium received. Contracts where withdrawals were not taken represented 75 percent of all contracts in the study.

Among contracts that incurred withdrawals in 2011, the average benefit base went down 4.8 percent from $125,100 at the beginning of the year to $119,100 at year end. The average contract value went down 13.5 percent during the year from $105,500 to $91,200 due to withdrawals during the year unsupported by any market gains in 2011 (Figure 4-6).

Figure 4-6: GMIB Average Contract Value, Average Benefit Base for Contracts With Withdrawals

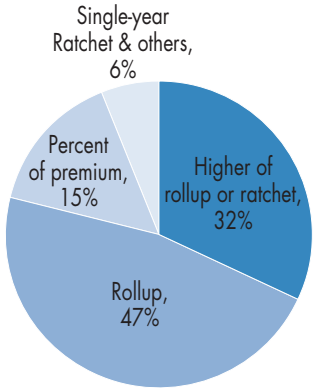


Note: Based on 195,549 GMIB contracts issued before 2011 and still in force at the end of 2011 where withdrawals were made; however, no current-year premium was received. Contracts where withdrawals were taken represented 25 percent of all contracts in the study.

GMIB Benefit Calculation Methods

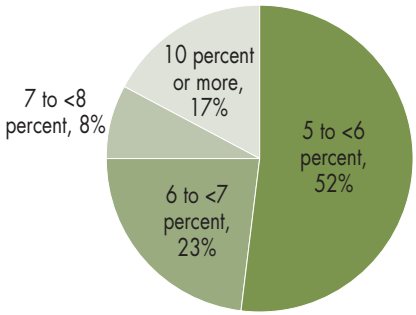
Almost 8 in 10 GMIB contracts that were issued before 2011 had GMIB benefits that were based on the roll-up or higher of ratchet or roll-up calculation methods, which sets benefit bases equal to the higher of the largest prior anniversary or premiums rolled up at a specified growth rate — typically 5 or 6 percent (Figure 4-7). The most common 2011 annual roll-up percentages were 5, 6, and 7 percent. Roll-up rates from 5 to less than 6 percent were offered on more than half of all contracts, while roll-up rates from 6 to less than 7 percent were enjoyed by more than a quarter of GMIB contracts (Figure 4-8).

Figure 4-7: GMIB Calculation Method



Note: Based on 823,362 GMIB contracts issued before 2011.

Figure 4-8: GMIB Percent of Contracts by Roll-Up Rates



Note: Based on 823,362 GMIB contracts issued before 2011.

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 on 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.

At the beginning of 2011, market losses in previous years and high automatic roll-up of benefit bases made the difference between average benefit bases and contract values comparatively greater among GMIB contracts that offered roll-ups or the higher of roll-ups and ratchet benefit calculations (Table 4-4).

Table 4-4: GMIB Benefit Bases and Contract Values at the Beginning and End of 2011, by Benefit Calculation Method

Benefit Calculation Method	Beginning of Year			End of Year		
	Average Benefit Base	Average Contract Value	Contract Value/ Benefit Base	Average Benefit Base	Average Contract Value	Contract Value/ Benefit Base
Roll-up or Higher of roll-up/ratchet	$107,947	$89,448	83%	$111,076	$83,243	75%
All other methods	$82,281	$79,876	97%	$79,543	$73,275	92%

Note: Based on 804,806 GMIB contracts issued before 2011. Excludes contracts for which IB benefit bases could not be determined. All other methods of benefit base calculations include percent of premium method, ratchet — single year and other methods.

At the end of 2011, average contract values of all GMIB riders by types of benefit calculations had gone down because of the flat equity market in 2011. However, the contract value to benefit base ratio worsened for contracts that enjoyed roll-up or higher of roll-up or ratchet to market values in 2011. The average contract values in roll-up or roll-up/ratchet contracts were now 30 percent below their benefit bases. In this study, and also in the industry in general as supported by our previous studies, these types of contracts constitute nearly 90 percent of GMIBs. The aggressiveness of roll-ups have pushed up the ratios of contract value to benefit base in these popular GMIB contracts more adversely compared with contracts with other kinds of GLB features.

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 the end of 2011 was much 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. Companies should examine their own customer base to determine whether their ratios and contract pricing align with those of the industry. In addition, companies should look at their own customers' inclinations to annuitize.

In-the-Moneyness

A simple means of assessing the extent to which a contract with a GMIB is "in the money" is to compare the GMIB benefit base with the contract value as of 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 benefit base to contract value 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.

While this in-the-moneyness metric is less straightforward to determine than the simple benefit base to contract value ratio, it could conceivably be part of the calculus when owners and their financial advisors assess whether 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. In future study years, when large blocks of contracts reach their benefit maturities, the relationship between this in-the-moneyness metric and actual annuitization behavior can be investigated. For the 2011 study, due to sampling limitations, this comparison was not carried out.

To calculate the in-the-moneyness of contracts with GMIBs, we used the following procedure:

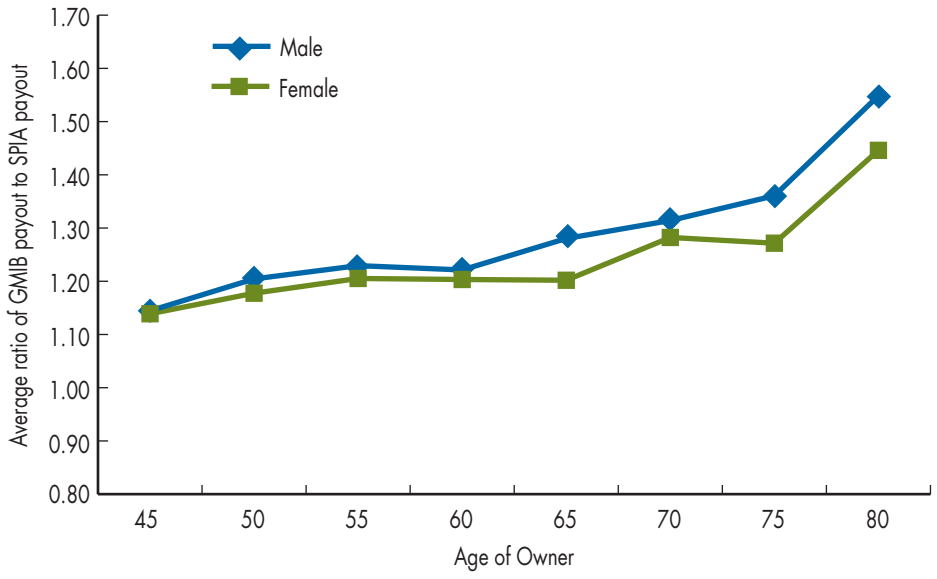
1. For each contract in force at year-end 2011, we determined the hypothetical payout under the terms of the GMIB, using actuarial present value (APV) factors reported by companies for each of the GMIB riders they sold. These APV factors included: a) the mortality table; b) mortality improvement scale; 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 end-of-year GMIB benefit base. To facilitate this analysis, we assumed that all contracts had the option of exercising the GMIB benefit as of year-end 2011.
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 15 insurers, representing 61 percent of 2011 fixed immediate annuity industry sales, in December 2011, using data from

CANNEX, to determine the corresponding payout income. As with the GMIBs, we calculated both life only and life with 10-year period-certain payouts.

3. We divided the hypothetical GMIB payout by the hypothetical SPIA payout for each contract. Ratios greater than 1.0 indicate the contract was (hypothetically) in-the-money at the end of 2011. 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. For each company represented in the analysis, we then averaged these ratios for each age (50 to 80) and gender.

Figure 4-9 illustrates the average GMIB-to-SPIA payout ratios for life only payouts for male and female owners at selected ages.[22] Ratios exceed 1.0 across the entire age range for both genders, indicating that the average GMIB contract is in the money. On average, the GMIB payout is about 22 percent higher than the corresponding SPIA payout. This result reflects the fact that at year-end 2011 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).

Figure 4-9: Ratio of GMIB Payout to SPIA Payout, for Life Only Payouts

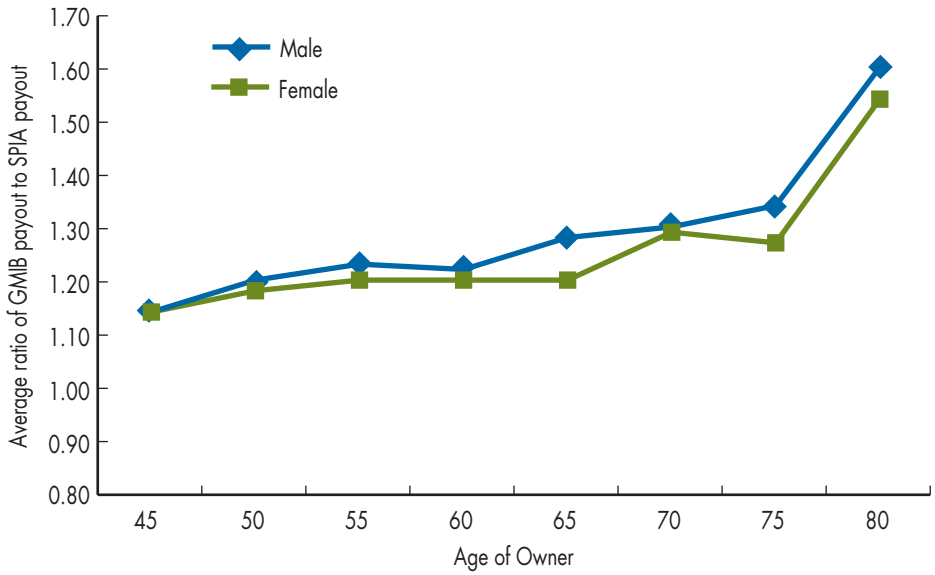


Note: Based on 162,781 contracts in force at the end of 2011.

[22] As with all GMIB analyses in this year's report, results are based on "unweighted" analyses in which each participating GMIB company contributed equally to each metric computed. See Chapter 4 for additional information.

The ratios 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, except at age 80 where ratios are slightly higher (Figure 4-10).[23] 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 4-10: Ratio of GMIB Payout to SPIA Payout, for Life With 10-Year Period Certain Payouts



Note: Based on 162,781 contracts in force at the end of 2011.

[23] The analysis was also performed without setting GMIB payout to SPIA payout ratios under 1.0 to 1.0. The resulting average ratios of GMIB payout to SPIA payout fell by about 5 percentage points across the entire age range, with larger differences at younger ages.

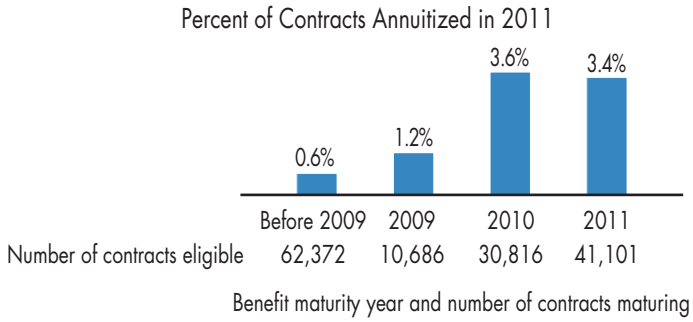
For simplicity, this analysis assumes that all contracts had the option of exercising the GMIB benefit as of year-end 2011. In fact, only 20 percent of these contacts had reached the end of the waiting period by 2011 and therefore most did not have the ability to activate the GMIB. An alternative method would be 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 2011. While it might be possible to estimate future benefit bases for GMIBs with annual rollups 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 sub-accounts like managed volatility funds). Some GMIB 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 year-end 2011. 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 2011.

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 41,100 GMIB contracts issued before 2011 reached benefit maturity in 2011 (Figure 4-11). The 2011 annuitization rate for contracts reaching benefit maturity in 2011 was 3.4 percent. These contracts were mainly issued in the early 2000s. The annuitization rate in 2011 for contracts reaching benefit maturity in 2010 was slightly higher at 3.6 percent, because many GMIB owners may have waited for a while before making the annuitization decision. More than 62,000 GMIB contracts reached their benefit maturity in 2009 or before, and the annuitization rate in these in-force GMIB contracts was very low. Overall annuitization rate for all in-force GMIB contracts annuitized in 2011 was only 0.5 percent.

Figure 4-11: GMIB Contracts Annuitized in 2011, by Benefit Maturity



Note: Based on 144,975 contracts issued before 2011 and reaching benefit maturity in or before 2011.

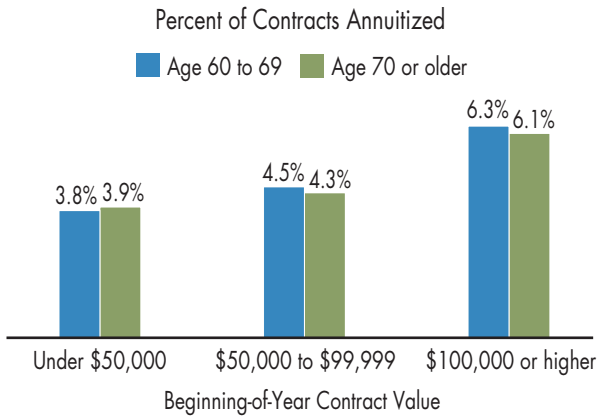
Though still relatively low, the rate of annuitization in 2011 for contracts reaching benefit maturity in the same year increased from the annuitization rate experienced in previous years. Besides of their fear of losing control of assets, owners may be disinclined to annuitize because the guaranteed annuity payout rates used in GMIB contracts may be based on annuity purchase factors that are less generous than would otherwise be used, or their plan may have changed. Also please note that these annutization rates reflect all GMIB types — dollar for dollar withdrawals and pro rata adjustments. Pro rata adjustments contracts generally have higher annuitization rate.

Contracts With Benefit Maturities in 2010 or 2011

Contract owners over age 60 are more likely to annuitize than younger owners. Among contracts that reached benefit maturity in 2010 or 2011, 4.7 percent of owners in their 70s annuitized in 2011, compared with 4.6 percent for age 60 to 69 and 1.2 percent for under age 60. It is likely that some of this activity is driven by the need for individuals owning IRA VAs to commence RMDs after age 70½. However, among IRA contracts, the increase in annuitization activity at age 70 (from 4.5 percent among those age 60 to 69 to 5.2 percent among those aged 70 or older) is less pronounced than the step-up in withdrawal activity observed at this age. For nonqualified contracts, annuitization rates actually declined slightly, dropping from 4.7 percent for owners aged 60 to 69 to 4.4 percent for owners aged 70 or older.

Larger contract sizes are associated with higher annuitization activity among contracts that reached their benefit maturities in 2010 or 2011 (Figure 4-12). The percentage of contracts with beginning-of-year contract values of $100,000 or more that annuitized in 2011 is approximately one and a half times the percentage of contracts with values under $50,000. This effect is consistent for ages 60 to 69 and ages 70 and older.

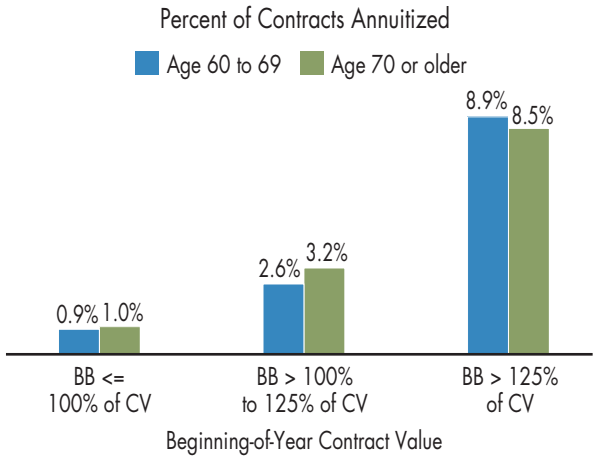
Figure 4-12: GMIB Contracts Annuitized in 2011, by Age and Contract Size



Note: Based on 55,603 contracts issued before 2011, with benefit maturities in 2010 or 2011.

The in-the-moneyness of contracts, as measured by the ratio between benefit bases and contract values, also appears to be linked to annuitization rates (Figure 4-13). Among contracts that reached benefit maturity in 2010 or 2011, only 1 percent were annuitized when the benefit base was equal to or less than the contract value. But over 8.5 percent were annuitized when the benefit base was more than 125 percent of the contract value.

Figure 4-13: GMIB Contracts Annuitized in 2011, by Age and Beginning-of-Year Benefit Base to Contract Value Ratio



Note: Based on 55,588 contracts issued before 2011, with benefit maturities in 2010 or 2011.

As noted in the discussion of the relationship between withdrawal activity and in-the-moneyness, caution should be used interpreting these results. Two thirds of the contracts in this analysis that had benefit-base-to-contract-value ratios over 125 percent were issued in 2000 or 2001. Over 80 percent of the contracts with benefit-base-to-contract-value ratios of 100 percent or less were issued in 2003 or 2004. It should be noted that there is little overlap between the groups of companies represented in these two categories, which could be driving some of the differences observed.

Withdrawal Activity

Withdrawals

In a GMIB contract, there is 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 annually up to a certain percentage 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.

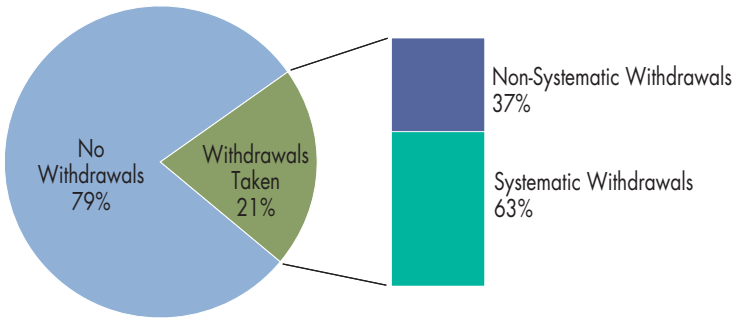
Because the present study is based on a single calendar year, withdrawal activity over time usually could not be tracked. Although we asked companies for the cumulative total withdrawals prior to 2011, not all companies could provide this information. In addition, not all companies could distinguish systematic withdrawals — which are more likely to be associated with utilization of withdrawal benefit contracts — from non-systematic withdrawals.

Overall Withdrawals From Contracts Issued Before 2011

For GMIB contracts issued before 2011 and still in force at the end of the year, 21 percent had at least some withdrawal activity during 2011 (Figure 4-14). This closely matches 20 percent of GLWB owners taking withdrawals in 2011. For almost 2 out of 3 contracts, these were systematic withdrawals.

21% of GMIB contract owners took withdrawals during 2011.

Figure 4-14: GMIB Percentage of Contracts With Withdrawals



Note: Based on 823,632 GMIB contracts issued before 2011 and still in force at the end of 2011.

Based on GMIB contracts issued before 2011 and that had withdrawals in 2011:

- The average withdrawal amount was $11,080. The withdrawal rate was 10.5 percent based on the average beginning-of-year contract value of $105,600.
- The median withdrawal amount was $5,525 in 2011.

$5,500 was the median withdrawal amount in 2011.

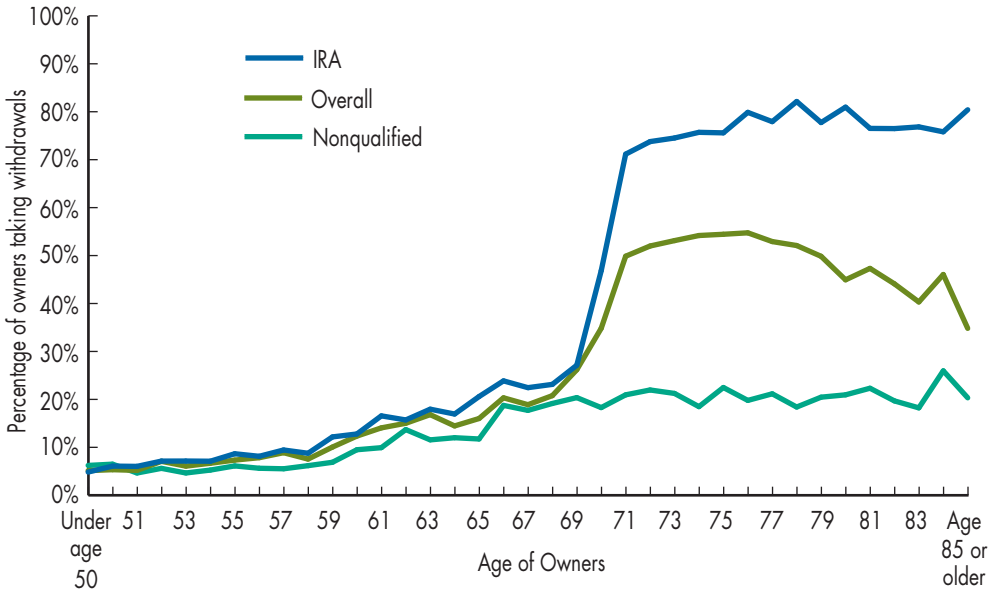
In general, GMIB riders allow owners to take withdrawals based on either a dollar-for-dollar or a *pro-rata* reduction from the benefit base. The percentage of owners taking withdrawals from contracts with dollar-for-dollar reductions (28 percent) are higher than in contracts that allow withdrawals on a pro-rata basis (20 percent).

Withdrawal Activity by Source of Funds

Nearly **75%** of GMIB owners aged 71 and over took withdrawals from annuities purchased with qualified money.

The source of funds (i.e., whether the annuity was funded with qualified or nonqualified money) is one of the more valuable factors for understanding customer withdrawal behavior. The overall incidence of withdrawals in GMIB contracts over the past few years has stayed around 20 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 4-15).

Figure 4-15: GMIB Percent of Contracts With Withdrawals, by Source of Funds and Age of Owners



Note: Based on 823,632 GMIB contracts issued before 2011 and still in force at the end of 2011.

Like GLWB owners, the withdrawal behavior of GMIB owners can be viewed through three different phases. Up to 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 remains low, 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 the ages of 60 and 70 — sometimes termed as the transition ages in retirement — there are still relatively few customers 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 70 percent by age 72. After this age, the percent of qualified owners withdrawing slowly rises to 80 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 (10 percent) to age 70 to age 75 (15 percent). Then the percentage of owners taking withdrawals levels off at around 20 percent.

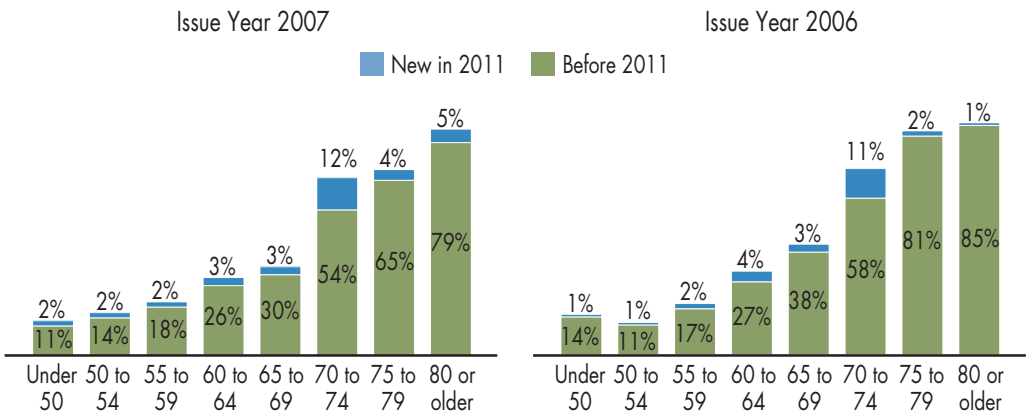
Insurance companies managing GMIB rider risk should distinguish and evaluate that risk based on the sources of funding. The distinction between qualified and nonqualified sources of funds is important. The composite withdrawal activity by age cohort is not as reliable a measure of actual risk. With more than 80 percent of qualified GMIB owners under age 70, and only 1 in 6 taking withdrawals, the measure is skewed downward. This is particularly important as more, younger customers invest in annuities with qualified savings, and as companies focus on attracting more rollover money. From the standpoint of insurance companies, qualified GMIB annuities could cost more to administer than nonqualified contracts, as customers begin taking RMD withdrawals at age 70½. As increasing numbers of young investors buy annuities with qualified sources of funds, the disparity between the cost and risk of offering qualified annuities and nonqualified annuities will continue to increase.

Taking First Withdrawal From IRA Annuity in 2011

There is a distinct pattern of withdrawal behavior from IRA-funded GMIB annuities, principally driven by age and the need to take RMDs. Figure 4-16 shows the percent of owners taking their first withdrawals in 2011 by individual issue years from 2006 to 2007. We have kept the analysis limited to issue years 2006 and 2007 due to lack of representative company samples from all participating companies.

The upper left corner of Figure 4-16 shows withdrawal activity for contracts issued in 2007. 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 2011 and the blue colored bar shows the percent of owners taking their first withdrawals in 2011.

Figure 4-16: GMIB First Withdrawals in 2011 (IRA Contracts Only)



Note: Based on 137,475 IRA GMIB contracts issued in 2006 and 2007 and remaining in force at the end of 2011. Top blue colored portion of each column represents percent of owners taking withdrawals in 2011 for the first time; green bar at the bottom represents percent of owners who took withdrawals before 2011; and overall column height represents percent of all owners who took withdrawals to date since issue.

Owners who bought their annuities in 2007 had at least four years to take withdrawals. For these owners, only a small percent under age 70 initiated their first withdrawals in 2011. The marginal increases in the percentage of owners from each age group taking their first withdrawals remain almost the same — within a range of 2 percent to 3 percent for each age group under age 70. However, 12 percent of owners who were in age group 70 to 74 took their first withdrawals in 2011. More than half of owners who were in age group 70 to 74 already took withdrawals before 2011. Previous LIMRA studies show that the percent of owners who turned age 71 had the highest percentage of first withdrawals due to RMDs from their IRA contracts.

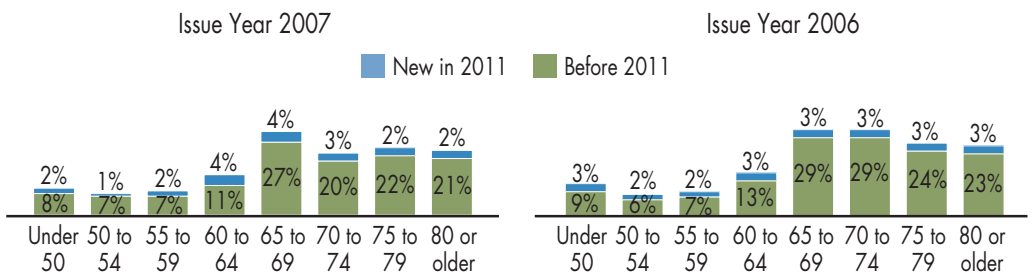
We witness an almost identical trend in owner withdrawal behavior for IRA annuity contracts issued in 2006 with two differences: first, the cumulative percent of owners who have already taken withdrawals from their GMIB contracts is higher than in 2007, as they had stayed in contracts one year longer; and second, the marginal increases in first withdrawals in 2011 were lower than 2007 buyers.

To summarize, for IRA contracts, age and the need to take RMDs are the principal drivers for withdrawals from GMIBs. The distinct pattern of first withdrawals in 2011 from GMIB contracts is remarkably similar to the pattern of first withdrawals in 2011 for GLWB owners.

Taking First Withdrawal From Nonqualified Annuity in 2011

The percent of nonqualified GMIB annuity owners taking their first withdrawals in 2011 reflects more streamlined withdrawal behavior. Figure 4-17 shows the percent of nonqualified owners taking their first withdrawals in 2011 by individual issue years from 2006 to 2007.

Figure 4-17: GMIB First Withdrawals in 2011 (NQ Contracts Only)



Note: Based on 81,182 nonqualified GMIB contracts issued in 2006 and 2007 and remaining in force at the end of 2011. Top green colored portion of each column represents percent of owners taking withdrawals in 2011 for the first time; blue bar at the bottom represents percent of owners who took withdrawals before 2011; and overall column height represents percent of all owners who took withdrawals to date since issue.

Without the need to take RMDs, the percent of nonqualified owners who bought their annuities in 2007 and took their first withdrawals in 2011 increased slightly with age. Only a small percent of owners aged 70 or under took their first withdrawals in 2011 within a range of 1 to 4 percent, not unlike the behavior we saw with IRA owners. For age 70 and up, the percent of customers taking their first withdrawals remained around 3 percent for each age group.

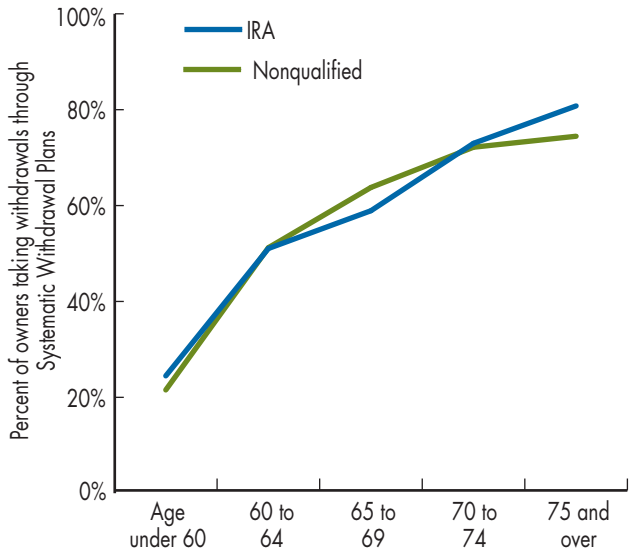
The rate of increase of customers taking first withdrawals from nonqualified annuities is somewhat lower in contracts issued in 2006. The percent of first withdrawals in 2011 among 2006 buyers ranged from 2 to 3 percent.

For nonqualified contracts, age and contract duration are the principal drivers for withdrawals. Less than 5 percent of non-qualified owners, began their first withdrawals each year; and the cumulative percent of these owners who took withdrawals to-date from their GMIB contracts remains well below 30 percent.

Systematic Withdrawal Activity

One predictor that can help determine if GMIB owners will continue to take advantage of withdrawal provisions is what withdrawal methods they use — systematic withdrawal plans (SWPs) or occasional withdrawals. Withdrawals through SWPs indicate customers' intentions to take withdrawals on a continuous basis, and strongly suggest that customers are utilizing the withdrawal provisions in their GMIB contracts.

Figure 4-18: GMIB Withdrawals With Systematic Withrawal Plans



Note: Based on 210,412 GMIB contracts issued before 2011, still in force at the end of 2011, and that had withdrawals in 2011.

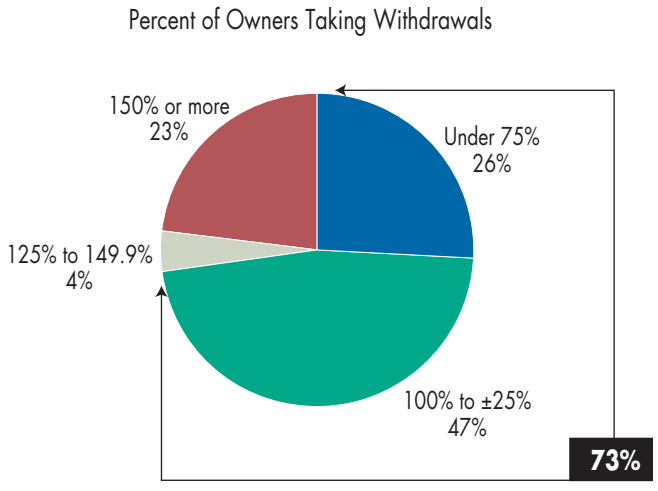
Overall, 63 percent of owners who take withdrawals use SWPs. Older owners are more likely to take withdrawals through SWPs, and younger owners — particularly those under age 60 — are more likely to take occasional withdrawals (Figure 4-18). Beyond age 70, owners who take withdrawals from their GMIB annuities are more likely to use SWPs — the percent of owners using SWPs reaches 80 percent for owners in their mid-80s.

Withdrawals Exceeding Maximums

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 withdrawal 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 2011 to the maximum annual withdrawal amounts allowed in the contracts, which for our analysis is equal to the average benefit base multiplied by the beginning-of-year 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 the beginning of the year by 125 percent or more, then we considered them to exceed the withdrawal maximum. Figure 4-19 shows the degree to which withdrawals are higher or lower than maximum withdrawal amounts allowed.

Figure 4-19: GMIB Actual Withdrawals as a Percentage of Maximum Withdrawals Allowed



Note: Based on 149,548 GMIB contracts issued before 2011 and remaining in force at the end of 2011. The maximum annual withdrawal amount is equal to the average benefit base multiplied by the beginning-of-year roll-up rate.

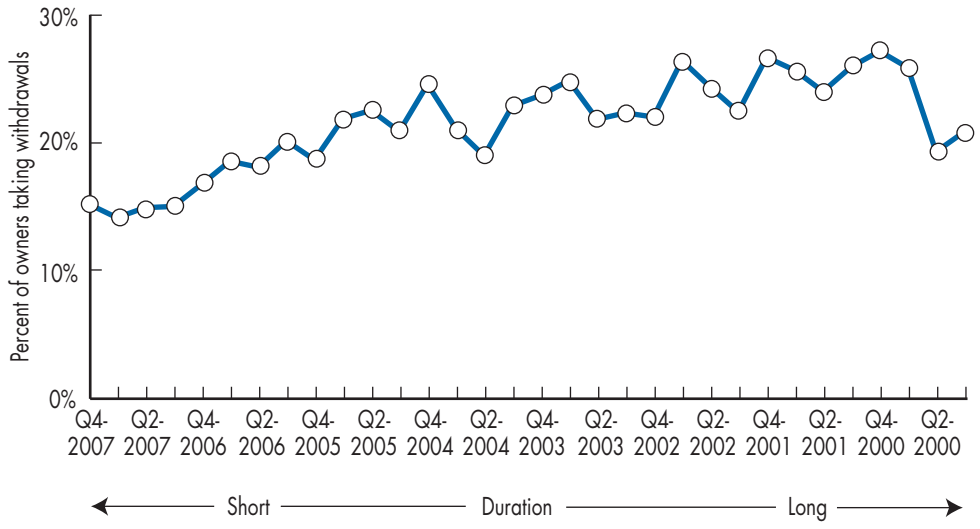
Around 75 percent of owners who took withdrawals took less than 125 percent of the maximum allowed. One in four owners withdrew more than 125 percent of the maximum amount allowed.

Withdrawal Activity by Duration

Contract duration is an important measure for evaluating what proportion of existing 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 range from 20 to 30 percent for contracts with longer durations of more than 5 years. Withdrawal activities in longer-duration GMIB contracts are comparatively lower than those in GLWB contracts (Figure 4-20).

Figure 4-20: GMIB Overall Utilization Rates of Withdrawal by Contract

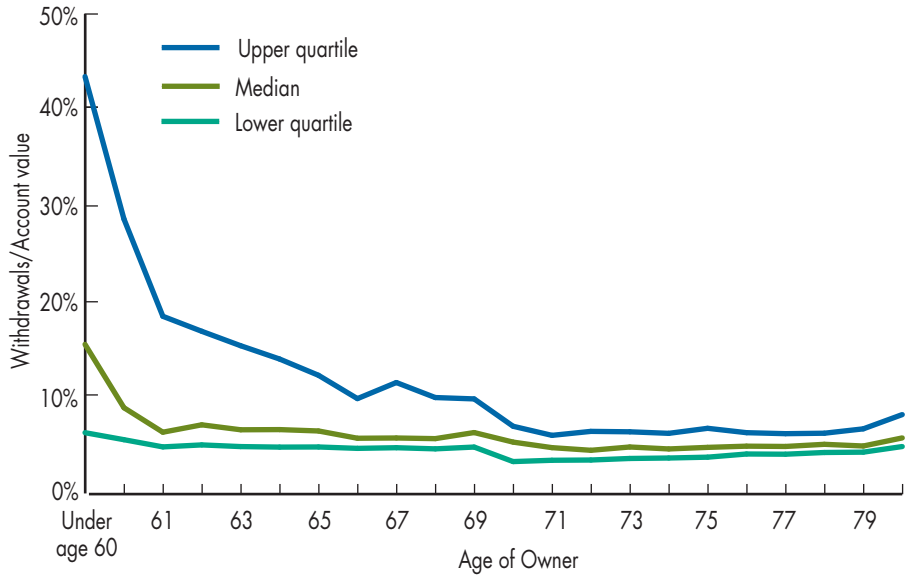


Note: Based on 626,713 GMIB contracts issued between 2000 and 2007 and still in force at the end of 2011. The percent of owners taking withdrawals by contract issue quarters have been calculated based on unweighted median of the averages.

Average Withdrawal Amount vs. Contract Value and Benefit Base

The average withdrawal amount was $11,080 and the median withdrawal amount was $5,525 in 2011 for contracts issued before 2011 that were in force at year-end 2011. In order to provide context for the average withdrawal amount, we assessed the withdrawal amounts in relation to both contract value and the benefit base. Figure 4-21 shows the median and interquartile range for withdrawal amounts as a percentage of average contract value. Typically a small number of younger owners take out large amounts of withdrawals. However, as we have seen before, an increasing number of owners, beginning at age 60, take withdrawals, and their withdrawal amounts represent a more sustainable withdrawal pattern. Withdrawal amounts for owners over age 70 are commensurate with the maximum withdrawal amount typically supported by the typical GMIB roll-up rates.

Figure 4-21: GMIB Withdrawals to Average Contract Value Ratio (for Contracts With Withdrawals Only)



Note: Based on 200,269 GMIB contracts issued before 2011, still in force at the end of 2011, and that had partial withdrawals in 2011. 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 average contract value withdrawn shows that, for owners aged 70 or over, the median, the upper quartile, and the lower quartile values are very close. The pattern also indicates that the majority of owners taking withdrawals at older ages are withdrawing at similar ratios from their contract values; for example, for owners at age 70, around 5 to 6 percent. For owners under age 70, the median of the ratios is higher than that of older owners, ranging between 7 to 15 percent, with the highest ratios among younger owners. Also there is

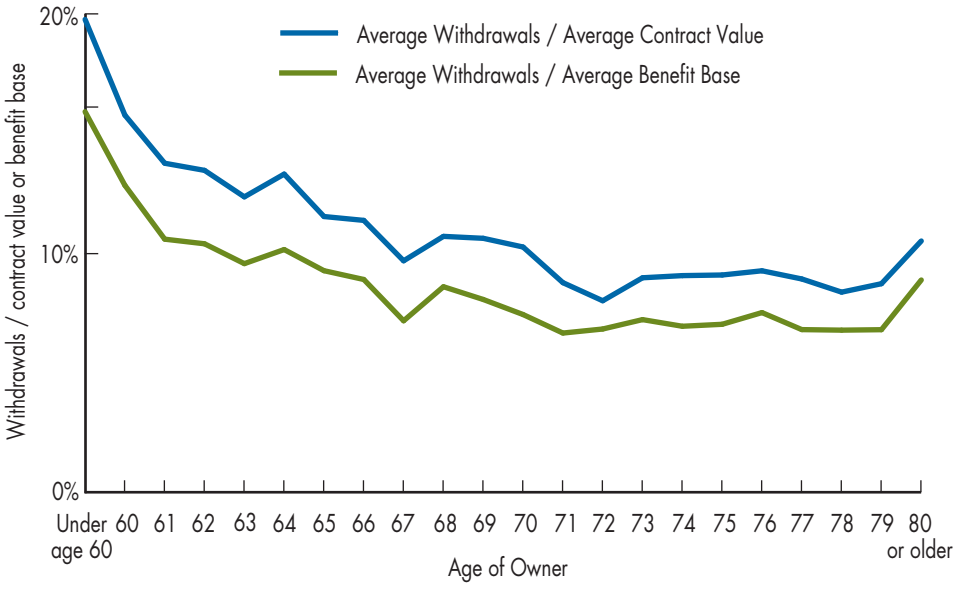
a wide difference between the median and the upper quartile values, indicating that a group of these younger owners are taking far more than the maximum allowed in the contracts. These large withdrawal amounts push up the overall average across all owners.

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.

Figure 4-22: GMIB Ratio of Withdrawal Amount to Average Contract Value and to Benefit Base



Notes: 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 202,084 contracts that had withdrawals in 2011 and with benefit base information were considered.

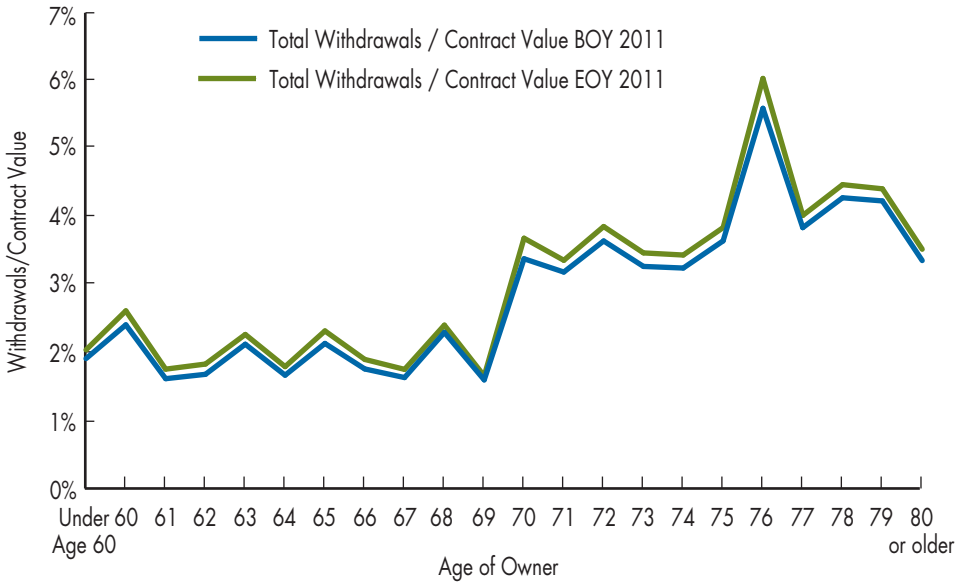
For all ages, the ratio of average withdrawal amount to average contract value is higher than the ratio of average withdrawals to average benefit base (Figure 4-22). The average difference between the ratios is around 2 to 3 percentage points, for the bulk of GMIB owners aged 60 to 80. For owners under age 60 and taking withdrawals, the ratios of their 2011 withdrawal

amount to average contract value as well as to benefit base were very high, between 13 to 20 percent. Many of these withdrawals are likely partial surrenders of the contracts that will likely be fully surrendered in future.

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 beginning-of-year (BOY) contract value and the ratio of withdrawal amount to end-of-year (EOY) contract value. This measure can be calculated two ways. First, total withdrawals in 2011 can be divided by total contract values at BOY and EOY, for all contracts in force. Second, the same ratios can be computed only for the subset of contracts that had withdrawals in 2011. The first metric provides a measure of risk of withdrawals 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.

Figure 4-23: GMIB Total Withdrawals to Total Contract Value (All Contracts)

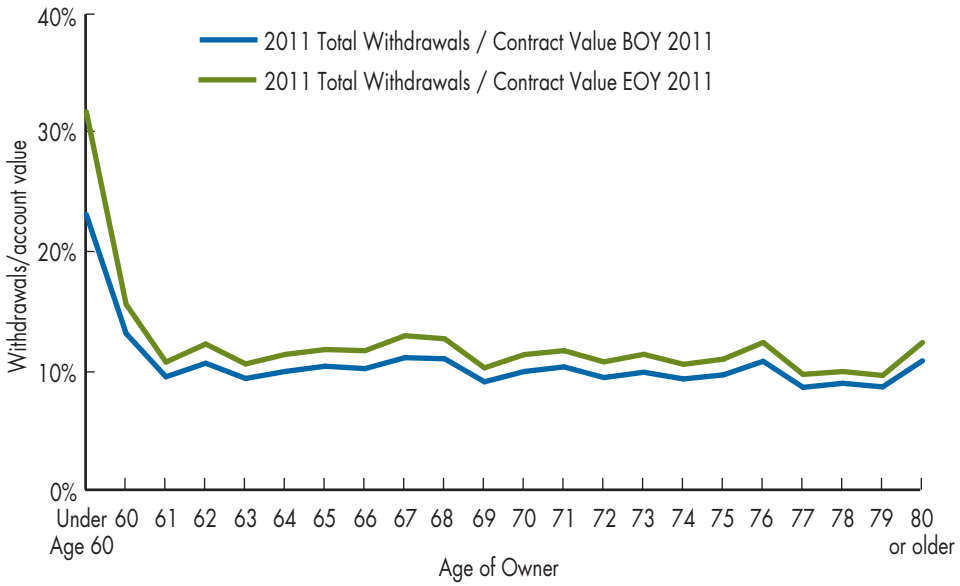


Note: Based on 856,815 GMIB contracts issued before 2011 and in force at the end of 2011 with benefit base information provided. The metric is the sum of 2011 withdrawals / sum of BOY (or EOY) contract values. In the normal, weighted analysis, these sums would be calculated across all contracts that took withdrawals. In the unweighted analysis used, the sum across contracts within company is calculated; then the median of these sums is used to compute the metric (median sum of 2011 withdrawals / median sum of BOY (or EOY) contract values).

The cash outflow ratio, or ratio of total withdrawals to total BOY contract values for all contracts in force throughout the year, was 2.8 percent — lower than the corresponding ratio of 3.0 percent for EOY contract values. Across all ages, the ratio of total withdrawals to total contract values somewhat deteriorated during the year, due to the flat market performances in 2011 (Figure 4-23). The degree and the shift of the ratio of withdrawal amounts to account values at EOY, above or below the ratio at BOY, indicates whether the total contract value has improved or worsened due to investment gains, despite withdrawals.

For GMIB contracts that had withdrawals, the rate of withdrawals or cash outflow ratio was 10.5 percent in relation to contract values at BOY. Due to the flat market in 2011, the contracts that had withdrawals did not improve their ratio of withdrawals to contract values during the year (Figure 4-24).

Figure 4-24: GMIB Total Withdrawals to Total Contract Values (for Contracts With Withdrawals)



Note: Based on 202,084 GMIB contracts that incurred withdrawals during 2011, were issued before 2011, were in force at the end of 2011, and had benefit base information provided. The metric is the sum of 2011 withdrawals / sum of BOY (or EOY) contract values. In the normal, weighted analysis, these sums would be calculated across all contracts that took withdrawals. In the unweighted analysis used, the sum across contracts within company is calculated; then the median of these sums is used to compute the metric (median sum of 2011 withdrawals / median sum of BOY (or EOY) contract values).

However, 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 almost the same, around 20 percent.
- As a result, the ratio of withdrawals to contract values is higher in GMIBs (10.5 percent of BOY account value) than in GLWBs (7.8 percent of BOY account value). The lower ratio in GLWBs also caused contract values to come closer to benefit values during the modest market rise in 2011.

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 waiting period. The risk management for these riders is very different, despite similar owner behavior.

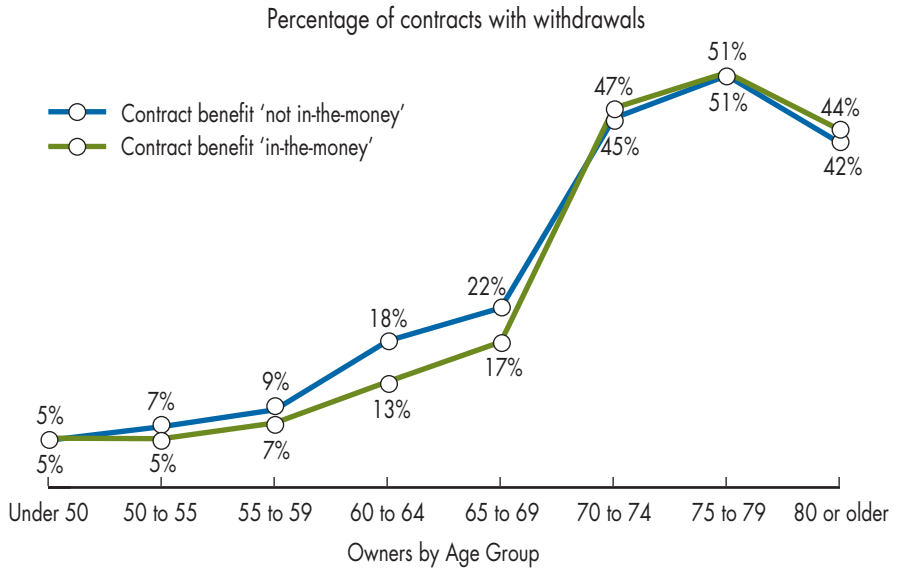
Withdrawal Activity for Contracts in-the-Money or Not in-the-Money

Contract benefits being in-the-money appears to have had no major influence on withdrawal behavior of GMIB owners in 2011.

After the financial crisis in 2008–2009, many GMIB customers could have been encouraged to take advantage of withdrawal provisions in their contracts when most GMIB contract benefit bases were higher than the account values (i.e., were in-the-money). The flat market performance and high market volatility in later part of 2011the same situation arose when account values in most contracts were much lower than their benefit bases. Yet the current study finds that benefits being in the money did not appreciably alter customer withdrawal behavior in 2011.

For GMIB contracts issued before 2011, still in force at the end of 2011 — and where both account values and benefit bases at the beginning of 2011 were available — there was little difference in withdrawal activity among contracts that were in the money at the beginning of the year versus contracts not in the money (Figure 4-25). At the beginning of 2011, 83 percent of GMIB contracts issued before 2011 were in the money; and, at year end 96 percent of contracts had benefit bases higher than their contract values. The overall percent of owners taking withdrawals from GMIB contracts among contracts in-the-money and not-in-the-money has remained almost unchanged from the overall utilization rates that we calculated for owners' behavior in the past. The overall utilization did not change when more contracts were in the money during the year after experiencing heightened market volatility and negative or no market returns in 2011.

Figure 4-25: GMIB Withdrawal Rates for Contracts in-the-Money vs. Not in-the-Money



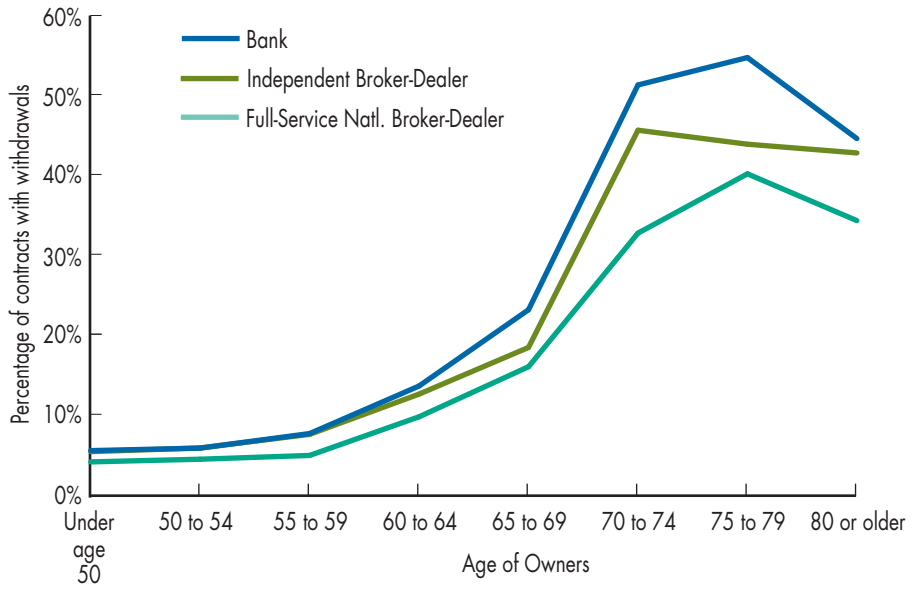
Note: Based on 820,388 GMIB contracts issued before 2011 and still in force at the end of 2011. Percentages refer to the number of contracts in each category that had partial withdrawals during 2011. "In-the-money" = benefit base exceeds contract value; "Not-in-the-money" = benefit base equals or is lower than contract value.

Withdrawal Activity by Channel

The percent of GMIB owners aged 70 and over who took withdrawals in 2011 was highest in the bank channel.

The percent of GMIB owners taking withdrawals in 2011 in bank, full-service national broker-dealer and independent broker-dealer channels was fairly similar for owners under age 70. However, independent broker-dealer channels fairly consistently had the lowest percentage of owners taking withdrawals; and the percent of owners taking withdrawals in bank channels was the highest (Figure 4-26).

Figure 4-26: GMIB Withdrawal Rates by Distribution Channel and Age



Note: Based on 373,101 GMIB contracts issued before 2011 and still in force at the end of 2011. Percentages refer to the number of contracts in each category that had partial withdrawals during 2011.

Withdrawal behavior by individual age and distribution channel shows the same pattern that we experienced before — the percent of owners taking withdrawals remains modest up to age 69; then, at age 70 and over, the percent of owners taking withdrawals increases. 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 Selected 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 4-5).

Table 4-5: GMIB Withdrawals by Selected Characteristics

	Unweighted		Weighted by BOY 2011 Contract Value	
	Partial withdrawals	Systematic withdrawals	Partial withdrawals	Systematic withdrawals
Age of owner				
Under 50	5%	1%	7%	1%
50 to 54	7%	1%	8%	2%
55 to 59	9%	4%	13%	6%
60 to 64	14%	7%	17%	9%
65 to 69	19%	11%	23%	15%
70 to 74	47%	33%	49%	34%
75 to 79	53%	42%	50%	35%
80 or older	44%	35%	40%	28%
Market type				
IRA	32%	21%	38%	25%
Nonqualified	15%	8%	16%	9%
Distribution channel				
Career agent	18%	7%	22%	19%
Independent B-D	20%	12%	23%	19%
Full-Service Nat'l. B-D	18%	11%	21%	19%
Bank	27%	16%	30%	19%
Contract value, end of 2011				
Under $25,000	20%	10%	30%	13%
$25,000 to $49,999	23%	14%	26%	15%
$50,000 to $99,999	23%	15%	25%	16%
$100,000 to $249,999	22%	15%	24%	16%
$250,000 to $499,999	24%	18%	26%	17%
$500,000 or higher	24%	19%	25%	16%
Asset allocation restrictions				
Has restrictions	19%	13%	25%	17%
No restrictions	20%	10%	23%	11%

Note: Based on contracts 823,632 GMIB contracts issued before 2011 and still in force at the end of 2011. Percentages refer to the number of contracts in each category that had partial (or systematic) withdrawals during the year.

Key Findings

- Older owners are much more likely to take systematic withdrawals than are younger owners.
- Differences across channels in part reflect the age profiles of the customer bases. The percent of owners taking withdrawals is highest for the bank channel, mainly because many bank-sold contracts are owned by individuals aged 70 or older.
- Withdrawal activity does not vary appreciably with asset allocation restrictions.

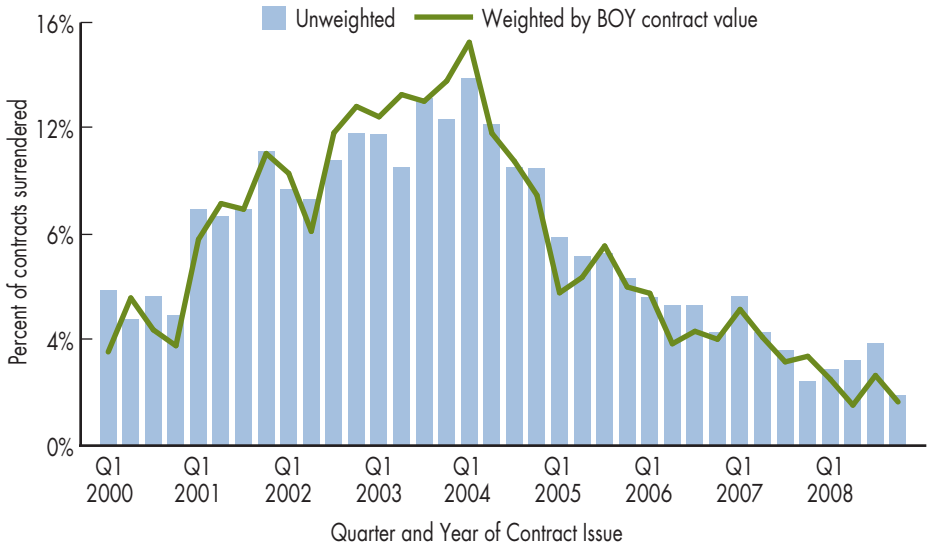
Persistency

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 impact product profitability and the reserve requirements for insurance companies. Please note that the unweighted averaging treats all companies equally. So one company with fewer contracts but higher surrender rates is given the same weight as another company with higher number of contracts but with low surrender rates, and this may impact the overall surrender rates.

The unweighted surrender rates in this section provides a view of what the full surrender rate typically looks like for any set of companies, and may help to figure out how a particular company's experience compares with the rest of the industry, particularly when companies have contract characteristics or results that depart substantially from those of other companies.

The surrender rate for contracts issued between 2001 and 2004 was more than 9 percent, with contracts issued in 2004 (that completed 7-year surrender charge schedule in 2011) having the highest rate of surrenders above 10 percent (Figure 4-27). For the GMIBs sold between 2005 and 2008, these contracts experienced higher persistency.

Figure 4-27: GMIB Surrender Rates in 2011 by Quarter and Year of Contract Issue



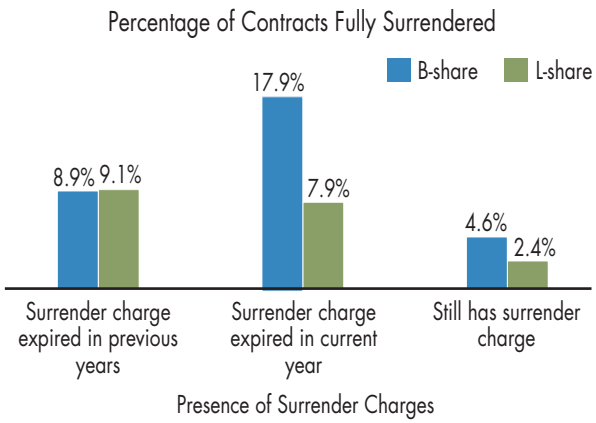
Note: Based on 747, 591 contracts issued between 2000 and 2008.

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 2011. 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 2011 were also more likely to fully surrender their contracts.

However, companies should note that GMIB contract owners — particularly owners who are not taking withdrawals — and older owners, hold on to their contracts longer. Companies should evaluate how their own customers behave compared with the industry, and re-assess their assumptions as needed. All VAs with GLBs are experiencing improved persistency in comparison to 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.

Looking at surrender rates by the presence of surrender charges shows that 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 previous years were 9 percent for both B- and L-share contracts (Figure 4-28). The surrender rates for contracts where surrender charges expired in 2011 were high at 18 percent and 8 percent for B- and L-share contracts respectively. The surrender rates for contracts where surrender charges existed are low — 4.6 percent for B-share and 2.4 percent for L-share contracts. L-share contracts typically have very high contingency charges in case of early surrenders.

Figure 4-28: GMIB Surrender Rate by Share Classes

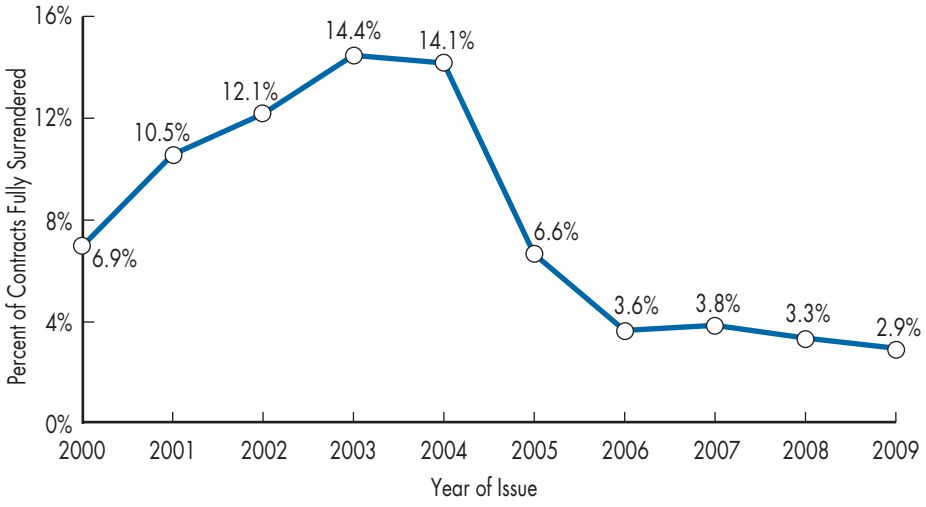


Note: Based on 874,323 GMIB contracts issued before 2011.

B-share contracts constituted around 35 percent of contracts.

Figure 4-29 shows the surrender rates for B-share contracts by duration. The contracts issued in 2003 and 2004 that came out of surrender charges in 2011 had very high surrender rates.

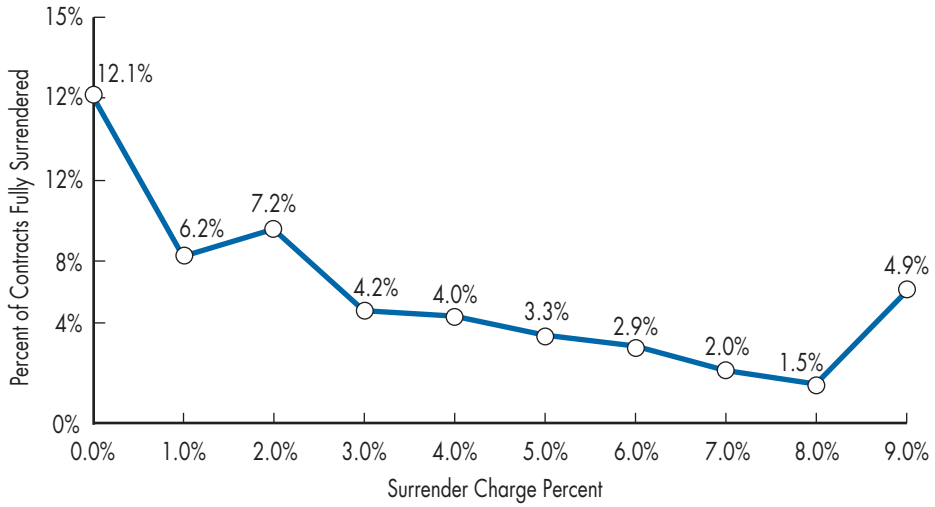
Figure 4-29: GMIB Surrender Rates of B-Share Contracts by Duration



Note: Based on 293,795 B-share GMIB contracts issued before 2011.

The surrender rates of GMIB contracts are influenced by the level of the surrender charge present in the contract. Naturally, contracts with high surrender charges have lower surrender rates and vice versa (Figure 4-30). At the end of 2011, nearly 40 percent of the contracts had no surrender charges. Slightly more than 40 percent of the GMIB contracts had contingent deferred surrender charges of 4 percent or more in the case of early surrender of contracts.

Figure 4-30: GMIB Surrender Rates by Surrender Charge Percent

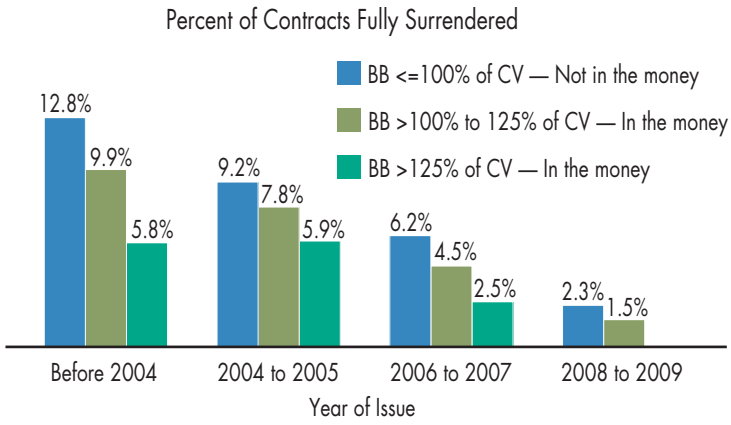


Note: Based on 820,984 GMIB contracts issued before 2011 where CDSC schedule was available. Contracts that never had surrender charges (e.g., C-share products) are not included in the "0.0%" category.

Surrender Activity by Degree of in-the-Moneyness

Another important way to look at GMIB surrenders rates involves whether the contracts are in the money or not. We have looked at surrender rates by degree of moneyness for contracts with and without withdrawals by and issue years. Surrender rates for all issue years are lower when the contracts did not have any withdrawals in 2011 or before and are in the money (Figure 4-31).

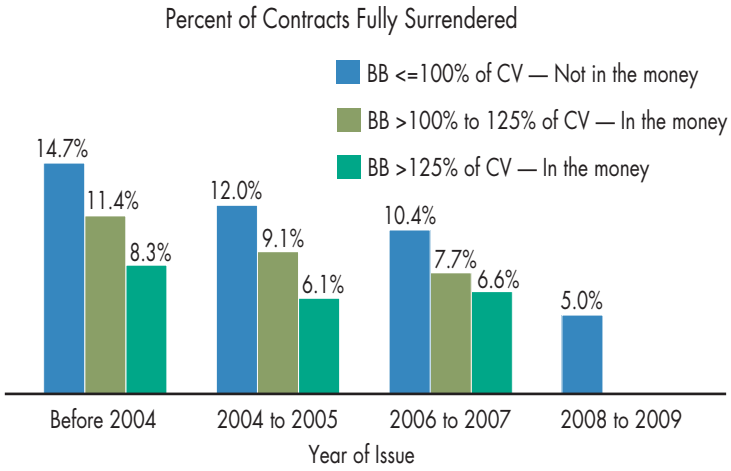
Figure 4-31: GMIB Surrender Rate by Degree of in-the-Moneyness When No Withdrawals Taken in or Before 2011



Note: Based on 524,939 GMIB contracts issued before 2011. In-the-money = benefit base was greater than account value at beginning of 2011.

Similar surrender behavior is seen when the contracts have withdrawals in 2011 or before (Figure 4-32).

Figure 4-32: GMIB Surrender Rate by Degree of in-the-Moneyness When Withdrawals Were Taken in or Before 2011



Note: Based on 277,805 GMIB contracts issued before 2011. In-the-money = benefit base was greater than account value at beginning of 2011.

While these results do appear to indicate that owners' surrender behavior is influenced by in-the-moneyness, the results need to be considered in the proper context. First, not many contracts, particularly contracts issued before 2008, were 'not in the money' at the beginning

of 2011. Second, for many contracts with withdrawals, the benefit bases of these contracts being lower than their account values was most likely caused by owners taking withdrawals exceeding the benefit maximums, resulting in pro-rata adjustments. Contracts that were in the money are most likely the contracts where owners took withdrawals within the benefit maximums, or through SWPs, or where owners have not yet started their withdrawals. Looking at the surrender rates only from the degree of in-the-moneyness may not be the best measure in understanding the persistency risk.

Table 4-6: GMIB Surrender Rates

	Percent of Contracts Surrendered	Percent of Contract Value Surrendered
Year of issue		
Before 2000	4.2%	2.2%
2000	6.1%	5.0%
2001	10.4%	10.2%
2002	11.3%	11.3%
2003	12.4%	13.5%
2004	11.9%	11.9%
2005	6.8%	7.0%
2006	5.8%	5.0%
2007	4.3%	4.7%
2008	2.6%	2.1%
2009	2.6%	2.8%
Age of owner		
Under 50	7.1%	6.6%
50 to 54	7.8%	7.3%
55 to 59	6.4%	7.3%
60 to 64	9.7%	8.0%
65 to 69	8.6%	7.5%
70 to 74	7.7%	8.0%
75 to 79	7.2%	8.7%
80 or older	7.5%	6.6%
Contract value, beginning of 2011		
Under $25,000	7.8%	8.1%
$25,000 to $49,999	7.1%	7.0%
$50,000 to $99,999	7.9%	7.8%
$100,000 to $249,999	7.9%	7.7%
$250,000 or $499,999	9.0%	9.0%
$500,000 or higher	5.2%	5.5%
$500,000 or higher	10.5%	10.5%

Table 4-6: GMIB Surrender Rates *(continued)*

	Percent of Contracts Surrendered	Percent of Contract Value Surrendered
Gender		
Male	8.5%	8.0%
Female	8.3%	8.0%
Market type		
IRA	8.4 %	7.9%
Nonqualified	8.3 %	8.2%
Distribution channel		
Career agent	6.7%	6.4%
Independent B-D	9.1%	9.6%
Full-Service Nat'l. B-D	9.4%	9.9%
Bank	13.0%	13.8%
Asset allocation restrictions		
Has restrictions	8.6%	8.0 %
No restrictions	6.2 %	5.3 %
Cost structure		
B-share	8.5%	9.1%
C-share	7.8%	9.5%
L-share	7.5%	8.4%

Note: Based on 867,426 contracts sold before 2011. Percent of contracts surrendered = number of contracts fully surrendered / total number of contracts in force. Percent of contract value surrendered = sum of values fully surrendered contracts / total contract value in force.

Participating Companies

Ameritas

AXA Equitable

CUNA Mutual

Guardian Life

ING

Lincoln National

Nationwide

New York Life

Pacific Life

Phoenix Life

Principal Financial

Protective Life

Prudential

RiverSource Annuities

Securian/Minnesota Life

Security Benefit

SunAmerica

Thrivent Financial

Transamerica

Appendix A:
About the Survey

LIMRA invited 30 companies known to sell VAs with GLBs in 2011 to participate in this study. Nineteen companies provided contract and product information for their variable annuity business that met the following criteria:

1. Were in force as of January 1, 2011, or were issued during 2011;
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 3,382,004 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 beginning of year, anniversary, and end of year

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, or L-share)
- Account values (beginning of year, at anniversary, and end of year)

- Cash flow activity (current-year premium, cumulative premiums, cumulative withdrawals, and current-year partial withdrawals)
- Contract status (in force end-of-year, 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. LIMRA 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.

Surrender Rate Calculations

In previous VA GLB utilization studies, surrender rates were determined based on the proportion of contracts in force at the beginning of the calendar year, or sold during that year, that fully surrendered during that year. While this method has the advantage of being straightforward, it does not properly account for partial-year exposures due to contracts terminating for reasons other than full surrender and contracts issued during the observation year. Therefore, in this year's study, the surrender rate calculations ensure that the number of contracts exposed recognizes the length of time each contract is exposed to risk of surrender during the year. Surrenders contribute exposure for a full year. Contracts that terminate due to death, disability, or annuitization are excluded from the numerator of the surrender rate formula but are included in the denominator (exposure) based on available information about the timing of the termination. If a contract's termination timing is known, then it contributes to the denominator in proportion to its exposure (if a contract's termination timing is not known, then it is assumed that the termination occurred mid-year).

In addition, the calculation method used for this year's study ensures that surrenders are correctly aligned with contract duration (and thus aligned with surrender charge schedules). Each contract issued before 2011 was split into two exposure segments: the time period from the beginning of the calendar year to the anniversary date (delta); and the time period from the anniversary date to the end of the year (alpha). Surrenders that occurred before the

anniversary date were assigned to the contract duration before the 2011 anniversary date, while surrenders that occurred after the anniversary date were assigned to the contract duration after the 2011 anniversary date. For example, a contract issued on April 30, 2009 would be in its 2nd contract year between January 1st and April 29th, 2011, and would be in its 3rd contract year between April 30th and December 31st, 2011. In previous reports, the contract duration was set as the current year of observation less year of issue.

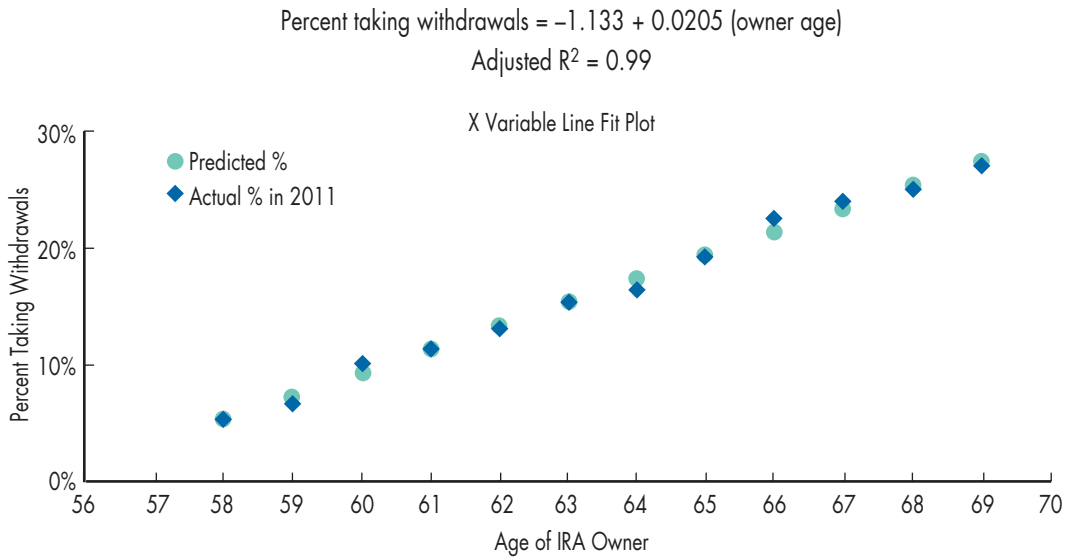
Below you will find a comparison of surrender rates by duration under both the old method and the new method for each of the riders.

	GLWB		GMWB		GMAB	
Duration in Years	Old Method	New Method	Old Method	New Method	Old Method	New Method
0	0.1%	0.4%	N/A	N/A	0.3%	0.9%
1	1.0%	1.4%	N/A	N/A	1.8%	2.7%
2	1.6%	2.0%	N/A	N/A	3.3%	3.5%
3	3.1%	3.7%	5.6%	5.8%	4.6%	5.3%
4	4.7%	6.1%	6.9%	8.2%	8.1%	11.5%
5	5.8%	5.7%	7.5%	7.2%	13.9%	12.8%
6	5.5%	5.9%	7.5%	8.1%	10.6%	11.4%
7	8.1%	8.3%	N/A	N/A	16.8%	18.5%
8	6.0%	6.0%	11.8%	11.3%	14.0%	13.8%
9	4.8%	5.2%	N/A	N/A	13.4%	14.8%
10 years or more	N/A	N/A	N/A	N/A	N/A	N/A
All years	2.4%	2.6%	7.6%	7.8%	8.8%	9.1%

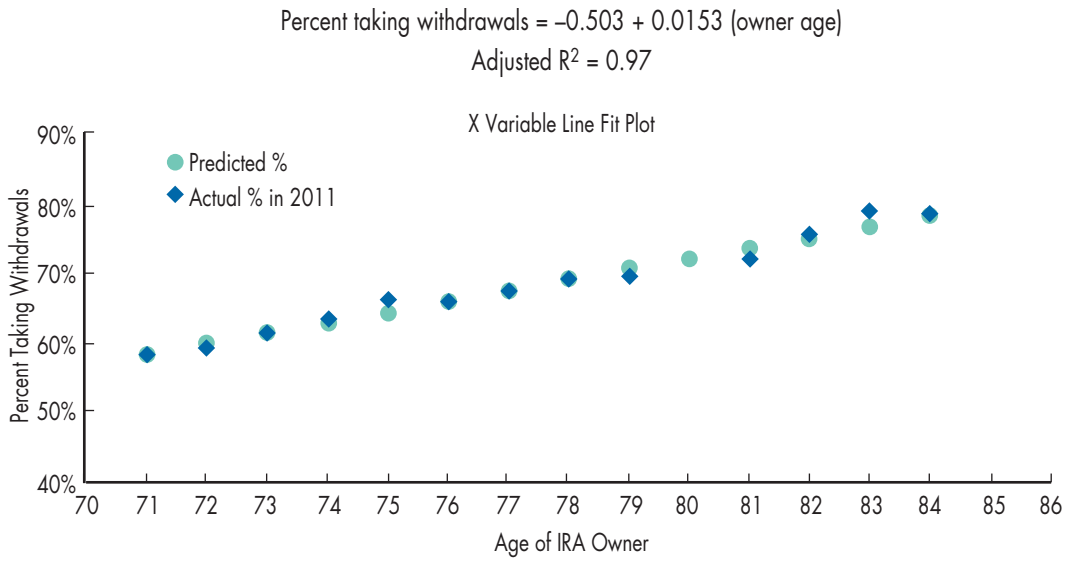
Note: We have not shown some measures related to surrender rates by duration years to preserve confidentiality and avoid revealing company-specific information as data in those characteristics were heavily weighted for one company or a very limited number of participating companies.

Appendix B:
Regression Model of GLWB Owners Taking Withdrawals

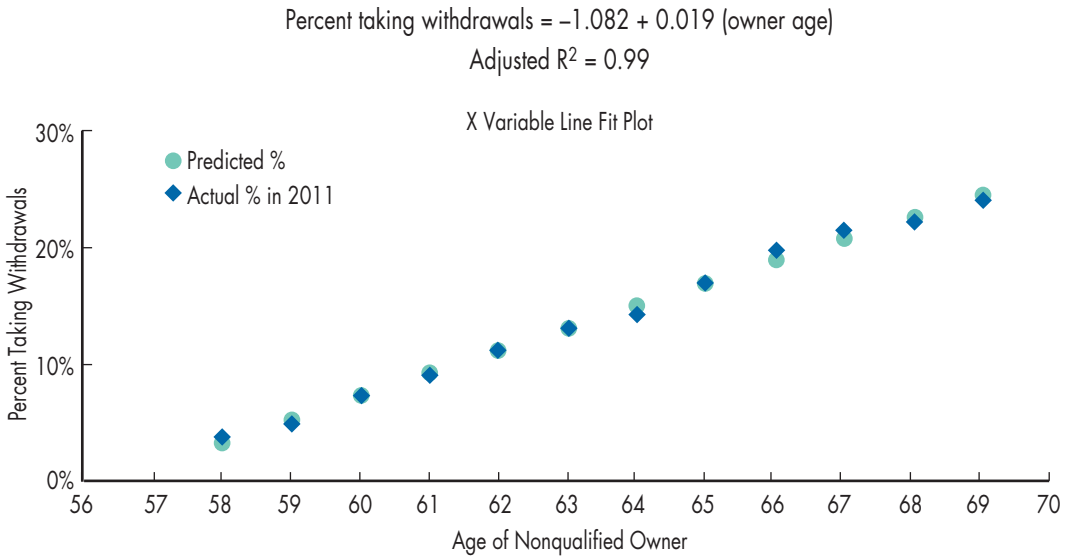
GLWB IRA Owners between Ages 58 and 69 Taking Withdrawals



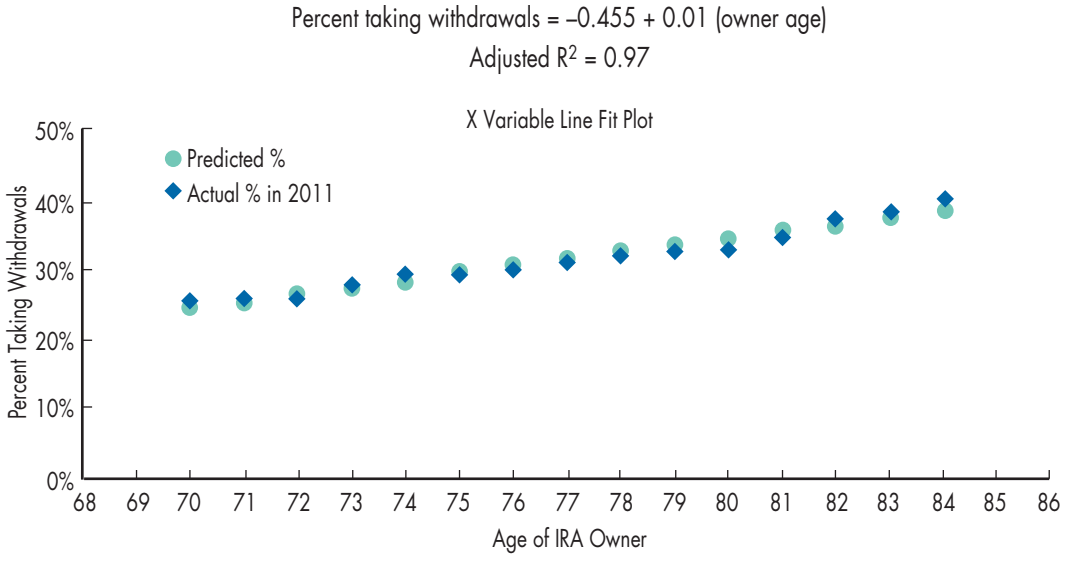
GLWB IRA Owners between Ages 71 and 84 Taking Withdrawals



GLWB Nonqualified Owners Between Ages 58 and 69 Taking Withdrawals



GLWB Nonqualified Owners Between Ages 70 and 84 Taking Withdrawals



Related Links

The following links are valid as of 11/15/2013

LIMRA

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?LangType=1033

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?LangType=1033

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_Data_(2009).aspx?LangType=1033

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

Variable Annuity Guaranteed Living Benefit Election Tracking Survey, Fourth Quarter 2012 (2013)

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/2013/Glimpse__Variable_Annuity_Guaranteed_Living_Benefit_(GLB)_Election_Tracking_Survey_(2012,_4th_Quarter).aspx

Variable Annuity Guaranteed Living Benefit Election Tracking Survey, Fourth Quarter 2011 (2012)

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/2012/Variable_Annuity_Guaranteed_Living_Benefit_Election_Tracking_Survey(Fourth_Quarter,_2011)_(2012).aspx?div=Retirement

Non-LIMRA

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.

http://www.soa.org/library/newsletters/product-development-news/2009/june/pro-2009-iss-74-saip.pdf

008694-1113 (564-48-0-R11)