

1. Welcome

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7. Benefit Base/
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Summary

8. Contract Value
vs. Benefit Base by
Quarter of Issue

9. Ratio of Benefit
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Value by Quarter of
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10. Average
Contract Value vs
Benefit Base

Variable Annuity Guaranteed Living Benefits Utilization

2016 Experience

Guaranteed Minimum Withdrawal Benefits (GMWB)

A Joint Study Sponsored by the
Society of Actuaries and LIMRA

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Variable Annuity Guaranteed Living Benefits Utilization

2016 EXPERIENCE

Participants' Report About the Study

LIMRA Secure Retirement Institute and Society of Actuaries Variable Annuity Guaranteed Living Benefit Utilization Study (VAGLBUS) — 2016 Experience is an update of earlier investigations, conducted since 2006.

The study examines the GLB utilization of over 4.9 million contracts that were either issued during or in force as of 2016. Twenty insurance companies participated in this study. These 22 companies made up 67 percent of all GLB sales in 2016 and 69 percent of GLB assets at year-end, and thus provide a substantial representation of this 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.

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

Note that confidentiality rules have been applied to the results displayed in all of the tabs in this report in order to ensure that no individual company data can be inferred by the users.

Click on the tabs at the top of the screen to move between pages. The buttons and menus on the right side of each screen allow you to filter results.

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Buyer Profiles

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

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

During the last few years, there has been little innovation with GMWB riders. New sales for GMWB riders remain low and GMWB election rates, when any GLB was available, remained low, around 1 percent. In 2007, GMWBs enjoyed an election rate around 8 percent. With lifetime withdrawal guarantees becoming more popular, the period-certain withdrawal guarantee has become almost nonexistent.

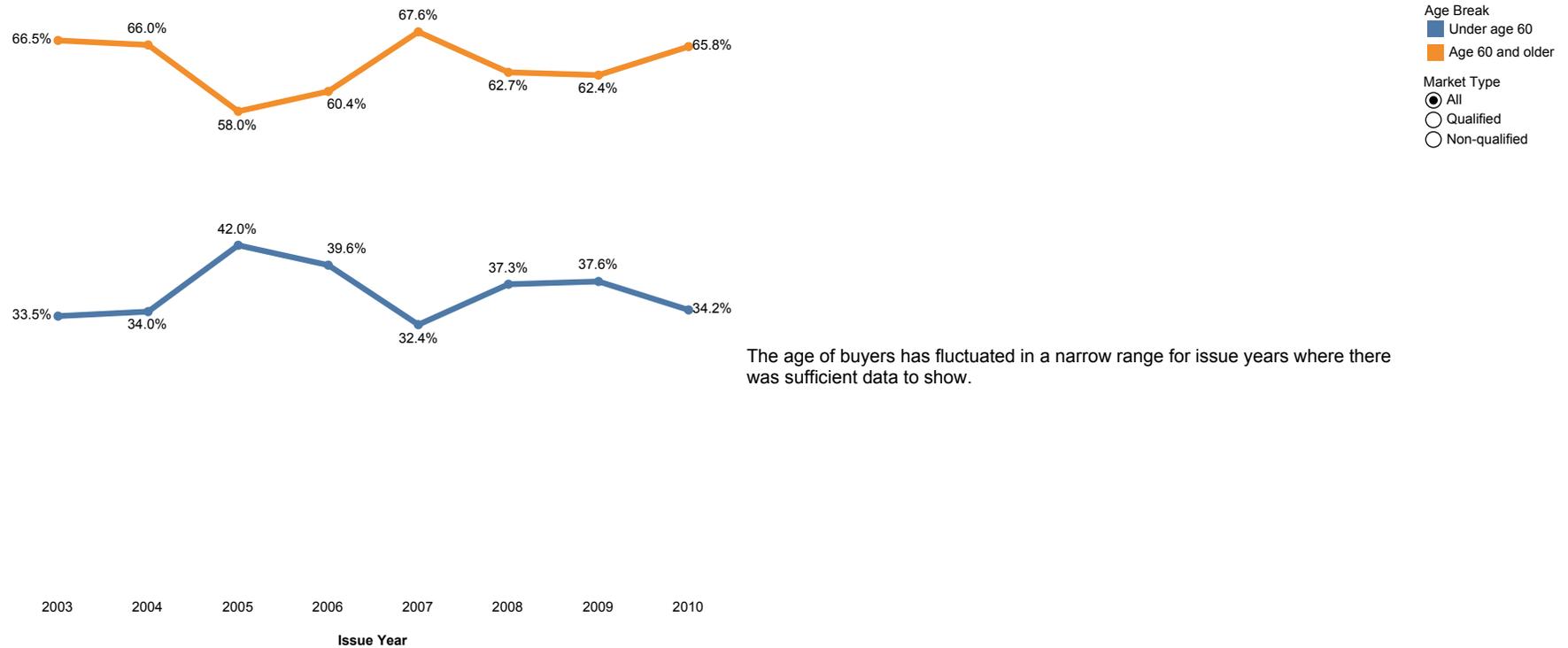
This study represents two-thirds of industry GMWB assets from a total of 30 GMWB riders introduced between 2000 and 2016.

	Average	Lower Quartile	Median	Upper Quartile	<input checked="" type="radio"/> Issue Year <input type="radio"/> Gender <input type="radio"/> Market Type <input type="radio"/> Cost Structure <input type="radio"/> Distribution Channel <input type="radio"/> Contract Size
2003	63	57	64	70	
2004	63	57	63	70	
2005	61	55	62	68	
2006	61	56	62	68	
2007	63	57	64	70	
2008	62	55	63	70	
2009	62	55	62	69	
2010	63	56	63	70	
2011					
2012					
2013					

Some issue years are suppressed due to confidentiality safe harbors.

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Percentage of Buyers Over Age 60 at Time of Purchase



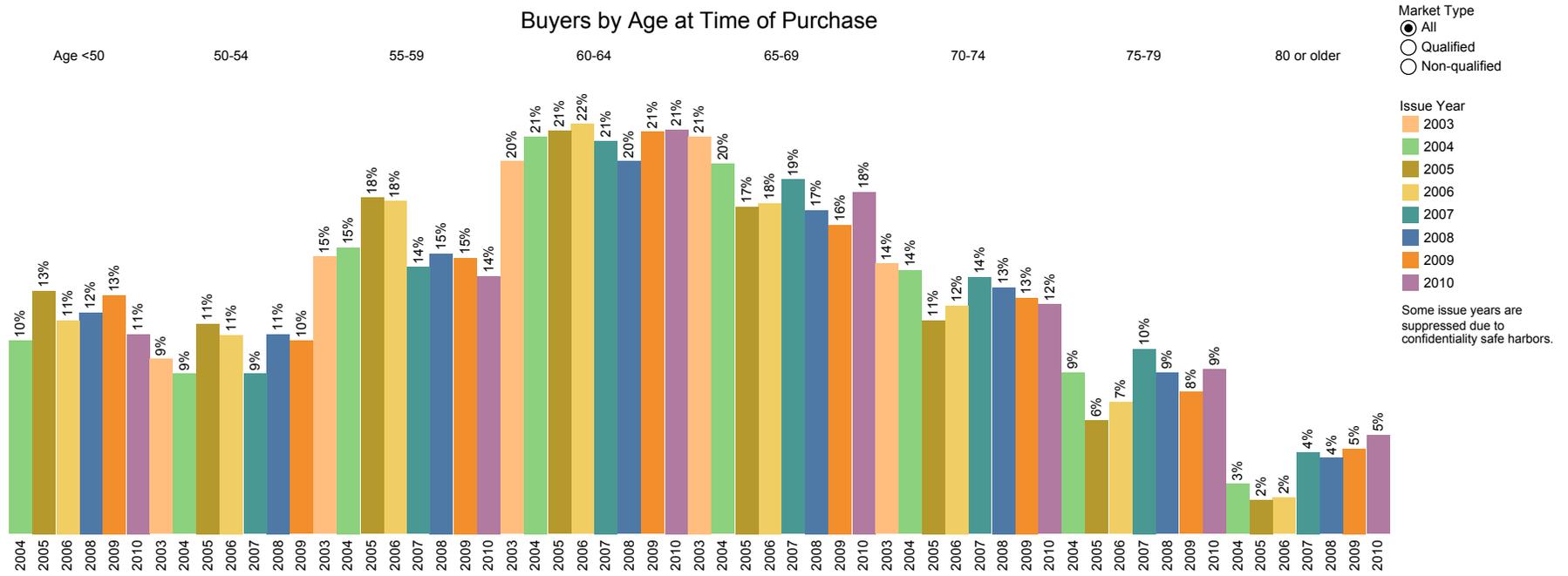
The age of buyers has fluctuated in a narrow range for issue years where there was sufficient data to show.

Age Break 60

Some issue years are suppressed due to confidentiality safe harbors.

1. Welcome	2. Introduction	3. Buyer Profiles	4. Age Analysis 1	5. Age Analysis 2	6. Owner Profiles	7. Benefit Base/ Contract Value Summary	8. Contract Value vs. Benefit Base by Quarter of Issue	9. Ratio of Benefit Base to Contract Value by Quarter of Issue	10. Average Contract Value vs Benefit Base
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Buyers by Age at Time of Purchase



This tab provides a second level of detail around buyer age distributions by issue year.

Across all issue years, the largest percentages of contracts tend to be sold to buyers between ages 60 to 70.

1. Welco me	2. Introduction	3. Buyer Profiles	4. Age Analysis 1	5. Age Analysis 2	6. Owner Profiles	7. Benefit Base/ Contract Value Summary	8. Contract Value vs. Benefit Base by Quarter of Issue	9. Ratio of Benefit Base to Contract Value by Quarter of Issue	10. Average Contract Value vs Benefit Base	11. Ratio of Benefit Base to Contract Value by Age
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Owner Profiles

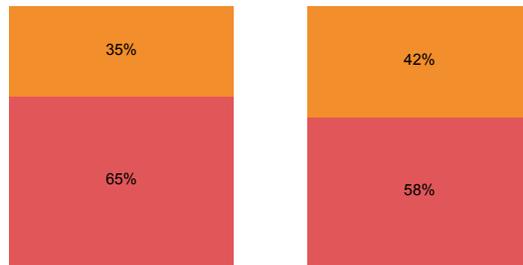
This tab provides a summary of GMWB owner and contract characteristics at EOY 2016.

Key Findings

- Close to 60 percent of the in-force GMWB owners were aged 70 or older.
- Most of the contracts were issued by career agents or independent agent/independent broker-dealers (B-Ds).
- Nearly 3 in 4 contracts had ending contract values under \$249,999.

By age break:

Issued Before 2016



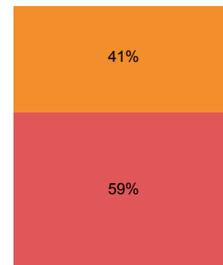
Non-qualified

Qualified

Age Break

Overall:

Issued Before 2016



All ages

Owner and Contract Characteristics

	Issued Before 2016	Issued In 2016	Overall	Avg. Premium for Contracts Issued in 2016
59 and under	13%	23%	13%	\$131,541
60 to 64	11%	26%	11%	\$169,002
65 to 69	17%	23%	17%	\$149,839
70 to 74	20%	14%	20%	\$142,617
75 to 79	17%	8%	17%	\$119,619
80 or older	22%	6%	22%	\$208,086

- Select Breakout
- Age of Owner
 - Qualified by Age
 - Non-qualified by Age
 - Gender
 - Market Type
 - Distribution Channel
 - Cost Structure
 - Contract Value EOY

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Benefit Base and Contract Value Comparison

	Benefit Base	Contract Value	CV as % of BB	Time of Year
Sum	\$17,338,324,793	\$17,448,459,417	100.6%	<input checked="" type="radio"/> Beginning of Year <input type="radio"/> End of Year
Mean	\$110,044	\$110,743	100.6%	
Median	\$68,531	\$70,808	103.3%	Market Type <input checked="" type="radio"/> All <input type="radio"/> Qualified <input type="radio"/> Non-qualified

Percent of contracts where benefit base was greater than contract value:

56.3%

Age of Owner
 All
 Age 59 & under
 60 to 64
 65 to 69
 70 to 74
 Age 75 & older

At beginning-of-year (BOY) 2016, 56 percent of contracts with GMWBs issued before 2016 had benefit base balances that exceeded contract values.

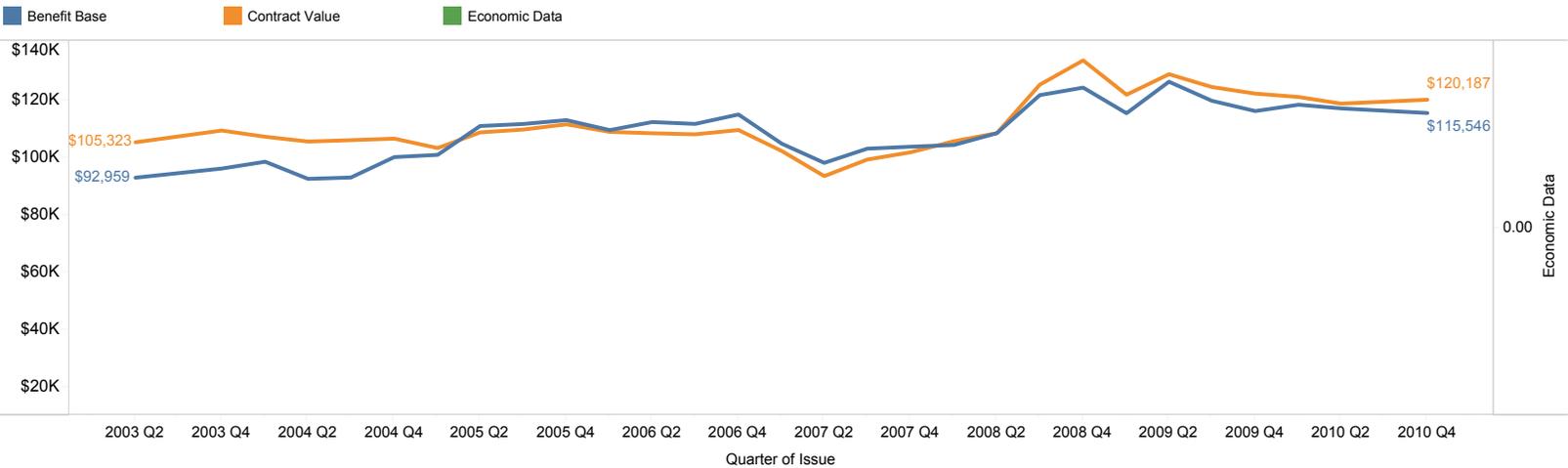
In 2016, the S&P 500 index was up nearly 10 percent, excluding dividends. The average contract value increased by 0.5 percent and the average benefit base decreased 3 percent. As a result, the percent of GMWB contracts that had a benefit base balance amount greater than the contract value at EOY 2016 was 36.3%.

3. Buyer Profiles	4. Age Analysis 1	5. Age Analysis 2	6. Owner Profiles	7. Benefit Base/ Contract Value Summary	8. Contract Value vs. Benefit Base by Quarter of Issue	9. Ratio of Benefit Base to Contract Value by Quarter of Issue	10. Average Contract Value vs Benefit Base	11. Ratio of Benefit Base to Contract Value by Age	12. 2016 Withdrawal Activity	13. Withdrawals by Source of..
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Contract Value and Benefit Base by Quarter of Issue

For GMWB contracts that incurred withdrawals in 2016, the average benefit base balance decreased by 7 percent during the year. The improved investment performance over 2015 also led to an increase in the contract value for this group. For GMWB contracts that did not take withdrawals during the year, the average benefit base balance increased by 1.8 percent and the average contract value increased by just under 1 percent.

The average contract value remained slightly below the average benefit base for contracts issued between 2005 and 2007 and was slightly above the average benefit base for contracts issued in 2008 and later.



Source: Oxford Economics

Time of Year

- Beginning of Year
- End of Year

Economic Data

- None
- 10-year Treasury Yield
- S&P 500

Average or Median

- Average
- Median
- Quartiles

Market Type

- All
- Qualified
- Non-qualified

Taking Withdrawals

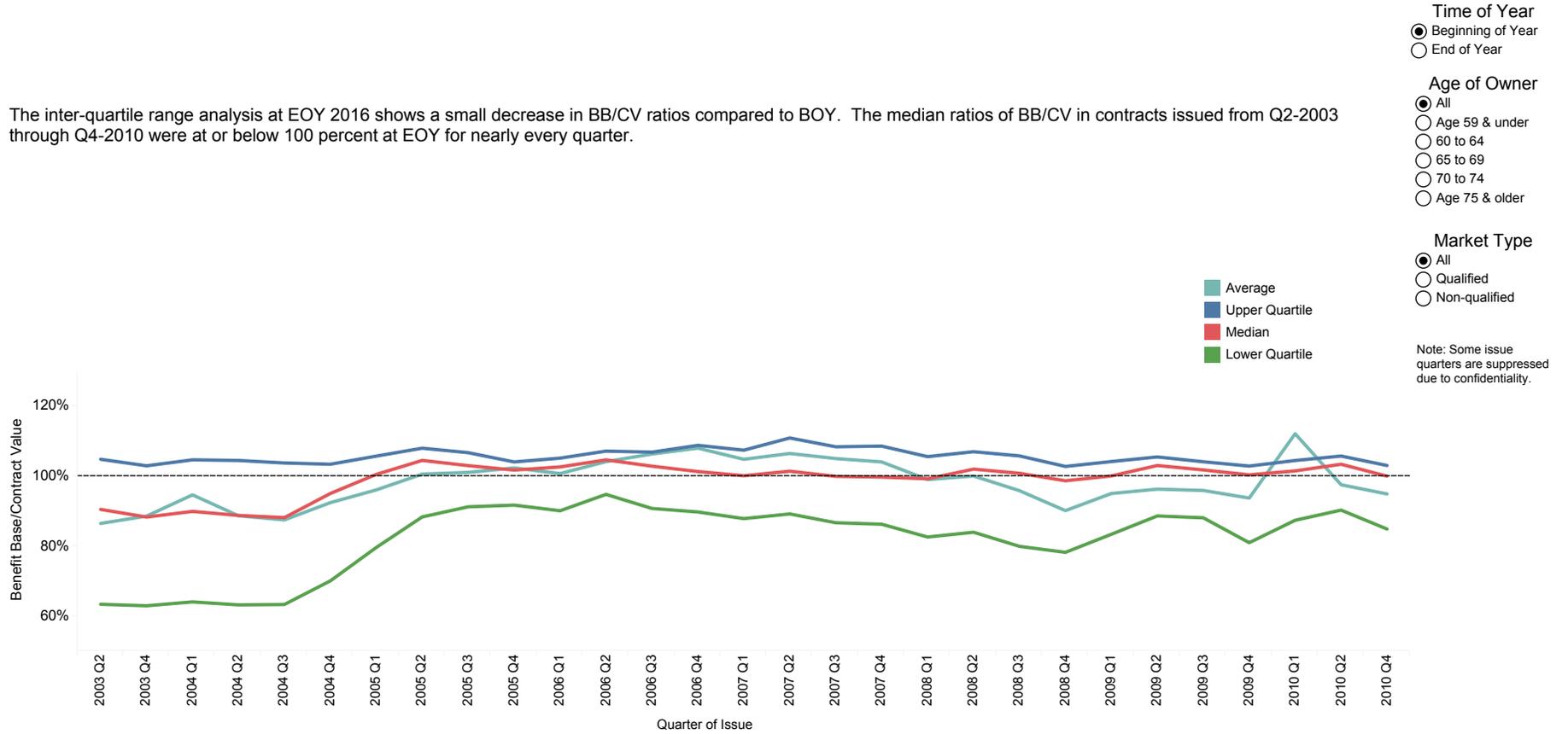
- All
- Yes
- No

Some issue years are suppressed due to confidentiality safe harbors.

4. Age Analysis 1	5. Age Analysis 2	6. Owner Profiles	7. Benefit Base/ Contract Value Summary	8. Contract Value vs. Benefit Base by Quarter of Issue	9. Ratio of Benefit Base to Contract Value by Quarter of Issue	10. Average Contract Value vs Benefit Base	11. Ratio of Benefit Base to Contract Value by Age	12. 2016 Withdrawal Activity	13. Withdrawals by Source of Funds and Age of Owner	14. Taking First Withdrawal from Annuity
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Ratio of Benefit Base to Contract Value by Quarter of Issue

The inter-quartile range analysis at EOY 2016 shows a small decrease in BB/CV ratios compared to BOY. The median ratios of BB/CV in contracts issued from Q2-2003 through Q4-2010 were at or below 100 percent at EOY for nearly every quarter.



5. Age Analysis 2	6. Owner Profiles	7. Benefit Base/ Contract Value Summary	8. Contract Value vs. Benefit Base by Quarter of Issue	9. Ratio of Benefit Base to Contract Value by Quarter of Issue	10. Average Contract Value vs Benefit Base	11. Ratio of Benefit Base to Contract Value by Age	12. 2016 Withdrawal Activity	13. Withdrawals by Source of Funds and Age of Owner	14. Taking First Withdrawal from Annuity	15. First Withdrawals by Age
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Average Contract Value vs Benefit Base



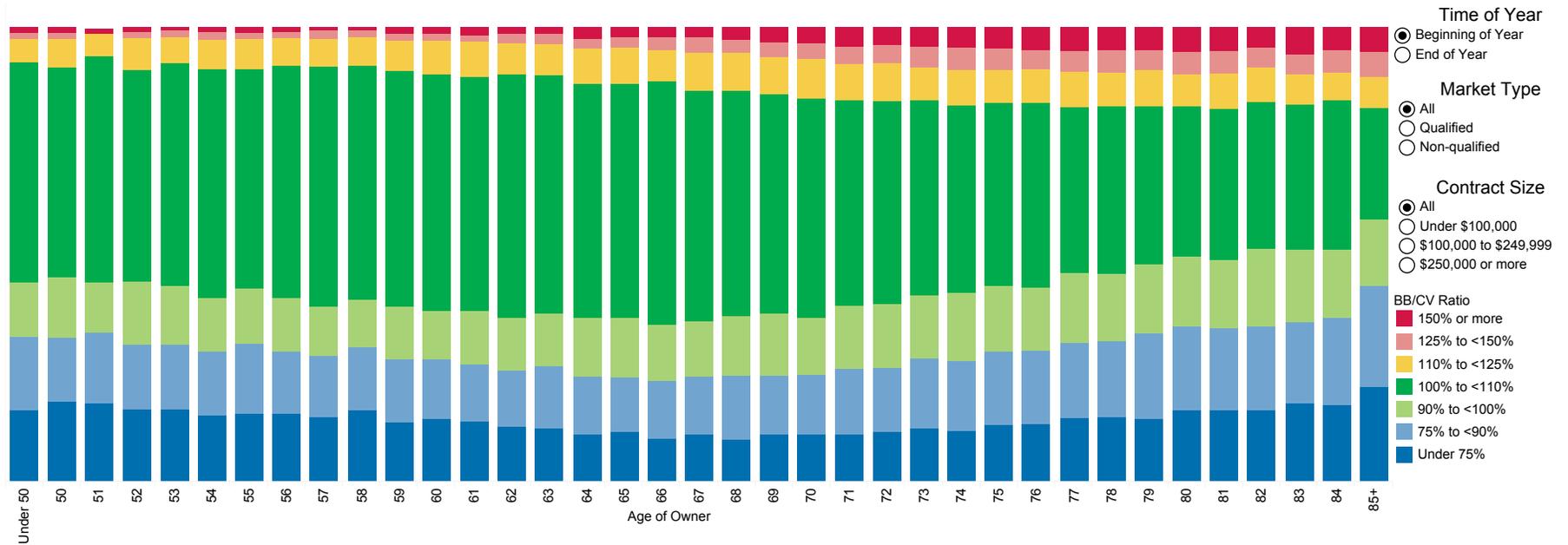
Overall, the average benefit base balance for GMWB contracts dropped 3.3 percent during the year and the improved investment performance led to a slight increase in the contract value. This led to a narrowing of the difference in average contract value and average benefit base during the year.

6. Owner Profiles	7. Benefit Base/ Contract Value Summary	8. Contract Value vs. Benefit Base by Quarter of Issue	9. Ratio of Benefit Base to Contract Value by Quarter of Issue	10. Average Contract Value vs Benefit Base	11. Ratio of Benefit Base to Contract Value by Age	12. 2016 Withdrawal Activity	13. Withdrawals by Source of Funds and Age of Owner	14. Taking First Withdrawal from Annuity	15. First Withdrawals by Age	16. Systematic Withdrawal Activity
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Ratio of Benefit Base to Contract Value by Age

This tab shows the BB/CV ratios by age at BOY and EOY 2016. At BOY, between 82 and 91 percent of contracts had benefit bases at less than 110 percent of contract value, with percentages slightly lower at older ages than younger ages. The results are generally consistent with this for both qualified and non-qualified business and across different contract sizes where there is credible data.

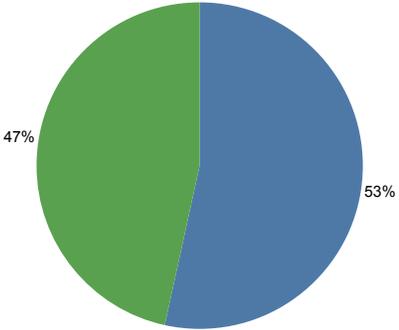
As expected the percentage of contracts with ratios over 110 percent generally decreased during the year.



7. Benefit Base/ Contract Value Summ..	8. Contract Value vs. Benefit Base by Quarter of Issue	9. Ratio of Benefit Base to Contract Value by Quarter of Issue	10. Average Contract Value vs Benefit Base	11. Ratio of Benefit Base to Contract Value by Age	12. 2016 Withdrawal Activity	13. Withdrawals by Source of Funds and Age of Owner	14. Taking First Withdrawal from Annuity	15. First Withdrawals by Age	16. Systematic Withdrawal Activity	17. Average Withdrawal Amount by Withdrawal Type
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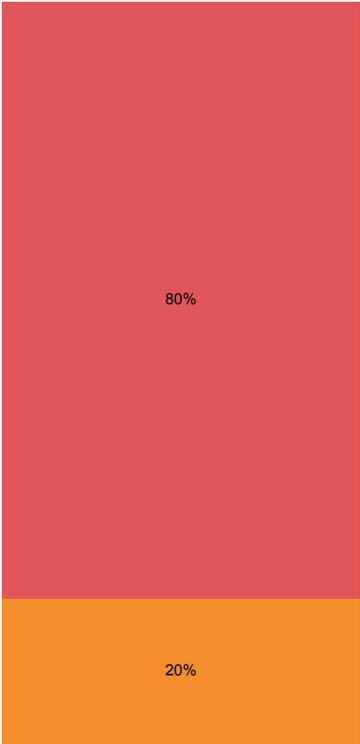
Withdrawal Activity 2016

Percent of owners who have taken withdrawals in 2016:



■ Withdrawals
 ■ No Withdrawals

Of those taking withdrawals in 2016:



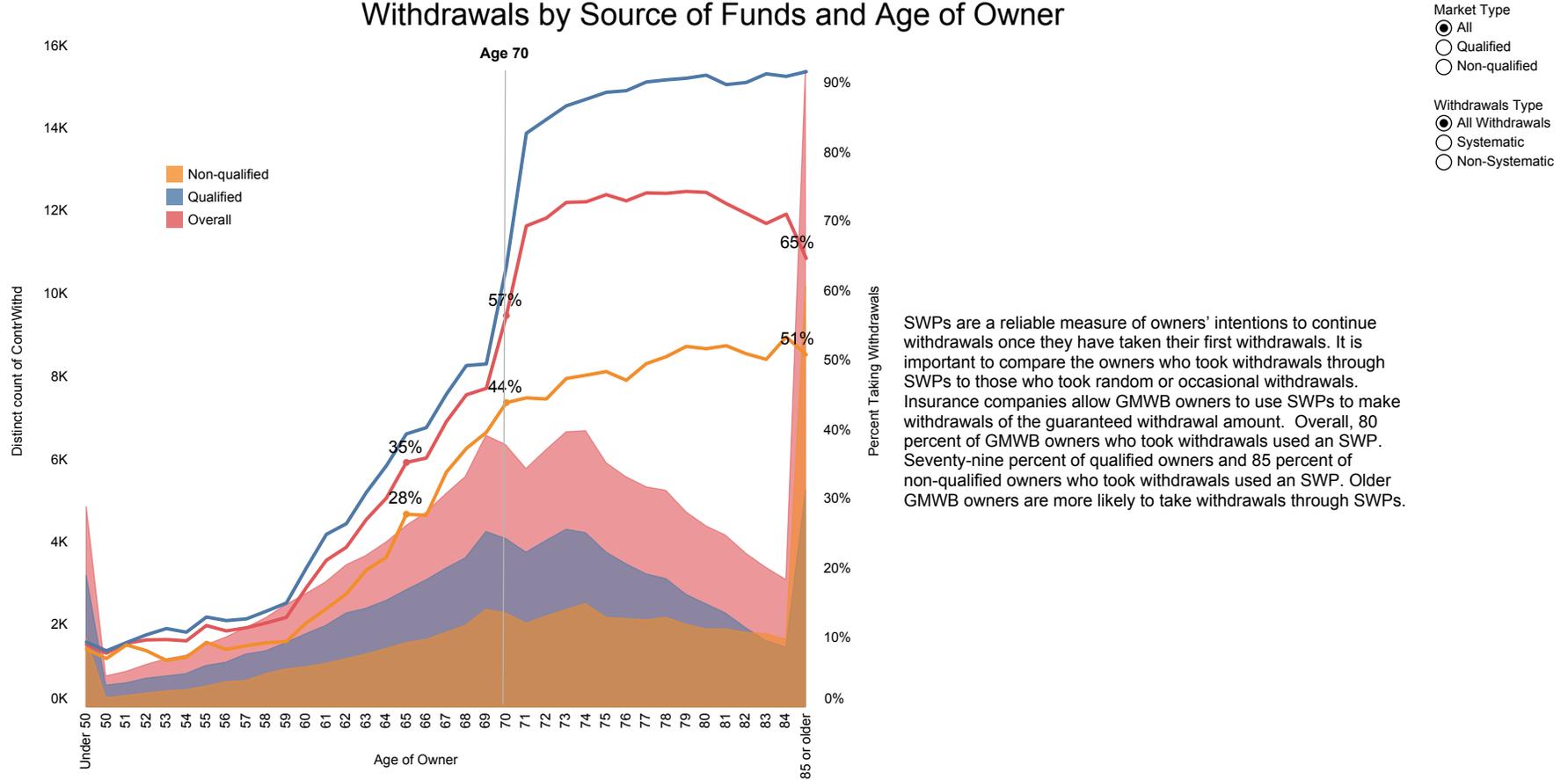
Systematic Withdrawals
■ Systematic Withdrawals
■ Non-systematic Withdrawals

Market Type
 All
 Qualified
 Non-qualified

More than half of contracts with GMWB riders issued before 2016 and still in force at EOY had at least some withdrawal activity during 2016. Eight in 10 of these contracts had systematic withdrawals. Non-qualified contracts had only 40 percent of owners taking withdrawals in 2016 but a large percentage of withdrawals were taken on a systematic basis (85%).

8. Contract Value vs. Benefit Base b..	9. Ratio of Benefit Base to Contract Value by Quarter of Issue	10. Average Contract Value vs Benefit Base	11. Ratio of Benefit Base to Contract Value by Age	12. 2016 Withdrawal Activity	13. Withdrawals by Source of Funds and Age of Owner	14. Taking First Withdrawal from Annuity	15. First Withdrawals by Age	16. Systematic Withdrawal Activity	17. Average Withdrawal Amount by Withdrawal Type	18. Summary of Withdrawals a..
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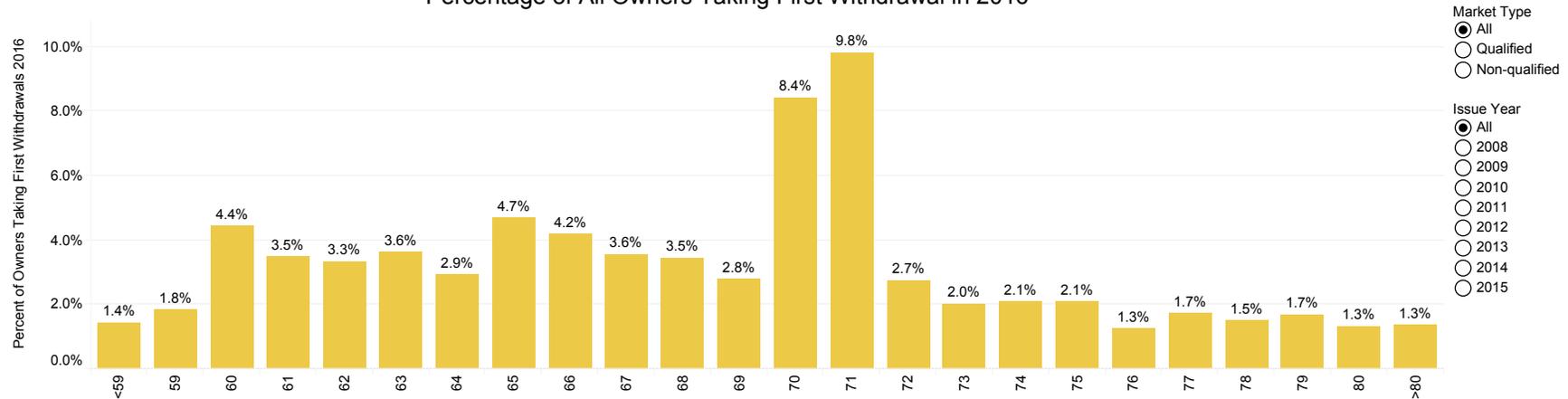
Withdrawals by Source of Funds and Age of Owner



SWPs are a reliable measure of owners' intentions to continue withdrawals once they have taken their first withdrawals. It is important to compare the owners who took withdrawals through SWPs to those who took random or occasional withdrawals. Insurance companies allow GMWB owners to use SWPs to make withdrawals of the guaranteed withdrawal amount. Overall, 80 percent of GMWB owners who took withdrawals used an SWP. Seventy-nine percent of qualified owners and 85 percent of non-qualified owners who took withdrawals used an SWP. Older GMWB owners are more likely to take withdrawals through SWPs.

9. Ratio of Benefit Base to Contract Value b..	10. Average Contract Value vs Benefit Base	11. Ratio of Benefit Base to Contract Value by Age	12. 2016 Withdrawal Activity	13. Withdrawals by Source of Funds and Age of Owner	14. Taking First Withdrawal from Annuity	15. First Withdrawals by Age	16. Systematic Withdrawal Activity	17. Average Withdrawal Amount by Withdrawal Type	18. Summary of Withdrawals as Percentage of Annual Benefit Maximum	19. Withdrawals as a Percent..
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Percentage of All Owners Taking First Withdrawal in 2016



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

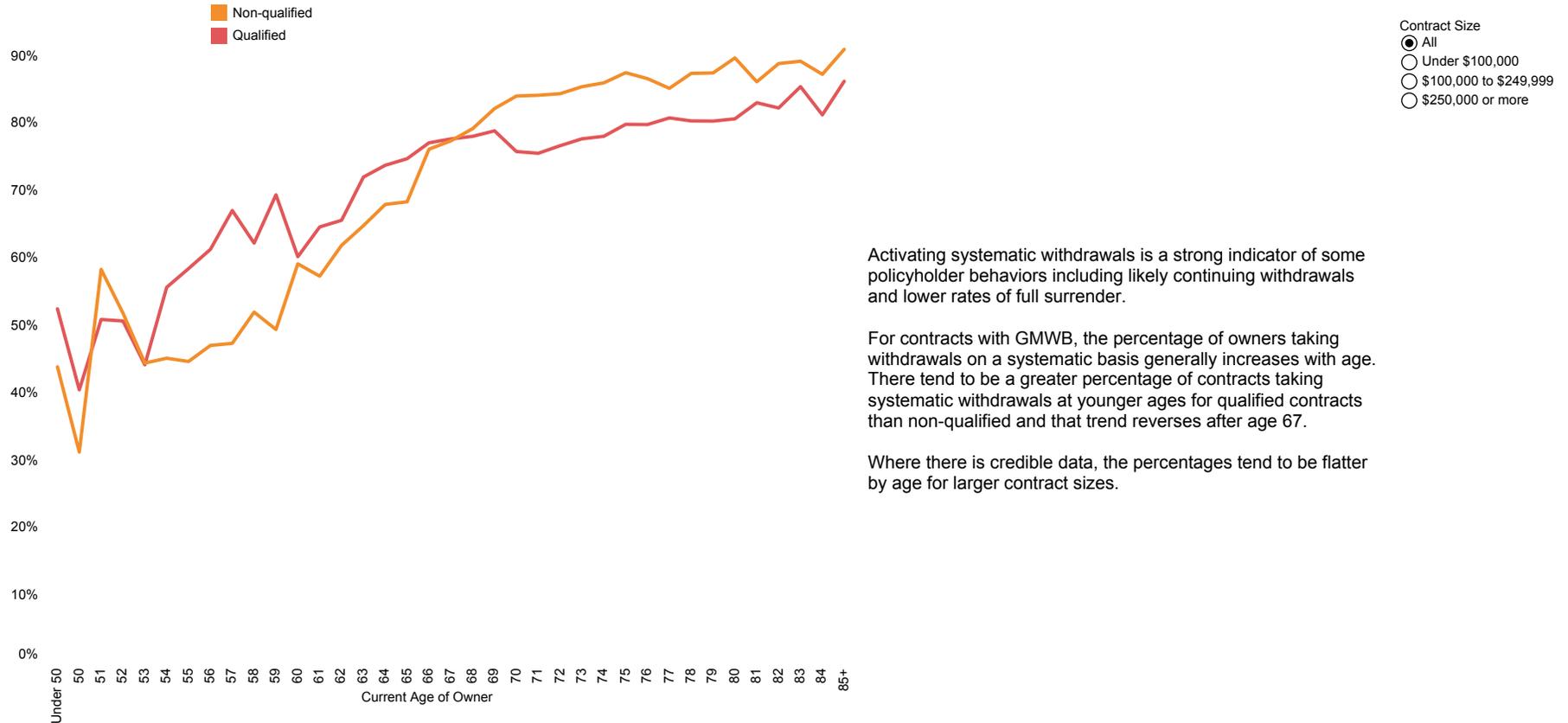
Analysis of when owners are likely to take first withdrawals provides important information about withdrawal risk. These findings can help insurance companies to assess risks more precisely by identifying clusters of owners who are likely to start withdrawals in their first year, second year, etc., after purchase. There are two ways to analyze withdrawal activity: First, we can determine the percentage of owners who have initiated their first withdrawals in the current year (2016 for this report), by their age and source of money, to provide various trends and relationships. Second, we can analyze the first withdrawal history for owners from a particular issue year, and track how age and source of money influence their first withdrawal activities.

For qualified business the need to take RMDs leads to the highest percent of owners taking first withdrawals occurring at ages 70 and 71. Many insurance companies encourage annuity buyers to take withdrawals, particularly to satisfy RMDs as they turn age 70½. Most companies do not treat RMDs as excess withdrawals, even if they exceed the annual guaranteed income amount.

For non-qualified business, rates of first withdrawal increase gradually by age through the 60s and then begin to decrease again in the 70s.

11. Ratio of Benefit Base to Contract Value b..	12. 2016 Withdrawal Activity	13. Withdrawals by Source of Funds and Age of Owner	14. Taking First Withdrawal from Annuity	15. First Withdrawals by Age	16. Systematic Withdrawal Activity	17. Average Withdrawal Amount by Withdrawal Type	18. Summary of Withdrawals as Percentage of Annual Benefit Maximum	19. Withdrawals as a Percentage of Annual Benefit Maximum by Age	20. Withdrawal Activity by Contract Year	21. Average Withdrawal Amount by Owner Age
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Percentage of Withdrawals Taken Systematically



Activating systematic withdrawals is a strong indicator of some policyholder behaviors including likely continuing withdrawals and lower rates of full surrender.

For contracts with GMWB, the percentage of owners taking withdrawals on a systematic basis generally increases with age. There tend to be a greater percentage of contracts taking systematic withdrawals at younger ages for qualified contracts than non-qualified and that trend reverses after age 67.

Where there is credible data, the percentages tend to be flatter by age for larger contract sizes.

12. 2016 Withdrawal Activity	13. Withdrawals by Source of Funds and Age of Owner	14. Taking First Withdrawal from Annuity	15. First Withdrawals by Age	16. Systematic Withdrawal Activity	17. Average Withdrawal Amount by Withdrawal Type	18. Summary of Withdrawals as Percentage of Annual Benefit Maximum	19. Withdrawals as a Percentage of Annual Benefit Maximum by Age	20. Withdrawal Activity by Contract Year	21. Average Withdrawal Amount by Owner Age	22. Ratio of Withdrawals to ..
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Average Withdrawal Amount by Withdrawal Type

Average Withdrawal Amount

	Systematic				Occasional				All Withdrawals				Market Type <input checked="" type="radio"/> All <input type="radio"/> Qualified <input type="radio"/> Non-qualified	
	Mean		Median		Mean		Median		Mean		Median			Contract Size <input checked="" type="radio"/> All <input type="radio"/> Under \$100,000 <input type="radio"/> \$100,000 to \$249,999 <input type="radio"/> \$250,000 or more
	Non-qualified	Qualified	Non-qualified	Qualified	Non-qualified	Qualified	Non-qualified	Qualified	Non-qualified	Qualified	Non-qualified	Qualified		
Under age 60	\$14,215	\$9,542	\$7,934	\$6,380	\$28,804	\$21,920	\$8,292	\$10,000	\$23,695	\$15,766	\$8,946	\$7,723		
Age 60-69	\$10,257	\$12,037	\$6,552	\$8,653	\$19,670	\$20,898	\$8,601	\$9,565	\$13,452	\$15,401	\$7,078	\$9,146		
Age 70 or older	\$8,308	\$7,794	\$5,654	\$5,204	\$16,636	\$10,642	\$7,194	\$5,800	\$9,839	\$8,817	\$6,000	\$5,476		
Grand Total	\$8,672	\$8,598	\$5,861	\$5,820	\$18,446	\$13,478	\$7,600	\$6,558	\$10,766	\$10,249	\$6,036	\$6,048		

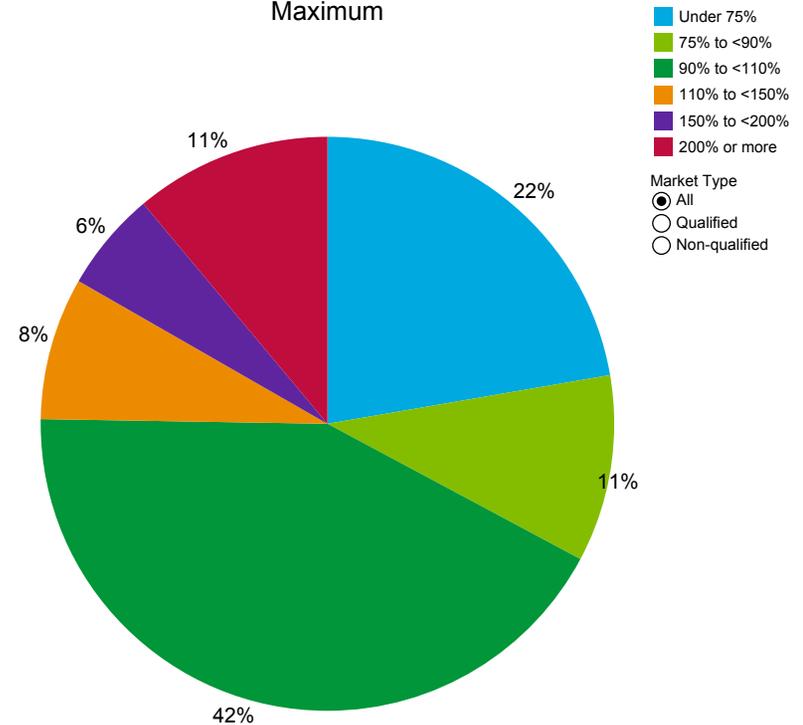
The table shows the mean and median withdrawal amounts for occasional and SWP withdrawals for both qualified and non-qualified contracts. Some GMWB riders offer the owner the ability to select which withdrawal rate they want, allowing owners to choose between a lower payout and a longer duration vs. a higher payout with a shorter duration.

Based on the average withdrawal amounts at younger ages, many of these GMWB owners — particularly those who take occasional withdrawals — may be partially surrendering their contracts.

13. Withdrawals by Source of..	14. Taking First Withdrawal from Annuity	15. First Withdrawals by Age	16. Systematic Withdrawal Activity	17. Average Withdrawal Amount by Withdrawal Type	18. Summary of Withdrawals as Percentage of Annual Benefit Maximum	19. Withdrawals as a Percentage of Annual Benefit Maximum by Age	20. Withdrawal Activity by Contract Year	21. Average Withdrawal Amount by Owner Age	22. Ratio of Withdrawals to Average Contract Value and Benefit Base	23. Ratio of Total Withdrawals.
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Summary of Withdrawals as Percentage of Annual Benefit Maximum

Actual Withdrawals as a Percentage of Benefit Maximum

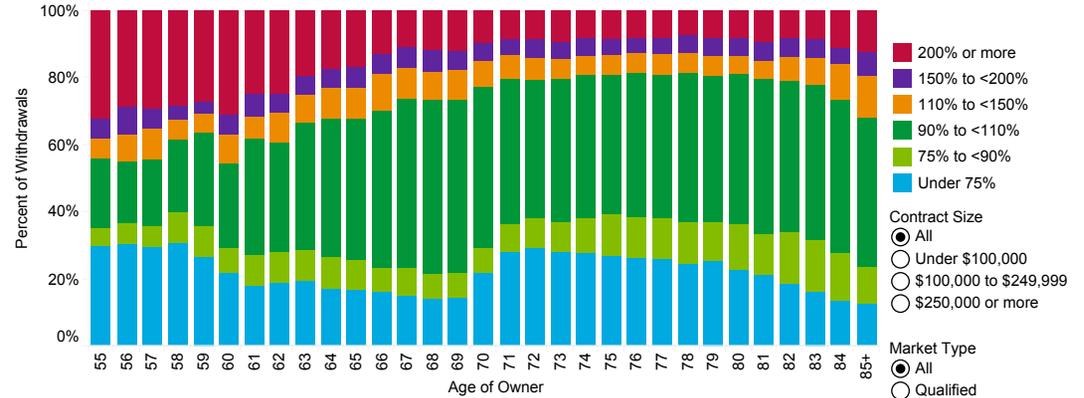


Here we look at the relationship between customers' actual withdrawal amounts in calendar year 2016 and the maximum withdrawal amount allowed in the contract. Participating companies were asked to provide this maximum amount as of BOY 2016. If companies did not provide the maximum withdrawal amount but provided the benefit base balance, as well as the maximum percentage of this base that could be withdrawn each year, then we estimated the maximum amount. We calculated the maximum withdrawal amount based on the reported maximum annual withdrawal percentage multiplied by the average benefit base balance.

The chart shows the percent of owners taking withdrawals — and their withdrawal amounts — in relation to maximum withdrawal amount allowed in the contracts. Three-quarters of owners who took withdrawals in 2016 withdrew within 110 percent of the maximum withdrawal amount allowed in the contract.

14. Taking First Withdrawal ..	15. First Withdrawals by Age	16. Systematic Withdrawal Activity	17. Average Withdrawal Amount by Withdrawal Type	18. Summary of Withdrawals as Percentage of Annual Benefit Maximum	19. Withdrawals as a Percentage of Annual Benefit Maximum by Age	20. Withdrawal Activity by Contract Year	21. Average Withdrawal Amount by Owner Age	22. Ratio of Withdrawals to Average Contract Value and Benefit Base	23. Ratio of Total Withdrawals to Total Contract Value	24. Historical ITM Trends
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Total Withdrawals as a Percentage of Annual Benefit Maximum by Age



Looking at the age of owners and their withdrawal amounts in relation to the maximum withdrawal amount allowed, we see that most GMWB owners' withdrawal amounts are likely to remain within 110 percent or lower of the amount allowed. Some older owners may have taken withdrawals that exceeded 100 percent of the maximum limit in order to meet RMD requirements.

Just over one in five owners took less than 75 percent of the maximum withdrawal amount allowed in the contract and a significant percentage of them (80 percent) were aged 70 and older. It is notable that the percent of owners taking 150 percent or more than the maximum withdrawal amount allowed in the contract is lowest for owners aged 70 and older — ranging from 8 to 12 percent for each individual age.

Other items of note:

- The majority of owners taking withdrawals are aged 65 or older. There are very few instances where these older owners take significantly more than the annual benefit maximum.
- Younger owners, particularly under age 60, are more likely to take 200 percent or more of the benefit maximum allowed in the contract.
- For qualified contracts, there is a noticeable jump in the percentage of contracts taking less than 90 percent of the benefit maximum. At these ages, contract owners tend to be taking distributions related to RMDs and therefore there may be lower amounts taken.

Percentage of GMWB Contracts (only those taking withdrawals)

	Under 75%	75% to <90%	90% to <110%	110% to <150%	150% to <200%	200% or more
Under 50	33%	3%	17%	6%	6%	35%
50 to 54	28%	9%	15%	6%	6%	35%
55 to 59	29%	8%	22%	7%	5%	29%
60 to 64	19%	9%	36%	9%	6%	22%
65 to 69	15%	8%	49%	9%	6%	13%
70 to 74	27%	9%	44%	7%	5%	9%
75 to 79	26%	12%	43%	6%	5%	8%
80 to 85	19%	14%	46%	7%	5%	9%
85 or older	12%	12%	44%	12%	7%	12%
Grand Total	22%	11%	44%	8%	5%	11%

- Contract Size
 - All
 - Under \$100,000
 - \$100,000 to \$249,999
 - \$250,000 or more
- Market Type
 - All
 - Qualified
 - Non-qualified
- Withdrawals Type
 - All Withdrawals
 - Systematic
 - Non-Systematic

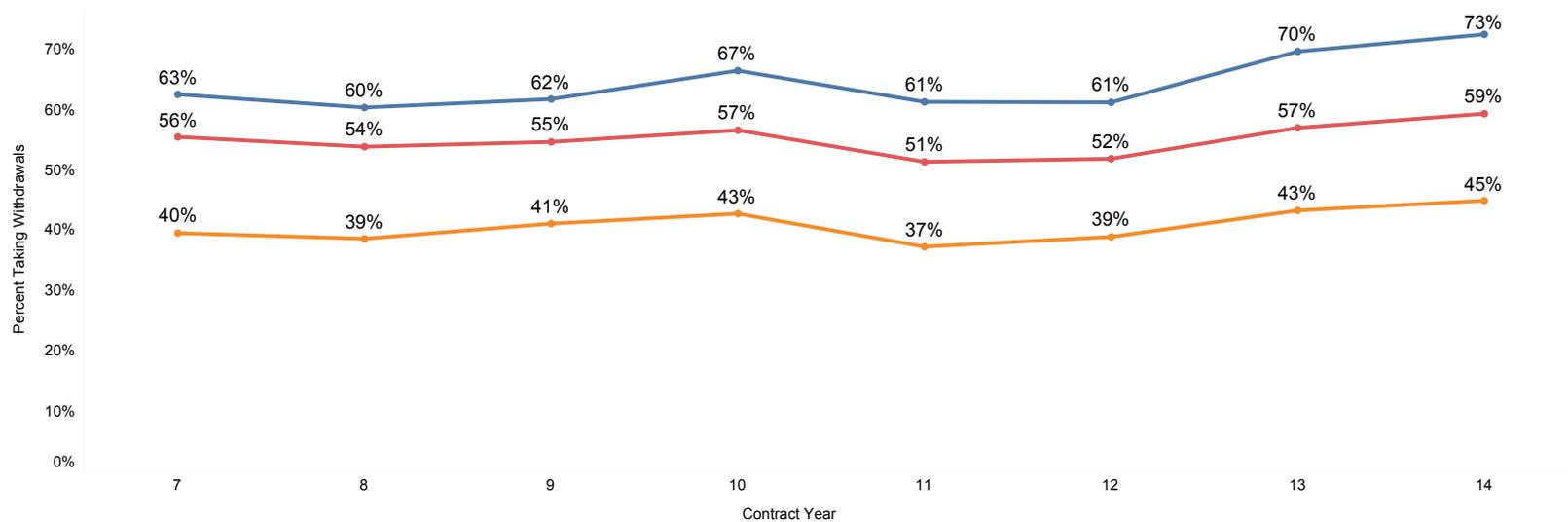
15. First Withdrawals by Age	16. Systematic Withdrawal Activity	17. Average Withdrawal Amount by Withdrawal Type	18. Summary of Withdrawals as Percentage of Annual Benefit Maximum	19. Withdrawals as a Percentage of Annual Benefit Maximum by Age	20. Withdrawal Activity by Contract Year	21. Average Withdrawal Amount by Owner Age	22. Ratio of Withdrawals to Average Contract Value and Benefit Base	23. Ratio of Total Withdrawals to Total Contract Value	24. Historical ITM Trends	25. Withdrawal Rates for Contracts In-the-Money vs ..
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Withdrawal Activity by Contract Year

Contract duration (i.e., how long ago the contract was purchased) is important for determining what proportion of new GMWB buyers or existing GMWB owners take withdrawals from their annuities. Companies can also use contract duration to gauge their company's marketing effectiveness, and value in setting expectations with customers. Immediate utilization of the GMWB is appropriate for certain customers, but there are also circumstances in which delayed withdrawals make sense. By comparing their own withdrawal activity by contract duration to that of the industry, companies can assess the extent to which their customers' usage patterns match both their own expectations and the experience of other VA companies. The comparison could also facilitate internal forecasts by estimating when and how GMWB customers might take withdrawals and the resulting cash flow needed to manage the existing book of business. This chart examines withdrawal activity for contracts issued between 2002 and 2009. Just over half of the GMWB owners who bought their contracts in 2009 took withdrawals from their annuities in 2016. As the contract duration increases, withdrawal activity remains within a tight range.

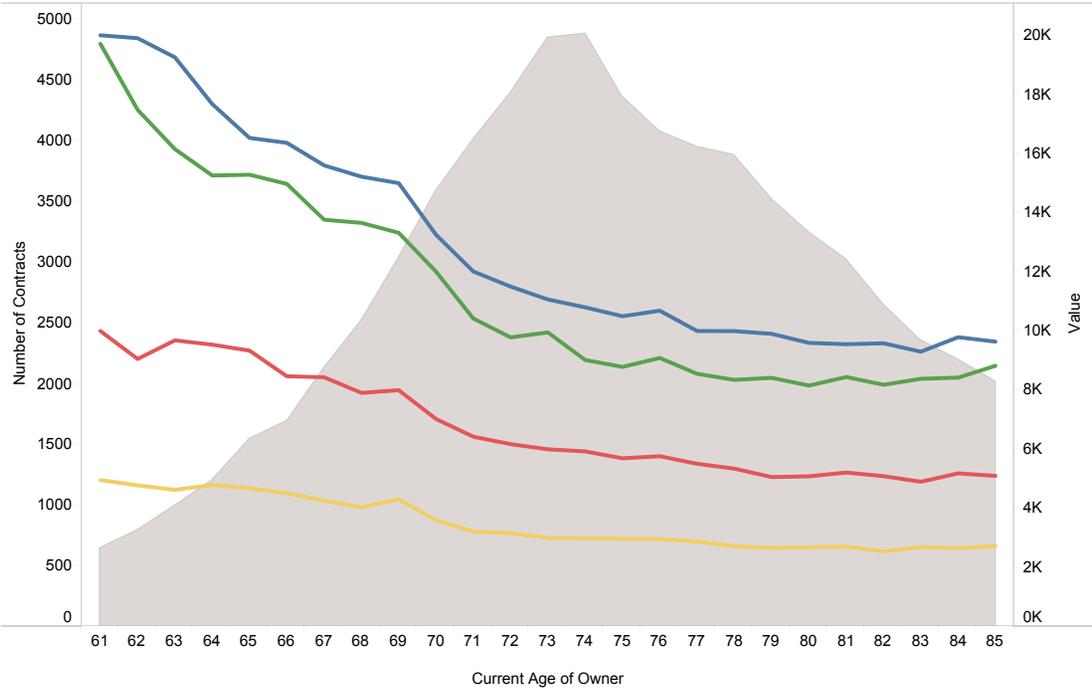
The growth pattern in withdrawal rates for GMWBs differs from GLWBs (where we see a steady increase in the percent of owners taking withdrawals for longer duration contracts). It appears that a significant portion of GMWB owners who take withdrawals are likely to utilize their withdrawal benefits within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

- Market Type**
- All
 - Qualified
 - Non-qualified
- Age of Owner**
- All
 - Age 59 & under
 - 60 to 64
 - 65 to 69
 - 70 to 74
 - Age 75 & older
- Some contract years are suppressed due to confidentiality safe harbors.



16. Systematic Withdrawal Ac..	17. Average Withdrawal Amount by Withdrawal Type	18. Summary of Withdrawals as Percentage of Annual Benefit Maximum	19. Withdrawals as a Percentage of Annual Benefit Maximum by Age	20. Withdrawal Activity by Contract Year	21. Average Withdrawal Amount by Owner Age	22. Ratio of Withdrawals to Average Contract Value and Benefit Base	23. Ratio of Total Withdrawals to Total Contract Value	24. Historical ITM Trends	25. Withdrawal Rates for Contracts In-the-Money vs Not-In-the-Money	26. Summary of Withdrawal Rates by Selected ..
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Average Withdrawal Amount by Owner Age



At some ages in the 50s, withdrawals averaged more than \$20,000. However, there were not a lot of contracts that had withdrawals from this age group so data should be interpreted accordingly. As a result, we only show average withdrawal amounts beginning at age 61. It is safe to assume that many of these withdrawals were partial surrenders of the contracts, unconnected to regular withdrawals as part of the GMWB benefit and were taken sporadically, not through an SWP.

After age 60, as the number of GMWB owners increases, a more smooth withdrawal pattern and average withdrawal amount emerges. Withdrawals by owners aged 60 to 69 are a mix of both occasional and systematic withdrawals. A relatively level trend appears for owners over age 70, with average withdrawal amounts around \$9,000 and median withdrawal amounts from \$5,100 to \$6,400. These withdrawal amounts are commensurate with (or slightly above) the maximum withdrawal amount for this age group.

As expected, average and median withdrawal amounts increase with increasing contract size.

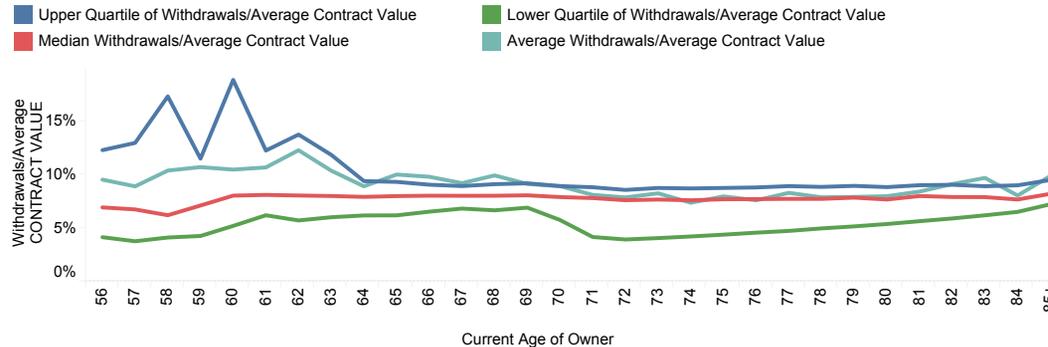
- Market Type**
- All
 - Qualified
 - Non-qualified
- Contract Size**
- All
 - Under \$100,000
 - \$100,000 to \$249,999
 - \$250,000 or more

- Average Withdrawal Amount
- Median Withdrawal Amount
- Lower Quartile of Withdrawal Amount
- Upper Quartile of Withdrawal Amount
- Number of Contracts

17. Average Withdrawal Amount	18. Summary of Withdrawals as Percentage of Annual Benefit Maximum	19. Withdrawals as a Percentage of Annual Benefit Maximum by Age	20. Withdrawal Activity by Contract Year	21. Average Withdrawal Amount by Owner Age	22. Ratio of Withdrawals to Average Contract Value and Benefit Base	23. Ratio of Total Withdrawals to Total Contract Value	24. Historical ITM Trends	25. Withdrawal Rates for Contracts In-the-Money vs Not-In-the-Money	26. Summary of Withdrawal Rates by Selected Owner and Product Characteristics	27. Additional Premium
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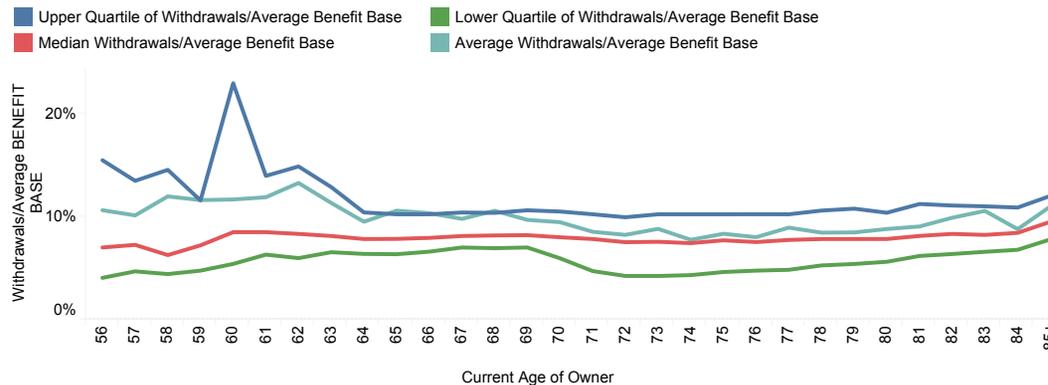
Ratio of Withdrawals to Average Contract Value and Benefit Base

- Market Type**
- All
 - Qualified
 - Non-qualified
- Distribution Channel**
- All
 - Full Service National B-D
 - Independent Agent/B-D
- In-The-Moneyiness**
- All
 - ITM <= 75%
 - ITM >75% to 90%
 - ITM >90% to 110%
 - ITM >110% to 125%
 - ITM >125%



In order to provide some context, we assessed withdrawal amounts in relation to both contract values and benefit base balances. This chart shows the median withdrawal amount for all ages and the quartile distribution of the withdrawal amounts in 2016.

The distribution of the withdrawals as a percent of average contract value withdrawn shows that, for owners aged 65 or over, the upper quartile and lower quartile values are within four percentage points of the median. The pattern also indicates that the majority of older owners taking withdrawals do so at similar ratios to their contract values. For owners under age 60, the median of the ratios remains around 8 to 10 percent.



The distribution of withdrawal amount to the average benefit base balance ratio supports the same conclusion that we reached earlier: that the withdrawal amount is unduly weighted by very large withdrawals taken by a few younger owners. The distribution of ratios of withdrawal amount to benefit base balance shows that the upper quartile and lower quartile values are within a relatively tight range of the median for owners aged 65 or over. This is similar to what we saw with the withdrawal to average contract value ratio. The ratios also indicate that the majority of owners taking withdrawals do so at a rate of around 8 percent of their benefit base values — a reasonable GMWB maximum payout rate for this age.

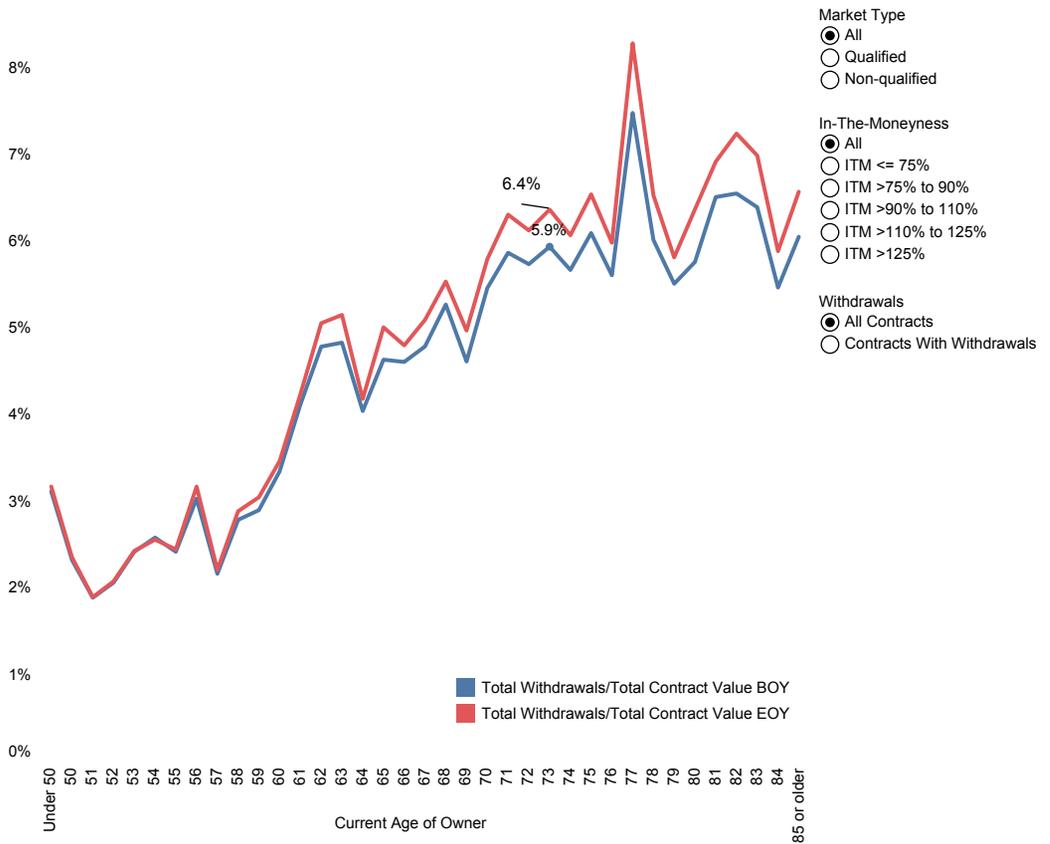
For most GMWB contracts, the ratio of average withdrawal amount to average contract value (average of contract values at BOY and EOY) is similar to the ratio of withdrawal to average benefit base balance value. The fluctuations in the ratios for owners under age 60 are due to low sample sizes.

Note: The ratio of withdrawals to average contract values is calculated as the average of withdrawal amounts divided by the average of beginning and ending contract values. The ratio of withdrawals to average benefit base balances is calculated as the average of withdrawal amounts divided by the average of beginning and ending benefit base balances. In both cases, only GMWB contracts that were sold before 2016, were still in force at EOY 2016, had withdrawals in 2016, and with benefit base balance information were considered.

18. Summary of Withdrawals a..	19. Withdrawals as a Percentage of Annual Benefit Maximum by Age	20. Withdrawal Activity by Contract Year	21. Average Withdrawal Amount by Owner Age	22. Ratio of Withdrawals to Average Contract Value and Benefit Base	23. Ratio of Total Withdrawals to Total Contract Value	24. Historical ITM Trends	25. Withdrawal Rates for Contracts In-the-Money vs Not-In-the-Money	26. Summary of Withdrawal Rates by Selected Owner and Product Characteristics	27. Additional Premium	28. Net Flows
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Withdrawals to Total Contract Value

Comparing the ratio of withdrawal amounts to BOY contract values and the ratio of withdrawal amounts to EOY contract values is another measure of GMWB risk originating in customer behavior. This measure can be calculated at two levels. First, the risk associated with all contracts in the book can be ascertained by analyzing the ratio of total withdrawals in 2016 to total contract values at BOY and EOY, for all contracts inforce. Second, the same ratios can be computed for only the subset of contracts that experienced withdrawals in 2016. 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.



19. Withdrawals as a Percent..	20. Withdrawal Activity by Contract Year	21. Average Withdrawal Amount by Owner Age	22. Ratio of Withdrawals to Average Contract Value and Benefit Base	23. Ratio of Total Withdrawals to Total Contract Value	24. Historical ITM Trends	25. Withdrawal Rates for Contracts In-the-Money vs Not-In-the-Money	26. Summary of Withdrawal Rates by Selected Owner and Product Characteristics	27. Additional Premium	28. Net Flows	29. Surrender Rates by Contract Year
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Historical ITM Trends

	2009	2010	2011	2012	2013	2014	2015	2016	Time of Year <input checked="" type="radio"/> Beginning of Year <input type="radio"/> End of Year
Number of Contracts Issued before Calendar Year	0.26M	0.23M	0.18M	0.22M	0.19M	0.19M	0.17M	0.16M	
Percent of Contracts where Benefit Bases > Contract Values	96%	75%	57%	75%	53%	19%	29%	56%	

The 2008–2009 market downturn caused large losses in contract values of annuity contracts, causing most GMWB contracts to have benefit base balances that were higher than the contract values. Many of these contracts experienced gains due to the market recovery that began in the later part of 2009 and continued through 2014. For 2016, market gains improved over 2015 and by EOY 2016, 36 percent of GMWB contracts had benefit base balances greater than the contract values as compared to 56 percent at the BOY. Our findings indicate that GMWB benefit base balances being larger than the contract values was not a major driver in customers' decisions to take withdrawals in 2016.

In order to understand the impact this relationship had on withdrawal activities, it helps to understand the severity and spread of the benefit base balance compared to the contract value among owners by age and by duration of contracts. We should also consider other factors, like market performance, investor confidence, market volatility, the state of the economy, and confidence in the financial strength of financial service providers. In order to conclude that the benefit base balance being greater than the contract value influenced the owners' withdrawal activity, we would expect to see increased withdrawal activity irrespective of age when the contracts benefit base balance exceeded the contract value.

For GMWB contracts issued before 2016, it is evident that:

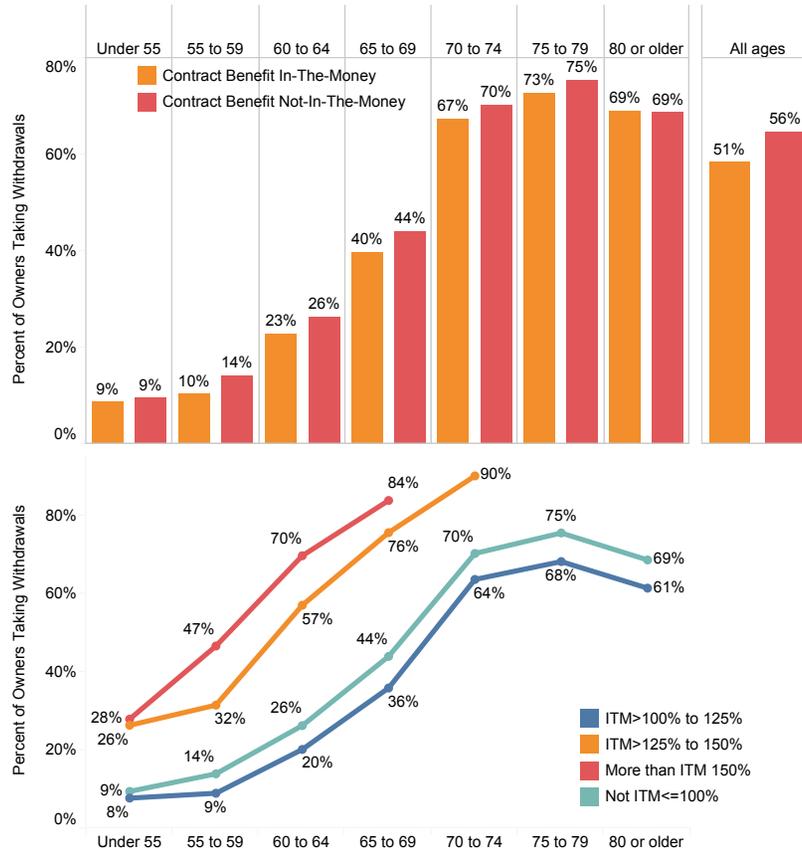
- A majority of GMWB contracts that had benefit base balances significantly larger than the contract values at BOY were held by older owners. These contracts are also more likely to have a higher representation of longer duration contracts.
- A majority of older GMWB owners with older duration contracts initiated withdrawals in previous years and continued taking withdrawals in subsequent years. Older owners — particularly those aged 65 or older — are more likely to take and continue withdrawals over a longer period of time. Since their withdrawal amounts typically remain within the maximum amount offered in the GMWB contracts, their contract values are likely to decline over a period (unless they experience growth due to large and consistent market gains). Meanwhile, their benefit base balances are likely to remain level or proportionately adjusted with withdrawals, causing the gap between the benefit base balance and contract value to grow as the withdrawals continue. As a result, we expect that the percentages of owners taking withdrawals by the amount the benefit base balance exceeded the contract value will be skewed both by older owners who started withdrawals years ago and contracts with longer duration. We also expect that the percentage of owners who take withdrawals in a particular year where the benefit base balance was greater than the contract value may grow in the future.

Examining the withdrawal behavior of contract owners and the relationship between the benefit base balance and the contract value can shed some light on these issues. Just looking at owner's age and the relationship between the benefit base balance and the contract value, in isolation, may not provide a complete picture. Similar to GLWBs, it is likely that age and source of funds — not the amount the benefit base balance exceeds the contract value— drive owner withdrawal behavior, although there may be a small effect driven mainly by withdrawals among younger owners. The percentage of owners who took withdrawals in 2016 was higher for contracts where the benefit base balance was greater than the contract value. The gap between the percentages of owners age 60 and older who took withdrawals remained within a tight range. The fact that the vast majority of owners who

20. Withdrawal Activity by C..	21. Average Withdrawal Amount by Owner Age	22. Ratio of Withdrawals to Average Contract Value and Benefit Base	23. Ratio of Total Withdrawals to Total Contract Value	24. Historical ITM Trends	25. Withdrawal Rates for Contracts In-the-Money vs Not-In-the-Money	26. Summary of Withdrawal Rates by Selected Owner and Product Characteristics	27. Additional Premium	28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender..
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Withdrawal Rates for Contracts In-The-Money vs. Not-In-The-Money

Market Type
 All
 Qualified
 Non-qualified



Just looking at owner's age and the relationship between the benefit base balance and the contract value, in isolation, may not provide a complete picture of drivers of withdrawal activity. Similar to GLWBs, it is likely that age and source of funds — not the amount the benefit base balance exceeds the contract value — that are greater drivers of owner withdrawal behavior, although there may be a small ITM effect driven mainly by withdrawals among younger owners.

The percentage of owners who took withdrawals in 2016 was higher for contracts where the benefit base balance was higher than the contract value. The gap between the percentages of owners age 60 and older remained within a small range. The contracts where contract values were greater than or equal to the benefit base balance were likely either issued recently and have not been as exposed to market volatility or were issued years ago, did not take withdrawals and so experience growth in their contract values. This helps to explain why contracts owned by older people taking withdrawals from longer duration contracts have a widening gap.

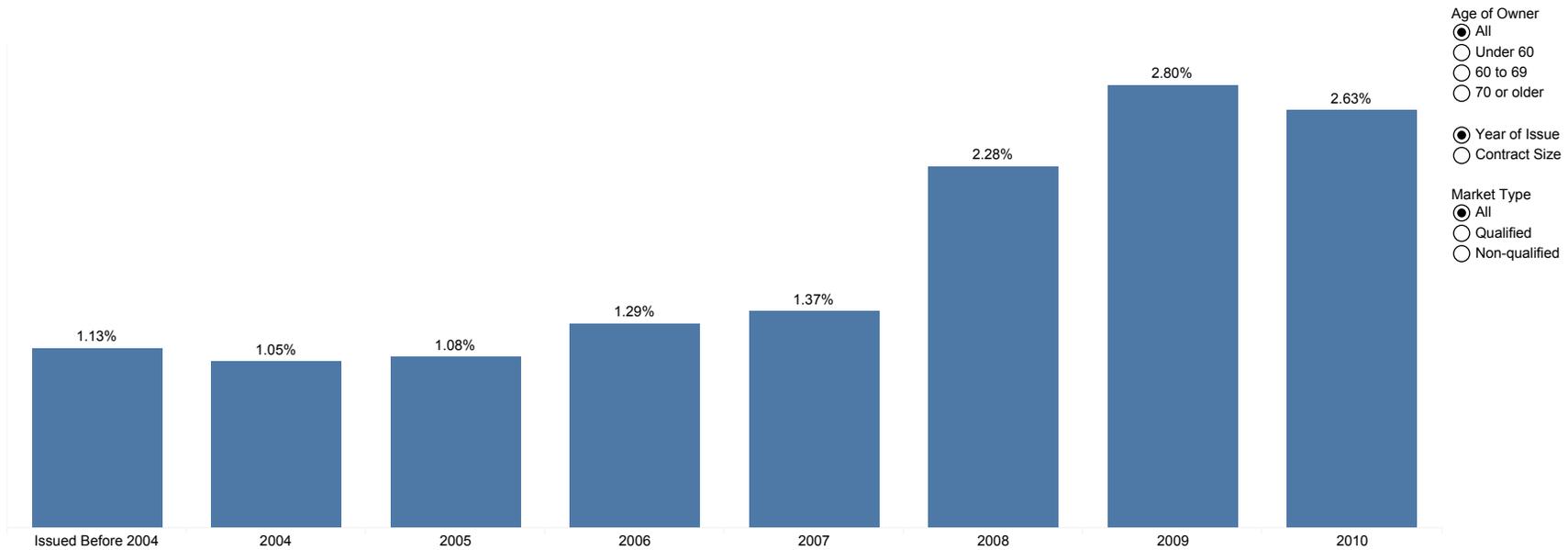
21. Average Withdrawal Amount	22. Ratio of Withdrawals to Average Contract Value and Benefit Base	23. Ratio of Total Withdrawals to Total Contract Value	24. Historical ITM Trends	25. Withdrawal Rates for Contracts In-the-Money vs Not-In-the-Money	26. Summary of Withdrawal Rates by Selected Owner and Product Characteristics	27. Additional Premium	28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage
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Summary of Withdrawal Rates by Selected Characteristics

	Unweighted		Weighted by BOY 2016 Contract Value	
Gender	Percent of Owners Taking Withdrawals	Percent of Owners Taking Withdrawals Through SWP's	Percent of Owners Taking Withdrawals	Percent of Owners Taking Withdrawals Through SWP's
Male	54%	43%	56%	44%
Female	53%	42%	53%	42%
Age of Owner				
Under 50	9%	18%	5%	11%
50 to 54	9%	14%	5%	8%
55 to 59	12%	17%	7%	12%
60 to 64	24%	32%	16%	24%
65 to 69	41%	47%	32%	37%
70 to 74	69%	69%	54%	54%
75 to 79	74%	72%	61%	57%
80 or older	69%	62%	59%	51%
Market Type				
Non-qualified	40%	34%	39%	32%
Qualified	62%	49%	65%	51%
Distribution Channel				
Bank/S&L				
Career Agent	50%	34%	53%	35%
Direct Response				
Full Service National B-D				
Independent Agent				
Independent B-D	55%	47%	57%	48%
Contract Value (EOY)				
Under \$25,000	51%	41%	60%	45%
\$25,000 to \$49,999	55%	45%	59%	47%
\$50,000 to \$99,999	55%	45%	58%	46%
\$100,000 to \$249,999	53%	42%	55%	43%
\$250,000 to \$499,999	52%	41%	54%	42%
\$500,000 or higher	48%	38%	48%	37%

22. Ratio of Withdrawals to ..	23. Ratio of Total Withdrawals to Total Contract Value	24. Historical ITM Trends	25. Withdrawal Rates for Contracts In-the-Money vs Not-In-the-Money	26. Summary of Withdrawal Rates by Selected Owner and Product Characteristics	27. Additional Premium	28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals
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Percent of Contracts Receiving Additional Premium



Many retail VAs allow owners to add premium after issue, though in practice most contracts do not receive ongoing deposits. For some GMWBs, the calculation of the benefit base balance will incorporate premium that is received within a certain time period after the issue of contract. Among contracts sold in 2016 or earlier:

- Only 2 percent received additional premium during 2016.
- Younger owners were more likely to add premium than older owners. For example, 6 percent of owners under age 60 added premium, compared with less than 1 percent of owners aged 70 or older.
- Non-qualified contracts received additional premium slightly more often than qualified contracts.

23. Ratio of Total Withdrawals	24. Historical ITM Trends	25. Withdrawal Rates for Contracts In-the-Money vs Not-In-the-Money	26. Summary of Withdrawal Rates by Selected Owner and Product Characteristics	27. Additional Premium	28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals	33. Surrender Rates by Percentage of Annual Benefit M..
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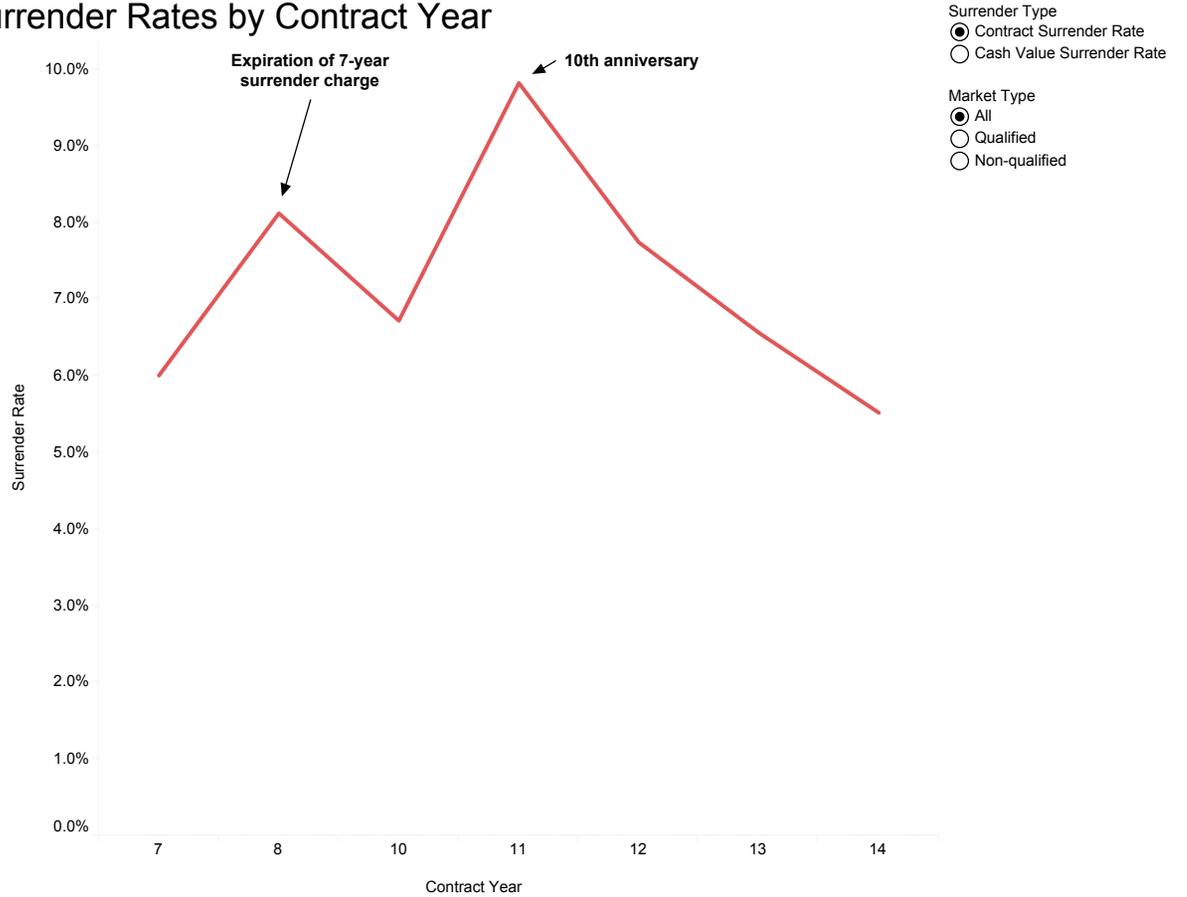
Net Flows

		Dollars (in billions)	Number of Contracts	Average Contract Size
	In-Force BOY	\$16.8B	150,519	\$111,520
Premium Received	Existing Contracts	\$0.1B		
	Newly Issued Contracts	\$0.1B	669	\$150,577
Benefits Paid	Annuitizations	\$0.1B	360	\$158,484
	Death/Disability	\$0.2B	1,887	\$96,319
	Full Surrenders	\$1.5B	12,895	\$113,457
	Partial Withdrawals	\$1.0B		
	Investment Growth	\$0.1B		
	In-Force EOY	\$17.9B	160,412	\$111,490

As the appeal of GMWB has declined, sales into new and existing contracts have constituted less than 10 percent of total outflows.

24. Historical ITM Trends	25. Withdrawal Rates for Contracts In-the-Money vs Not-In-the-Money	26. Summary of Withdrawal Rates by Selected Owner and Product Characteristics	27. Additional Premium	28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals	33. Surrender Rates by Percentage of Annual Benefit Maximum Withdrawn	34. Surrender Rates by Withdrawal Method
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Contract Surrender Rates by Contract Year

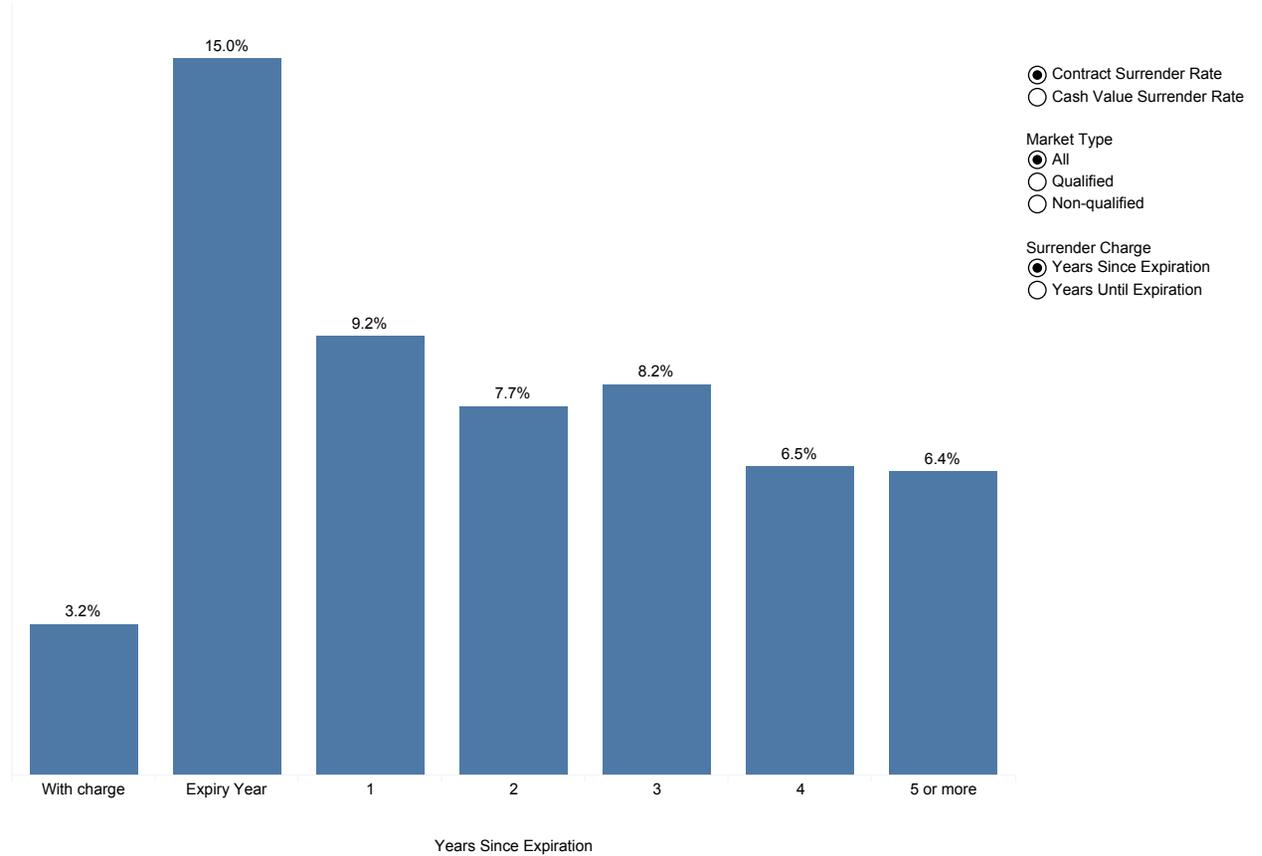


Surrender activity for VAs with GMWBs is a critical factor in measuring liability. If persistency is very high among contracts with benefit base balance amounts that are larger than the contract value, then insurers may have payouts that are larger or for longer durations than anticipated. The presence of living benefits on VAs may lead owners to keep their contracts beyond the surrender penalty period, thereby keeping more of an insurer's fee-generating assets under management. Surrender rates in 2016 among GMWB contracts issued before 2016 peaked around the end of the 7-year surrender charge period and at the 10th anniversary as one would expect given the operation of the product's features.

25. Withdrawal Rates for Con..	26. Summary of Withdrawal Rates by Selected Owner and Product Characteristics	27. Additional Premium	28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals	33. Surrender Rates by Percentage of Annual Benefit Maximum Withdrawn	34. Surrender Rates by Withdrawal Method	35. Surrender Rates by Level of In-the-Money
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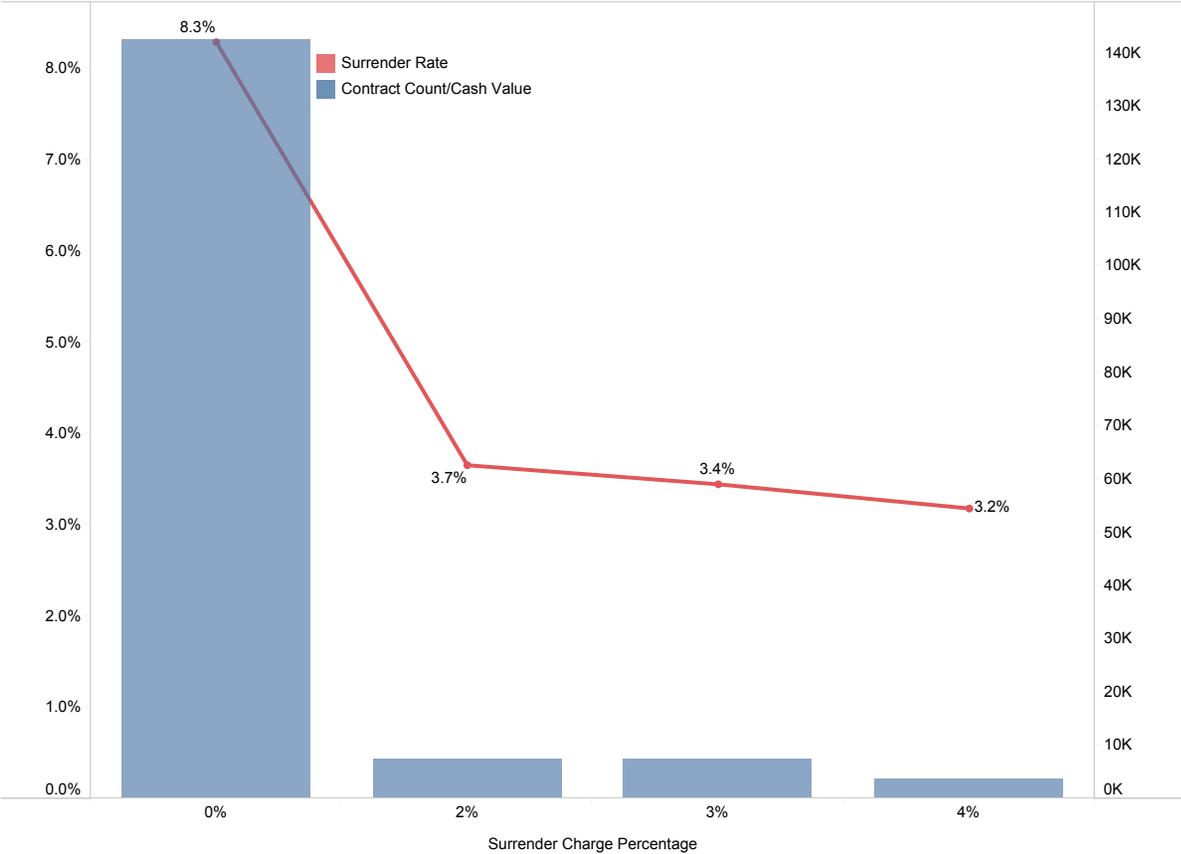
Surrender Rates by Years Since Expiration of Surrender Charge

Persistency for contracts with surrender charges is higher than for contracts without surrender charges. The contract surrender rate in 2016 was 4.5 percent for contracts with surrender charges and over four times that amount (15.0 percent) for contracts that exited the surrender penalty period in 2016. Among contracts that exited the surrender penalty period in 2014 or earlier, the contract surrender rate was 8.4 percent, relatively unchanged from 2015 experience.



26. Summary of Withdrawal Ra..	27. Additional Premium	28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals	33. Surrender Rates by Percentage of Annual Benefit Maximum Withdrawn	34. Surrender Rates by Withdrawal Method	35. Surrender Rates by Level of In-the-Moneyiness	36. Surrender Rates by Selected Owner and Product C..
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Surrender Rates by Surrender Charge Level



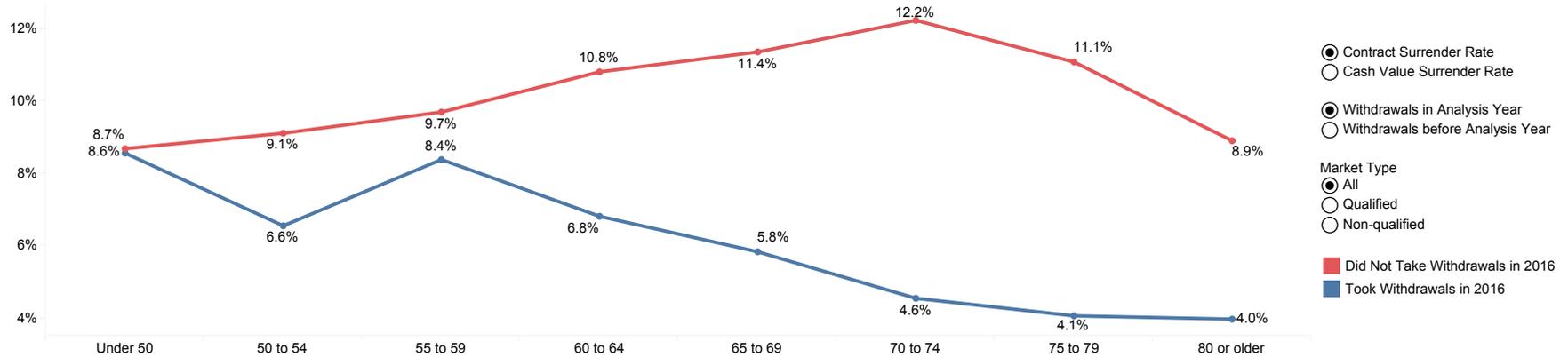
Surrender rates are influenced by the presence of surrender charges. Contracts with higher surrender charges have lower surrender rates and vice versa. The contract surrender rates for contracts with no charge was 8.4 percent and around 4 percent for contracts with surrender charges between 1 and 6 percent. Contract surrender rates for qualified business were slightly higher than non-qualified for contracts where surrender charges had gone to 0. Contract surrender rates were slightly lower for qualified than non-qualified business for surrender charges in the 1 to 6 percent range.

For ages over 60, surrender rates tend to decrease with increased age for contracts that are beyond the surrender charge period. For this same group, surrender rates for contracts still in the surrender charge period vary within a narrow range with surrender rates generally between 2 and 4 percent.

- Contract Surrender Rate (Selected)
- Cash Value Surrender Rate
- Market Type
 - All (Selected)
 - Qualified
 - Non-qualified
- Age of Owner
 - All (Selected)
 - Age 59 & under
 - 60 to 64
 - 65 to 69
 - 70 to 74
 - Age 75 & older

27. Additional Premium	28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals	33. Surrender Rates by Percentage of Annual Benefit Maximum Withdrawn	34. Surrender Rates by Withdrawal Method	35. Surrender Rates by Level of In-the-Moneyiness	36. Surrender Rates by Selected Owner and Product Characteristics	37. Product & Benefit Characteri.
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Surrender Rates by Timing of Withdrawals

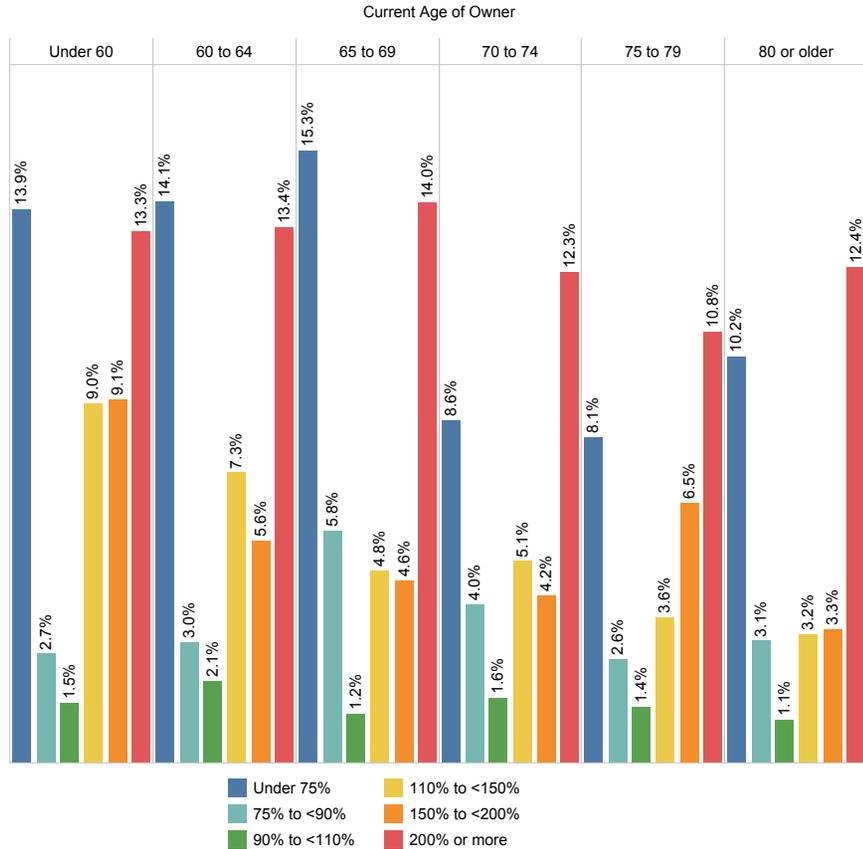


Owners who did not take withdrawals in 2016 had higher surrender rates than those who took withdrawals. When GMWB owners — particularly those aged 70 and older — took withdrawals, the surrender rates were relatively low at just over 4 percent. Younger owners who take withdrawals, particularly those under age 65, have higher surrender rates than older owners who take withdrawals. We have already shown that even though younger owners own a significant portion of GMWB contracts, they are not likely to take withdrawals. When these younger owners take withdrawals, they typically do so with occasional withdrawals. Moreover, their average withdrawal amount is much higher, and not likely supported by the guaranteed benefit base in their contracts.

Past withdrawals (taken before the analysis year) can also indicate increased likelihood that owners will surrender earlier than expected. For those that have not taken past withdrawals, surrender rates increase by age until around age 65 and then begin to decrease with increasing age. For those who did take withdrawals in prior years, surrender rates are greatest at the youngest ages and are nearly 2 percentage points below those who have not taken withdrawals by age 70.

28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals	33. Surrender Rates by Percentage of Annual Benefit Maximum Withdrawn	34. Surrender Rates by Withdrawal Method	35. Surrender Rates by Level of In-the-Moneyness	36. Surrender Rates by Selected Owner and Product Characteristics	37. Product & Benefit Characteristics
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Surrender Rates by Percentage of Annual Benefit Maximum Withdrawn



- Contract Surrender Rate
- Cash Value Surrender Rate

- Market Type
- All
- Qualified
- Non-qualified

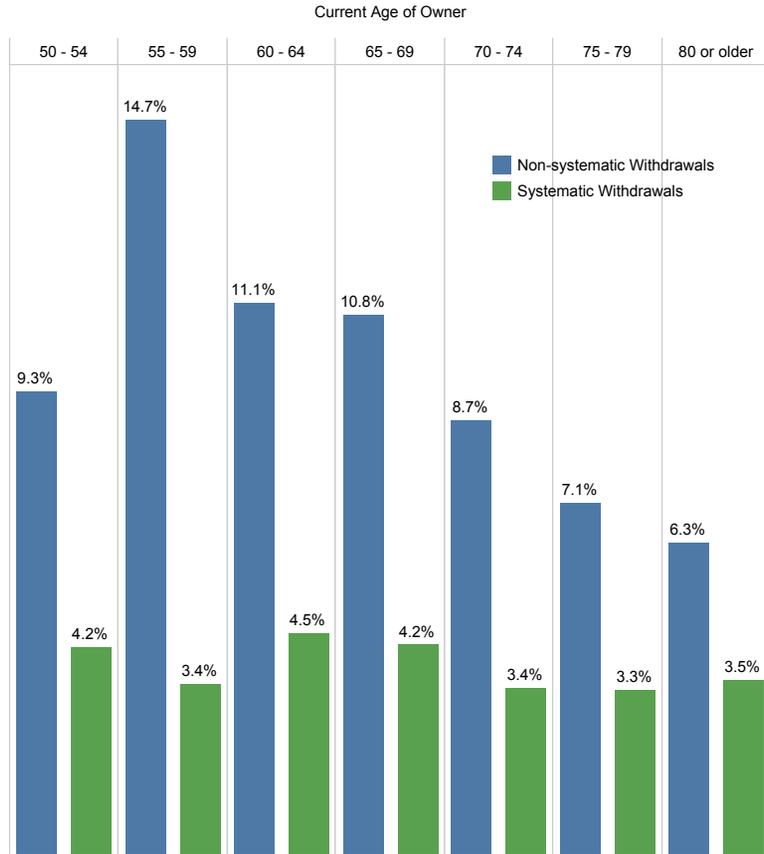
- Contract Size
- All
- Under \$100,000
- \$100,000 to \$249,999
- \$250,000 or more

This tab shows the contract surrender rates among owners who took withdrawals in 2016 by the percentage of annual benefit maximum withdrawn. Contract surrender rates were higher for owners who took withdrawals below 75 percent of the maximum allowed in the contracts, and for owners who took 200 percent or more of the maximum allowed in the contracts.

Similar to GLWBs, the GMWB surrender rates show a U-shaped relationship to the percentage of annual benefit maximum withdrawn — those with very low and very high ratios of withdrawals to the maximum allowed — have higher surrender rates than those in the middle categories. This relationship holds true across all age groups. In summary, the GMWB owners in two extremes — those taking less than 75 percent or 200 percent or more of the maximum withdrawal amount allowed in their contracts — exhibited the highest rates of surrender on both a contract and a cash value basis in 2016. Any withdrawal behavior not in line with the GMWB's maximum withdrawal amount is thus a reliable indicator of surrender behavior.

28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals	33. Surrender Rates by Percentage of Annual Benefit Maximum Withdrawn	34. Surrender Rates by Withdrawal Method	35. Surrender Rates by Level of In-the-Moneyness	36. Surrender Rates by Selected Owner and Product Characteristics	37. Product & Benefit Characteristics
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Surrender Rates by Withdrawal Method



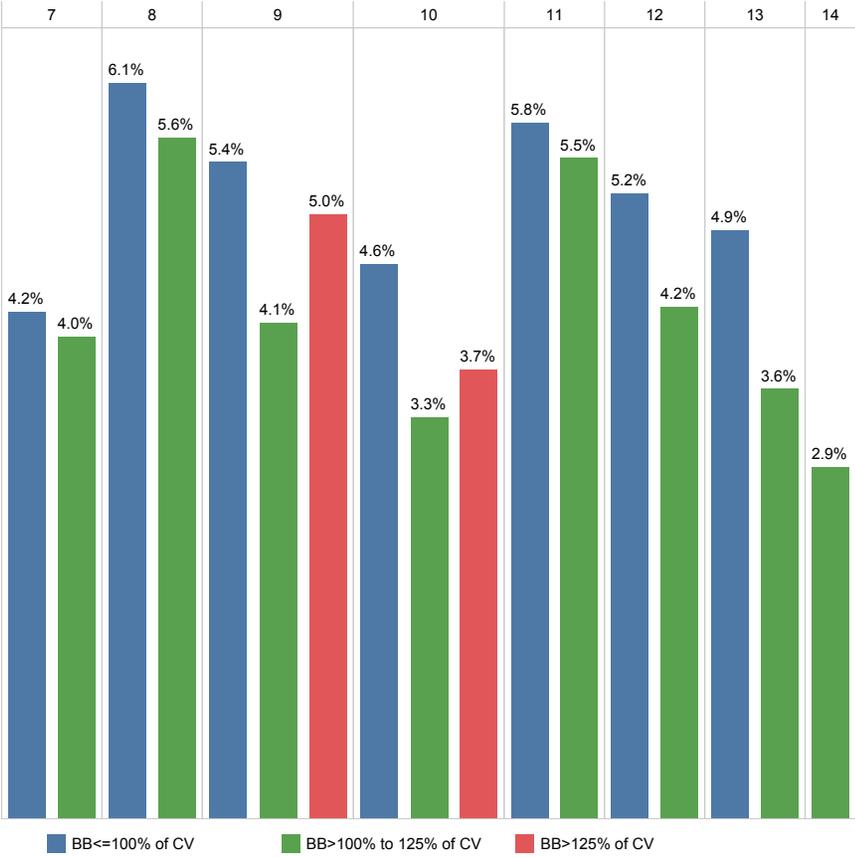
- Contract Surrender Rate
 - Cash Value Surrender Rate
-
- Market Type
 - All
 - Qualified
 - Non-qualified
-
- Contract Size
 - All
 - Under \$100,000
 - \$100,000 to \$249,999
 - \$250,000 or more

Another strong indicator of whether owners are likely to surrender their contracts is the method they use to take withdrawals — systematic or non-systematic. As we have seen, owners who use systematic withdrawals are less likely to take more than the benefit maximum. And younger owners are taking more excess withdrawals.

Overall, the contract surrender rate among owners who took non-systematic withdrawals in 2016 was 8.2 percent while the surrender rate among owners who withdrew systematically was 3.8 percent. Non-systematic withdrawals are more often linked with younger owners who have higher surrender rates.

28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals	33. Surrender Rates by Percentage of Annual Benefit Maximum Withdrawn	34. Surrender Rates by Withdrawal Method	35. Surrender Rates by Level of In-the-Moneyness	36. Surrender Rates by Selected Owner and Product Characteristics	37. Product & Benefit Characteristics
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Surrender Rates by Level of In-the-Moneyness



Another factor that influenced surrender rates involves whether contracts had benefit base balances that exceeded the contract values. In general, surrender rates are lower for contracts where the benefit base balance exceeds the contract value. GMWB owners appear to be sensitive to the amount that the benefit base balance exceeds the contract value when deciding whether to surrender their contracts. Actuaries need to account for this sensitivity when setting assumptions for lapse behavior.

- Contract Surrender Rate
- Cash Value Surrender Rate

- Market Type
- All
- Qualified
- Non-qualified

- Age of Owner
- All
- Age 59 & under
- 60 to 64
- 65 to 69
- 70 to 74
- Age 75 & older

28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals	33. Surrender Rates by Percentage of Annual Benefit Maximum Withdrawn	34. Surrender Rates by Withdrawal Method	35. Surrender Rates by Level of In-the-Moneyness	36. Surrender Rates by Selected Owner and Product Characteristics	37. Product & Benefit Characteristics
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Surrender Rates by Selected Owner and Product Characteristics

- Year of Issue
- Age of Owner
- Contract Value BOY
- Gender
- Market Type
- Distribution Channel
- Cost Structure

	Contract Surrender Rate	Cash Value Surrender Rate
Before 2006	7.2%	7.1%
2006	9.8%	10.7%
2007	6.8%	7.3%
2008	7.5%	7.4%
2009	8.1%	9.6%
2010	6.1%	5.7%

This tab provides a summary of surrender rates by various product and owner characteristics.

28. Net Flows	29. Surrender Rates by Contract Year	30. Surrender Rates by Years Left in the Surrender Charge Period	31. Surrender Rates by Surrender Charge Percentage	32. Surrender Rates by Timing of Withdrawals	33. Surrender Rates by Percentage of Annual Benefit Maximum Withdrawn	34. Surrender Rates by Withdrawal Method	35. Surrender Rates by Level of In-the-Moneyness	36. Surrender Rates by Selected Owner and Product Characteristics	37. Product & Benefit Characteristics
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Product & Benefit Characteristics

Average Charges and Number of Subaccounts by Issue Year

	2006	2007	2008	2009	2010
Average Mortality and Expense Charge	1.26%	1.39%	1.37%	1.37%	1.35%
Average Benefit Fee	0.57%	0.53%	0.53%	0.56%	0.62%
Average Number Subaccounts	73.11	74.01	73.61	75.60	74.18
Average Wbn Max Age Elect	80.08	82.68	83.08	84.73	84.76

Product Features – Distribution by Issue Year

	2008	2009	2010	2011	2012	2013	2014	2015
No	26%	35%	34%	34%	82%	85%	98%	99%
Yes	74%	65%	66%	66%	18%	15%	2%	1%

- Product has fixed account
- Product still available as of EOY
- Rider still available as of EOY
- Cap on benefits
- Benefit fee basis
- Asset allocation restrictions
- Step-up availability
- Benefit base automatically increases if withdrawals are deferred
- Maximum annual withdrawal percent
- Impact on benefit base if excess withdrawals are taken