Welcome

Introduction

1. Buyer Profiles

2. Annuitized Contracts by Benefit Maturity 3. Contracts
Annuitized in 2017
with Benefit Maturity
Dates in 2016 or
2017

4. Summary of Withdrawal Activity

5. Withdrawal Activity by Contract 6. Withdrawal
Activity by Age of

7. First Withdrawals by Issue Age and Contract Year 8. First With hdrawals Based o..

Variable Annuity Guaranteed Living Benefits Utilization

2017 Experience

Guaranteed Minimum Income Benefits (GMIB)

A Joint Study Sponsored by the Society of Actuaries and LIMRA



Variable Annuity Guaranteed Living Benefits Utilization

2017 EXPERIENCE

About the Study

LIMRA Secure Retirement Institute and Society of Actuaries Variable Annuity Guaranteed Living Benefit Utilization Study (VAGLBUS) — 2017 Experience is an update of earlier investigations, conducted since 2006.

The study examines the GLB utilization of over 4.3 million contracts that were either issued during or in force as of 2017. Eighteen insurance companies participated in this study. These 18 companies made up 65 percent of all GLB sales in 2017 and 68 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, they are now offered in a variety of forms on the vast majority of VA products sold today.

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.

Companies should use the data provided in this tool as a basis for monitoring the following:

- Customer mix versus the industry
- •Risks associated with providing a guarantee to younger buyers —both short- and long-term including growth in benefit base relative to cash value, customer withdrawal deferral periods, sources of funds used to purchase the annuity, percentage of customers begin to take withdrawals due to the required minimum distribution (RMD) rule, and the persistency of their contracts.
- •Competitiveness of the maximum payout rates that are typically set by age bands
- •Customer behavior in general and how it changes the dynamics of a company's in-force book of business

CONFIDENTIALITY: For industry results, confidentiality is protected with limits on filtered data. Each data point must have a minimum number of companies reporting. None of the individual companies can represent a majority of market share. Some results may not follow the trend because there is a relatively small number of contracts being reported. Hover over a data point to see how many contracts are being reported.

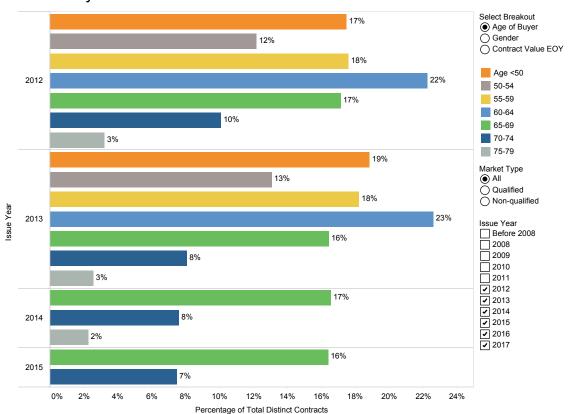
Click on the tabs at the top of the screen to move between pages. The buttons and menus on the right side of each screen allow you to filter results.

Access to this information is a benefit of LIMRA and SOA membership.

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Welcome	Introduction	1. Buyer Profiles	2. Annuitized Contracts by Benefit Maturity	3. Contracts Annuitized in 2017 with Benefit Maturity Dates in 2016 or 2017	4. Summary of Withdrawal Activity	5. Withdrawal Activity by Contract Year	6. Withdrawal Activity by Age of Owner	7. First Withdrawals by Issue Age and Contract Year	8. First Wit hdrawals Based o	
				2017						

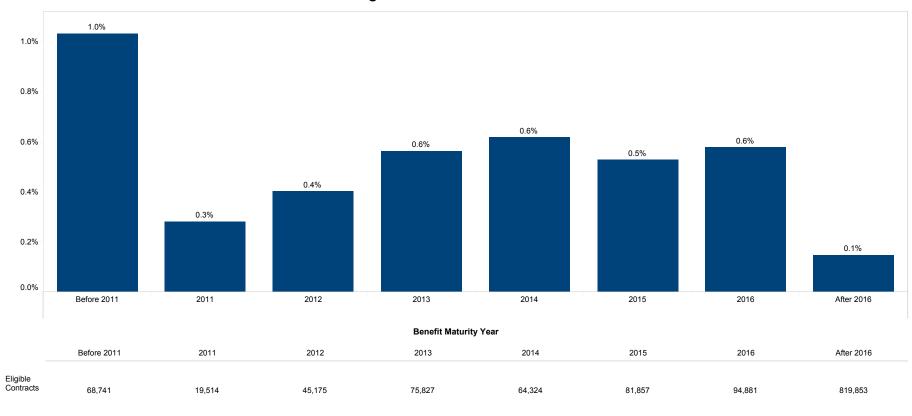
Buyer Profiles



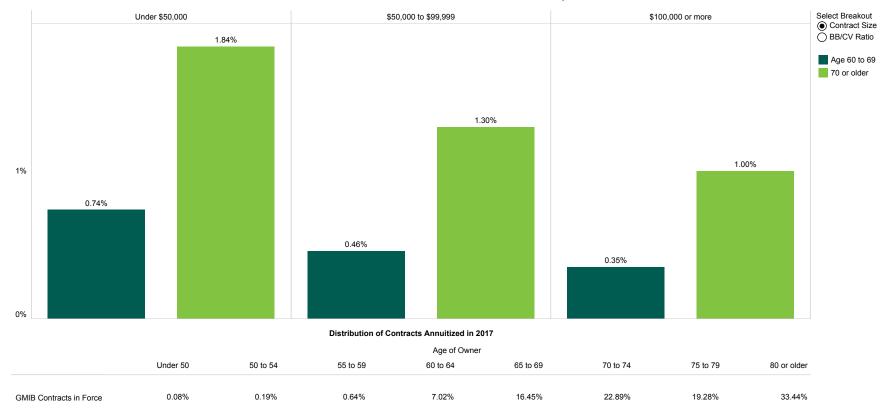
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١	Welcome	Introduction		2. Annuitized Contracts by Benefit Maturity	3. Contracts Annuitized in 2017 with Benefit Maturity Dates in 2016 or 2017	4. Summary of Withdrawal Activity	5. Withdrawal Activity by Contract Year	6. Withdrawal Activity by Age of Owner	7. First Withdrawals by Issue Age and Contract Year	8. First Wit hdrawals Based o	
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Percentage of Riders Annuitized in 2017

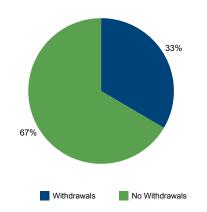


Contracts Annuitized in 2017 with Benefit Maturity Dates in 2016 or 2017

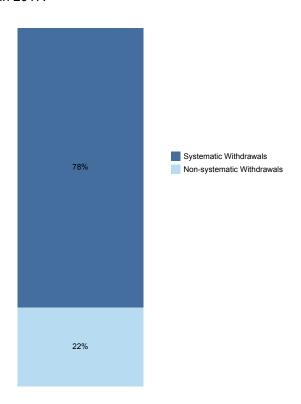


Summary of Withdrawal Activity

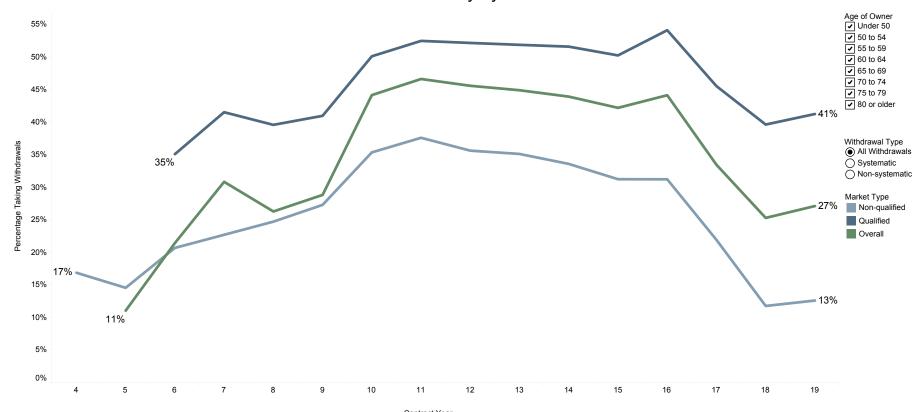
Percentage of owners who have taken withdrawals in 2017:



Of those taking withdrawals in 2017:



Withdrawal Activity by Contract Year



Contract Year
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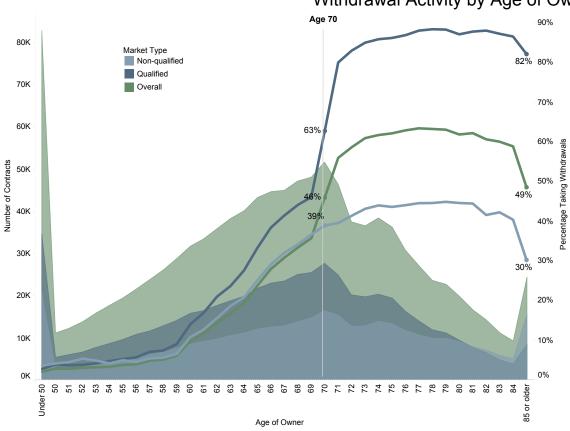
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3. Contracts
Annuitized in 2017
with Benefit Maturity
Dates in 2016 or
2017

4. Summary of Withdrawal Activity

5. Withdrawal Activity by Contract Year 6. Withdrawal Activity by Age of Owner 7. First Withdrawals by Issue Age and Contract Year 8. First Withdrawals Based on Proximity to Max Withdrawal Rate Increase 9. Average Withdrawal Amount by Withdrawal Type 10. Ratio of Withdrawals to Average Contract Value and Benefit Base 11. R atio o f Tota I With dra..

Withdrawal Activity by Age of Owner



Some data are supressed for confidentiality reasons.

Withdrawal Type

All Withdrawals

SystematicNon-systematic

Contract Value (EOY)

✓ Under \$25,000

\$25,000 to \$49,999

\$50,000 to \$99,999

\$100,000 to \$249,999

\$250,000 to \$499,999

₹ \$500,000 or higher

In-the-Moneyness

✓ ITM <= 75%

✓ ITM >75% TO 90%

▼ ITM >90% TO 110%

☑ ITM >110% TO 125%

▼ ITM >125%

ITM definition= Benefit Base/Contract Value so larger ratios indicate a greater degree of in-the-moneyness 2. 3. Contracts
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nui with Benefit Maturity
tiz Dates in 2016 or
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Qualified - Issue Year 2007

Qualified - Issue Year 2008

Non-qualified - Issue Year 2007

Contract Year 1

Contract Year 2

Contract Year 3

Contract Year 5

Contract Year 6

Contract Year 7

Contract Year 8

Contract Year 9

Contract Year 10

Contract Year 11

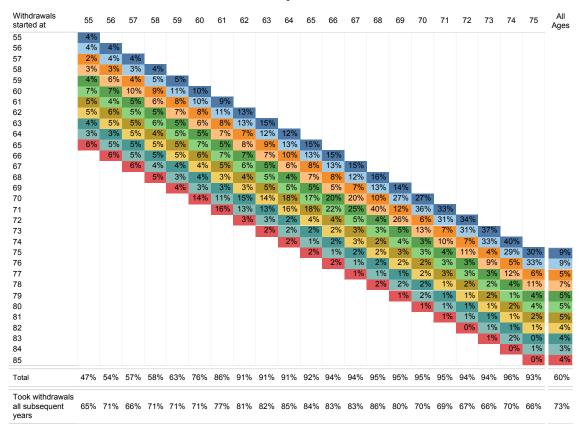
Contract Year 4

Non-qualified - Issue Year 2008

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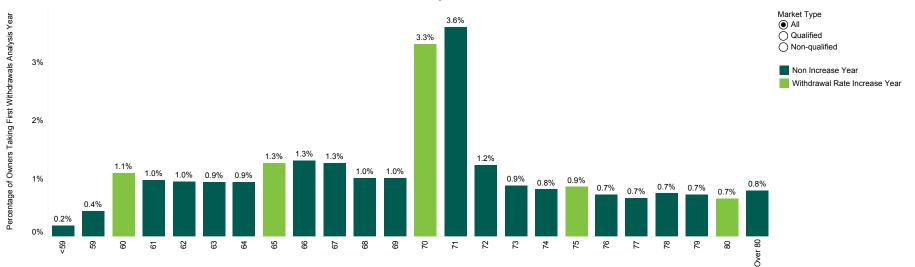
First Withdrawals by Issue Age and Contract Year

Issue Age



3. Co	4. Summary of Withdrawal Activity	5. Withdrawal Activity by Contract Year	6. Withdrawal Activity by Age of	by Issue Age and	8. First Withdrawals Based on Proximity to Max Withdrawal	9. Average Withdrawal Amount by Withdrawal Type	10. Ratio of Withdrawals to Average Contract	11. Ratio of Total Withdrawals to Total Contract Value	12. Additional Premium	13. N et Flo
nur		rear	Owner			by williarawai Type		Contract value		WS
act					Rate Increase		Value and Benefit			
s							Base			

First Withdrawals Based on Proximity to Max Rate Increase



	5. Withdrawal Activity by Contract Year	6. Withdrawal Activity by Age of Owner	7. First Withdrawals by Issue Age and Contract Year	Based on Proximity	9. Average Withdrawal Amount by Withdrawal Type	10. Ratio of Withdrawals to Average Contract	11. Ratio of Total Withdrawals to Total Contract Value	12. Additional Premium	13. Net Flows	14. S urren der R	
ma				Rate Increase		Value and Benefit				ates	
ry						Base				by S	
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Average Withdrawal Amount by Withdrawal Type

Average Withdrawal Amount

		Syste	ematic		Non-systematic Non-systematic					
	Me	ean	Me	dian	Me	an	Median			
	Non-qualified	Qualified	Non-qualified	Qualified	Non-qualified	Qualified	Non-qualified	Qualified		
Under age 60	15,306	12,146	9,180	8,936	26,227	22,946	11,196	11,111		
Age 60-69	11,626	12,098	6,956	8,640	20,701	18,844	10,000	10,000		
Age 70 or older	9,310	8,265	6,000	5,379	17,659	11,510	9,099	6,500		
Grand Total	9,981	9,240	6,123	6,000	19,571	14,502	9,614	7,700		

Average Contract Value EOY

		Systematic				Non-sys	stematic		
	Me	ean	Me	edian	Me	an	Median		
	Non-qualified	Qualified	Non-qualified	Qualified	Non-qualified	Qualified	Non-qualified	Qualified	
Under age 60	243,359	230,611	142,561	158,095	125,922	85,275	54,414	48,671	
Age 60-69	173,629	184,233	103,346	129,362	152,930	137,006	83,145	83,497	
Age 70 or older	124,794	120,908	78,579	77,266	146,700	141,584	83,412	87,281	
Grand Total	138,836	137,529	84,856	88,587	146,529	135,897	80,611	83,034	

Current Age of Owner

Lower Quartile of Withdrawals/Average Benefit Base

Average Withdrawals/Average Benefit Base Value

Upper Quartile of Withdrawals/Average Benefit Base

Median Withdrawals/Average Benefit Base

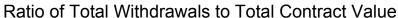
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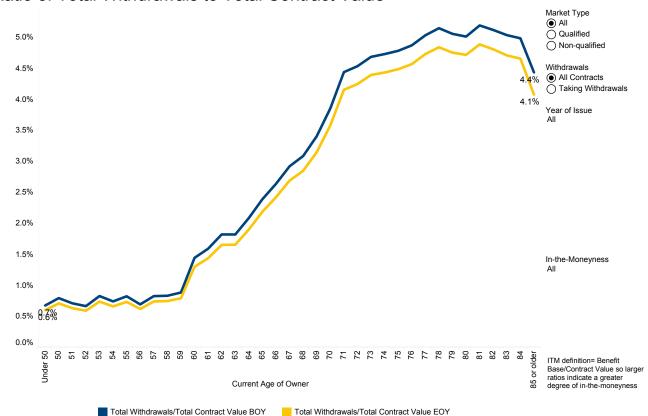
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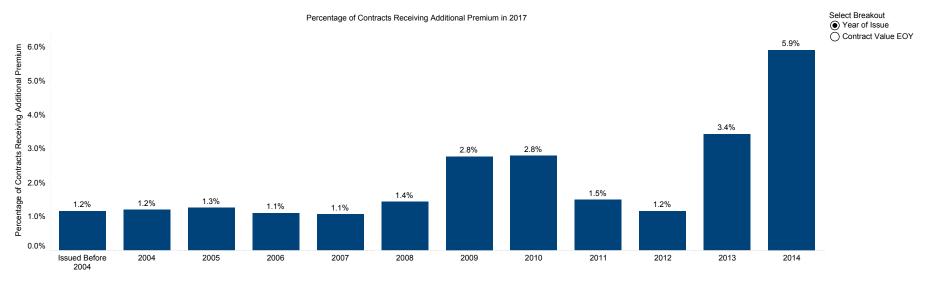
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8. First Withdrawals 9. Average 10. Ratio of 11. Ratio of Total 12. Additional 13. Net Flows 14. Surrender Rates 15. Surrender Rates 16. Surrender Rates 17. S Fir st Wi th.. by Selected Owner by Years Left in Surrender Charge Based on Proximity Withdrawal Amount Withdrawals to Withdrawals to Total Premium by Contract Year urren to Max Withdrawal by Withdrawal Type **Average Contract Contract Value** and Product der R Rate Increase Value and Benefit Characteristics Period ates Base by S.

Additional Premium



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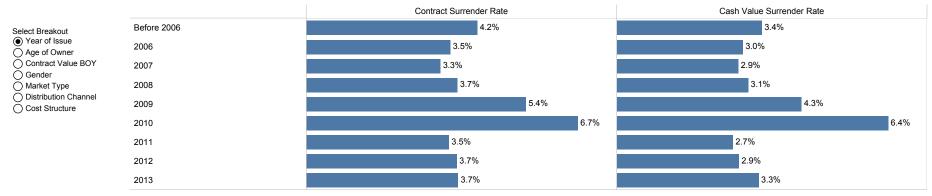
8. 9. Average Fir Withdrawal Amo st by Withdrawal T Wi th		11. Ratio of Total Withdrawals to Total Contract Value	12. Additional Premium	13. Net Flows	14. Surrender Rates by Selected Owner and Product Characteristics	15. Surrender Rates by Contract Year	16. Surrender Rates by Years Left in Surrender Charge Period	17. Surrender Rates by Surrender Charge Level	18. S urren der R ates by T	
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Net Flows

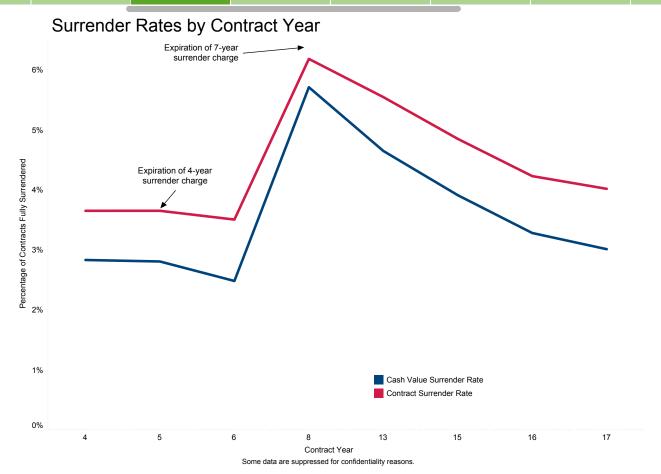
	Total Dollars (in billions)	Number of Contracts	Average Dollars
In-Force BOY	\$131.2B	1,011,232	\$129,755
Existing Contracts	\$0.7B	1,270,519	
Newly Issued Contracts	\$0.0B	14,090	\$136
Annuitizations	\$0.3B	3,976	\$86,527
Death/Disability	\$1.3B	11,337	\$110,818
Full Surrenders	\$5.3B	51,313	\$104,023
Partial Withdrawals	\$4.9B		
Investment Growth	\$15.1B		
In-Force EOY	\$167.7B	1,217,983	\$137,700
	Existing Contracts Newly Issued Contracts Annuitizations Death/Disability Full Surrenders Partial Withdrawals Investment Growth	In-Force BOY \$131.2B Existing Contracts \$0.7B Newly Issued Contracts \$0.0B Annuitizations \$0.3B Death/Disability \$1.3B Full Surrenders \$5.3B Partial Withdrawals \$4.9B Investment Growth \$15.1B	In-Force BOY \$131.2B 1,011,232 Existing Contracts \$0.7B 1,270,519 Newly Issued Contracts \$0.0B 14,090 Annuitizations \$0.3B 3,976 Death/Disability \$1.3B 11,337 Full Surrenders \$5.3B 51,313 Partial Withdrawals \$4.9B Investment Growth \$15.1B

9. Av era ge W	a A	10. Ratio of Withdrawals to Average Contract Value and Benefit Base	11. Ratio of Total Withdrawals to Total Contract Value	12. Additional Premium		14. Surrender Rates by Selected Owner and Product Characteristics	15. Surrender Rates by Contract Year	16. Surrender Rates by Years Left in Surrender Charge Period	17. Surrender Rates by Surrender Charge Level	18. Surrender Rates by Timing of Withdrawals	19. S urren der R ates by	
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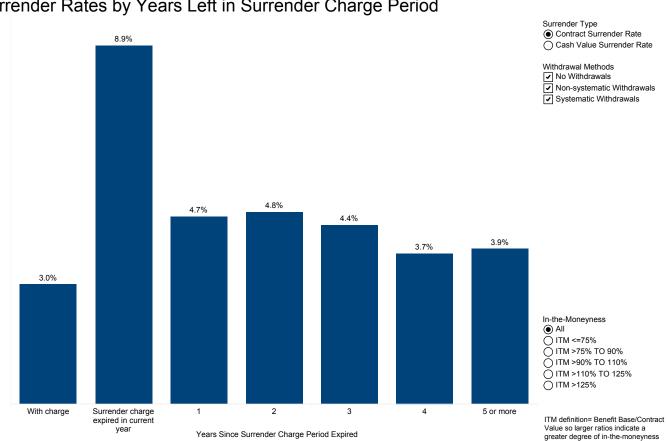
Surrender Rates by Selected Owner and Product Characteristics



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Surrender Rates by Years Left in Surrender Charge Period



12. Ad diti on al.. 13. Net Flows 14. Surrender Rates 15. Surrender Rates 16. Surrender Rates 17. Surrender Rates 18. Surrender Rates 19. Surrender Rates 20. Surrender Rates 21. Benefit Base and 22. C by Surrender Charge Level by Selected Owner by Contract Year by Years Left in by Timing of by Withdrawal Method by Amount Benefit Contract Value ontra and Product Surrender Charge Withdrawals Base Exceeds Summary ct Val Characteristics Period Contract Value ue an d Be.

Surrender Rates by Surrender Charge Level

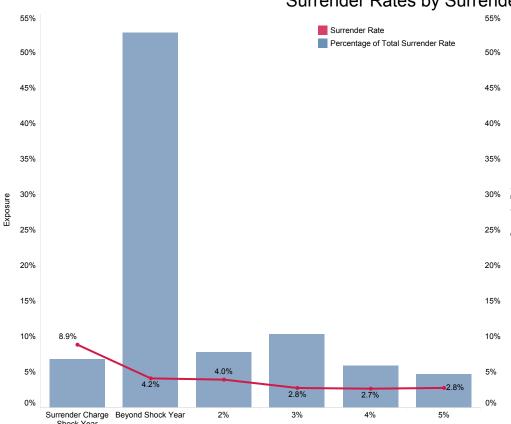
Surrender Type

Withdrawal Methods

✓ No Withdrawals
✓ Non-systematic Withdrawals
✓ Systematic Withdrawals

Contract Surrender Rate

Cash Value Surrender Rate



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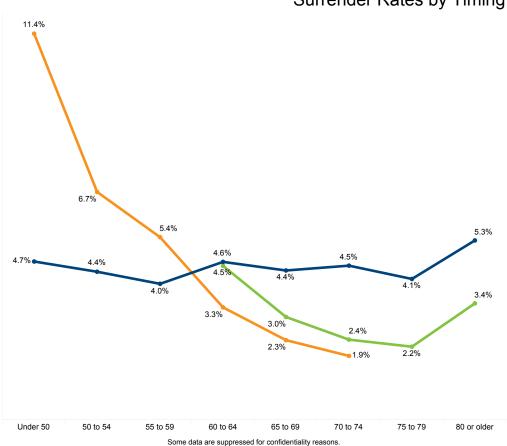
14. Surrender Rates 15. Surrender Rates 16. Surrender Rates 17. Surrender Rates 18. Surrender Rates 19. Surrender Rates 20. Surrender Rates 21. Benefit Base and 22. Contract Value 23. B by Timing of Withdrawals by Selected Owner by Contract Year by Years Left in by Surrender Charge by Withdrawal Method by Amount Benefit Contract Value and Benefit Base by enefit and Product Surrender Charge Level Base Exceeds Summary Issue Quarter Base ow Characteristics **Contract Value** to Co ntra..

Surrender Rates by Timing of Withdrawals

Surrender Type

Withdrawal Status
Never Took Withdrawals
Took First Withdrawals in 2017
Took Withdrawals in the Past

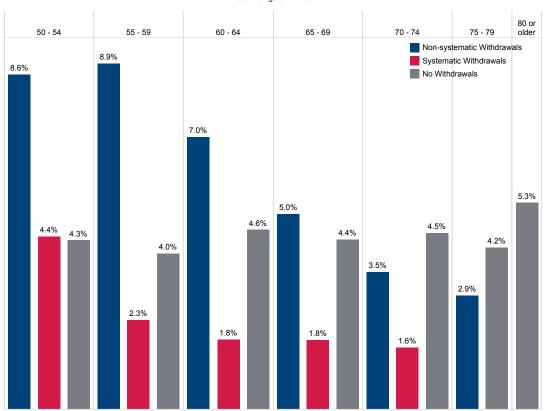
Contract Surrender RateCash Value Surrender Rate



14. Su rre nd er.. 15. Surrender Rates 16. Surrender Rates 17. Surrender Rates 18. Surrender Rates 19. Surrender Rates 20. Surrender Rates 21. Benefit Base and 22. Contract Value 23. Benefit Base to 24. Pr by Withdrawal Method by Contract Year by Years Left in by Surrender Charge by Timing of by Amount Benefit **Contract Value** and Benefit Base by **Contract Value** oduct Surrender Charge Level Withdrawals Base Exceeds Summary Issue Quarter Ratios by Age & Be **Contract Value** nefit Cha..

Surrender Rates by Withdrawal Method

Current Age of Owner



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Surrender Type

Contract Surrender Rate

Cash Value Surrender Rate

Presence of Surrender Charge

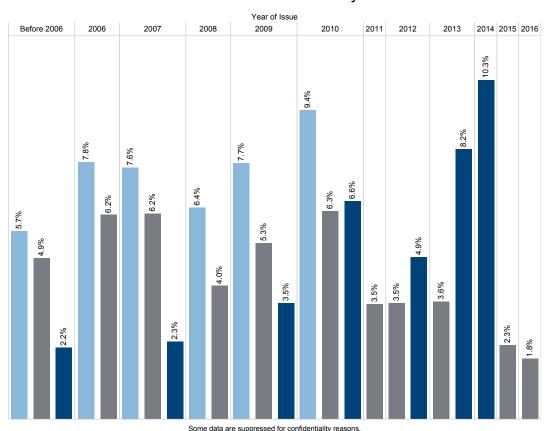
17. Surrender Rates by Surrender Charge Level

18. Surrender Rates by Timing of Withdrawals 19. Surrender Rates by Withdrawal Method 20. Surrender Rates by Amount Benefit Base Exceeds Contract Value 21. Benefit Base and Contract Value Summary 22. Contract Value and Benefit Base by Issue Quarter

23. Benefit Base to Contract Value Ratios by Age 24. Product & Benefit Characteristics

25. P artici pant List

Surrender Rates by Amount Benefit Base Exceeds Contract Value



Surrender Type

Contract Surrender RateCash Value Surrender Rate

In-the-Moneyness

BB<=100% of CV

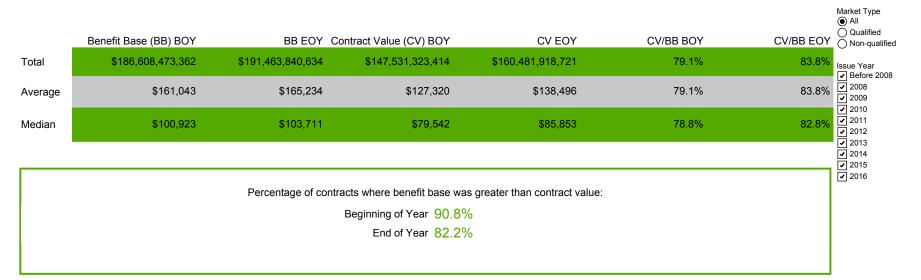
BB>100% to 125% of CV

BB>125% of CV

ITM definition= Benefit Base/Contract Value so larger ratios indicate a greater degree of in-the-moneyness

16. Surrender Rates by Years Left in Surren	17. Surrender Rates by Surrender Charge Level	18. Surrender Rates by Timing of Withdrawals	19. Surrender Rates by Withdrawal Method		21. Benefit Base and Contract Value Summary	22. Contract Value and Benefit Base by Issue Quarter	23. Benefit Base to Contract Value Ratios by Age	24. Product & Benefit Characteristics	25. Participant List	
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Benefit Base and Contract Value Summary



Surrender Rates by Level Years Left in Surren..

17. Surrender Rates by Surrender Charge

18. Surrender Rates by Timing of Withdrawals

19. Surrender Rates by Withdrawal Method

20. Surrender Rates by Amount Benefit Base Exceeds **Contract Value**

21. Benefit Base and Contract Value Summary

22. Contract Value and Benefit Base by Issue Quarter

23. Benefit Base to Contract Value Ratios by Age

24. Product & Benefit Characteristics

> Time of Year Beginning of Year O End of Year

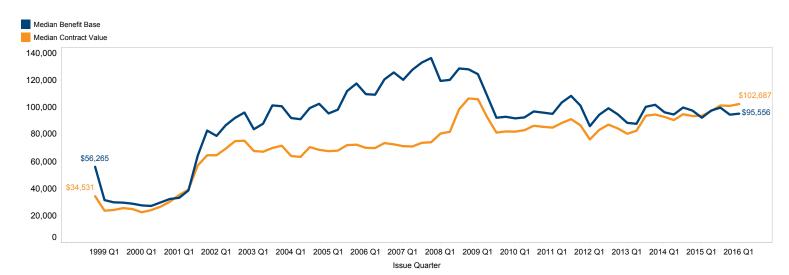
25. Participant List

Benefit Base and Contract Value Dollar Amounts or Ratios Dollar Amounts Ratios Median or Quartiles Median O Quartiles Economic Data None

10-year Treasury Yield

○ S&P 500

Contract Value and Benefit Base by Issue Quarter

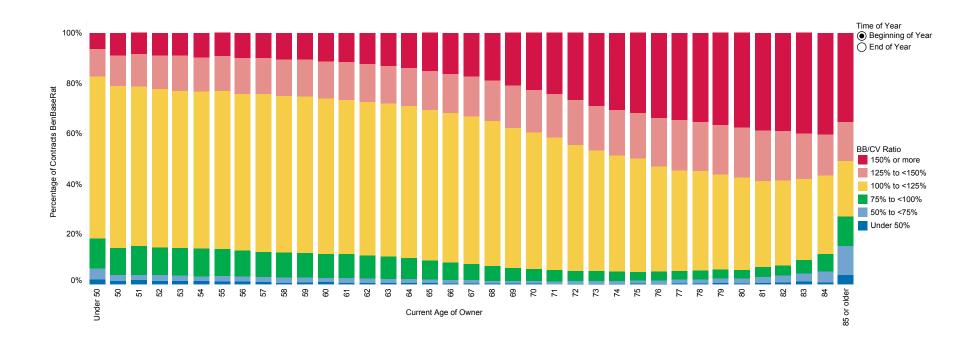


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Source : Oxford Economics

16. Surrender Rates by Years Left in Surren	17. Surrender Rates by Surrender Charge Level	18. Surrender Rates by Timing of Withdrawals	19. Surrender Rates by Withdrawal Method	20. Surrender Rates by Amount Benefit Base Exceeds Contract Value	21. Benefit Base and Contract Value Summary	and Benefit Base by	23. Benefit Base to Contract Value Ratios by Age	24. Product & Benefit Characteristics	25. Participant List
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Benefit Base to Contract Value Ratios by Age



16. Surrender Rates by Years Left in Surren	17. Surrender Rates by Surrender Charge Level	18. Surrender Rates by Timing of Withdrawals	19. Surrender Rates by Withdrawal Method	20. Surrender Rates by Amount Benefit Base Exceeds Contract Value	21. Benefit Base and Contract Value Summary	22. Contract Value and Benefit Base by Issue Quarter	Contract Value	24. Product & Benefit Characteristics	25. Participant List
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Product & Benefit Characteristics

Average Charges and Number of Subaccounts by Issue Year

	2006	2007	2008	2009	2010	2011	2012	2013
Average Mortality and Expense Charge	1.45%	1.48%	1.45%	1.38%	1.36%	1.36%	1.31%	1.34%
Average Benefit Fee	0.63%	0.67%	0.77%	0.92%	0.89%	0.95%	0.95%	0.95%
Average Number of Subaccounts	59.03	58.18	57.52	54.48	59.21	54.89	65.09	78.18
Average Maximum Age at Election	75.35	75.36	76.12	77.38	77.43	77.72	77.68	76.44

Some data are suppressed for confidentiality reasons.

Product Features – Distribution by Issue Year

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 (
No	3%	3%	3%	3%	2%	2%	1%	2%	1%	(
Yes	97%	97%	97%	97%	98%	98%	99%	98%	99%	100%

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

ļ	16. Surrender Rates by Years Left n Surren	17. Surrender Rates by Surrender Charge Level	18. Surrender Rates by Timing of Withdrawals	19. Surrender Rates by Withdrawal Method	20. Surrender Rates by Amount Benefit Base Exceeds Contract Value	21. Benefit Base and Contract Value Summary	22. Contract Value and Benefit Base by Issue Quarter	23. Benefit Base to Contract Value Ratios by Age	24. Product & Benefit Characteristics	25. Participant List

Participants

AIG Ameritas Brighthouse **CUNA Mutual Equitable Financial** Lincoln National MetLife Nassau Re Nationwide New York Life Phoenix Life Principal Financial . Protective Prudential RiverSource Annuities Securian/Minnesota Life Security Benefit Transamerica