Behavioral Analytics Advisory Council

Market turmoil: What does it mean for annuity policyholder behavior?

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Agenda

Introduction and background

Report – Market turmoil: What does it mean for annuity policyholder behavior?
by Eric Halpern, FSA, FCA
Chief Operating Officer
Ruark Consulting, LLC
March 18, 2020

Discussion
Have we seen this before?

*Excerpts from Ruark presentations circa 2012*

Interest rate declines and capital markets volatility triggered product redesign and refinements in investment management.

Policyholder behavior risks were not a major concern...until they were.

Policyholder behavior rears its head.

Some of the public disclosures:
- 2012: USD 1.1 billion
- 2012: EUR 0.6 billion
- 2012: USD 0.3 billion
- 2011: CAD 0.3 billion

What is your company doing to understand and manage policyholder behavior risks?

Do you put as much into this as for management of capital markets risks?

Would you say that you are ahead of the pack?

What might this look like?
About us

We aim to be the platform and industry benchmark for principles-based insurance data analytics and risk management.

Our core business since 2007 has been experience studies and predictive analytics for annuity policyholder behavior and mortality, covering about 70% of the industry and over $1 trillion of current account values.

With data from past times of crisis and newly emerging behavior, our modeling approach is rigorous, transparent, and tailored, allowing for quick implementation and quantification of improvement in financial risk profile relative to what clients can do if limited to their own data.
Why is this important?

Multi-trillion dollar market in US and abroad

- Adverse and volatile capital markets
- Guarantee values increase
- Surrender rates decrease
- Guaranteed income utilization increases
- Financial strain for issuers and reinsurers

Investments in risk management should be more important than ever
Market turmoil 2020: What does it mean for annuity policyholder behavior?

VA writers should expect:
- Greater persistency overall, but elevated surrenders for at-the-money GLWB
- Greater income utilization, especially for GLWB after the deferral incentive period and “hybrid” GMIB
- Greater GMIB annuitization elections, especially on traditional “pro-rata” benefit forms

FIA writers should expect:
- Greater persistency for GLIB, and lower persistency without GLIB
- Greater income utilization for GLIB

COVID-19 impact on VA and FIA mortality:
- Will likely depend on the level of containment among the general population at retirement ages, with potential differences between those with and without living benefit guarantees
VA surrender rates are sensitive to “moneyness”

Nominal moneyness basis reflects the guaranteed benefit base relative to the account value.

Surrender rates tend to decrease as the relative value of the guarantee increases.
Sensitivity has varied over time

At-the-money surrender rates tend to be more volatile
ATM surrender rates increase in times of market stress

ATM surrender rates tend to be opposite S&P 500 quarterly drawdown.
GLWB income commencement is sensitive to moneyness

But this is evident after deferral incentives expire
Pro-rata GMIB annuitization is sensitive to moneyness

Actuarial/economic moneyness reflects the present value of annuity payments, discounted for survivorship and market interest rates, relative to the account value.
Hybrid GMIB is trickier

As interest rates fall, partial withdrawal continuation becomes more valuable than GMIB annuitization.

Hybrid GMIB
Normalized for differences due to age, moneyness, duration, and death benefit type

Annuitization Election Rate

Ratio of PV Partial Withdrawals to PV Annuity Payments

<95%  95-100%  100-105%  105-110%  110-115%  >115%
FIA surrender rates are sensitive to interest rates...

Surrender rates tend to decline with interest rates, but increase when interest credited is low.
...and equity returns

Higher surrender rates when equity upside does not materialize

Normalized for differences due to years remaining in surrender charge period, living benefit presence and utilization
GLIB affects FIA surrender rates

Less sensitivity to equity returns

Normalized for differences due to years remaining in surrender charge period

Surrender Rate

Interest credited: 0 - 2%  2 - 4%  4 - 6%  6 - 8%  8+%
FIA GLIB surrender rates are sensitive to “moneyness”

Actuarial/economic basis

As interest rates fall, the present value of the income guarantee becomes more valuable.
The curious case of positive MVA...

As interest rates change, the MVA should neutralize disintermediation risk.

However, it looks like FIA owners view it as a bonus.

Normalized for differences due to years remaining in surrender charge period, living benefit presence and utilization.

Surrender Rate

14%

10-Yr Treasury Rates

5%

0%

Q1 2007 Q3 2008 Q1 2010 Q3 2011 Q1 2013 Q3 2014 Q1 2016 Q3 2017 Q1 2019

Positive

Negative

10-Yr Treasury
...surrender rates increase in times of market stress

Surrender rates with positive MVA tend to be opposite S&P 500 quarterly drawdown
GLIB income commencement is sensitive to moneyness

Actuarial/economic basis

As interest rates fall, the present value of the income guarantee becomes more valuable

Normalized for differences due to age, tax status, and duration

Income Commencement Frequency

ITM
ATM
OTM 5 - 15%
OTM 15 - 25%
OTM 25+%

0%
6%
COVID-19 impact on annuity mortality

VA and FIA mortality generally demonstrates selection effects for death benefit and living benefit guarantees, respectively, along with contract size, tax status, duration, and other factors.

COVID-19 impact will likely depend on the level of containment among the general population at retirement ages.
We are here to help

New VA and FIA mortality tables – splits for benefit type and durational anti-selection

Stat and GAAP – raising the bar for data analysis and policyholder behavior modeling

How much is 1% A/E improvement worth to you?

Case study – modeling income commencement for guarantees

2020 FIA industry studies completed in February

2020 VA industry studies are on schedule
Discussion