

# Behavioral Analytics Advisory Council

Special  
open edition

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

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2:00 – 3:00pm Eastern

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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:

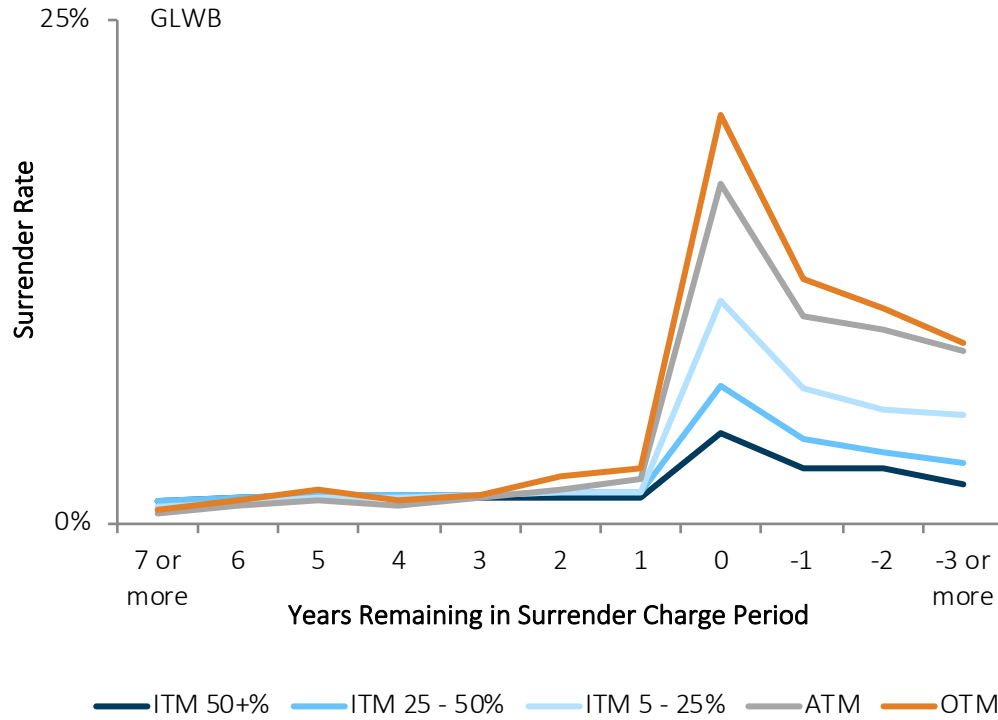
- Greater persistency for GLIB, and lower persistency without GLIB
- Greater income utilization for GLIB

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”



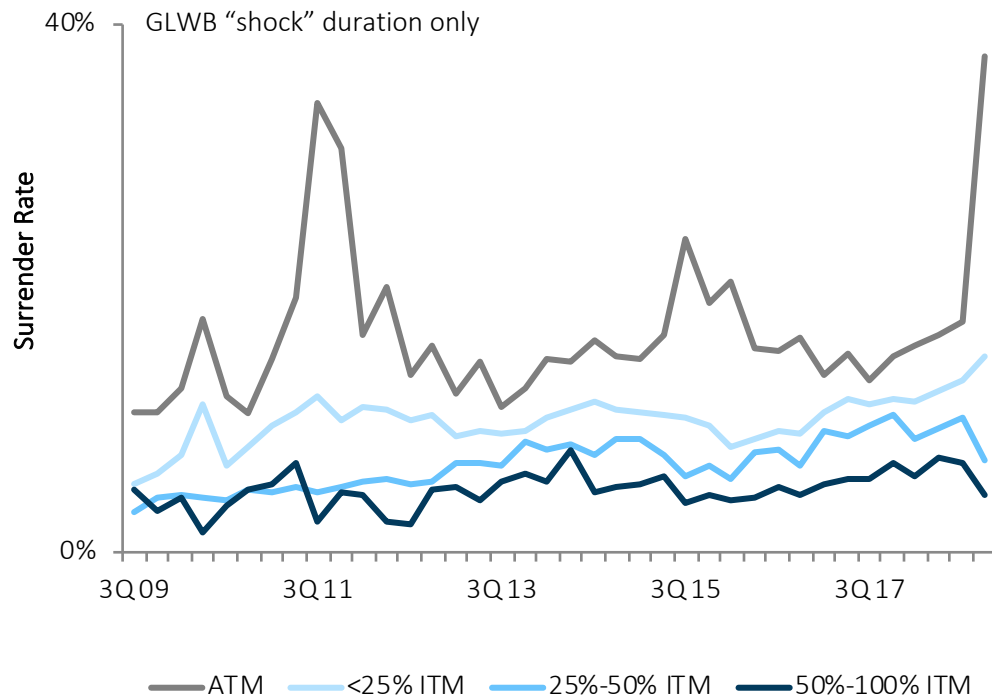
Nominal moneyness basis reflects the guaranteed benefit base relative to the account value

Surrender rates tend to decrease as the relative value of the guarantee increases





# Sensitivity has varied over time

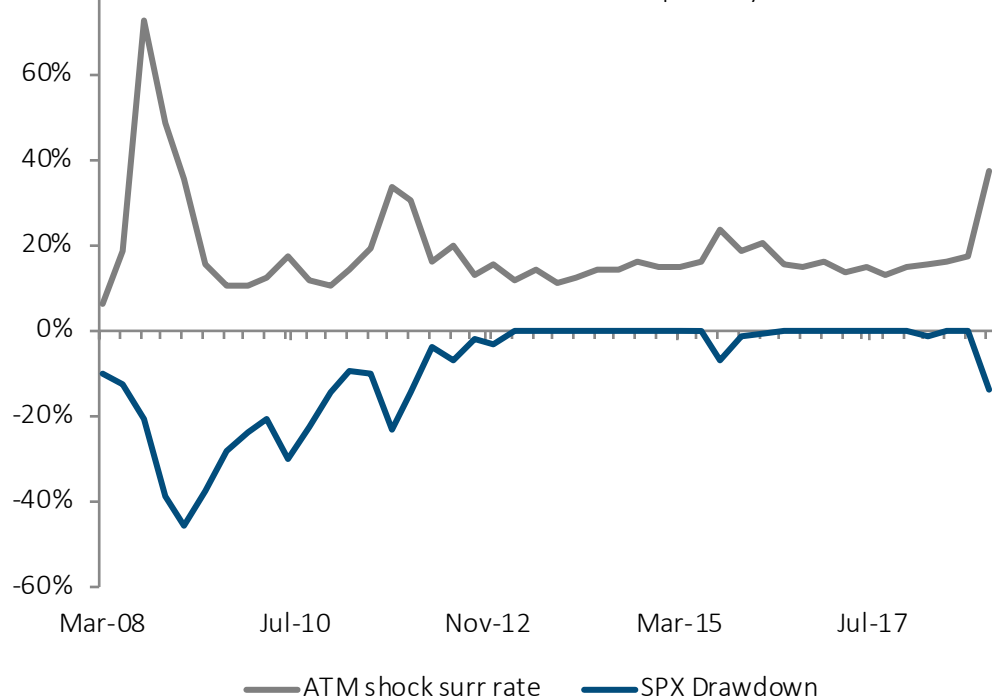


At-the-money surrender rates tend to be more volatile



# ATM surrender rates increase in times of market stress

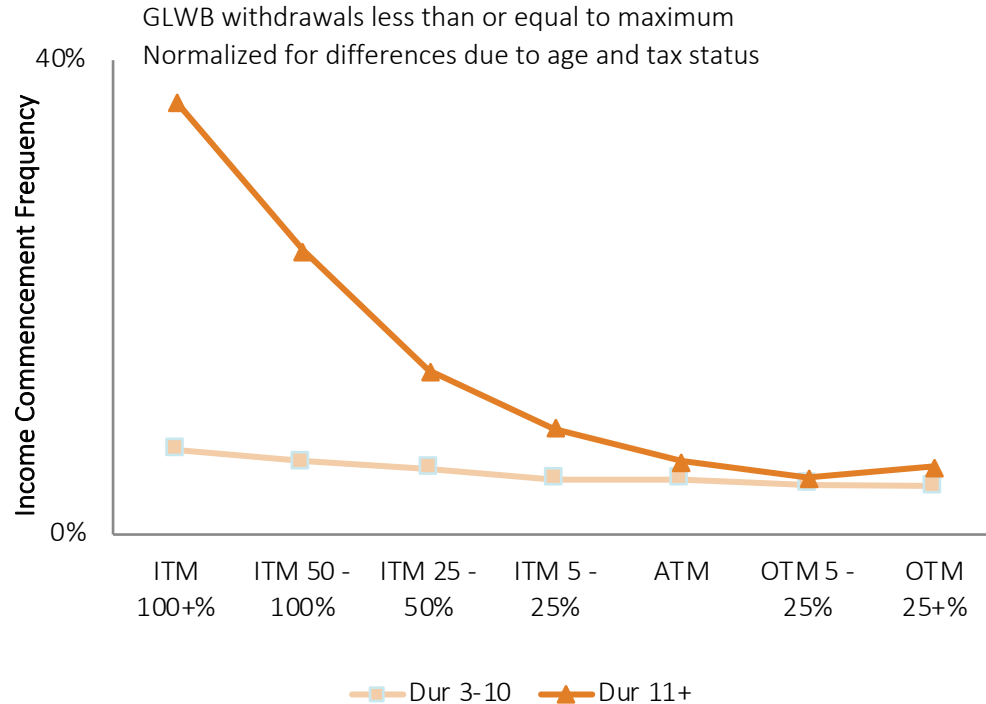
GLWB ATM shock surrender rate vs. S&P 500 quarterly drawdown



ATM surrender rates tend to be opposite S&P 500 quarterly drawdown



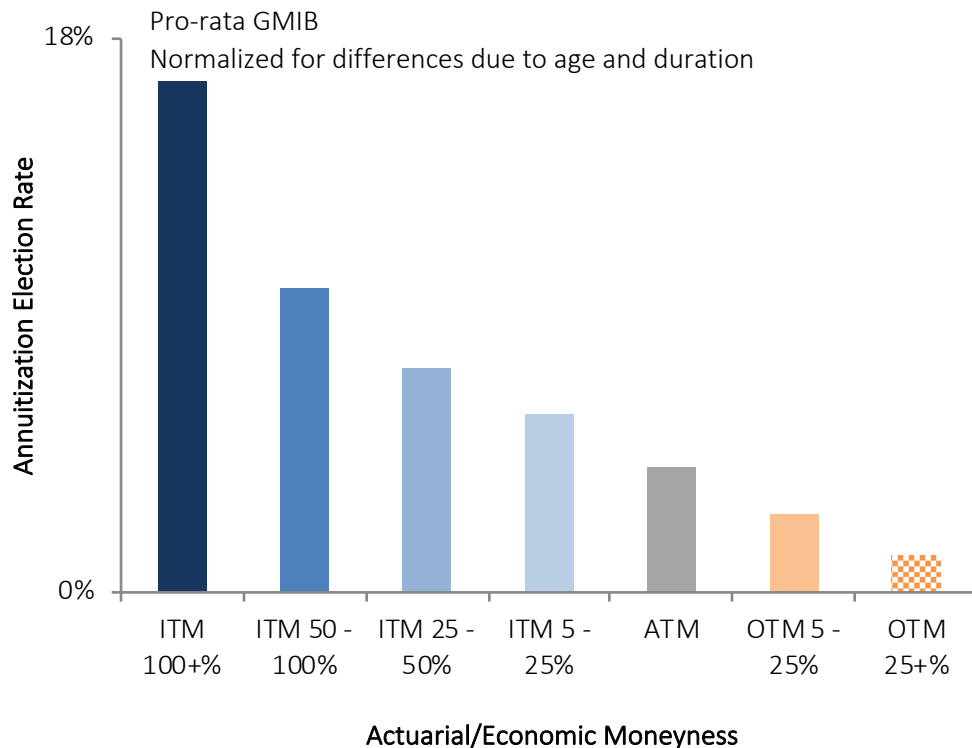
# GLWB income commencement is sensitive to moneyness



But this is evident after  
deferral incentives expire



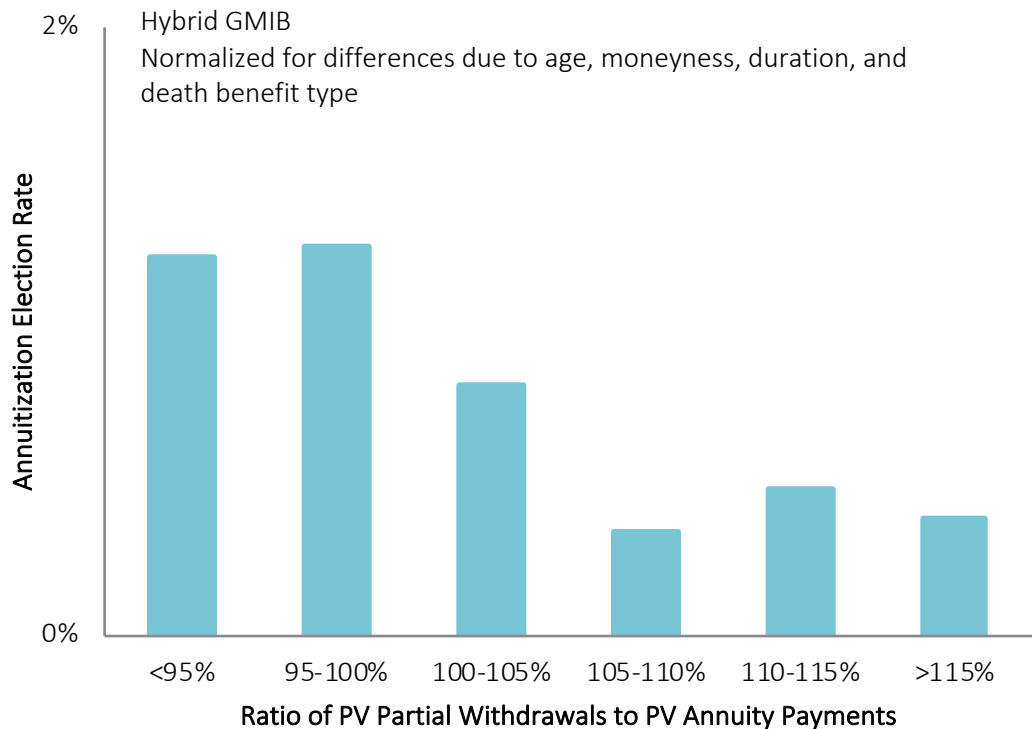
# Pro-rata GMIB annuitization is sensitive to moneyness



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



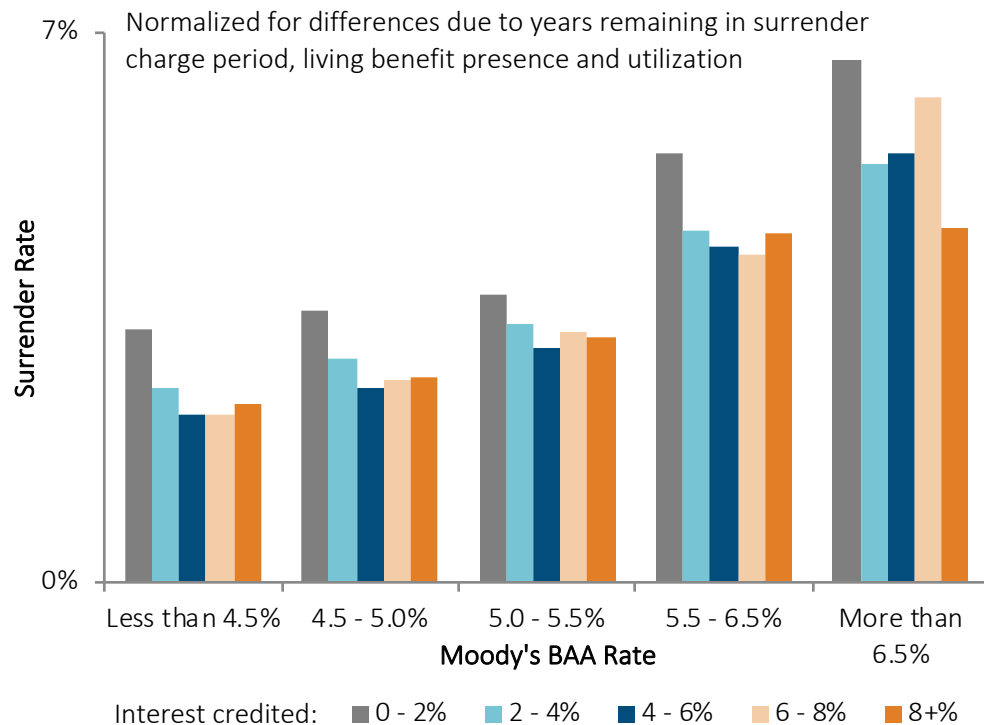
# Hybrid GMIB is trickier



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



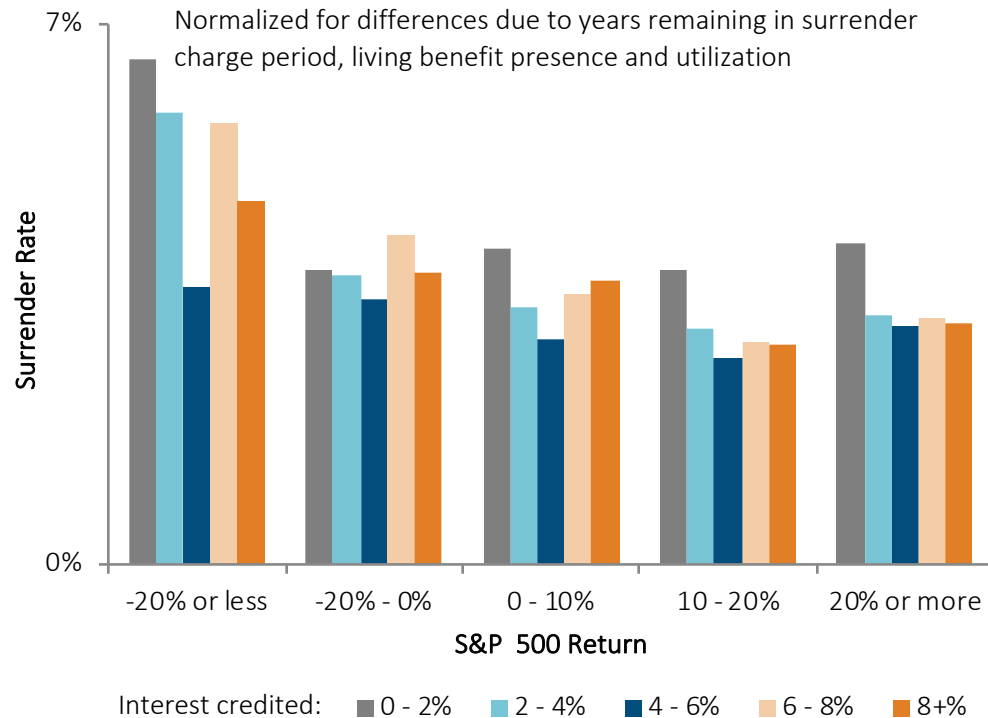
# FIA surrender rates are sensitive to interest rates...



Surrender rates tend to decline with interest rates, but increase when interest credited is low



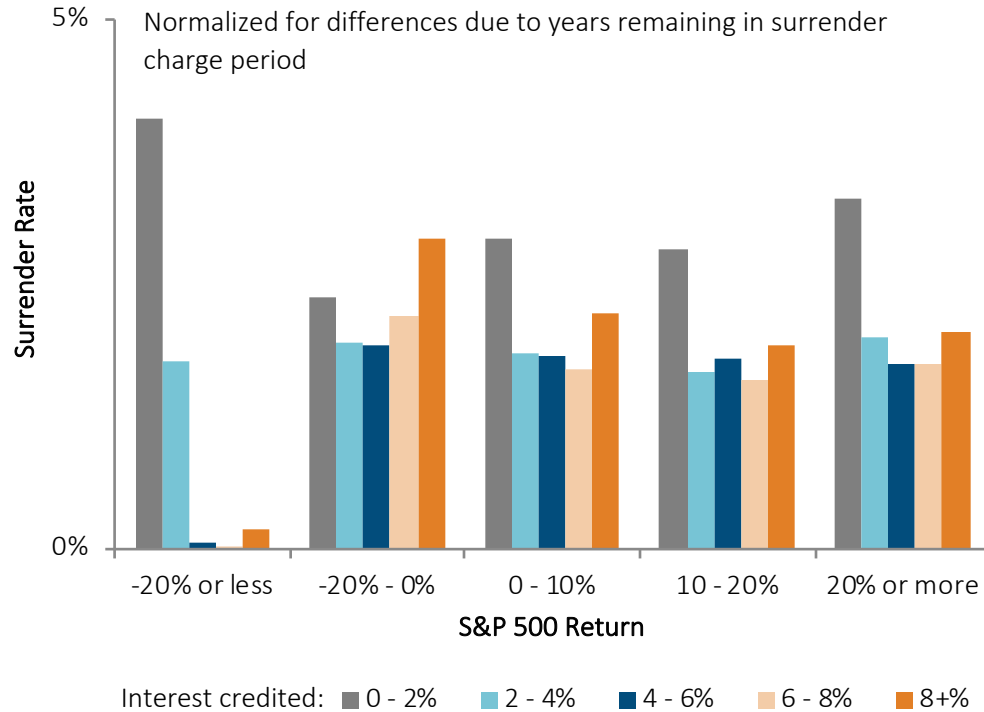
## ...and equity returns



Higher surrender rates when equity upside does not materialize



# GLIB affects FIA surrender rates

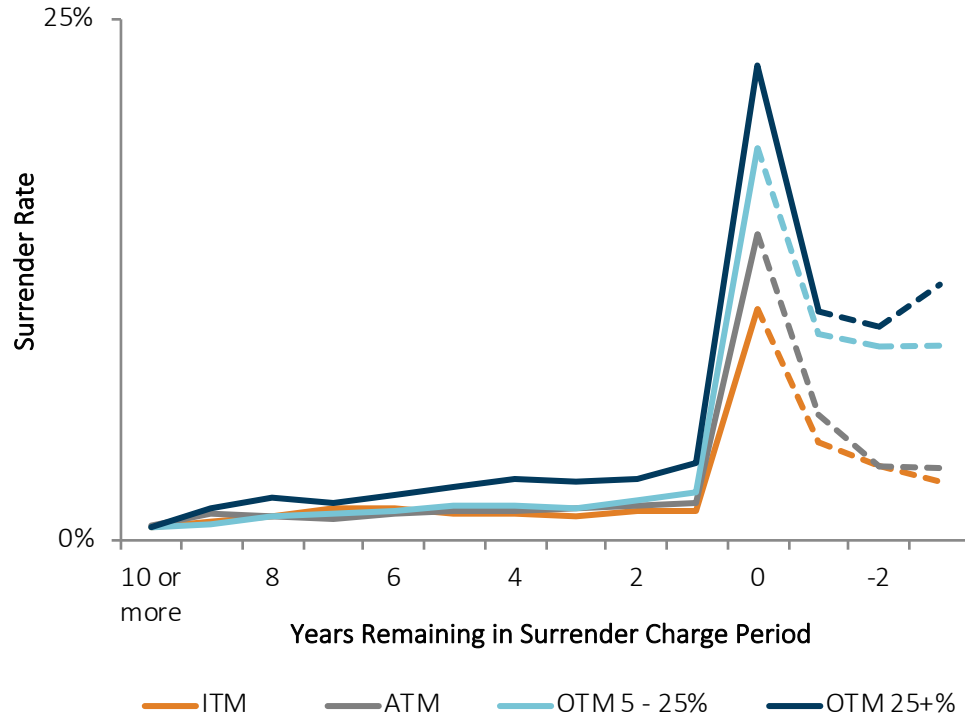


Less sensitivity to equity returns





# FIA GLIB surrender rates are sensitive to “moneyness”

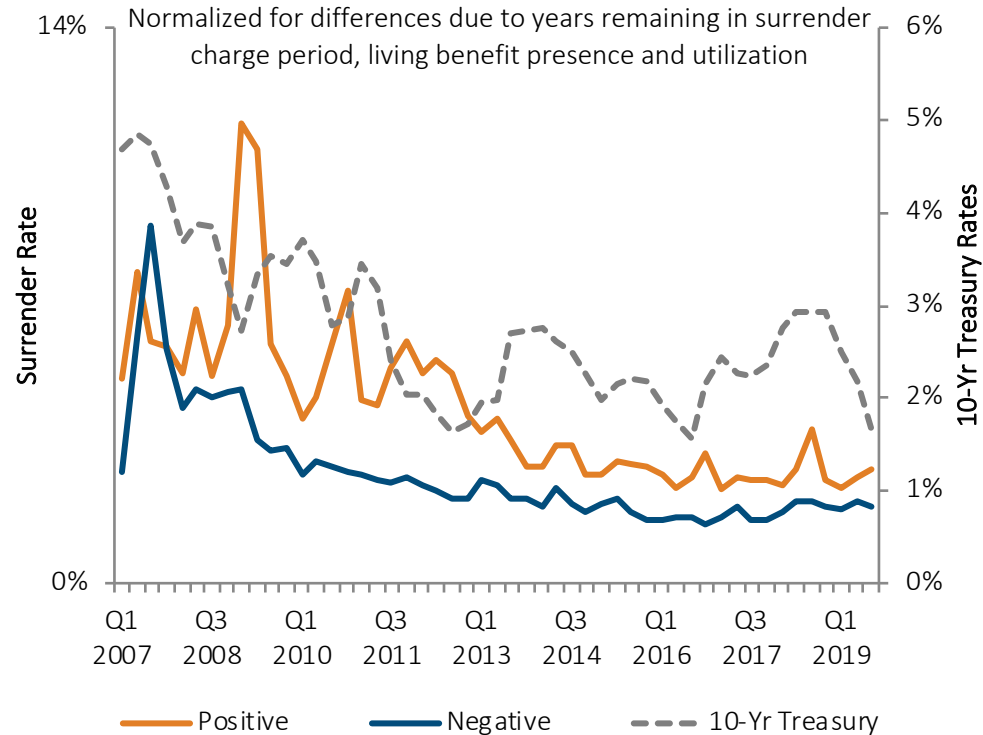


Actuarial/economic basis

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



# The curious case of positive MVA...

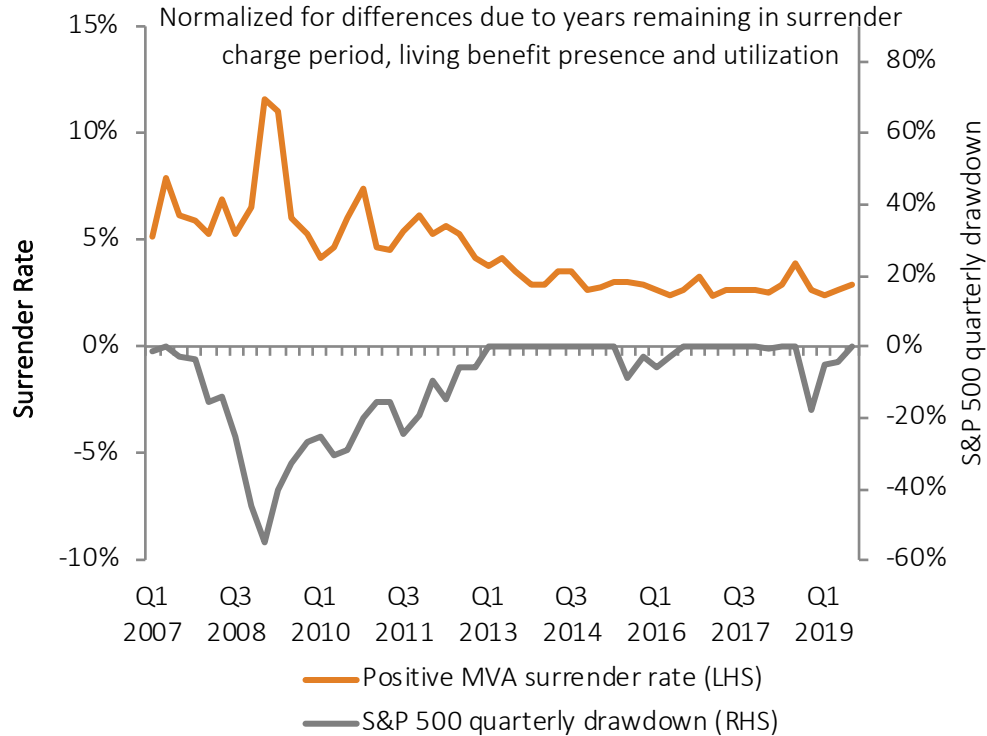


As interest rates change, the MVA should neutralize disintermediation risk

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



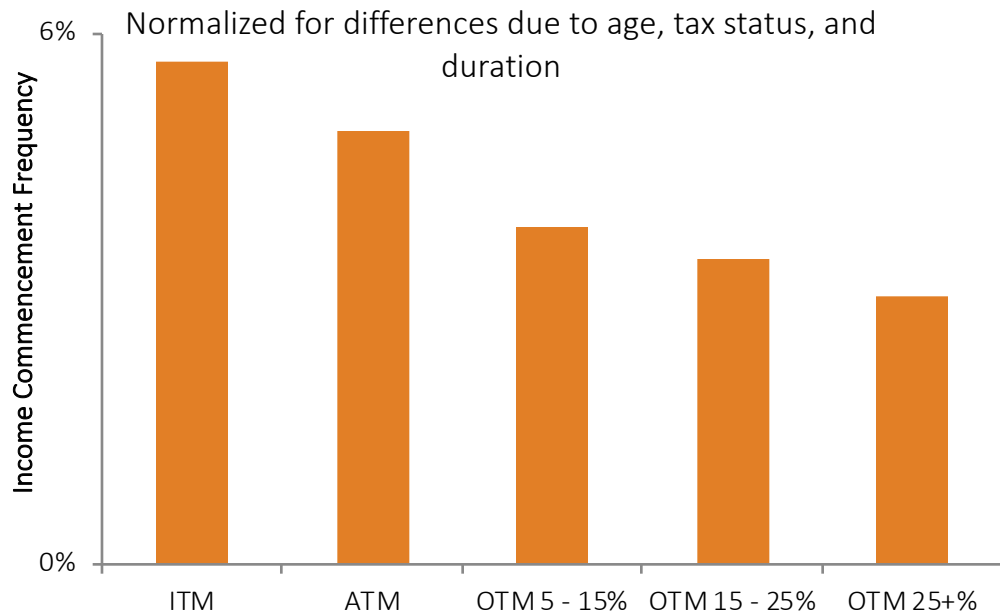
## ...surrender rates increase in times of market stress



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



# 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



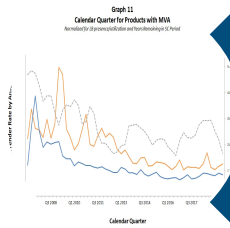
Stat and GAAP – raising the bar  
for data analysis and policyholder  
behavior modeling



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