

# COVID-19 Low Interest Rate Environment Cash Flow Testing Survey Summary of Results April 23, 2020



April 2020



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# COVID-19 Low Interest Rate Environment Cash Flow Testing Survey Summary of Results

## Section 1: Introduction

The Society of Actuaries (SOA) has partnered with LIMRA, Oliver Wyman, and the American Council of Life Insurance (ACLI) to conduct a series of ‘sprint’ surveys on the COVID-19 pandemic and its potential impacts on the insurance industry.

The COVID-19 pandemic infection has greatly affected the economy, impacting asset values and driving down long-term interest rates to levels not seen since World War II. Asset values and interest rates are critical assumptions in assessing the solvency of insurance companies. The impacts of changes to these assumptions appears in asset adequacy and cash flow testing results performed by actuaries. Given the importance of changing economic conditions to insurance companies, the second survey in this series focused on best practices around the potential impact of current market conditions on cash flow testing. The survey was directed at actuaries and/or risk management staff involved in their organization’s cash flow testing efforts. Responses to the survey were collected between April 8-14, 2020. Thirty-eight companies responded to the survey. Highlights of the survey responses are found in Section 2 and a summary of results for each question in the survey is found in Section 3.

## Section 2: Survey Highlights

This survey covers four topics related to the impact of the COVID-19 pandemic on cash flow testing (CFT): general approach and strategy; deterministic scenarios; stochastic scenarios; and communication.

**General Approach & Strategy:** Almost two-thirds of the respondents have or plan to re-run their CFT in light of the current market conditions. About 70% of these expect to use current market assumptions in their projections. Nearly all respondents are concerned about the impact of interest rates on CFT and one-half are concerned about credit spreads. Of the 27 respondents who perform CFT annually, 12 have opted to run CFT more frequently in 2020.

**Deterministic Scenarios:** About one quarter of respondents expect the number of NY7 scenarios they are required to pass to decrease. Only two of 27 respondents assume negative interest rates in their deterministic scenarios. One-third of the companies assume the current level of widened credit spreads will narrow within one to three years and another one-third assume credits spreads will narrow beyond three years. Two-thirds of the respondents believe the current environmental implied scenario is worse than moderately adverse.

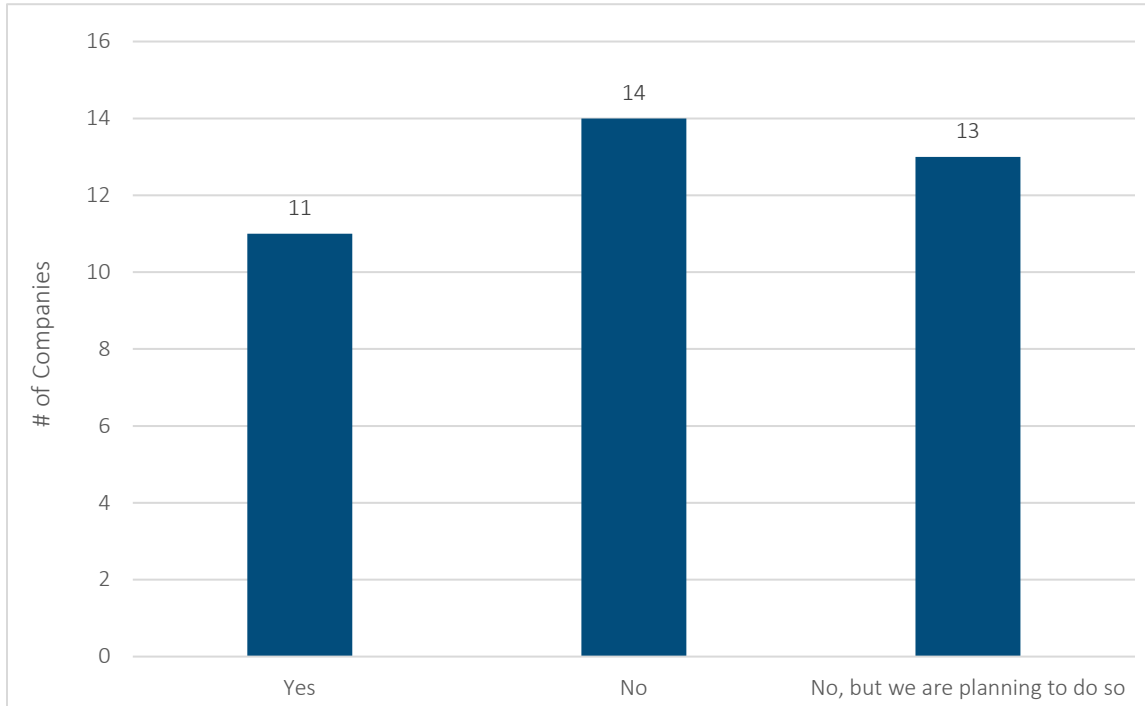
**Stochastic Scenarios:** Thirteen out of 18 respondents use the American Academy of Actuaries' economic scenario generator. About two-thirds of the companies that responded to the question on mean reversion point (MRP) use an MRP between 3% and 4%. Two of 18 companies allow for negative rates. Regarding September 30, 2020 assumptions, the most common responses for the ten-year interest rate, single A credit spreads, and the long-term equity return were 0.5%-1.0%, 1.0-1.5%, and 5%-10%, respectively. Few of the respondents have updated their mean reversion target, credit spread, policyholder behavior, mortality, equity or asset allocation assumptions. About one-half are considering updating their mean reversion target, credit spread, policyholder behavior and mortality assumptions. Two-thirds of the respondents are planning to use provisions for adverse deviation similar to prior years, coupled with short-term assumptions that reflect current events.

**Data / Communication:** Most respondents have received questions on the impact of the current market environment on CFT from their senior management and rating agencies. The questions revolve around reserve adequacy and financial strength/sensitivities.

## Section 3: Cash Flow Testing Survey Questions and Response Detail

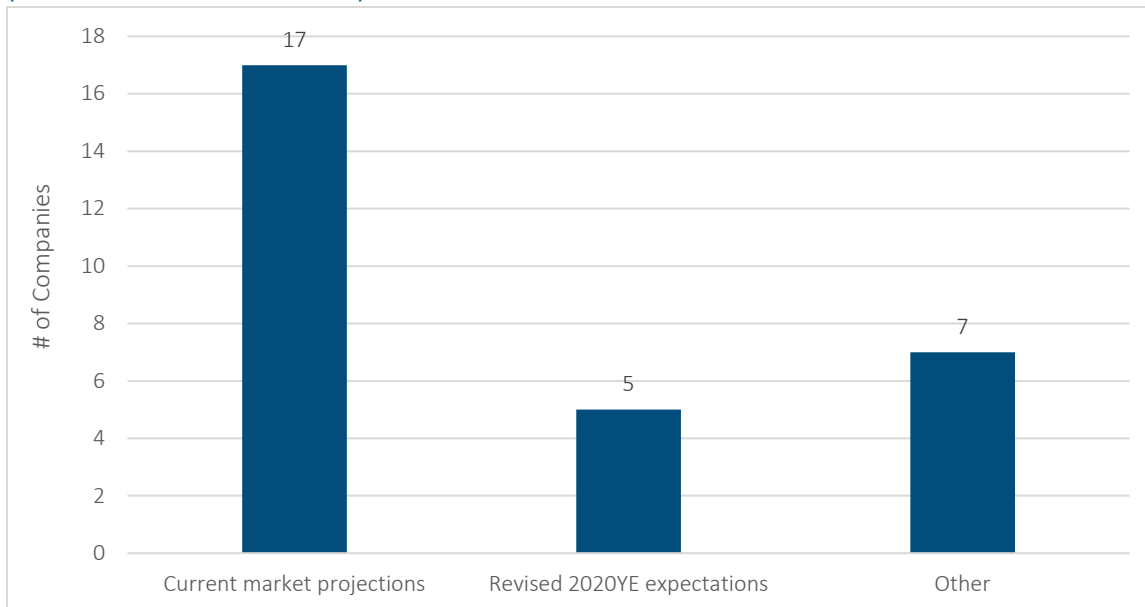
### 3.1 GENERAL APPROACH AND STRATEGY

#### 3.1.1 HAS YOUR COMPANY RE-RUN ITS CASH FLOW TESTING IN LIGHT OF RECENT MARKET CONDITIONS?

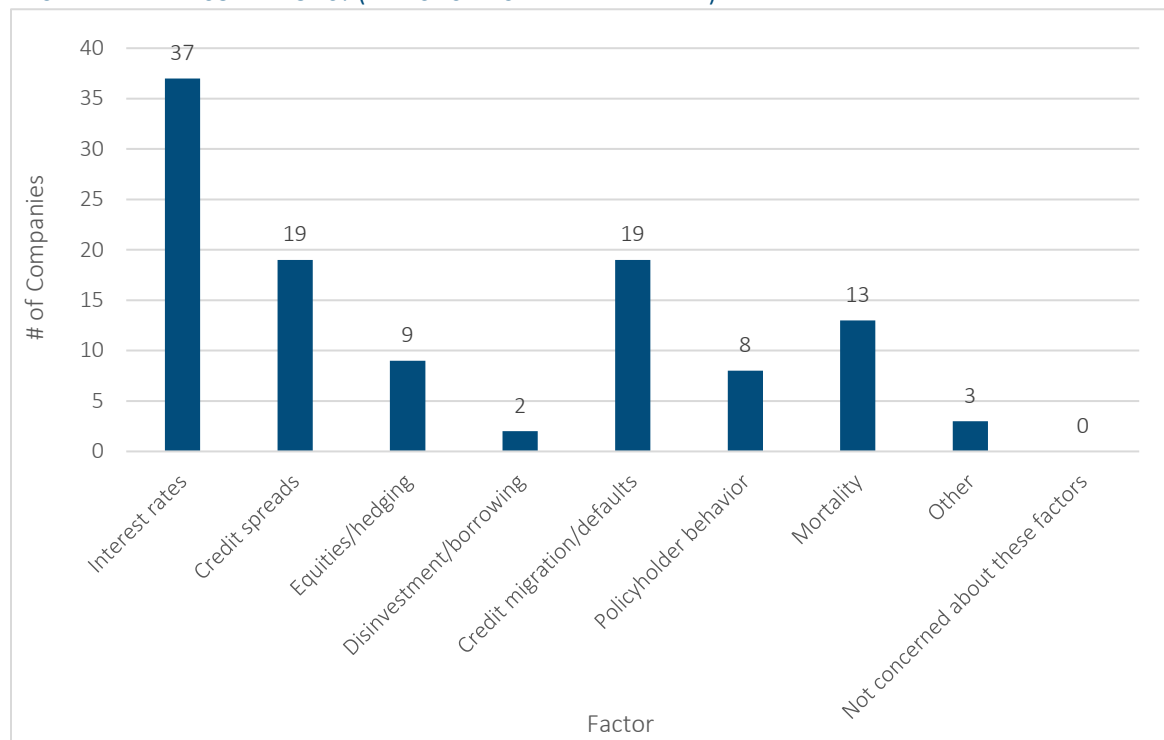


#### 3.1.2 ON WHAT BASIS ARE YOU RE-RUNNING OR PLANNING TO RE-RUN CASH FLOW TESTING?

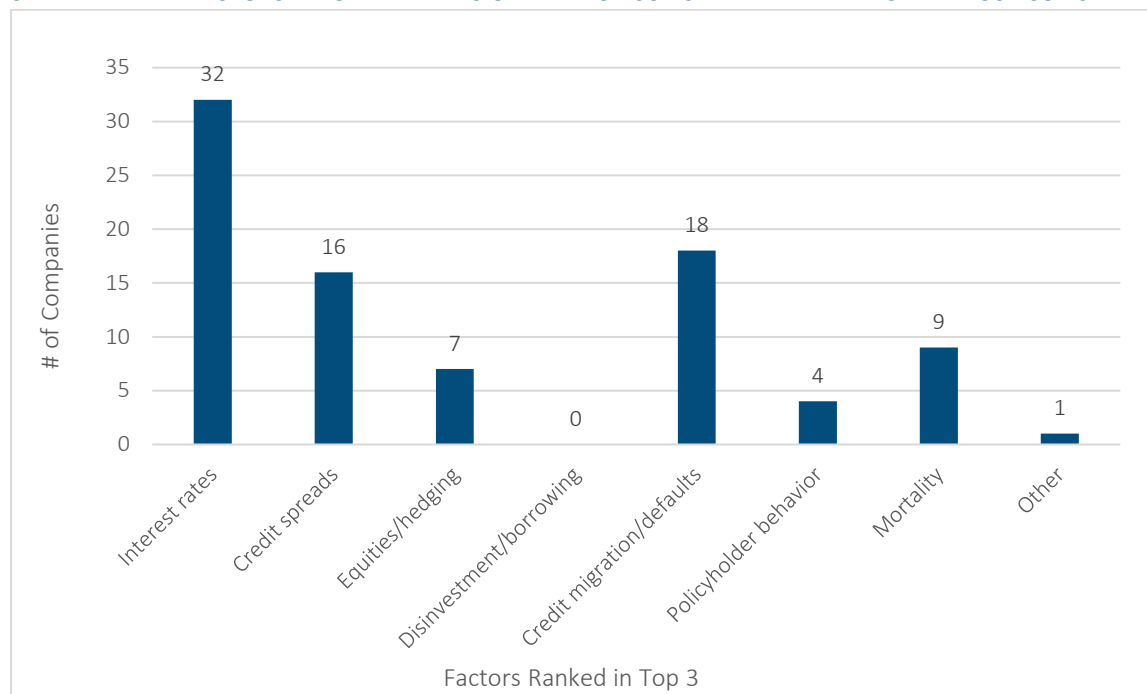
(PLEASE SELECT ALL THAT APPLY)



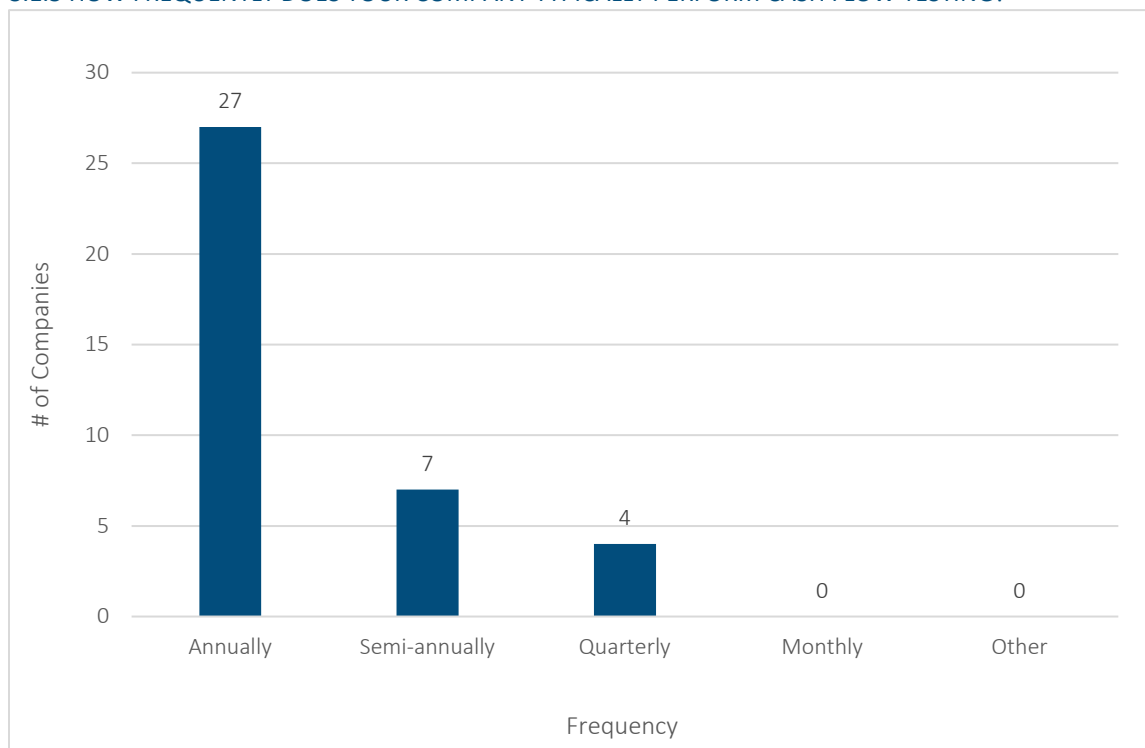
3.1.3 WHICH OF THE FOLLOWING FACTORS IS YOUR COMPANY MOST CONCERNED ABOUT RELATIVE TO CFT IN RECENT MARKET CONDITIONS? (PLEASE SELECT ALL THAT APPLY)



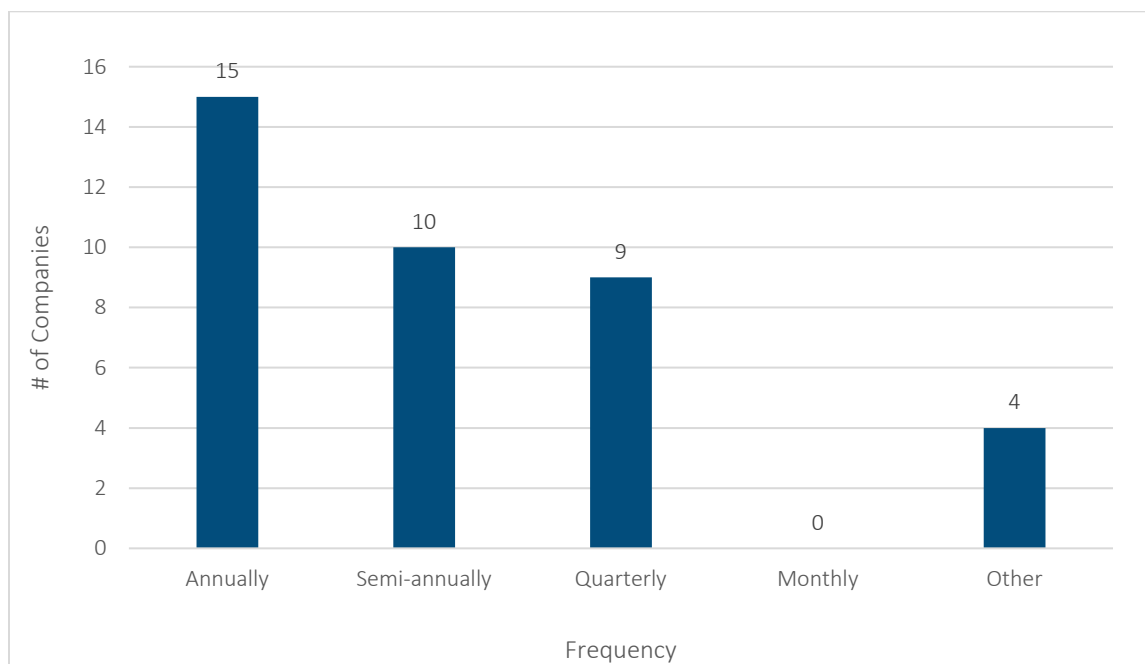
3.1.4 RANK THE FACTORS BELOW IN TERMS OF LEVEL OF CONCERN WITH 1 BEING THE MOST CONCERNED.



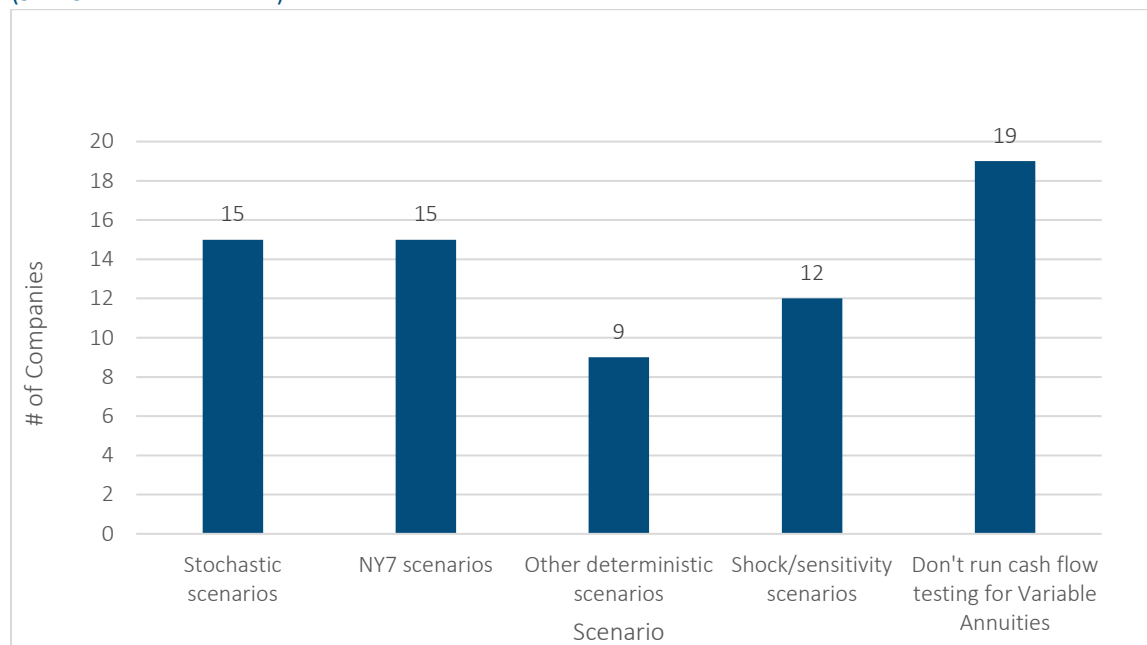
### 3.1.5 HOW FREQUENTLY DOES YOUR COMPANY TYPICALLY PERFORM CASH FLOW TESTING?



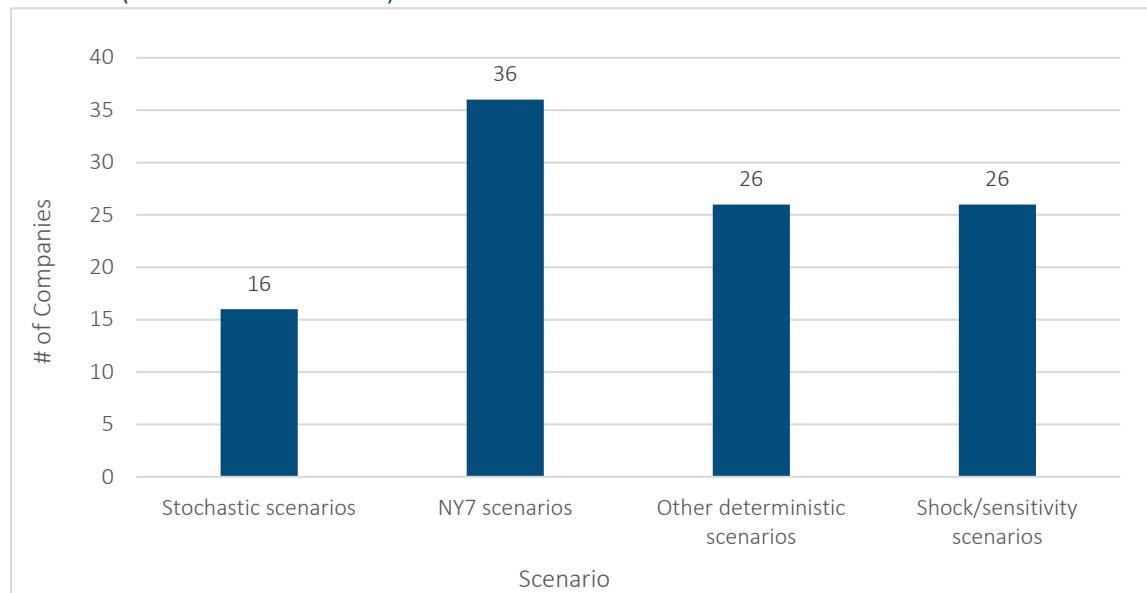
### 3.1.6 HOW FREQUENTLY IS YOUR COMPANY PLANNING TO PERFORM CASH FLOW TESTING FOR THE REST OF 2020?



**3.1.7 WHAT TYPES OF SCENARIOS DOES YOUR COMPANY RUN FOR VARIABLE ANNUITY CASH FLOW TESTING? (SELECT ALL THAT APPLY)**

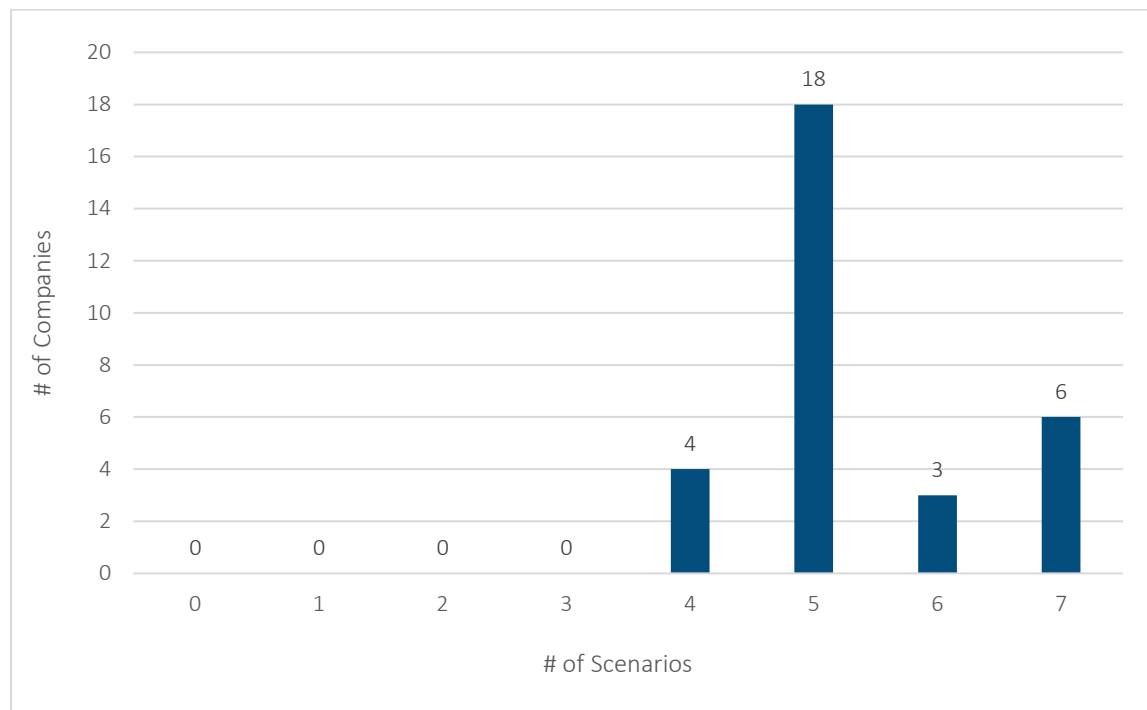


**3.1.8 WHAT TYPES OF SCENARIOS DOES YOUR COMPANY RUN FOR GENERAL ACCOUNT PRODUCT CASH FLOW TESTING? (SELECT ALL THAT APPLY)**

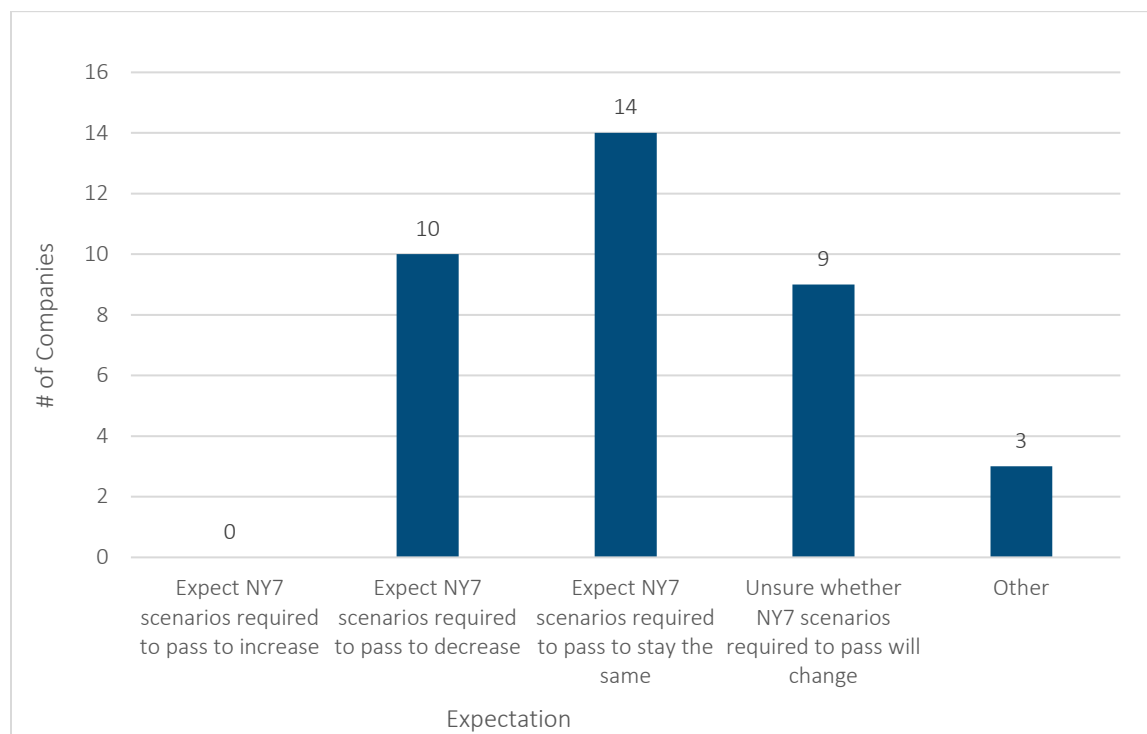


## 3.2 DETERMINISTIC SCENARIOS

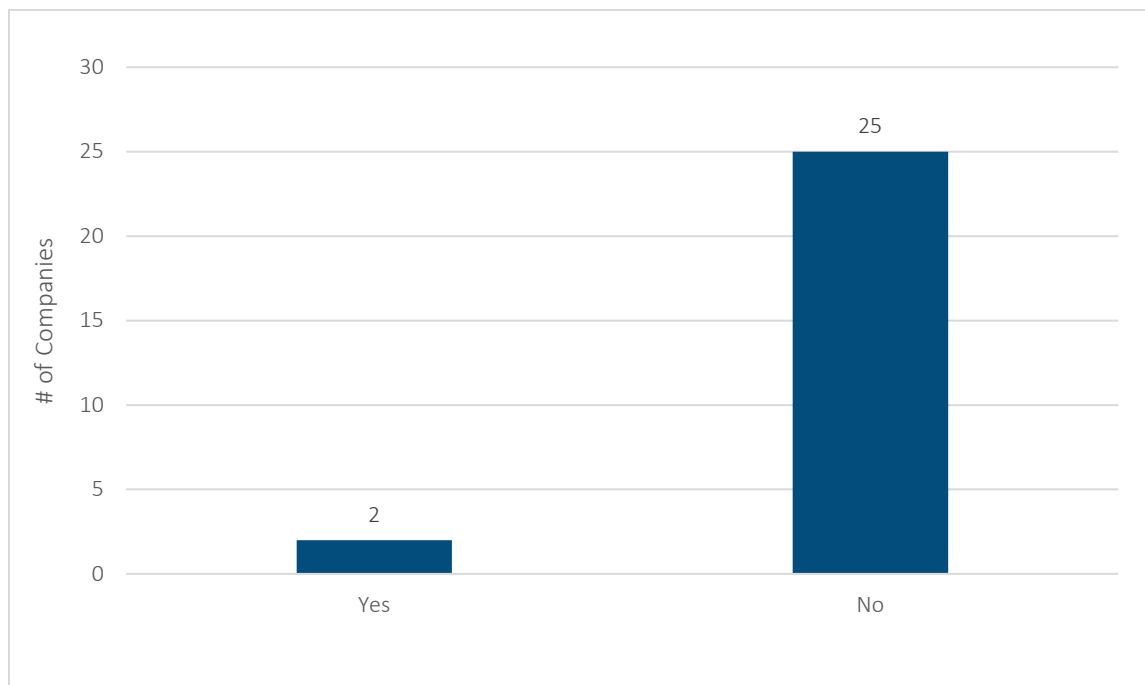
### 3.2.1 HOW MANY NY7 SCENARIOS ARE YOU TYPICALLY REQUIRED TO PASS?



### 3.2.2 DO YOU EXPECT THIS TO CHANGE GIVEN THE CURRENT RATE ENVIRONMENT?



### 3.2.3 FOR COMPANIES RUNNING OTHER DETERMINISTIC SCENARIOS, DO ANY OF THESE SCENARIOS CONSIDER NEGATIVE RATES?

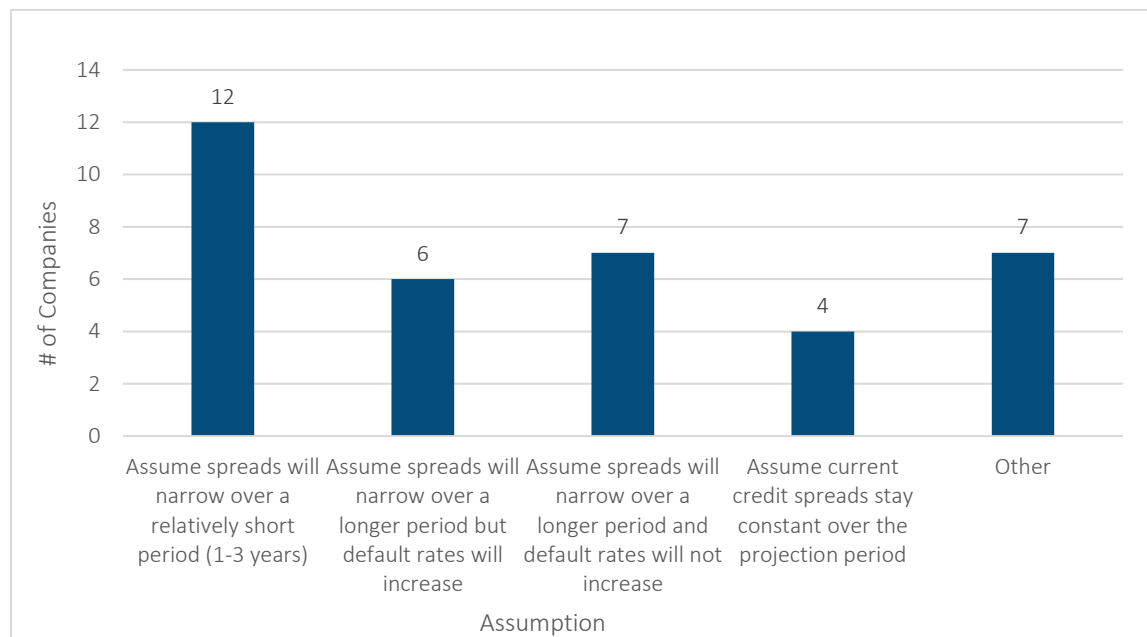


### 3.2.4 IF YOUR COMPANY HAS NOT RUN DETERMINISTIC SCENARIOS WITH NEGATIVE RATES, WHY NOT?

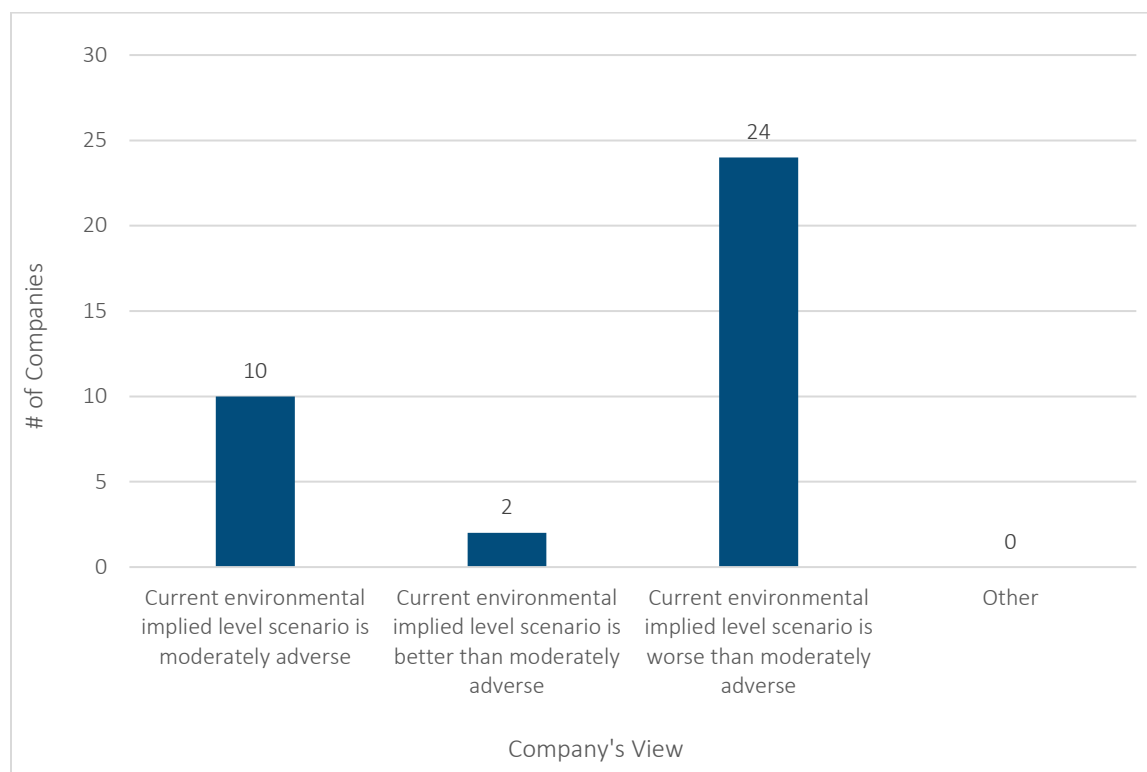
Response Categories:

- Considered beyond a moderately adverse scenario.
- Considered unlikely to occur in the US or Canada due to government policies.
- Systems do not support negative rates.
- Not required by regulator.
- Assume reinvestment rate will not be negative.

### 3.2.5 WHAT IS YOUR COMPANY'S ASSUMPTION REGARDING THE WIDENED CREDIT SPREADS IN THE CURRENT ENVIRONMENT?

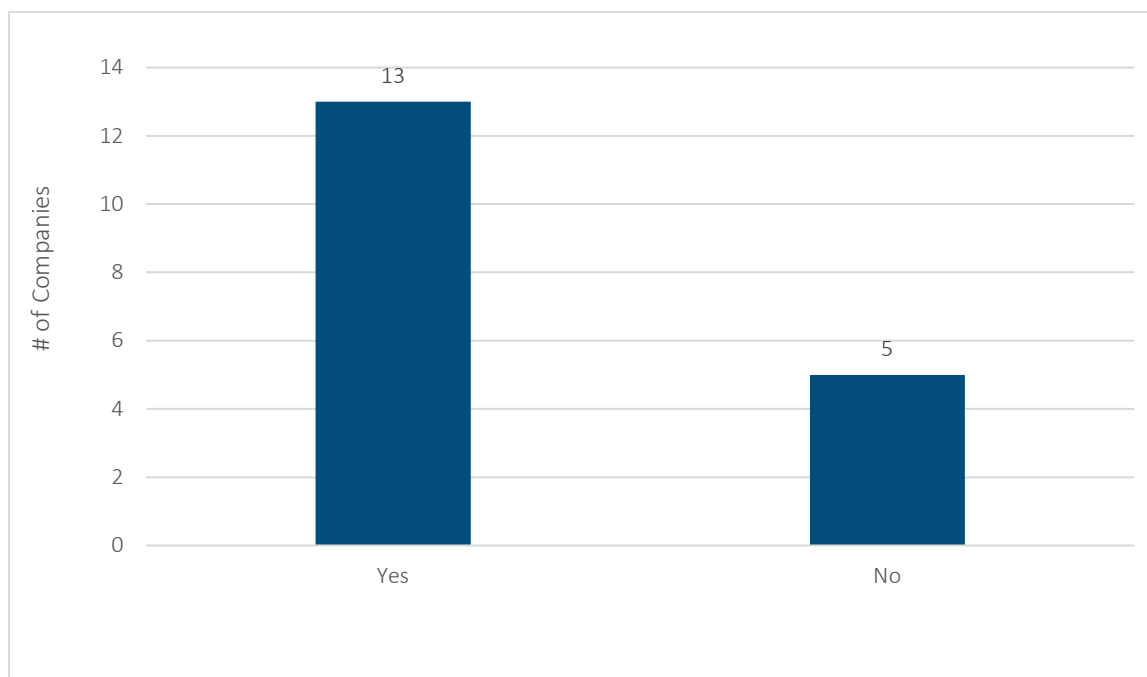


### 3.2.6 WHAT IS YOUR COMPANY'S VIEW REGARDING THE LEVEL SCENARIO RELATIVE TO THE DEFINITION OF "MODERATELY ADVERSE"?

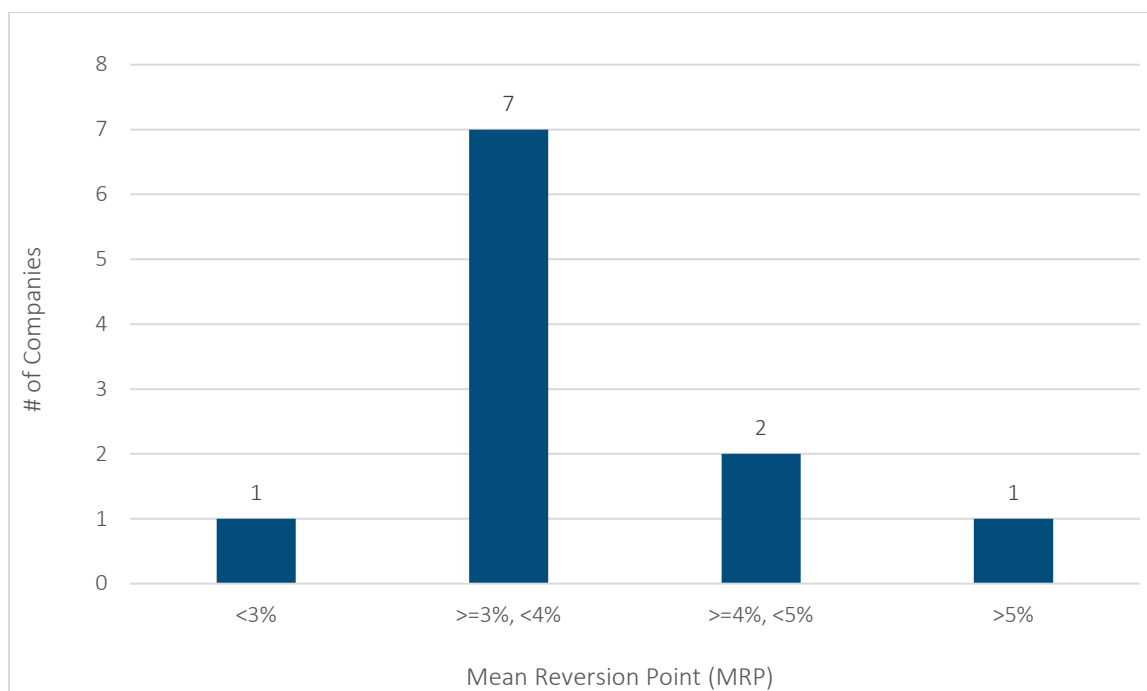


### 3.3 STOCHASTIC SCENARIOS

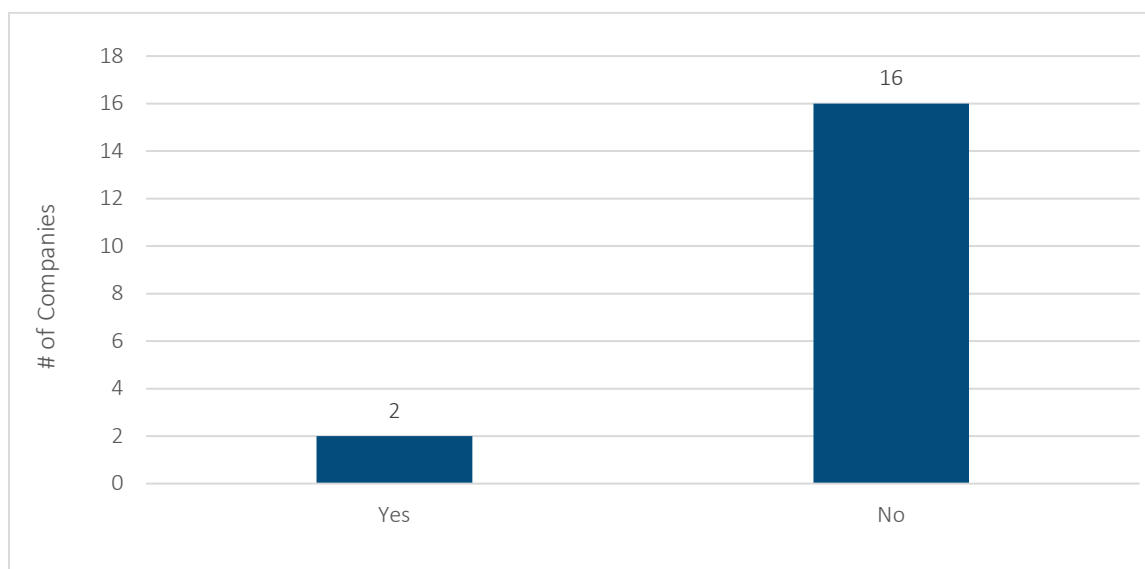
#### 3.3.1 FOR STOCHASTIC SCENARIOS, DO YOU USE THE AMERICAN ACADEMY OF ACTUARIES' ECONOMIC SCENARIO GENERATOR?



#### 3.3.2 WHAT MEAN REVERSION POINT (MRP) IS CURRENTLY USED?



### 3.3.3 FOR STOCHASTIC SCENARIOS, DO YOU ALLOW FOR NEGATIVE RATES?



### 3.3.4 IF YOUR COMPANY HAS NOT RUN STOCHASTIC SCENARIOS WITH NEGATIVE RATES, WHY NOT?

Response Categories:

- Academy generator floors at .01 percent.
- Considered beyond a moderately adverse scenario.
- Considered unlikely to occur in the US or Canada due to government policies.
- Systems do not support negative rates.
- Not required by regulator.
- Assume reinvestment rate will not be negative.

### 3.3.5 WHAT IS YOUR COMPANY ASSUMING AS OF 9/30/20 FOR:

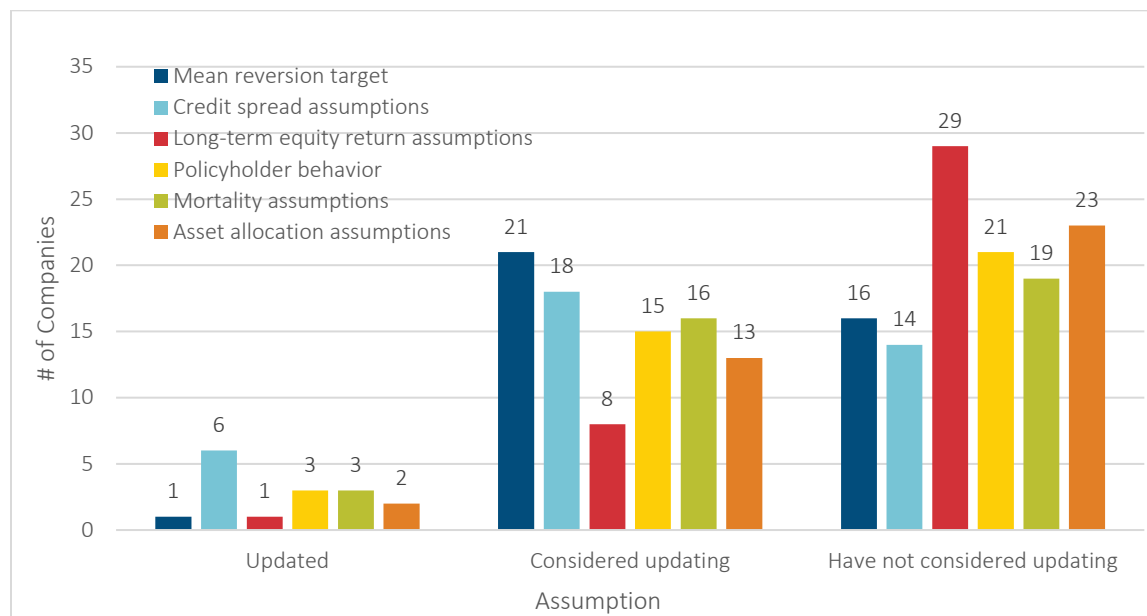
| Rate Range  | 10-year interest rate | Mean reversion target | Single A credit spreads | Long-run single A credit spreads | Equity return-initial shock | Equity return-long term return |
|-------------|-----------------------|-----------------------|-------------------------|----------------------------------|-----------------------------|--------------------------------|
| <-5%        | 0                     | 0                     | 0                       | 0                                | 6                           | 1                              |
| -5% - 0%    | 0                     | 0                     | 0                       | 0                                | 3                           | 0                              |
| 0% - 0.5%   | 2                     | 1                     | 0                       | 0                                | 4                           | 0                              |
| 0.5% - 1.0% | 10                    | 2                     | 1                       | 3                                | 0                           | 0                              |
| 1.0% - 1.5% | 3                     | 1                     | 9                       | 9                                | 0                           | 0                              |
| 1.5% - 2%   | 1                     | 0                     | 5                       | 5                                | 0                           | 0                              |
| 2% - 3%     | 1                     | 4                     | 3                       | 0                                | 0                           | 0                              |
| 3% - 5%     | 1                     | 9                     | 0                       | 1                                | 1                           | 1                              |
| 5% - 10%    | 0                     | 1                     | 0                       | 0                                | 4                           | 15                             |
| 10%+        | 0                     | 0                     | 0                       | 0                                | 0                           | 1                              |

### 3.3.6 BRIEFLY DESCRIBE THE STANDARDS USED BY YOUR COMPANY IN TRANSLATING STOCHASTIC RESULTS INTO RESERVE AND/OR CAPITAL REQUIREMENTS (for Asset Adequacy Testing, Cash Flow Testing, and C3P1 work).

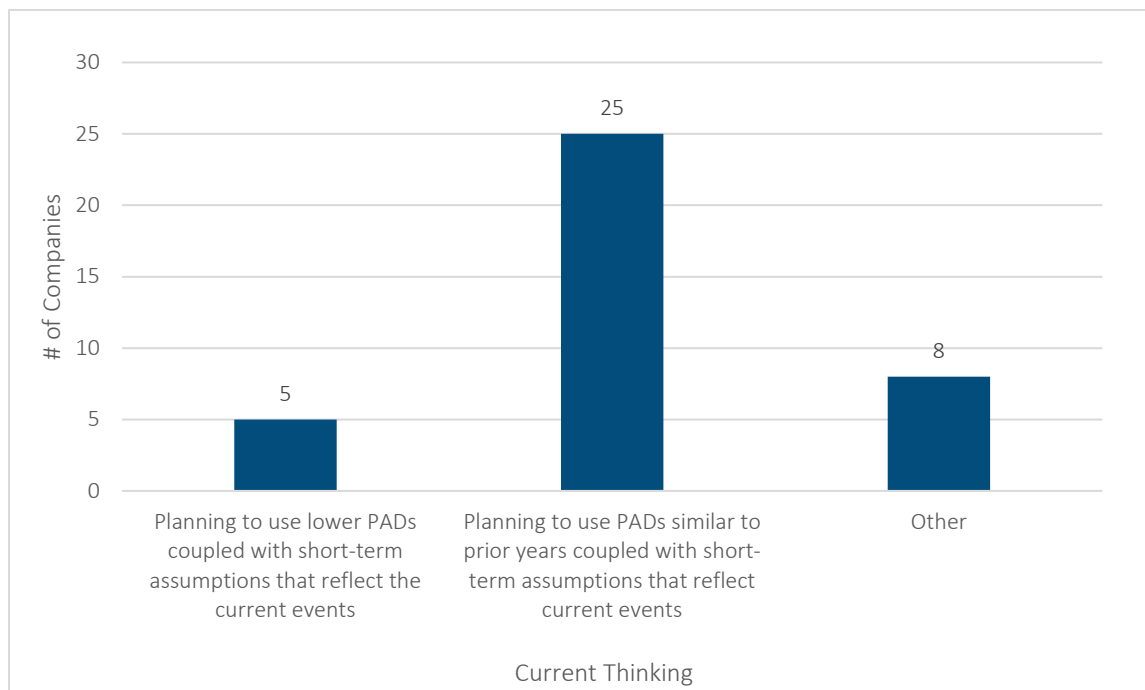
Response Categories:

- At least X% of stochastic scenarios passed (X% between 70 and 90 percent).
- Prescribed requirements are followed for variable annuities and C3P1.

### 3.3.7 HAS YOUR COMPANY UPDATED ANY OF THE FOLLOWING ASSUMPTIONS IN LIGHT OF COVID-19 AND THE CURRENT MARKET ENVIRONMENT?



**3.3.8 PLEASE INDICATE WHICH OF THE FOLLOWING STATEMENTS BEST REFLECTS YOUR CURRENT THINKING REGARDING PROVISIONS FOR ADVERSE DEVIATION (PADS) IN ASSUMPTIONS FOR CASH FLOW TESTING?**



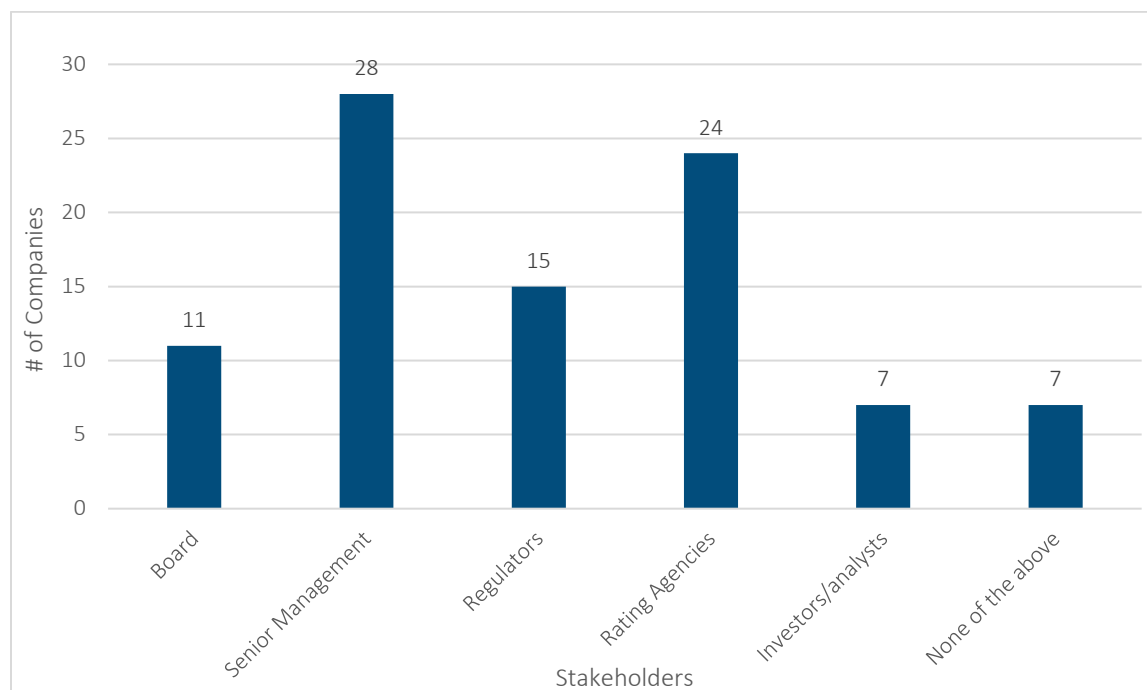
**3.3.9 YOU SAID YOUR COMPANY RUNS SHOCK/SENSITIVITY SCENARIOS FOR CFT. PLEASE BRIEFLY DESCRIBE THE SHOCK/SENSITIVITIES TESTED.**

Response Categories:

- Similar or same as prior years.
- Not decided yet.
- Don't use PADS.

### 3.4 COMMUNICATION

3.4.1 HAVE YOU RECEIVED QUESTIONS ON THE IMPACT OF THE CURRENT MARKET ENVIRONMENT ON CFT FROM ANY OF THE FOLLOWING STAKEHOLDER GROUPS? (PLEASE SELECT ALL THAT APPLY)



3.4.2 WHAT QUESTIONS IS YOUR COMPANY BEING ASKED REGARDING THE IMPACT OF THE CURRENT MARKET ENVIRONMENT ON CFT FROM THESE STAKEHOLDER GROUPS?

Response Categories:

- Reserve adequacy concerns
- Credit exposure questions
- Mortality risk
- Low interest rates impact
- Impact of lapse and mortality increases on portfolio yield and credited rates

## Section 4: Acknowledgments

The SOA, LIMRA, and Oliver Wyman would like to thank the industry Low Interest Rate Task Force (established in January 2020 by LIMRA, Oliver Wyman and the ACLI), as well as the following individuals for their support in the design and development of the survey.

Brian Bayerle, FSA, MAAA, ACLI

David Seidel, FSA, MAAA, Securian

Steve Verhagen, FSA, MAAA, CUNA Mutual

The SOA also thanks the many companies that participated in the survey.

|  |  |
|--|--|
| 5-Star Life Ins Co                         | MassMutual                               |
| Allianz Life                               | SBLI                                     |
| Allstate                                   | MetLife                                  |
| American Equity                            | Nationwide Financial                     |
| Ameritas                                   | New York Life                            |
| Cincinnati Life Insurance Company          | Principal Financial Group                |
| Columbian Financial Group                  | Prudential                               |
| Companion Life Insurance Company           | Sammons Financial                        |
| Country Financial                          | Securian Financial Group                 |
| EMC National Life Company                  | Sentinel Security Life Insurance Company |
| Everence Association, Inc.                 | Shelter Life Insurance                   |
| Fidelity & Guaranty Life Insurance Company | State Farm                               |
| Global Atlantic Financial Group            | Symetra                                  |
| Global Bankers Insurance Group             | Talcott Resolution                       |
| GPM Life                                   | The Independent Order of Foresters       |
| Guardian Life                              | Transamerica                             |
| Hannover Re                                | Unum Group                               |
| Jackson National                           | Western & Southern Financial Group       |
| John Hancock                               | Woodmen Life                             |

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With roots dating back to 1889, the [Society of Actuaries](https://www.soa.org) (SOA) is the world's largest actuarial professional organizations with more than 31,000 members. Through research and education, the SOA's mission is to advance actuarial knowledge and to enhance the ability of actuaries to provide expert advice and relevant solutions for financial, business and societal challenges. The SOA's vision is for actuaries to be the leading professionals in the measurement and management of risk.

The SOA supports actuaries and advances knowledge through research and education. As part of its work, the SOA seeks to inform public policy development and public understanding through research. The SOA aspires to be a trusted source of objective, data-driven research and analysis with an actuarial perspective for its members, industry, policymakers and the public. This distinct perspective comes from the SOA as an association of actuaries, who have a rigorous formal education and direct experience as practitioners as they perform applied research. The SOA also welcomes the opportunity to partner with other organizations in our work where appropriate.

The SOA has a history of working with public policymakers and regulators in developing historical experience studies and projection techniques as well as individual reports on health care, retirement and other topics. The SOA's research is intended to aid the work of policymakers and regulators and follow certain core principles:

**Objectivity:** The SOA's research informs and provides analysis that can be relied upon by other individuals or organizations involved in public policy discussions. The SOA does not take advocacy positions or lobby specific policy proposals.

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**Quantification:** The SOA leverages the diverse skill sets of actuaries to provide research and findings that are driven by the best available data and methods. Actuaries use detailed modeling to analyze financial risk and provide distinct insight and quantification. Further, actuarial standards require transparency and the disclosure of the assumptions and analytic approach underlying the work.

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