

A Methodology for Avoiding the Pitfalls of Excess Loss Development

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Abstract

Given the long-tailed nature of certain lines of business, such as workers' compensation, and the impact of inflation on claim costs, determination of development factors, particularly in the tail, can be challenging. Reliance on excess loss development triangles can present challenges from both a credibility and volatility perspective. Furthermore, the application of excess development factors selected directly from excess loss triangles does not fully account for the impact of claim cost inflation, which has a greater impact on excess claims than on claims limited to a retention. Therefore many actuaries fall back on industry development patterns that are not necessarily indicative of the individual company's development and may be impacted by other distortions (e.g., non consistent interpretation of limits or retentions across companies in the compilation of data). We will discuss these distortions and the limitations of reliance on excess data and then present an alternative approach that relies on more stable ground-up data and can adjust for changing retention levels by year via calculation of excess development factors using excess loss factors (ELFs). We will discuss the theory behind the formula and its own benefits and limitations.

Keywords. Workers Compensation, Excess Loss Development, Reserving, Deductible

1. INTRODUCTION

One of the fundamental insurance coverages in the United States is statutorily required workers' compensation. Typically workers' compensation policies include defined loss retentions whereby, insureds retain a specified deductible on each claim; these deductibles - particularly for large insureds - can be quite large (several hundred thousand dollars or more).

Not only is there variety in the coverage based on the defined statutory requirements and various deductible options, but also in the variety of underlying exposures that range from workers at desk jobs to those working in industrial plants. The type of exposure not only impacts the potential frequency and severity of claims, but also the longevity of the claims. It may take several years for an injury to emerge (e.g., back injuries) and payments may continue for years into the future. Furthermore, exposure is impacted by changes in technology (e.g., carpal tunnel syndrome in desk workers) and economic conditions (e.g., a recession may result in workers collecting benefits for longer as employment options are limited).

While the indemnity portion of the coverage grows at a pace similar to the general inflation rate, the medical portion is impacted by a medical inflation rate that captures the rising medical costs and, particularly in recent years, has been greater than general inflation[1].

In addition, large deductible policies came into existence after the workers' compensation market

crisis in the late 1980s and early 1990s. By 2002, the NCCI reported that 31.4% of manual-equivalent premium was written using a deductible of \$100,000 or greater.

Given the wide range of risk contained by the workers' compensation coverage and its susceptibility to economic and technological factors, there is inherent volatility in the associated claim frequency and severity. The volatility of these long-tailed losses is further exacerbated when the insurance coverage offered is for an excess layer. The impact of direct mix of business changes and inherent changes in risk controls can take years to emerge. Furthermore, the underlying retentions of the insurance policies are not typically linked to an inflation index, but instead increase in stair step intervals.

For these compounding reasons, the estimation of workers' compensation losses in the excess layer is inherently volatile and is subject to large errors in the projection of ultimate losses.

In particular, we will focus on examining the magnitude of the error in the estimated ultimate, as compared to "true" ultimate, which results when utilizing a standard loss development method for which the development expectations are determined based on the inspection of loss data in excess of an average retention. While a Cape Cod or Bornhuetter-Ferguson approach may be utilized to reduce the error in the estimated ultimate, due to the lag between exposure changes and pricing adjustments, the error may only be slightly dampened.

We then will demonstrate the reduction in error when excess loss development factors are determined using loss information contained within the limited and unlimited data triangles, as opposed to reliance on loss information in the excess layer. This approach not only gleans information from the primary layer of data, but also directly considers the mix of retentions instead of relying on an average. We will refer to this approach as the Alternative Method.

1.1 Research Context

The Alternative Method has been described by Emanuel Pinto and Daniel Gogol[2] and further discussed by George Levine[3], who identified the basic formula that underlies the Alternative Method. We have expanded the use of this Alternative Method into practical solutions used in our audit work and further explored the potential benefits of such methodology.

1.2 Objective

The objective of this paper is to provide valuable insights to the practicing actuary on the nuances of excess development such that reserving decisions can be made with improved

comprehension of the factors that drive the error in the estimation approaches commonly utilized. We will also provide a layout of the Alternative Method and accompanying methodology that can be used by actuaries under various circumstances.

1.3 Outline

The remainder of the paper proceeds as follows:

Section 2: A Typical Approach

Section 3: A Simple Example: Illustration of the Problem

Section 4: An Alternative Method

Section 5: Testing of the Approach – Assumptions

Section 6: Testing of the Approach – Results

Section 7: Supplementing the Data

Section 8: Conclusions

2. A TYPICAL APPROACH

In practice, working at an audit firm, we see a large quantity and variety of loss development analyses that not only span different lines of business and layers of coverage, but also present a variety of methodologies and assumptions utilized in determining the estimate of ultimate loss. For assessments of the ultimate loss expected on an excess layer of coverage, it is not unusual to see an actuary utilize loss development triangles that consider claims history in excess of a specific attachment or high deductible (note we will use the words deductible, retention and attachment interchangeably for purposes of this paper). To supplement the historical average loss development factor (LDF) indications from these excess loss triangles, an actuary may consider industry data particularly in selecting the development pattern's tail factor (an often utilized source is data published biannually by the Reinsurance Association of America, or RAA). Alternatively, the actuary may fit a curve to the factors selected based on the development triangle in order to estimate the development pattern's tail. As we will demonstrate, both of these approaches typically results in significant errors in the projection of ultimate loss when these resulting loss development patterns are utilized in a standard loss development approach.

In addition, the excess loss triangles utilized by the actuary are often in excess of a fixed retention

or in excess of a mix of varying retentions. Although actuaries are aware of the potential effects of inflation on the triangles in theory, the implication of the leveraging impact of inflation on the estimate of ultimate is often ignored in practice. In an attempt to recognize this resulting volatility, actuaries may provide a wide range of estimates, or rely on Bornhuetter-Ferguson or Cape Cod methods. Due to length of the tail associated with excess workers' compensation exposures, use of exposure-based methods result in significant reliance being placed on pricing loss ratios; to the extent that these initial expectations of loss later prove to be inadequate/excessive, this reliance may further exacerbate the error in the estimate of ultimate.

In our experience, reliance on excess loss development triangles in the selection of development patterns for excess layer workers' compensation is generally accepted and is oftentimes referred to as "the best we can do".

3. A SIMPLE EXAMPLE – ILLUSTRATION OF THE PROBLEM

The following simple example follows the typical approach of considering excess loss development history in the selection of development patterns, as described above, and demonstrates the error that results.

Consider a typical accident year consisted of only four claims of the following ground up unlimited amounts as of 12 months for accident Year One:

| | |
|-----------------------|-------|
| Claim 1 | 100 |
| Claim 2 | 375 |
| Claim 3 | 250 |
| Claim 4 | 500 |
| Total as of 12 months | 1,225 |

Assume that these claims will develop to ultimate by age 36 as follows:

| | |
|-----------------------------------|------|
| 12:24 Unlimited Age to Age Factor | 3.60 |
| 24:36 Unlimited Age to Age Factor | 1.25 |

Therefore the ultimate value of these claims will be 5,513 in total. Also assume that there is a fixed inflation rate of 5% such that the ultimate losses for Year Two will be 5,788 and the ultimate losses for Year Three will be 6,078. The development will emerge as follows:

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| Unlimited Development | 12 | 24 | 36 |
|------------------------------|-------|-------|--------|
| Year One | 1,225 | 4,410 | 5,513 |
| Year Two (5 % Inflation) | 1,286 | 4,631 | 5,788 |
| Year Three (5 % Inflation) | 1,351 | 4,862 | 6,078 |
| Unlimited Age to Age Factors | 12:24 | 24:36 | 12:Ult |
| Year One | 3.60 | 1.25 | 4.50 |
| Year Two (5 % Inflation) | 3.60 | 1.25 | 4.50 |
| Year Three (5 % Inflation) | 3.60 | 1.25 | 4.50 |

Now suppose that the insured has a fixed deductible of 350 per claim. The insurer's excess loss development triangle would look as follows:

| Excess of 350 Development | 12 | 24 | 36 |
|----------------------------|-------|-------|--------|
| Year One | 175 | 3,010 | 4,113 |
| Year Two (5 % Inflation) | 219 | 3,231 | 4,388 |
| Year Three (5 % Inflation) | 265 | 3,462 | 4,678 |
| Excess Age to Age Factors | 12:24 | 24:36 | 12:Ult |
| Year One | 17.20 | 1.37 | 23.50 |
| Year Two (5 % Inflation) | 14.77 | 1.36 | 20.06 |
| Year Three (5 % Inflation) | 13.08 | 1.35 | 17.67 |

The example above demonstrates that when inflation impacts the losses, the unlimited loss history continues to provide undistorted development factors. However, when considering loss development in excess of a fixed deductible, the resulting loss development factors are distorted by the impact of inflation, such that reliance on Year One development factors to project the estimated ultimate on future accident years would result in an overstatement of ultimate losses. Note that although inflation has a greater impact on the loss amounts in higher excess layers, the impact here results in the reduction of the excess loss development factors. This is driven by the relationship between the losses, the amount of inflation, and the underlying deductible.

If the actuary were to rely on the excess loss development triangle to estimate the ultimate loss for Year Three at 12-month maturity, the application of the weighted average development factors

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based on this history would produce the following estimate of ultimate:

| <u>Excess of 350 Development</u> | <u>12</u> | <u>24</u> | <u>36</u> | <u>Projection</u> |
|----------------------------------|--------------|--------------|---------------|-------------------|
| Year One | 175 | 3,010 | 4,113 | 4,113 |
| Year Two (5 % Inflation) | 219 | 3,231 | | 4,414 |
| Year Three (5 % Inflation) | 265 | | | 5,732 |
| | | | | |
| <u>Excess Age to Age Factors</u> | <u>12:24</u> | <u>24:36</u> | <u>12:Ult</u> | |
| Year One | 17.20 | 1.37 | | |
| Year Two (5 % Inflation) | 14.77 | | | |
| Year Three (5 % Inflation) | | | | |
| | | | | |
| Weighted Average | 15.85 | 1.37 | 21.65 | |

Compared to the “true” ultimate loss of 4,678, as noted above, this estimate of the Year Three ultimate loss of 5,732 is overstated by 22.5%.

4. AN ALTERNATIVE METHOD

Given the volatility demonstrated above which results from the use of excess loss development patterns and consideration of the significant uncertainty that is associated with the available methods to estimate the tail, we believe it is prudent to examine an alternate approach. The fundamental relationship that is explored to determine this alternate approach is that an excess development factor is simply excess ultimate losses divided by the excess losses reported as of a given maturity. To estimate this relationship indirectly without reliance on an excess loss development triangle, the actuary can use a limited loss development triangle, along with an Excess Loss Factor (ELF), both of which are available in the data we have already considered above. Based on our review of the errors that result when the Alternative Method is followed, the limited data should provide more stability than the excess triangle and be less sensitive to exogenous factors such as inflation.

Consider the related loss development triangle of claims limited to 350 and the associated development factors:

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| Limited to 350 Development | 12 | 24 | 36 |
|----------------------------|-------|-------|--------|
| Year One | 1,050 | 1,400 | 1,400 |
| Year Two (5 % Inflation) | 1,068 | 1,400 | 1,400 |
| Year Three (5 % Inflation) | 1,086 | 1,400 | 1,400 |
| Limited Age to Age Factors | 12:24 | 24:36 | 12:Ult |
| Year One | 1.33 | 1.00 | 1.33 |
| Year Two (5 % Inflation) | 1.31 | 1.00 | 1.31 |
| Year Three (5 % Inflation) | 1.29 | 1.00 | 1.29 |

If the actuary relies on the limited loss development triangle to estimate the limited ultimate loss for Year Three at 12-month maturity, the application of the weighted average development factors based on this history produces the following estimate of ultimate:

| Limited to 350 Development | 12 | 24 | 36 | Projection |
|----------------------------|-------|-------|--------|------------|
| Year One | 1,050 | 1,400 | 1,400 | 1,400 |
| Year Two (5 % Inflation) | 1,068 | 1,400 | | 1,400 |
| Year Three (5 % Inflation) | 1,086 | | | 1,436 |
| Limited Age to Age Factors | 12:24 | 24:36 | 12:Ult | |
| Year One | 1.33 | 1.00 | | |
| Year Two (5 % Inflation) | 1.31 | | | |
| Year Three (5 % Inflation) | | | | |
| Weighted Average | 1.32 | 1.00 | 1.32 | |

Compared to the “true” ultimate loss of 1,400, as noted above, this estimate of the Year Three ultimate loss of 1,436 is overstated by 2.5 %. Remember that estimation of unlimited ultimate losses is not distorted by inflation. However, per our example above, the excess loss development approach was distorted by an error of 22.5%. In order to combine the less distorted limited loss estimate and the undistorted unlimited loss estimate to produce an excess loss estimate, ELF’s must be utilized. If the actuary considers the ultimate loss estimates that result from consideration of unlimited and limited loss development history, ELF’s can be developed by accident year directly from the underlying data:

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| | Unlimited | Limited | ELF |
|------------|-----------|---------|-------|
| Year One | 5,513 | 1,400 | 0.746 |
| Year Two | 5,788 | 1,400 | 0.758 |
| Year Three | 6,078 | 1,436 | 0.764 |

We can then develop excess cumulative LDFs (CDFs) as follows (shown for 12 to Ultimate):

$$\text{Excess CDF} = \text{Excess Ultimate Loss} / \text{Excess Reported Loss to Date}$$

Assuming that unlimited losses are scaled to 1.00, we get:

$$\text{Excess CDF} = [\text{ELF}] / [\text{Unlimited Reported Loss} - \text{Limited Reported Loss}]$$

$$\text{Excess CDF} = [\text{ELF}] / [(1/\text{Unlimited CDF}) \times (1.00) - (1/\text{Limited CDF}) \times (1-\text{ELF})]$$

Utilizing the information from the simple example above, the following excess CDF for Year Three is as follows:

$$\text{Excess CDF (Year Three)} = (.764) / [(1 / 4.50) - (1 / 1.32) \times (1-.764)] = 17.54$$

Using this approach, the ultimate losses are as follows:

| | Excess CDF | Excess Ult | Actual | Error |
|------------|------------|------------|--------|--------|
| Year One | 1.00 | 4,113 | 4,113 | 0.00% |
| Year Two | 1.36 | 4,388 | 4,388 | 0.00% |
| Year Three | 17.54 | 4,642 | 4,678 | -0.77% |

There are two important things to note about the use of this method:

1) In this simple example the resulting excess ultimate loss estimate from the Alternative Method is equal to the estimate obtained by subtracting the projected limited ultimate loss from projected unlimited ultimate loss. However, this would not be true if the historical data that was considered in selecting our development patterns and ELFs did not match the data being developed. Oftentimes, triangle data is utilized to develop patterns only and the ELFs are based on industry benchmarks. In a later section, the approach of utilizing industry benchmark LDFs and ELFs in situations where appropriate historical data is not available will be discussed.

2) This simple example is based on the assumption that all claims develop to ultimate by the same development pattern, which is not a realistic assumption. However, it does highlight the resulting distortion that can be caused by the leveraging impact of inflation on excess layer development patterns. In a later section, we will summarize and discuss the multitude of scenarios

demonstrating the potential sources of distortion.

5. TESTING OF THE APPROACH - ASSUMPTIONS

We tested the impact of various factors on excess loss development projections by running scenarios based on simulated data. The following are the assumptions underlying the model, including descriptions of how some of these baseline assumptions were developed:

1. Average claim value is \$65,000; this is based on consideration of California claim size data[4].
2. Claim severity is lognormally distributed.
3. Using the above parameters, we derived a table of ELF's and compared it to California industry data for an average hazard group.
4. The standard deviation of the distribution was set such that the error between the generated ELF's and California ELF's for the determined hazard group was minimized.
5. Claim frequency was modeled using a Poisson distribution and a Monte Carlo simulation method was used to determine total losses by accident year.
6. Inflation applies evenly on an accident year basis.
7. Unlimited loss development was simulated based on the NCCI loss development pattern for California.
8. Eight accident years of data - both reported to date and the associated "true" ultimate loss values - were simulated. (Note that the following references to ultimate losses and error pertain to the aggregate of all eight accident years.)
9. For the base scenarios, the limited loss development pattern was determined based on the California ELF's, the NCCI unlimited loss development pattern for California, and the excess loss development pattern based on the lowest RAA attachment point of \$400,000. We utilized the RAA data and associated patterns to provide baseline assumptions that mimic realistic limited loss development.

$$\text{Limited CDF} = (1-\text{ELF})/[(1/\% \text{ Reported Unlimited}) - (1/\% \text{ Reported Excess}) \times (\text{ELF})]$$

10. Limited loss development patterns were determined for varying limits using the same mathematical relationship and by interpolating between excess loss development patterns for subsequent RAA attachment points or extrapolating development patterns for limits greater

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than provided by the RAA by using an exponential fit on existing development patterns.

11. Limited development factors vary by accident year due to the impact of inflation. If the retention is held constant, the limited pattern will react as if the retention is decreasing.
12. The limited loss development pattern varies according to a lognormal distribution around the development factors and Coefficients of Variation (CVs) that decrease with maturity, ranging from 1.00 to 0.10, for our base scenario. (In one of the alternative scenarios, the development factor CVs do not decrease with maturity after 36 months.)

The following loss development methods were utilized and the associated ultimate loss indications were compared to the “true” (simulated) ultimate loss to examine the resulting error: a standard loss development method utilizing LDFs based on historical averages from the development triangle, a standard loss development method utilizing the LDFs from the latest diagonal in the development triangle, and a standard loss development method using the Alternative Method to determine the excess LDFs. The first two methods were applied to unlimited, limited, and excess loss data to evaluate the resulting errors for each layer; the third method was applicable to calculations of excess ultimate loss only. In addition, we measured the error implicit in the selection of the age-to-age factors versus the error associated with the tail factor. We note that the error is quantified based on comparison of the resulting projection method to the “true” ultimate loss, in the aggregate for the eight accident years examined.

Based on the above assumptions and techniques, 216 scenarios were populated in the base case set based on combining the following assumption permutations:

- Pattern can be constant or varied;
- Frequency trend can be increasing by 1%, decreasing by 1%, or non-existent;
- Frequency can be constant or varied;
- Inflation can be 0, 3%, or 10%;
- Severity randomization can be based on the same variability for all years (the “1 Year” scenario) or different random seed for each of the 8 years (the “8 Year” scenario);
- Retention can be constant, move exactly with inflation, or increase by round number increments that mimic inflation; and
- Basic Retention is \$400,000.

It is assumed that the actuary performing the method applies industry tail factors to the unlimited, limited, and excess loss development patterns, interpolating between available limits to get to the applicable retention or average retention (when changing).

6. TESTING OF THE APPROACH – RESULTS

6.1 The Base Case

Starting with the most basic scenario - no inflation, no variation simulated in the underlying development factors, constant frequency, constant retention, and the 1 Year random seed for severities (such that all accident years have the same expected number of losses that exceed the retention) - we noted that the difference between the projection based on the loss development approach and the “true” ultimate (i.e., the “error”) was zero for the limited and unlimited losses; for the excess layer there was an error isolated to the tail. The tail error results from using industry data to derive the tail that relates to the limited and unlimited patterns, but which was derived using a different ELF than is implied by the actual data. Using the Alternative Method outlined above, this error is removed by the use of an ELF derived from the underlying data. We recognize that the industry tail on limited and unlimited data could in theory also be misstated, whereas our simulation assumes them to be correct. We display this error since we believe it may be easier to obtain more stable industry data on unlimited factors and reliable tail selections for limited data than for excess data.

As noted above, the ELFs were not judgmentally selected, but instead based on the underlying data. In a later section, we will address how to estimate ELFs when data is not available at each deductible and the impact of the associated error resulting from that estimation.

When the severity distribution underlying the simulated data is changed such that the random number seed is different for each accident year (the 8 Year approach), the resulting ELFs differ by accident year. While the presence of this changing severity distribution will introduce error into the standard development method based on excess loss patterns, this error can be removed by using the Alternative Method to determine the excess LDFs.

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The introduction of a positive inflation factor causes the limited results to be overstated, particularly when the retention does not increase at the rate of inflation. The development on the excess loss layer, excluding the tail error, is erratic. The tail is again overstated, yielding overall overstated results. In most cases, use of the Alternative Method reduces error, often substantially. The following is a table of the error results described above. An example of how the results are calculated is provided in Appendix 1; Scenarios 10 and 18 only are shown for illustrative purposes.

| Scenario | Inflation | Severity | | Wtd Average | Wtd Average | Non Tail | Alternative |
|----------|-----------|---------------|-----------|-------------|-------------|----------------|---------------|
| | | Randomization | Retention | Limited | Excess | Wtd Avg Excess | Method Excess |
| 1 | 0.0% | 1 year | Constant | 0.00% | 8.37% | 0.00% | 0.00% |
| 2 | 0.0% | 1 year | Rounded | 0.00% | 8.37% | 0.00% | 0.00% |
| 3 | 0.0% | 1 year | Exact | 0.00% | 8.37% | 0.00% | 0.00% |
| 4 | 0.0% | 8 year | Constant | 0.00% | 1.01% | -6.79% | 0.00% |
| 5 | 0.0% | 8 year | Rounded | 0.00% | 1.01% | -6.79% | 0.00% |
| 6 | 0.0% | 8 year | Exact | 0.00% | 1.01% | -6.79% | 0.00% |
| 7 | 3.0% | 1 year | Constant | 1.00% | 9.52% | 1.06% | -1.08% |
| 8 | 3.0% | 1 year | Rounded | 0.03% | 9.93% | -0.18% | 0.24% |
| 9 | 3.0% | 1 year | Exact | 0.18% | 9.85% | -0.30% | -0.30% |
| 10 | 3.0% | 8 year | Constant | 0.99% | 3.46% | -4.53% | -1.22% |
| 11 | 3.0% | 8 year | Rounded | 0.04% | 1.97% | -7.40% | 0.46% |
| 12 | 3.0% | 8 year | Exact | 0.18% | 2.01% | -7.41% | -0.35% |
| 13 | 10.0% | 1 year | Constant | 3.51% | 14.59% | 5.74% | -3.20% |
| 14 | 10.0% | 1 year | Rounded | 0.61% | 13.28% | -1.20% | -1.28% |
| 15 | 10.0% | 1 year | Exact | 0.60% | 13.25% | -0.96% | -0.96% |
| 16 | 10.0% | 8 year | Constant | 3.49% | 10.09% | 1.59% | -3.56% |
| 17 | 10.0% | 8 year | Rounded | 0.61% | 4.04% | -9.26% | -1.70% |
| 18 | 10.0% | 8 year | Exact | 0.60% | 4.18% | -8.90% | -1.15% |

A full table of scenario results is included in Appendix 2; results of the “Latest Diagonal Method” only are shown. Note that the “Weighted Average Method” refers to the approach in which the actuary has selected the loss development pattern based on the weighted average development history; the “Latest Diagonal Method” refers to the approach in which the actuary has utilized the LDFs along the latest diagonal as the selected loss development pattern.

The following subsections identify some of the different factors that impact the distortion in the projection of ultimate loss and summarize the impact to the error.

6.2 Variation of Pattern

When the development is simulated with the inclusion of variation in the loss development factors across the accident years, by maturity, the following changes in errors result:

| | Wtd Average Unlimited | Wtd Average Limited | Wtd Average Excess | Non Tail Wtd Avg Excess | Alternative Method Excess |
|----------|--------------------------|------------------------|-----------------------|-------------------------------|---------------------------------|
| Constant | 0.00% | 0.66% | 7.46% | -2.42% | -0.78% |
| Varied | 4.31% | 4.13% | 15.93% | 4.91% | 0.98% |

Introducing variation in the loss development pattern by accident year increases the errors in the limited and excess ultimate loss projections. Overall, the Alternative Method performs very well.

6.3 Frequency Trend and Variation of Frequency

Inclusion of frequency trend and variation in the frequency of claims by accident year does not have a significant impact on results, as shown below:

| | Wtd Average Unlimited | Wtd Average Limited | Wtd Average Excess | Non Tail Wtd Avg Excess | Alternative Method Excess |
|------------------------|--------------------------|------------------------|-----------------------|-------------------------------|---------------------------------|
| <i>Frequency Trend</i> | | | | | |
| None | 2.14% | 2.40% | 11.11% | 0.72% | 0.09% |
| 1.0% | 2.18% | 2.42% | 11.60% | 1.16% | 0.10% |
| -1.0% | 2.14% | 2.37% | 12.38% | 1.86% | 0.11% |
| <i>Frequency</i> | | | | | |
| Constant | 2.16% | 2.40% | 11.83% | 1.40% | 0.11% |
| Varied | 2.15% | 2.39% | 11.56% | 1.09% | 0.10% |

6.4 Severity Randomization

When severity randomization is introduced (i.e., the random number seed is varied across accident years) the excess results are stabilized somewhat due to offsetting random fluctuations and the law of large numbers. The Alternative Method reduces the error to nearly zero.

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| | Wtd Average Unlimited | Wtd Average Limited | Wtd Average Excess | Non Tail Wtd Avg Excess | Alternative Method Excess |
|--------|--------------------------|------------------------|-----------------------|-------------------------------|---------------------------------|
| 1 year | 2.20% | 2.45% | 14.41% | 3.70% | 0.16% |
| 8 year | 2.11% | 2.34% | 8.98% | -1.21% | 0.04% |

6.5 Inflation and Retention

Since inflation impacts loss size and retention defines the amount of loss in the excess layer, it makes the most sense to inspect these two variables together. As we expect, when retention does not move with inflation, errors in the excess triangle grow large. Much of this error is still concentrated in the tail, but becomes more significant in the rest of the triangle when inflation rate increases. The Alternative Method reduces the overall magnitude of the error substantially. The following table summarizes the average error across scenarios:

If we assume the loss development pattern will vary by accident year (rather than simulating data under the assumption that the loss development pattern is constant for all accident years), as is more realistic, our results are as follows:

| Inflation | Retention | Wtd Average Unlimited | Wtd Average Limited | Wtd Average Excess | Non Tail Wtd Avg Excess | Alternative Method Excess |
|-----------|-----------|--------------------------|------------------------|-----------------------|-------------------------------|---------------------------------|
| 0.00% | Constant | 2.05% | 1.68% | 9.08% | 0.45% | 0.79% |
| 0.00% | Exact | 2.05% | 1.68% | 9.08% | 0.45% | 0.79% |
| 0.00% | Rounded | 2.05% | 1.68% | 9.08% | 0.45% | 0.79% |
| 3.00% | Constant | 2.13% | 2.69% | 11.22% | 2.42% | -0.22% |
| 3.00% | Exact | 2.13% | 1.93% | 10.61% | 0.19% | 0.51% |
| 3.00% | Rounded | 2.13% | 1.80% | 10.54% | 0.18% | 1.12% |
| 10.00% | Constant | 2.28% | 5.15% | 17.53% | 8.23% | -2.26% |
| 10.00% | Exact | 2.28% | 2.47% | 14.05% | -0.46% | -0.12% |
| 10.00% | Rounded | 2.28% | 2.47% | 14.07% | -0.71% | -0.48% |

As seen above, the introduction of variation in the pattern when the retention is fixed can cause the non-tail error to become quite large.

6.6 Multiple Retentions

We ran the same scenarios described above on data with basic retentions of \$250,000 and

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\$550,000 with nearly identical errors in all scenarios (see Appendix 2). We then aggregated the three excess development triangles (i.e., in excess of \$250,000, \$400,000, and \$550,000) to examine the resulting errors when dealing with a high deductible triangle composed of losses from underlying policies with varying retentions. Based on our experience, we note that it is common industry practice for the actuary to estimate the excess ultimate loss based on projection methods that consider that average retention of the underlying policies. Therefore, examination of the impact of this average approach on the error in the resulting projection is included below with an illustrative example.

Assume an insurer writes policies in excess of the following deductibles:

| Policy Count | Expected Value of Excess | Deductible |
|--------------------|--------------------------------|------------|
| 15 | 907,140 | 100,000 |
| 5 | 185,400 | 400,000 |
| 5 | 118,224 | 1,000,000 |
| Total | 1,210,764 | |
| Average Deductible | | 233,818 |

The actuary utilizes the following unlimited and limited loss development patterns and ELF's, based on either actual loss history or industry information, as follows:

| Policy Count | Expected Value of Excess | Deductible | 12 Month Limited CDF | Industry ELF | Expected Value of Limited | Limited Reported at 12 months |
|--------------------|--------------------------------|------------|-------------------------|-----------------|---------------------------------|-------------------------------------|
| 15 | 907,140 | 100,000 | 2.299 | 0.552 | 1,117,727 | 486,207 |
| 5 | 185,400 | 400,000 | 2.565 | 0.310 | 83,296 | 32,469 |
| 5 | 118,224 | 1,000,000 | 2.758 | 0.213 | 31,997 | 11,600 |
| Total | 1,210,764 | | 2.283 | 0.495 | 1,233,019 | 530,276 |
| Average Deductible | | 233,818 | 2.459 | 0.355 | | |

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In the above table, the expected limited losses are derived from the expected value of excess losses and the ELF; the limited reported losses are derived from the expected value of limited losses divided by the 12 month CDF. For the limited loss layer, we observe that the weighted CDF for all policies of 2.283 deviates from the average deductible CDF of 2.459. This deviation between the weighted CDF and the average deductible CDF becomes even more significant when we examine the excess loss development pattern:

| Policy Count | Expected Value of Excess | Deductible | 12 Month Limited CDF | Industry ELF | Expected Value of Limited | Limited Reported at 12 months | Unlimited CDF | Excess CDF | Excess Reported at 12 Months |
|--------------------|--------------------------|------------|----------------------|--------------|---------------------------|-------------------------------|---------------|------------|------------------------------|
| 15 | 907,140 | 100,000 | 2.299 | 0.552 | 1,117,727 | 486,207 | 3.274 | 4.993 | 181,689 |
| 5 | 185,400 | 400,000 | 2.565 | 0.310 | 83,296 | 32,469 | 3.274 | 8.500 | 21,812 |
| 5 | 118,224 | 1,000,000 | 2.758 | 0.213 | 31,997 | 11,600 | 3.274 | 10.590 | 11,164 |
| Total | 1,210,764 | | 2.283 | 0.495 | 1,233,019 | 530,276 | | 5.640 | 214,664 |
| Average Deductible | | 233,818 | 2.459 | 0.355 | | | 3.274 | 8.244 | |

For the excess layer the weighted CDF of 5.640 deviates from the average deductible CDF of 8.244 by a greater error than on the limited loss layer. This example demonstrates the importance of considering the loss development by underlying retention when determining the excess loss development pattern for a book of business that has policies written with varying retentions.

6.7 Use of Alternate Methods

In addition to examining the errors that result when standard loss development methods are applied, we inspected the results using a Cape Cod approach (assuming a constant exposure base across all accident years). We assumed the actuary would use the trend in losses as of 12 months in the method. We found distortions in results tended to be amplified with the average error increasing from 11.69% to 14.13%.

6.8 Increase in Variability

In the base case scenario, we had assumed that the CV of each development factor decreased with maturity. We also created an alternative scenario, where after 36 months the CV does not decrease at all; we believe that the triangle variability in this scenario looks more realistic.

The adjustment in this scenario to consider development factors with constant CV across maturities impacted the non-tail error of the excess methods the most. Note also, that the Alternative Method error increases significantly. This is due to the variability making it difficult to

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correctly predict the ELF using unlimited and limited data. The highlights of the results are as follows:

| Inflation | Retention | Wtd Average | Wtd Average | Wtd Average | Non Tail Wtd | Alternative |
|-----------|--|-------------|-------------|-------------|--------------|---------------|
| | | Unlimited | Limited | Excess | Avg Excess | Method Excess |
| 0.00% | Constant | 7.07% | 4.55% | 21.40% | 9.41% | 6.67% |
| 0.00% | Exact | 7.07% | 4.55% | 21.40% | 9.41% | 6.67% |
| 0.00% | Rounded | 7.07% | 4.55% | 21.40% | 9.41% | 6.67% |
| 3.00% | Constant | 7.22% | 5.44% | 23.60% | 11.39% | 5.76% |
| 3.00% | Exact | 7.22% | 4.87% | 23.32% | 9.36% | 6.43% |
| 3.00% | Rounded | 7.22% | 4.79% | 23.11% | 9.23% | 6.93% |
| 10.00% | Constant | 7.50% | 7.55% | 29.51% | 16.73% | 3.81% |
| 10.00% | Exact | 7.50% | 5.52% | 27.55% | 9.08% | 5.88% |
| 10.00% | Rounded | 7.50% | 5.51% | 27.74% | 8.95% | 5.62% |
| | All Varied Scenarios | 7.26% | 5.26% | 24.34% | 10.33% | 6.05% |
| | All Varied Scenarios Lower CV as above | 4.31% | 4.13% | 15.93% | 4.91% | 0.98% |

6.9 Application of the Methodology Using Actual Data

We also applied the methodology to actual data, to assess the impact of the method in a real world scenario. Although there was no way to observe the error versus the “true” ultimate, given that it is still unknown, we were able to observe significant difference in results between using an excess development triangle and using our methodology with ground up data.

We observed that for the \$500,000 and \$1,000,000 deductible triangles (and even for the unlimited triangle), the data indicated that as of 372 months, it would be reasonable to select a tail factor of 1.00. On the other hand, the development behavior of the excess triangle was so erratic that the actuary might conclude that it is necessary to select a development factor significantly greater than 1.00.

If we assume the actuary would pick a tail factor based on consideration of the RAA industry patterns, then the excess method would produce an answer 44.18% higher for the \$500,000 deductible and 117.43% higher for the \$1,000,000 deductible. If we assume that a tail factor of 1.00 is selected for excess, the ultimate chosen from otherwise consistent development pattern selection (weighted average throughout) would be 25.29% and 29.47% higher than the methodology for the \$500,000 and \$1,000,000 deductibles respectively. We believe this shows that methods commonly employed when working with excess development triangles may overstate liabilities significantly.

The triangles and results of this are shown in detail in Appendix 3.

7. SUPPLEMENTING THE DATA

The Alternative Method discussed in this paper is applicable in situations where data is available at varying retentions and in magnitudes that provide for credible statistics. However, it may not be easy or even possible to obtain data limited to each retention that exists in the underlying book of business.

In these situations, the available limited loss development patterns can be interpolated and extrapolated between various retentions and up to the unlimited patterns (using a very high assumed limit). To do this, the following equation can be utilized to determine CDFs at the desired retention at each maturity (where A is a fitted constant and B is a fitted scalar):

$$(CDF - 1) = A \times [Retention \wedge B]$$

$$\ln(CDF - 1) = \ln A + B \times \ln(Retention)$$

To derive excess patterns at each retention, ELF's at each retention are required. We can use the ultimate losses as shown in Appendix 1, but to derive ELF's between retentions is not as simple. We found that interpolated values did not always make sense. A good way to understand the pattern of ELF's by retention is to look at the implied rate on line between them. In our example from above this would look as follows:

| Policy Count | Expected Value of Excess | Deductible | Industry ELF | ROL per Million |
|--------------|--------------------------|------------|--------------|-----------------|
| 15 | 907,140 | 100,000 | 0.552 | 0.807 |
| 5 | 185,400 | 400,000 | 0.310 | 0.162 |
| 5 | 118,224 | 1,000,000 | 0.213 | |
| Total | 1,210,764 | | 0.495 | |

Any selected ELF's should reflect a decreasing rate on line as the deductible or retention increases. The Rate on Line (ROL) is equal to the [ELF for the lower deductible – the ELF for the next highest deductible] / [Difference in retentions] x 1,000,000.

As an example to demonstrate how this might be done, consider that the insurer above also writes policies with underlying deductibles of \$350,000 and \$200,000. Assume that the insurer only has credible data to compose limited loss development history and estimate ELF's for the \$100,000 and \$1,000,000 deductible.

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Limited CDFs can be estimated for the \$350,000 and \$200,000 deductibles as follows:

| | Deductible | Limited 12:Ult | Future Development | Ln (Future Development) (y) | ln (Deductible) (x) |
|--------|------------|----------------|--------------------|-----------------------------|---------------------|
| Known | 100,000 | 2.299 | 1.299 | 0.261 | 11.513 |
| Known | 1,000,000 | 2.758 | 1.758 | 0.564 | 13.816 |
| Fitted | 200,000 | 2.423 | 1.423 | 0.353 | 12.206 |
| Fitted | 350,000 | 2.532 | 1.532 | 0.426 | 12.766 |

Fitted (y) = Trend function for known y's and known x's on ln(deductible) for fitted deductible

Future Development Fitted = e^y

12:Ult Fitted = $e^y + 1$

Also assume that for the \$100,000 and \$1,000,000 deductibles, we have estimated ELF's based on ultimate loss projections. We can select ELF's and the resulting excess patterns based on our formula as follows:

$$\text{Excess CDF} = [\text{ELF}] / [(1/\text{Unlimited CDF}) \times (1.00) - (1/\text{Limited CDF}) \times (1-\text{ELF})]$$

| Deductible | Limited 12:Ult | Unlimited 12:Ult | ELF from Data | ROL per Million | Excess 12:Ult |
|------------|----------------|------------------|---------------|-----------------|---------------|
| 100,000 | 2.299 | 3.274 | 0.450 | 0.600 | 6.799 |
| 200,000 | 2.423 | 3.274 | 0.390 | 0.400 | 7.267 |
| 350,000 | 2.532 | 3.274 | 0.330 | 0.154 | 8.093 |
| 1,000,000 | 2.758 | 3.274 | 0.230 | | 8.753 |

ROL 100k - 1000K 0.244

Note that we have to judgmentally select the ELF's for the desired deductible levels (as defined in the box) such that the ROL decreases for each subsequent deductible. The resulting excess CDF's should also increase as the deductible increases. The actuary can use a mixture of judgment and these rules of thumb to estimate ELF's at additional deductibles.

The tool we developed to accompany this paper (available at the CAS website) demonstrates this further.

It should be noted, however, that the use of selected or industry ELF's introduces a new element of error into the methodology, which may potentially surpass the error in the original excess triangles. For example, using simulated data we observed that a 5% understatement in ELF each year, led to approximately a 5% overstatement in ultimate, whereas a 25% understatement in ELF, could lead to up to a 50% overstatement in ultimate. Overstatement of ELF by 50% only leads to about a 25% understatement of ultimate. Using actual data, we noticed similar results, with much less sensitivity to overstatement than understatement. Given the restrictions and judgments above it would be difficult to misstate the ELF by a large amount. It should also be noted, that this would be a potential parameter selection error (inherent in all actuarial processes), whereas the errors noted from using the excess triangle development are errors in the methodology itself.

8. CONCLUSIONS

We have demonstrated how the Alternative Method originally proposed by Pinto and Gogol creates in many scenarios a more accurate answer. Obviously, there will be situations where its use is limited because a large volume of data is unavailable. We hope that the results and considerations in this paper will give actuaries the tools to make more informed decisions. The uncertainty in predicting excess workers' compensation losses creates a quandary for reserve estimation and, ultimately, financial reporting. Given the nature of the tail liabilities, actual results will take significant time to emerge. It is also important for pricing decisions to have a more accurate handle on these books of business.

The Alternate Method and results here are not specific to workers' compensation. They can be used on any line of business, or indemnity and medical separately (which would increase inflation effect). The method merely demonstrates the effects of volatility and inflation on leveraged triangles and resultant methods.

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Supplementary Material

The Appendix to this paper and a practical tool are available electronically at the CAS website at <http://www.casact.org/pubs/forum/13fforum/>. The practical tool demonstrates interpolation, ELF selection, the methods used and the simulation.

9. REFERENCES

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Abbreviations and notations

CV, coefficient of variation
ELF, Excess Loss Factor
LDF, loss development factor
CDF, cumulative loss development factor

Biographies of the Authors

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Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 10 | Constant | None | Constant | 3% | 8 year | Constant |

Incurred Losses Limited to Retention (400k Base)

| Accident Year | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 |
|---------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 2005 | 23,241,215 | 39,292,815 | 47,148,265 | 50,907,573 | 52,938,318 | 54,224,754 | 54,969,488 | 55,644,587 |
| 2006 | 26,167,877 | 44,327,361 | 53,156,399 | 57,373,508 | 59,623,428 | 61,017,692 | 61,816,479 | |
| 2007 | 25,132,102 | 42,656,111 | 51,120,611 | 55,155,784 | 57,281,502 | 58,568,568 | | |
| 2008 | 22,842,812 | 38,846,428 | 46,526,134 | 50,180,059 | 52,080,158 | | | |
| 2009 | 29,693,892 | 50,596,177 | 60,561,231 | 65,293,217 | | | | |
| 2010 | 28,001,716 | 47,806,207 | 57,186,350 | | | | | |
| 2011 | 26,163,306 | 44,754,977 | | | | | | |
| 2012 | 27,779,342 | | | | | | | |

| Accident Year | 12:24 | 24:36 | 35:48 | 48:60 | 60:72 | 72:84 | 84:96 | 96:ult |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2005 | 1.6907 | 1.1999 | 1.0797 | 1.0399 | 1.0243 | 1.0137 | 1.0123 | |
| 2006 | 1.6940 | 1.1992 | 1.0793 | 1.0392 | 1.0234 | 1.0131 | | |
| 2007 | 1.6973 | 1.1984 | 1.0789 | 1.0385 | 1.0225 | | | |
| 2008 | 1.7006 | 1.1977 | 1.0785 | 1.0379 | | | | |
| 2009 | 1.7039 | 1.1970 | 1.0781 | | | | | |
| 2010 | 1.7073 | 1.1962 | | | | | | |
| 2011 | 1.7106 | | | | | | | |
| All Year Weighted Average | 1.7009 | 1.1980 | 1.0789 | 1.0389 | 1.0234 | 1.0134 | 1.0123 | 1.0715 |
| Cumulative | 2.5691 | 1.5104 | 1.2608 | 1.1686 | 1.1249 | 1.0992 | 1.0846 | 1.0715 |
| Latest Diagonal | 1.7106 | 1.1962 | 1.0781 | 1.0379 | 1.0225 | 1.0131 | 1.0123 | 1.0715 |
| Cumulative | 2.5725 | 1.5039 | 1.2572 | 1.1661 | 1.1235 | 1.0988 | 1.0846 | 1.0715 |

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 10 | Constant | None | Constant | 3% | 8 year | Constant |

Incurred Losses Unlimited

| Accident Year | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 |
|---------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 2005 | 29,536,519 | 48,864,358 | 60,101,035 | 66,875,909 | 71,525,566 | 75,667,109 | 78,748,017 | 81,743,504 |
| 2006 | 30,949,214 | 51,201,478 | 62,975,591 | 70,074,499 | 74,946,543 | 79,286,170 | 82,514,435 | |
| 2007 | 28,592,125 | 47,301,979 | 58,179,376 | 64,737,632 | 69,238,621 | 73,247,743 | | |
| 2008 | 28,195,214 | 46,645,341 | 57,371,740 | 63,838,955 | 68,277,463 | | | |
| 2009 | 39,373,264 | 65,137,982 | 80,116,884 | 89,148,040 | | | | |
| 2010 | 34,869,826 | 57,687,626 | 70,953,270 | | | | | |
| 2011 | 31,928,829 | 52,822,126 | | | | | | |
| 2012 | 31,658,236 | | | | | | | |

| Accident Year | 12:24 | 24:36 | 35:48 | 48:60 | 60:72 | 72:84 | 84:96 | 96:ult |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2005 | 1.6544 | 1.2300 | 1.1127 | 1.0695 | 1.0579 | 1.0407 | 1.0380 | |
| 2006 | 1.6544 | 1.2300 | 1.1127 | 1.0695 | 1.0579 | 1.0407 | | |
| 2007 | 1.6544 | 1.2300 | 1.1127 | 1.0695 | 1.0579 | | | |
| 2008 | 1.6544 | 1.2300 | 1.1127 | 1.0695 | | | | |
| 2009 | 1.6544 | 1.2300 | 1.1127 | | | | | |
| 2010 | 1.6544 | 1.2300 | | | | | | |
| 2011 | 1.6544 | | | | | | | |
| All Year Weighted Average | 1.6544 | 1.2300 | 1.1127 | 1.0695 | 1.0579 | 1.0407 | 1.0380 | 1.1830 |
| Cumulative | 3.2740 | 1.9790 | 1.6090 | 1.4460 | 1.3520 | 1.2780 | 1.2280 | 1.1830 |
| Latest Diagonal | 1.6544 | 1.2300 | 1.1127 | 1.0695 | 1.0579 | 1.0407 | 1.0380 | 1.1830 |
| Cumulative | 3.2740 | 1.9790 | 1.6090 | 1.4460 | 1.3520 | 1.2780 | 1.2280 | 1.1830 |

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 10 | Constant | None | Constant | 3% | 8 year | Constant |

Incurred Losses Excess (400k Base)

| Accident Year | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 |
|---------------|-----------|------------|------------|------------|------------|------------|------------|------------|
| 2005 | 6,295,305 | 9,571,543 | 12,952,770 | 15,968,336 | 18,587,248 | 21,442,355 | 23,778,529 | 26,098,917 |
| 2006 | 4,781,336 | 6,874,117 | 9,819,192 | 12,700,991 | 15,323,114 | 18,268,479 | 20,697,956 | |
| 2007 | 3,460,023 | 4,645,867 | 7,058,765 | 9,581,847 | 11,957,119 | 14,679,175 | | |
| 2008 | 5,352,401 | 7,798,913 | 10,845,606 | 13,658,896 | 16,197,304 | | | |
| 2009 | 9,679,372 | 14,541,805 | 19,555,654 | 23,854,824 | | | | |
| 2010 | 6,868,111 | 9,881,419 | 13,766,920 | | | | | |
| 2011 | 5,765,523 | 8,067,149 | | | | | | |
| 2012 | 3,878,894 | | | | | | | |

| Accident Year | 12:24 | 24:36 | 35:48 | 48:60 | 60:72 | 72:84 | 84:96 | 96:ult |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2005 | 1.5204 | 1.3533 | 1.2328 | 1.1640 | 1.1536 | 1.1090 | 1.0976 | |
| 2006 | 1.4377 | 1.4284 | 1.2935 | 1.2065 | 1.1922 | 1.1330 | | |
| 2007 | 1.3427 | 1.5194 | 1.3574 | 1.2479 | 1.2277 | | | |
| 2008 | 1.4571 | 1.3907 | 1.2594 | 1.1858 | | | | |
| 2009 | 1.5024 | 1.3448 | 1.2198 | | | | | |
| 2010 | 1.4387 | 1.3932 | | | | | | |
| 2011 | 1.3992 | | | | | | | |
| All Year Weighted | | | | | | | | |
| Average | 1.4545 | 1.3880 | 1.2579 | 1.1956 | 1.1858 | 1.1200 | 1.0976 | 1.5397 |
| Cumulative | 6.8142 | 4.6851 | 3.3754 | 2.6834 | 2.2444 | 1.8927 | 1.6899 | 1.5397 |
| Latest Diagonal | 1.3992 | 1.3932 | 1.2198 | 1.1858 | 1.2277 | 1.1330 | 1.0976 | 1.5397 |
| Cumulative | 6.6281 | 4.7371 | 3.4001 | 2.7873 | 2.3505 | 1.9146 | 1.6899 | 1.5397 |
| Method | 8.2438 | 4.6920 | 3.0922 | 2.2184 | 2.0902 | 1.9939 | 1.6561 | 1.4208 |

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 10 | Constant | None | Constant | 3% | 8 year | Constant |

Estimated Ultimates Limited to Retention (400k Base)

| Accident Year | Incurred Losses | Weighted CDF | Latest Diagonal CDF |
|---------------|-----------------|--------------|---------------------|
| 2005 | 55,644,587 | 1.071 | 1.071 |
| 2006 | 61,816,479 | 1.085 | 1.085 |
| 2007 | 58,568,568 | 1.099 | 1.099 |
| 2008 | 52,080,158 | 1.125 | 1.124 |
| 2009 | 65,293,217 | 1.169 | 1.166 |
| 2010 | 57,186,350 | 1.261 | 1.257 |
| 2011 | 44,754,977 | 1.510 | 1.504 |
| 2012 | 27,779,342 | 2.569 | 2.573 |
| | 423,123,678 | | |

| Accident Year | Weighted LDM | Latest Diagonal LDM | Trend in 12 Month Incurred | Cape Cod with Weighted | Actual | Implied ELF from Wtd LDM's |
|---------------|--------------|---------------------|----------------------------|------------------------|-------------|----------------------------|
| 2005 | 59,622,506 | 59,622,506 | 1.1953 | 59,692,626 | 59,622,506 | 0.3834 |
| 2006 | 67,049,077 | 67,049,077 | 1.0616 | 67,209,452 | 66,973,683 | 0.3383 |
| 2007 | 64,377,089 | 64,357,865 | 1.1053 | 64,549,172 | 64,172,473 | 0.3123 |
| 2008 | 58,582,518 | 58,513,965 | 1.2161 | 58,669,371 | 58,190,732 | 0.3654 |
| 2009 | 76,301,180 | 76,137,116 | 0.9355 | 76,265,652 | 75,466,751 | 0.4081 |
| 2010 | 72,100,469 | 71,894,242 | 0.9921 | 71,919,474 | 70,999,854 | 0.3684 |
| 2011 | 67,598,686 | 67,305,594 | 1.0618 | 67,197,712 | 66,183,498 | 0.3533 |
| 2012 | 71,367,961 | 71,462,877 | 1.0000 | 71,348,332 | 70,107,315 | 0.3114 |
| | 536,999,486 | 536,343,243 | | 536,851,792 | 531,716,814 | |

| | | | |
|--------------|-------|-------|-------|
| <i>Error</i> | 0.99% | 0.87% | 0.97% |
|--------------|-------|-------|-------|

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 10 | Constant | None | Constant | 3% | 8 year | Constant |

Estimated Ultimates Unlimited

| Accident Year | Incurred Losses | Weighted CDF | Latest Diagonal CDF |
|---------------|-----------------|--------------|---------------------|
| 2005 | 81,743,504 | 1.183 | 1.183 |
| 2006 | 82,514,435 | 1.228 | 1.228 |
| 2007 | 73,247,743 | 1.278 | 1.278 |
| 2008 | 68,277,463 | 1.352 | 1.352 |
| 2009 | 89,148,040 | 1.446 | 1.446 |
| 2010 | 70,953,270 | 1.609 | 1.609 |
| 2011 | 52,822,126 | 1.979 | 1.979 |
| 2012 | 31,658,236 | 3.274 | 3.274 |
| 550,364,817 | | | |

| Accident Year | Weighted LDM | Latest Diagonal LDM | Trend in 12 Month Incurred | Cape Cod with Weighted | Actual |
|---------------|--------------|---------------------|----------------------------|------------------------|-------------|
| 2005 | 96,702,565 | 96,702,565 | 1.0718 | 96,702,565 | 96,702,565 |
| 2006 | 101,327,726 | 101,327,726 | 1.0229 | 101,327,726 | 101,327,726 |
| 2007 | 93,610,616 | 93,610,616 | 1.1072 | 93,610,616 | 93,610,616 |
| 2008 | 92,311,130 | 92,311,130 | 1.1228 | 92,311,130 | 92,311,130 |
| 2009 | 128,908,067 | 128,908,067 | 0.8041 | 128,908,067 | 128,908,067 |
| 2010 | 114,163,812 | 114,163,812 | 0.9079 | 114,163,812 | 114,163,812 |
| 2011 | 104,534,988 | 104,534,988 | 0.9915 | 104,534,988 | 104,534,988 |
| 2012 | 103,649,066 | 103,649,066 | 1.0000 | 103,649,066 | 103,649,066 |
| 835,207,967 | | 835,207,967 | | 835,207,967 | 835,207,967 |

| | | | |
|--------------|-------|-------|-------|
| <i>Error</i> | 0.00% | 0.00% | 0.00% |
|--------------|-------|-------|-------|

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 10 | Constant | None | Constant | 3% | 8 year | Constant |

Estimated Ultimates Excess (400k Base)

| Accident Year | Incurred Losses | Weighted CDF | Latest Diagonal CDF | Method CDF | Weighted with Method Tail | Latest Diag. with Method Tail | Weighted LDM | Latest Diagonal LDM | Method LDM | Trend in 12 Month Incurred | Cape Cod with Weighted | Actual |
|---------------|-----------------|--------------|---------------------|------------|---------------------------|-------------------------------|--------------|---------------------|-------------|----------------------------|------------------------|-------------|
| 2005 | 26,098,917 | 1.540 | 1.540 | 1.421 | 1.421 | 1.421 | 40,183,240 | 40,183,240 | 37,080,058 | 0.6162 | 43,128,924 | 37,080,058 |
| 2006 | 20,697,956 | 1.690 | 1.690 | 1.656 | 1.559 | 1.559 | 34,977,391 | 34,977,391 | 34,278,649 | 0.8113 | 32,756,778 | 34,354,043 |
| 2007 | 14,679,175 | 1.893 | 1.915 | 1.994 | 1.747 | 1.767 | 27,783,252 | 28,105,201 | 29,268,408 | 1.1211 | 23,704,501 | 29,438,142 |
| 2008 | 16,197,304 | 2.244 | 2.350 | 2.090 | 2.071 | 2.169 | 36,352,844 | 38,071,754 | 33,856,147 | 0.7247 | 36,669,124 | 34,120,397 |
| 2009 | 23,854,824 | 2.683 | 2.787 | 2.218 | 2.476 | 2.572 | 64,012,605 | 66,491,096 | 52,919,005 | 0.4007 | 66,313,058 | 53,441,315 |
| 2010 | 13,766,920 | 3.375 | 3.400 | 3.092 | 3.115 | 3.138 | 46,469,386 | 46,808,848 | 42,570,586 | 0.5648 | 47,053,200 | 43,163,958 |
| 2011 | 8,067,149 | 4.685 | 4.737 | 4.692 | 4.323 | 4.371 | 37,795,229 | 38,214,548 | 37,850,728 | 0.6728 | 39,499,408 | 38,351,489 |
| 2012 | 3,878,894 | 6.814 | 6.628 | 8.244 | 6.288 | 6.116 | 26,431,614 | 25,709,754 | 31,976,938 | 1.0000 | 26,574,174 | 33,541,750 |
| | 127,241,139 | | | | | | 314,005,560 | 318,561,832 | 299,800,519 | | 315,699,168 | 303,491,153 |

| | | | | |
|---------------------------|-------------|-------------|--------|-------|
| Error | 3.46% | 4.97% | -1.22% | 4.02% |
| Ultimate with Method Tail | 289,756,241 | 293,960,652 | | |
| Non-Tail Error | -4.53% | -3.14% | | |

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 18 | Constant | None | Constant | 10% | 8 year | Exact |

Incurred Losses Limited to Retention (400k Base)

| Accident Year | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 |
|---------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 2005 | 23,241,215 | 39,292,815 | 47,148,265 | 50,907,573 | 52,938,318 | 54,224,754 | 54,969,488 | 55,644,587 |
| 2006 | 28,136,412 | 47,568,892 | 57,078,901 | 61,630,017 | 64,088,489 | 65,645,881 | 66,547,475 | |
| 2007 | 28,989,912 | 49,011,863 | 58,810,352 | 63,499,522 | 66,032,571 | 67,637,206 | | |
| 2008 | 28,364,768 | 47,954,962 | 57,542,155 | 62,130,207 | 64,608,632 | | | |
| 2009 | 39,751,367 | 67,205,743 | 80,641,567 | 87,071,422 | | | | |
| 2010 | 40,103,575 | 67,801,204 | 81,356,073 | | | | | |
| 2011 | 40,251,620 | 68,051,496 | | | | | | |
| 2012 | 45,787,824 | | | | | | | |

| Accident Year | 12:24 | 24:36 | 35:48 | 48:60 | 60:72 | 72:84 | 84:96 | 96:ult |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2005 | 1.6907 | 1.1999 | 1.0797 | 1.0399 | 1.0243 | 1.0137 | 1.0123 | |
| 2006 | 1.6907 | 1.1999 | 1.0797 | 1.0399 | 1.0243 | 1.0137 | | |
| 2007 | 1.6907 | 1.1999 | 1.0797 | 1.0399 | 1.0243 | | | |
| 2008 | 1.6907 | 1.1999 | 1.0797 | 1.0399 | | | | |
| 2009 | 1.6907 | 1.1999 | 1.0797 | | | | | |
| 2010 | 1.6907 | 1.1999 | | | | | | |
| 2011 | 1.6907 | | | | | | | |
| All Year Weighted Average | 1.6907 | 1.1999 | 1.0797 | 1.0399 | 1.0243 | 1.0137 | 1.0123 | 1.0779 |
| Cumulative | 2.5807 | 1.5264 | 1.2721 | 1.1782 | 1.1330 | 1.1061 | 1.0911 | 1.0779 |
| Latest Diagonal | 1.6907 | 1.1999 | 1.0797 | 1.0399 | 1.0243 | 1.0137 | 1.0123 | 1.0779 |
| Cumulative | 2.5807 | 1.5264 | 1.2721 | 1.1782 | 1.1330 | 1.1061 | 1.0911 | 1.0779 |

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 18 | Constant | None | Constant | 10% | 8 year | Exact |

Incurred Losses Unlimited

| Accident Year | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 |
|---------------|------------|------------|-------------|-------------|------------|------------|------------|------------|
| 2005 | 29,536,519 | 48,864,358 | 60,101,035 | 66,875,909 | 71,525,566 | 75,667,109 | 78,748,017 | 81,743,504 |
| 2006 | 33,052,558 | 54,681,190 | 67,255,485 | 74,836,844 | 80,039,997 | 84,674,551 | 88,122,212 | |
| 2007 | 32,610,492 | 53,949,848 | 66,355,966 | 73,835,927 | 78,969,490 | 83,542,058 | | |
| 2008 | 34,343,280 | 56,816,523 | 69,881,851 | 77,759,266 | 83,165,606 | | | |
| 2009 | 51,218,076 | 84,733,694 | 104,218,758 | 115,966,792 | | | | |
| 2010 | 48,442,560 | 80,141,962 | 98,571,126 | | | | | |
| 2011 | 47,371,350 | 78,369,782 | | | | | | |
| 2012 | 50,162,011 | | | | | | | |

| Accident Year | 12:24 | 24:36 | 35:48 | 48:60 | 60:72 | 72:84 | 84:96 | 96:ult |
|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2005 | 1.6544 | 1.2300 | 1.1127 | 1.0695 | 1.0579 | 1.0407 | 1.0380 | |
| 2006 | 1.6544 | 1.2300 | 1.1127 | 1.0695 | 1.0579 | 1.0407 | | |
| 2007 | 1.6544 | 1.2300 | 1.1127 | 1.0695 | 1.0579 | | | |
| 2008 | 1.6544 | 1.2300 | 1.1127 | 1.0695 | | | | |
| 2009 | 1.6544 | 1.2300 | 1.1127 | | | | | |
| 2010 | 1.6544 | 1.2300 | | | | | | |
| 2011 | 1.6544 | | | | | | | |
| All Year Weighted Average | 1.6544 | 1.2300 | 1.1127 | 1.0695 | 1.0579 | 1.0407 | 1.0380 | 1.1830 |
| Cumulative | 3.2740 | 1.9790 | 1.6090 | 1.4460 | 1.3520 | 1.2780 | 1.2280 | 1.1830 |
| Latest Diagonal | 1.6544 | 1.2300 | 1.1127 | 1.0695 | 1.0579 | 1.0407 | 1.0380 | 1.1830 |
| Cumulative | 3.2740 | 1.9790 | 1.6090 | 1.4460 | 1.3520 | 1.2780 | 1.2280 | 1.1830 |

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 18 | Constant | None | Constant | 10% | 8 year | Exact |

Incurred Losses Excess (400k Base)

| Accident Year | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 |
|---------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 2005 | 6,295,305 | 9,571,543 | 12,952,770 | 15,968,336 | 18,587,248 | 21,442,355 | 23,778,529 | 26,098,917 |
| 2006 | 4,916,146 | 7,112,299 | 10,176,584 | 13,206,827 | 15,951,508 | 19,028,670 | 21,574,736 | |
| 2007 | 3,620,580 | 4,937,986 | 7,545,614 | 10,336,404 | 12,936,919 | 15,904,852 | | |
| 2008 | 5,978,512 | 8,861,561 | 12,339,697 | 15,629,059 | 18,556,974 | | | |
| 2009 | 11,466,709 | 17,527,951 | 23,577,191 | 28,895,370 | | | | |
| 2010 | 8,338,985 | 12,340,757 | 17,215,053 | | | | | |
| 2011 | 7,119,730 | 10,318,286 | | | | | | |
| 2012 | 4,374,188 | | | | | | | |

| Accident Year | 12:24 | 24:36 | 35:48 | 48:60 | 60:72 | 72:84 | 84:96 | 96:ult |
|---------------------------|---------|--------|--------|--------|--------|--------|--------|--------|
| 2005 | 1.5204 | 1.3533 | 1.2328 | 1.1640 | 1.1536 | 1.1090 | 1.0976 | |
| 2006 | 1.4467 | 1.4308 | 1.2978 | 1.2078 | 1.1929 | 1.1338 | | |
| 2007 | 1.3639 | 1.5281 | 1.3699 | 1.2516 | 1.2294 | | | |
| 2008 | 1.4822 | 1.3925 | 1.2666 | 1.1873 | | | | |
| 2009 | 1.5286 | 1.3451 | 1.2256 | | | | | |
| 2010 | 1.4799 | 1.3950 | | | | | | |
| 2011 | 1.4493 | | | | | | | |
| All Year Weighted Average | 1.4804 | 1.3886 | 1.2620 | 1.1975 | 1.1875 | 1.1206 | 1.0976 | 1.6090 |
| Cumulative | 7.3012 | 4.9318 | 3.5515 | 2.8143 | 2.3501 | 1.9791 | 1.7660 | 1.6090 |
| Latest Diagonal | 1.4493 | 1.3950 | 1.2256 | 1.1873 | 1.2294 | 1.1338 | 1.0976 | 1.6090 |
| Cumulative | 7.2419 | 4.9970 | 3.5821 | 2.9229 | 2.4617 | 2.0023 | 1.7660 | 1.6090 |
| Method | 10.5314 | 4.9637 | 3.2010 | 2.2530 | 2.1145 | 2.0090 | 1.6502 | 1.4071 |

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 18 | Constant | None | Constant | 10% | 8 year | Exact |

Estimated Ultimates Limited to Retention (400k Base)

| Accident Year | Incurred Losses | Weighted CDF | Latest Diagonal CDF |
|---------------|-----------------|--------------|---------------------|
| 2005 | 55,644,587 | 1.078 | 1.078 |
| 2006 | 66,547,475 | 1.091 | 1.091 |
| 2007 | 67,637,206 | 1.106 | 1.106 |
| 2008 | 64,608,632 | 1.133 | 1.133 |
| 2009 | 87,071,422 | 1.178 | 1.178 |
| 2010 | 81,356,073 | 1.272 | 1.272 |
| 2011 | 68,051,496 | 1.526 | 1.526 |
| 2012 | 45,787,824 | 2.581 | 2.581 |
| 536,704,714 | | | |

| Accident Year | Weighted LDM | Latest Diagonal LDM | Trend in 12 Month Incurred | Cape Cod with Weighted | Actual | Implied ELF from Wtd LDM's |
|---------------|--------------|---------------------|----------------------------|------------------------|-------------|----------------------------|
| 2005 | 59,978,392 | 59,978,392 | 1.9701 | 59,978,392 | 59,622,506 | 0.3798 |
| 2006 | 72,611,384 | 72,611,384 | 1.6274 | 72,611,384 | 72,180,539 | 0.3290 |
| 2007 | 74,814,002 | 74,814,002 | 1.5794 | 74,814,002 | 74,370,088 | 0.2993 |
| 2008 | 73,200,699 | 73,200,699 | 1.6142 | 73,200,699 | 72,766,358 | 0.3490 |
| 2009 | 102,585,993 | 102,585,993 | 1.1519 | 102,585,993 | 101,977,292 | 0.3882 |
| 2010 | 103,494,932 | 103,494,932 | 1.1417 | 103,494,932 | 102,880,838 | 0.3475 |
| 2011 | 103,876,989 | 103,876,989 | 1.1375 | 103,876,989 | 103,260,629 | 0.3302 |
| 2012 | 118,164,221 | 118,164,221 | 1.0000 | 118,164,221 | 117,463,086 | 0.2805 |
| 708,726,610 | | 708,726,610 | | 708,726,610 | 704,521,336 | |

| | | | |
|--------------|-------|-------|-------|
| <i>Error</i> | 0.60% | 0.60% | 0.60% |
|--------------|-------|-------|-------|

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 18 | Constant | None | Constant | 10% | 8 year | Exact |

Estimated Ultimates Unlimited

| Accident Year | Incurred Losses | Weighted CDF | Latest Diagonal CDF |
|---------------|-----------------|--------------|---------------------|
| 2005 | 81,743,504 | 1.183 | 1.183 |
| 2006 | 88,122,212 | 1.228 | 1.228 |
| 2007 | 83,542,058 | 1.278 | 1.278 |
| 2008 | 83,165,606 | 1.352 | 1.352 |
| 2009 | 115,966,792 | 1.446 | 1.446 |
| 2010 | 98,571,126 | 1.609 | 1.609 |
| 2011 | 78,369,782 | 1.979 | 1.979 |
| 2012 | 50,162,011 | 3.274 | 3.274 |
| | 679,643,090 | | |

| Accident Year | Weighted LDM | Latest Diagonal LDM | Trend in 12 Month Incurred | Cape Cod with Weighted | Actual |
|---------------|---------------|---------------------|----------------------------|------------------------|---------------|
| 2005 | 96,702,565 | 96,702,565 | 1.6983 | 96,702,565 | 96,702,565 |
| 2006 | 108,214,076 | 108,214,076 | 1.5176 | 108,214,076 | 108,214,076 |
| 2007 | 106,766,750 | 106,766,750 | 1.5382 | 106,766,750 | 106,766,750 |
| 2008 | 112,439,899 | 112,439,899 | 1.4606 | 112,439,899 | 112,439,899 |
| 2009 | 167,687,981 | 167,687,981 | 0.9794 | 167,687,981 | 167,687,981 |
| 2010 | 158,600,942 | 158,600,942 | 1.0355 | 158,600,942 | 158,600,942 |
| 2011 | 155,093,799 | 155,093,799 | 1.0589 | 155,093,799 | 155,093,799 |
| 2012 | 164,230,424 | 164,230,424 | 1.0000 | 164,230,424 | 164,230,424 |
| | 1,069,736,436 | 1,069,736,436 | | 1,069,736,436 | 1,069,736,436 |

| | | | |
|--------------|-------|-------|-------|
| <i>Error</i> | 0.00% | 0.00% | 0.00% |
|--------------|-------|-------|-------|

Sample Error Calculations

| Scenario Number | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention |
|-----------------|----------|-----------------|-----------|-----------|------------------------|-----------|
| 18 | Constant | None | Constant | 10% | 8 year | Exact |

Estimated Ultimates Excess (400k Base)

| Accident Year | Incurred Losses | Weighted CDF | Latest Diagonal CDF | Method CDF | Weighted with Method Tail | Latest Diag. with Method Tail | Weighted LDM | Latest Diagonal LDM | Method LDM | Trend in 12 Month Incurred | Cape Cod with Weighted | Actual |
|---------------|-----------------|--------------|---------------------|------------|---------------------------|-------------------------------|--------------|---------------------|-------------|----------------------------|------------------------|-------------|
| 2005 | 26,098,917 | 1.609 | 1.609 | 1.407 | 1.407 | 1.407 | 41,993,460 | 41,993,460 | 36,724,173 | 0.6948 | 46,063,317 | 37,080,058 |
| 2006 | 21,574,736 | 1.766 | 1.766 | 1.650 | 1.544 | 1.544 | 38,101,508 | 38,101,508 | 35,602,692 | 0.8898 | 35,971,888 | 36,033,537 |
| 2007 | 15,904,852 | 1.979 | 2.002 | 2.009 | 1.731 | 1.751 | 31,476,807 | 31,846,622 | 31,952,748 | 1.2081 | 26,492,114 | 32,396,662 |
| 2008 | 18,556,974 | 2.350 | 2.462 | 2.115 | 2.055 | 2.153 | 43,610,428 | 45,681,429 | 39,239,200 | 0.7317 | 43,745,319 | 39,673,541 |
| 2009 | 28,895,370 | 2.814 | 2.923 | 2.253 | 2.461 | 2.556 | 81,320,206 | 84,456,891 | 65,101,989 | 0.3815 | 83,902,951 | 65,710,689 |
| 2010 | 17,215,053 | 3.552 | 3.582 | 3.201 | 3.106 | 3.133 | 61,139,632 | 61,666,799 | 55,106,010 | 0.5245 | 61,017,113 | 55,720,104 |
| 2011 | 10,318,286 | 4.932 | 4.997 | 4.964 | 4.313 | 4.370 | 50,887,308 | 51,560,504 | 51,216,810 | 0.6144 | 52,095,713 | 51,833,171 |
| 2012 | 4,374,188 | 7.301 | 7.242 | 10.531 | 6.385 | 6.333 | 31,936,772 | 31,677,508 | 46,066,203 | 1.0000 | 32,006,327 | 46,767,338 |
| | 142,938,376 | | | | | | 380,466,122 | 386,984,722 | 361,009,826 | | 381,294,743 | 365,215,100 |

| | | | | |
|---------------------------|-------------|-------------|--------|-------|
| Error | 4.18% | 5.96% | -1.15% | 4.40% |
| Ultimate with Method Tail | 332,725,707 | 338,426,362 | | |
| Non-Tail Error | -8.90% | -7.34% | | |

Base Case Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | | Inflation | Severity | | Wtd Average | | Latest Diag | | Wtd Average | | Latest Diag | | Non Tail Wtd Avg Excess | Non Tail Latest Diag excess | Alternative Method Excess |
|----------|----------|-----------|-----------|-----------|---------------|-----------|-------------|-----------|-------------|---------|-------------|--------|-------------|--------|-------------------------|-----------------------------|---------------------------|
| | | Trend | Frequency | | Randomization | Retention | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | | | | |
| 1 | Constant | None | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 8.37% | 8.37% | 0.00% | 0.00% | 0.00% | | |
| 2 | Constant | None | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 8.37% | 8.37% | 0.00% | 0.00% | 0.00% | | |
| 3 | Constant | None | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 8.37% | 8.37% | 0.00% | 0.00% | 0.00% | | |
| 4 | Constant | None | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 1.01% | 2.87% | -6.79% | -5.07% | 0.00% | | |
| 5 | Constant | None | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 1.01% | 2.87% | -6.79% | -5.07% | 0.00% | | |
| 6 | Constant | None | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 1.01% | 2.87% | -6.79% | -5.07% | 0.00% | | |
| 7 | Constant | None | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.00% | 0.88% | 9.52% | 9.40% | 1.06% | 0.95% | -1.08% | | |
| 8 | Constant | None | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.03% | -0.05% | 9.93% | 10.13% | -0.18% | 0.01% | 0.24% | | |
| 9 | Constant | None | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 9.85% | 9.85% | -0.30% | -0.30% | -0.30% | | |
| 10 | Constant | None | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 3.46% | 4.97% | -4.53% | -3.14% | -1.22% | | |
| 11 | Constant | None | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.04% | -0.04% | 1.97% | 3.81% | -7.40% | -5.73% | 0.46% | | |
| 12 | Constant | None | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 2.01% | 3.86% | -7.41% | -5.74% | -0.35% | | |
| 13 | Constant | None | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.51% | 3.09% | 14.59% | 13.88% | 5.74% | 5.08% | -3.20% | | |
| 14 | Constant | None | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 13.28% | 13.13% | -1.20% | -1.33% | -1.28% | | |
| 15 | Constant | None | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 13.25% | 13.25% | -0.96% | -0.96% | -0.96% | | |
| 16 | Constant | None | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.49% | 3.07% | 10.09% | 10.39% | 1.59% | 1.87% | -3.56% | | |
| 17 | Constant | None | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 4.04% | 5.82% | -9.26% | -7.70% | -1.70% | | |
| 18 | Constant | None | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 4.18% | 5.96% | -8.90% | -7.34% | -1.15% | | |
| 19 | Constant | 1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 5.79% | 6.25% | -2.38% | -1.96% | 0.00% | | |
| 20 | Constant | 1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 5.79% | 6.25% | -2.38% | -1.96% | 0.00% | | |
| 21 | Constant | 1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 5.79% | 6.25% | -2.38% | -1.96% | 0.00% | | |
| 22 | Constant | 1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 4.45% | 5.86% | -3.61% | -2.31% | 0.00% | | |
| 23 | Constant | 1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 4.45% | 5.86% | -3.61% | -2.31% | 0.00% | | |
| 24 | Constant | 1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 4.45% | 5.86% | -3.61% | -2.31% | 0.00% | | |
| 25 | Constant | 1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.02% | 0.89% | 7.11% | 7.43% | -1.16% | -0.87% | -1.12% | | |
| 26 | Constant | 1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.02% | -0.06% | 7.17% | 7.85% | -2.68% | -2.06% | 0.28% | | |
| 27 | Constant | 1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 7.10% | 7.58% | -2.79% | -2.36% | -0.31% | | |
| 28 | Constant | 1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 1.01% | 0.89% | 6.95% | 7.87% | -1.31% | -0.46% | -1.18% | | |
| 29 | Constant | 1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.03% | -0.04% | 5.68% | 7.10% | -4.03% | -2.74% | 0.34% | | |
| 30 | Constant | 1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 5.73% | 7.09% | -4.03% | -2.80% | -0.34% | | |
| 31 | Constant | 1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.56% | 3.14% | 12.92% | 12.58% | 4.20% | 3.89% | -3.32% | | |
| 32 | Constant | 1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.70% | 10.10% | 10.47% | -3.97% | -3.65% | -1.36% | | |
| 33 | Constant | 1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 10.10% | 10.62% | -3.71% | -3.26% | -1.00% | | |
| 34 | Constant | 1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.55% | 3.12% | 13.30% | 12.87% | 4.55% | 4.15% | -3.47% | | |
| 35 | Constant | 1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 8.49% | 9.67% | -5.38% | -4.35% | -1.55% | | |
| 36 | Constant | 1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 8.58% | 9.79% | -5.05% | -3.99% | -1.10% | | |
| 37 | Constant | -1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 10.17% | 9.82% | 1.66% | 1.34% | 0.00% | | |
| 38 | Constant | -1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 10.17% | 9.82% | 1.66% | 1.34% | 0.00% | | |
| 39 | Constant | -1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 10.17% | 9.82% | 1.66% | 1.34% | 0.00% | | |
| 40 | Constant | -1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 2.05% | 3.63% | -5.83% | -4.37% | 0.00% | | |
| 41 | Constant | -1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 2.05% | 3.63% | -5.83% | -4.37% | 0.00% | | |
| 42 | Constant | -1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 2.05% | 3.63% | -5.83% | -4.37% | 0.00% | | |
| 43 | Constant | -1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.99% | 0.86% | 11.48% | 11.00% | 2.87% | 2.43% | -1.05% | | |
| 44 | Constant | -1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.03% | -0.04% | 11.83% | 11.66% | 1.55% | 1.40% | 0.21% | | |
| 45 | Constant | -1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 11.77% | 11.40% | 1.44% | 1.11% | -0.29% | | |

Base Case Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity Randomization | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail | Non Tail | Alternative |
|----------|----------|-----------|-----------|-----------|---------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--------------------|---------------|
| | | Trend | | | | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Wtd Avg Excess | Latest Diag excess | Method Excess |
| 46 | Constant | -1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.98% | 0.85% | 4.43% | 5.62% | -3.64% | -2.54% | -1.16% |
| 47 | Constant | -1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.05% | -0.03% | 3.15% | 4.76% | -6.33% | -4.87% | 0.35% |
| 48 | Constant | -1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 3.18% | 4.74% | -6.35% | -4.94% | -0.35% |
| 49 | Constant | -1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.46% | 3.04% | 16.58% | 15.52% | 7.58% | 6.59% | -3.08% |
| 50 | Constant | -1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 15.48% | 14.93% | 0.72% | 0.24% | -1.23% |
| 51 | Constant | -1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 15.44% | 15.04% | 0.95% | 0.60% | -0.93% |
| 52 | Constant | -1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.44% | 3.02% | 10.77% | 10.73% | 2.21% | 2.18% | -3.43% |
| 53 | Constant | -1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 5.57% | 7.01% | -7.93% | -6.66% | -1.61% |
| 54 | Constant | -1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 5.69% | 7.16% | -7.58% | -6.29% | -1.13% |
| 55 | Varied | None | Constant | 0.0% | 1 year | Constant | 4.20% | 0.70% | 3.47% | 0.04% | 15.85% | 11.58% | 6.54% | 2.61% | 1.64% |
| 56 | Varied | None | Constant | 0.0% | 1 year | Rounded | 4.20% | 0.70% | 3.47% | 0.04% | 15.85% | 11.58% | 6.54% | 2.61% | 1.64% |
| 57 | Varied | None | Constant | 0.0% | 1 year | Exact | 4.20% | 0.70% | 3.47% | 0.04% | 15.85% | 11.58% | 6.54% | 2.61% | 1.64% |
| 58 | Varied | None | Constant | 0.0% | 8 year | Constant | 4.01% | 0.78% | 3.28% | 0.06% | 9.13% | 8.98% | 0.36% | 0.22% | 1.46% |
| 59 | Varied | None | Constant | 0.0% | 8 year | Rounded | 4.01% | 0.78% | 3.28% | 0.06% | 9.13% | 8.98% | 0.36% | 0.22% | 1.46% |
| 60 | Varied | None | Constant | 0.0% | 8 year | Exact | 4.01% | 0.78% | 3.28% | 0.06% | 9.13% | 8.98% | 0.36% | 0.22% | 1.46% |
| 61 | Varied | None | Constant | 3.0% | 1 year | Constant | 4.36% | 0.71% | 4.49% | 0.79% | 17.51% | 12.92% | 8.06% | 3.84% | 0.75% |
| 62 | Varied | None | Constant | 3.0% | 1 year | Rounded | 4.36% | 0.71% | 3.68% | -0.01% | 17.68% | 13.46% | 6.51% | 2.68% | 1.94% |
| 63 | Varied | None | Constant | 3.0% | 1 year | Exact | 4.36% | 0.71% | 3.79% | 0.20% | 17.75% | 13.26% | 6.52% | 2.46% | 1.43% |
| 64 | Varied | None | Constant | 3.0% | 8 year | Constant | 4.16% | 0.80% | 4.30% | 0.79% | 12.13% | 11.41% | 3.11% | 2.45% | 0.62% |
| 65 | Varied | None | Constant | 3.0% | 8 year | Rounded | 4.16% | 0.80% | 3.49% | 0.02% | 10.40% | 10.26% | -0.08% | -0.20% | 1.87% |
| 66 | Varied | None | Constant | 3.0% | 8 year | Exact | 4.16% | 0.80% | 3.59% | 0.22% | 10.63% | 10.42% | 0.08% | -0.12% | 1.21% |
| 67 | Varied | None | Constant | 10.0% | 1 year | Constant | 4.67% | 0.73% | 6.93% | 2.63% | 23.26% | 17.82% | 13.35% | 8.35% | -1.07% |
| 68 | Varied | None | Constant | 10.0% | 1 year | Rounded | 4.67% | 0.73% | 4.45% | 0.63% | 22.17% | 17.07% | 6.21% | 1.77% | 0.68% |
| 69 | Varied | None | Constant | 10.0% | 1 year | Exact | 4.67% | 0.73% | 4.45% | 0.55% | 22.04% | 17.11% | 6.38% | 2.08% | 0.94% |
| 70 | Varied | None | Constant | 10.0% | 8 year | Constant | 4.45% | 0.83% | 6.73% | 2.64% | 19.55% | 17.39% | 9.94% | 7.95% | -1.24% |
| 71 | Varied | None | Constant | 10.0% | 8 year | Rounded | 4.45% | 0.83% | 4.23% | 0.65% | 13.93% | 13.56% | -0.95% | -1.28% | 0.23% |
| 72 | Varied | None | Constant | 10.0% | 8 year | Exact | 4.45% | 0.83% | 4.24% | 0.57% | 13.91% | 13.57% | -0.70% | -1.00% | 0.64% |
| 73 | Varied | 1.0% | Constant | 0.0% | 1 year | Constant | 4.25% | 0.70% | 3.53% | 0.03% | 13.52% | 9.74% | 4.39% | 0.92% | 1.64% |
| 74 | Varied | 1.0% | Constant | 0.0% | 1 year | Rounded | 4.25% | 0.70% | 3.53% | 0.03% | 13.52% | 9.74% | 4.39% | 0.92% | 1.64% |
| 75 | Varied | 1.0% | Constant | 0.0% | 1 year | Exact | 4.25% | 0.70% | 3.53% | 0.03% | 13.52% | 9.74% | 4.39% | 0.92% | 1.64% |
| 76 | Varied | 1.0% | Constant | 0.0% | 8 year | Constant | 4.11% | 0.78% | 3.32% | 0.05% | 12.83% | 11.80% | 3.76% | 2.81% | 1.60% |
| 77 | Varied | 1.0% | Constant | 0.0% | 8 year | Rounded | 4.11% | 0.78% | 3.32% | 0.05% | 12.83% | 11.80% | 3.76% | 2.81% | 1.60% |
| 78 | Varied | 1.0% | Constant | 0.0% | 8 year | Exact | 4.11% | 0.78% | 3.32% | 0.05% | 12.83% | 11.80% | 3.76% | 2.81% | 1.60% |
| 79 | Varied | 1.0% | Constant | 3.0% | 1 year | Constant | 4.41% | 0.71% | 4.56% | 0.79% | 15.38% | 11.23% | 6.11% | 2.29% | 0.72% |
| 80 | Varied | 1.0% | Constant | 3.0% | 1 year | Rounded | 4.41% | 0.71% | 3.73% | -0.03% | 15.20% | 11.48% | 4.26% | 0.90% | 1.98% |
| 81 | Varied | 1.0% | Constant | 3.0% | 1 year | Exact | 4.41% | 0.71% | 3.84% | 0.19% | 15.27% | 11.30% | 4.27% | 0.68% | 1.42% |
| 82 | Varied | 1.0% | Constant | 3.0% | 8 year | Constant | 4.26% | 0.80% | 4.34% | 0.80% | 15.79% | 14.19% | 6.48% | 5.01% | 0.69% |
| 83 | Varied | 1.0% | Constant | 3.0% | 8 year | Rounded | 4.26% | 0.80% | 3.53% | 0.00% | 14.32% | 13.33% | 3.46% | 2.57% | 1.97% |
| 84 | Varied | 1.0% | Constant | 3.0% | 8 year | Exact | 4.26% | 0.80% | 3.63% | 0.21% | 14.57% | 13.44% | 3.64% | 2.62% | 1.36% |
| 85 | Varied | 1.0% | Constant | 10.0% | 1 year | Constant | 4.70% | 0.73% | 7.01% | 2.66% | 21.86% | 16.73% | 12.07% | 7.35% | -1.16% |
| 86 | Varied | 1.0% | Constant | 10.0% | 1 year | Rounded | 4.70% | 0.73% | 4.49% | 0.62% | 19.33% | 14.78% | 3.74% | -0.21% | 0.62% |
| 87 | Varied | 1.0% | Constant | 10.0% | 1 year | Exact | 4.70% | 0.73% | 4.49% | 0.53% | 19.23% | 14.85% | 3.93% | 0.11% | 0.91% |
| 88 | Varied | 1.0% | Constant | 10.0% | 8 year | Constant | 4.53% | 0.81% | 6.80% | 2.67% | 22.80% | 19.84% | 12.93% | 10.21% | -1.21% |
| 89 | Varied | 1.0% | Constant | 10.0% | 8 year | Rounded | 4.53% | 0.81% | 4.26% | 0.64% | 18.48% | 17.08% | 3.00% | 1.79% | 0.45% |
| 90 | Varied | 1.0% | Constant | 10.0% | 8 year | Exact | 4.53% | 0.81% | 4.27% | 0.56% | 18.42% | 17.08% | 3.22% | 2.05% | 0.80% |

Base Case Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity Randomization | Retention | Wtd Average Unlimited | Latest Diag Unlimited | Wtd Average Limited | Latest Diag Limited | Wtd Average Excess | Latest Diag Excess | Non Tail Avg Excess | Non Tail | Alternative |
|----------|----------|-----------|-----------|-----------|---------------------------|-----------|--------------------------|--------------------------|------------------------|------------------------|-----------------------|-----------------------|------------------------|-----------------------|------------------|
| | | Trend | | | | | | | | | | | | Latest Diag excess | Method Excess |
| 91 | Varied | -1.0% | Constant | 0.0% | 1 year | Constant | 4.17% | 0.69% | 3.43% | 0.05% | 17.48% | 12.88% | 8.04% | 3.80% | 1.63% |
| 92 | Varied | -1.0% | Constant | 0.0% | 1 year | Rounded | 4.17% | 0.69% | 3.43% | 0.05% | 17.48% | 12.88% | 8.04% | 3.80% | 1.63% |
| 93 | Varied | -1.0% | Constant | 0.0% | 1 year | Exact | 4.17% | 0.69% | 3.43% | 0.05% | 17.48% | 12.88% | 8.04% | 3.80% | 1.63% |
| 94 | Varied | -1.0% | Constant | 0.0% | 8 year | Constant | 3.98% | 0.78% | 3.22% | 0.08% | 10.19% | 9.33% | 1.33% | 0.54% | 1.50% |
| 95 | Varied | -1.0% | Constant | 0.0% | 8 year | Rounded | 3.98% | 0.78% | 3.22% | 0.08% | 10.19% | 9.33% | 1.33% | 0.54% | 1.50% |
| 96 | Varied | -1.0% | Constant | 0.0% | 8 year | Exact | 3.98% | 0.78% | 3.22% | 0.08% | 10.19% | 9.33% | 1.33% | 0.54% | 1.50% |
| 97 | Varied | -1.0% | Constant | 3.0% | 1 year | Constant | 4.33% | 0.71% | 4.44% | 0.78% | 19.27% | 14.34% | 9.68% | 5.15% | 0.76% |
| 98 | Varied | -1.0% | Constant | 3.0% | 1 year | Rounded | 4.33% | 0.71% | 3.65% | -0.01% | 19.40% | 14.82% | 8.07% | 3.92% | 1.90% |
| 99 | Varied | -1.0% | Constant | 3.0% | 1 year | Exact | 4.33% | 0.71% | 3.76% | 0.21% | 19.49% | 14.65% | 8.08% | 3.71% | 1.42% |
| 100 | Varied | -1.0% | Constant | 3.0% | 8 year | Constant | 4.13% | 0.80% | 4.22% | 0.80% | 13.11% | 11.69% | 4.02% | 2.71% | 0.65% |
| 101 | Varied | -1.0% | Constant | 3.0% | 8 year | Rounded | 4.13% | 0.80% | 3.45% | 0.04% | 11.59% | 10.77% | 1.00% | 0.26% | 1.86% |
| 102 | Varied | -1.0% | Constant | 3.0% | 8 year | Exact | 4.13% | 0.80% | 3.54% | 0.24% | 11.82% | 10.86% | 1.15% | 0.28% | 1.25% |
| 103 | Varied | -1.0% | Constant | 10.0% | 1 year | Constant | 4.64% | 0.72% | 6.85% | 2.60% | 25.00% | 19.24% | 14.95% | 9.66% | -1.00% |
| 104 | Varied | -1.0% | Constant | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.42% | 0.63% | 24.14% | 18.66% | 7.92% | 3.16% | 0.70% |
| 105 | Varied | -1.0% | Constant | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.43% | 0.55% | 24.00% | 18.69% | 8.09% | 3.46% | 0.95% |
| 106 | Varied | -1.0% | Constant | 10.0% | 8 year | Constant | 4.43% | 0.82% | 6.63% | 2.61% | 20.22% | 17.48% | 10.56% | 8.03% | -1.18% |
| 107 | Varied | -1.0% | Constant | 10.0% | 8 year | Rounded | 4.43% | 0.82% | 4.18% | 0.67% | 15.45% | 14.22% | 0.36% | -0.70% | 0.32% |
| 108 | Varied | -1.0% | Constant | 10.0% | 8 year | Exact | 4.43% | 0.82% | 4.19% | 0.59% | 15.41% | 14.25% | 0.60% | -0.41% | 0.69% |
| 109 | Constant | None | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 8.25% | 8.37% | -0.17% | -0.06% | 0.00% |
| 110 | Constant | None | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 8.25% | 8.37% | -0.17% | -0.06% | 0.00% |
| 111 | Constant | None | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 8.25% | 8.37% | -0.17% | -0.06% | 0.00% |
| 112 | Constant | None | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 1.12% | 2.52% | -6.74% | -5.45% | 0.00% |
| 113 | Constant | None | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 1.12% | 2.52% | -6.74% | -5.45% | 0.00% |
| 114 | Constant | None | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 1.12% | 2.52% | -6.74% | -5.45% | 0.00% |
| 115 | Constant | None | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 9.47% | 9.45% | 0.96% | 0.94% | -1.09% |
| 116 | Constant | None | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.03% | -0.05% | 9.84% | 10.16% | -0.31% | -0.02% | 0.25% |
| 117 | Constant | None | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 9.77% | 9.88% | -0.43% | -0.32% | -0.30% |
| 118 | Constant | None | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 3.57% | 4.56% | -4.48% | -3.57% | -1.22% |
| 119 | Constant | None | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.04% | -0.04% | 2.08% | 3.44% | -7.35% | -6.12% | 0.47% |
| 120 | Constant | None | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 2.12% | 3.46% | -7.37% | -6.14% | -0.35% |
| 121 | Constant | None | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.48% | 3.07% | 14.71% | 14.04% | 5.79% | 5.18% | -3.22% |
| 122 | Constant | None | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 13.29% | 13.23% | -1.24% | -1.29% | -1.29% |
| 123 | Constant | None | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 13.26% | 13.35% | -1.00% | -0.92% | -0.97% |
| 124 | Constant | None | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.48% | 3.07% | 10.22% | 9.97% | 1.65% | 1.42% | -3.57% |
| 125 | Constant | None | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 4.13% | 5.34% | -9.23% | -8.17% | -1.70% |
| 126 | Constant | None | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 4.26% | 5.48% | -8.87% | -7.81% | -1.15% |
| 127 | Constant | 1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 5.97% | 6.17% | -2.27% | -2.08% | 0.00% |
| 128 | Constant | 1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 5.97% | 6.17% | -2.27% | -2.08% | 0.00% |
| 129 | Constant | 1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 5.97% | 6.17% | -2.27% | -2.08% | 0.00% |
| 130 | Constant | 1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 3.43% | 4.78% | -4.61% | -3.37% | 0.00% |
| 131 | Constant | 1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 3.43% | 4.78% | -4.61% | -3.37% | 0.00% |
| 132 | Constant | 1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 3.43% | 4.78% | -4.61% | -3.37% | 0.00% |
| 133 | Constant | 1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.01% | 0.89% | 7.37% | 7.40% | -0.98% | -0.95% | -1.13% |
| 134 | Constant | 1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.02% | -0.06% | 7.36% | 7.76% | -2.56% | -2.19% | 0.28% |
| 135 | Constant | 1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 7.30% | 7.50% | -2.67% | -2.49% | -0.31% |

Base Case Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | | Severity | | | Wtd Average Latest Diag | | Wtd Average Latest Diag | | Wtd Average Latest Diag | | Non Tail Wtd Avg Excess | Non Tail Latest Diag excess | Alternative Method Excess |
|----------|----------|-----------|-----------|-----------|---------------|-----------|-------------------------|-----------|-------------------------|---------|-------------------------|--------|-------------------------|-----------------------------|---------------------------|
| | | Trend | Frequency | Inflation | Randomization | Retention | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | | |
| 136 | Constant | 1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 1.00% | 0.88% | 6.07% | 6.89% | -2.17% | -1.41% | -1.20% |
| 137 | Constant | 1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.03% | -0.04% | 4.64% | 5.99% | -5.02% | -3.81% | 0.35% |
| 138 | Constant | 1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 4.71% | 5.99% | -5.01% | -3.85% | -0.35% |
| 139 | Constant | 1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.53% | 3.12% | 13.28% | 12.64% | 4.47% | 3.89% | -3.33% |
| 140 | Constant | 1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 10.33% | 10.37% | -3.82% | -3.78% | -1.37% |
| 141 | Constant | 1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 10.33% | 10.52% | -3.56% | -3.40% | -1.01% |
| 142 | Constant | 1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.52% | 3.11% | 12.79% | 12.20% | 4.02% | 3.48% | -3.51% |
| 143 | Constant | 1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 7.47% | 8.54% | -6.31% | -5.39% | -1.59% |
| 144 | Constant | 1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 7.57% | 8.67% | -5.98% | -5.01% | -1.13% |
| 145 | Constant | -1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 9.90% | 9.74% | 1.36% | 1.21% | 0.00% |
| 146 | Constant | -1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 9.90% | 9.74% | 1.36% | 1.21% | 0.00% |
| 147 | Constant | -1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 9.90% | 9.74% | 1.36% | 1.21% | 0.00% |
| 148 | Constant | -1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 1.29% | 3.19% | -6.59% | -4.83% | 0.00% |
| 149 | Constant | -1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 1.29% | 3.19% | -6.59% | -4.83% | 0.00% |
| 150 | Constant | -1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 1.29% | 3.19% | -6.59% | -4.83% | 0.00% |
| 151 | Constant | -1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.98% | 0.86% | 11.25% | 10.96% | 2.60% | 2.33% | -1.05% |
| 152 | Constant | -1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.03% | -0.05% | 11.58% | 11.60% | 1.27% | 1.29% | 0.22% |
| 153 | Constant | -1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 11.52% | 11.34% | 1.16% | 1.00% | -0.29% |
| 154 | Constant | -1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.97% | 0.85% | 3.74% | 5.23% | -4.32% | -2.95% | -1.18% |
| 155 | Constant | -1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.04% | -0.03% | 2.38% | 4.30% | -7.08% | -5.34% | 0.38% |
| 156 | Constant | -1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 2.41% | 4.29% | -7.10% | -5.39% | -0.35% |
| 157 | Constant | -1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.45% | 3.03% | 16.43% | 15.54% | 7.38% | 6.56% | -3.11% |
| 158 | Constant | -1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 15.28% | 14.91% | 0.49% | 0.17% | -1.24% |
| 159 | Constant | -1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 15.24% | 15.02% | 0.72% | 0.54% | -0.94% |
| 160 | Constant | -1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.43% | 3.01% | 10.29% | 10.48% | 1.71% | 1.89% | -3.48% |
| 161 | Constant | -1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 4.77% | 6.55% | -8.67% | -7.11% | -1.64% |
| 162 | Constant | -1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 4.89% | 6.70% | -8.32% | -6.73% | -1.15% |
| 163 | Varied | None | Varied | 0.0% | 1 year | Constant | 4.17% | 0.69% | 3.44% | 0.04% | 15.70% | 11.57% | 6.35% | 2.55% | 1.67% |
| 164 | Varied | None | Varied | 0.0% | 1 year | Rounded | 4.17% | 0.69% | 3.44% | 0.04% | 15.70% | 11.57% | 6.35% | 2.55% | 1.67% |
| 165 | Varied | None | Varied | 0.0% | 1 year | Exact | 4.17% | 0.69% | 3.44% | 0.04% | 15.70% | 11.57% | 6.35% | 2.55% | 1.67% |
| 166 | Varied | None | Varied | 0.0% | 8 year | Constant | 3.95% | 0.77% | 3.25% | 0.05% | 9.11% | 8.67% | 0.29% | -0.12% | 1.47% |
| 167 | Varied | None | Varied | 0.0% | 8 year | Rounded | 3.95% | 0.77% | 3.25% | 0.05% | 9.11% | 8.67% | 0.29% | -0.12% | 1.47% |
| 168 | Varied | None | Varied | 0.0% | 8 year | Exact | 3.95% | 0.77% | 3.25% | 0.05% | 9.11% | 8.67% | 0.29% | -0.12% | 1.47% |
| 169 | Varied | None | Varied | 3.0% | 1 year | Constant | 4.33% | 0.70% | 4.46% | 0.78% | 17.43% | 12.97% | 7.93% | 3.84% | 0.76% |
| 170 | Varied | None | Varied | 3.0% | 1 year | Rounded | 4.33% | 0.70% | 3.66% | -0.02% | 17.57% | 13.48% | 6.35% | 2.66% | 1.97% |
| 171 | Varied | None | Varied | 3.0% | 1 year | Exact | 4.33% | 0.70% | 3.77% | 0.20% | 17.64% | 13.29% | 6.36% | 2.42% | 1.45% |
| 172 | Varied | None | Varied | 3.0% | 8 year | Constant | 4.11% | 0.79% | 4.27% | 0.79% | 12.10% | 11.07% | 3.04% | 2.08% | 0.63% |
| 173 | Varied | None | Varied | 3.0% | 8 year | Rounded | 4.11% | 0.79% | 3.47% | 0.01% | 10.39% | 9.96% | -0.15% | -0.54% | 1.89% |
| 174 | Varied | None | Varied | 3.0% | 8 year | Exact | 4.11% | 0.79% | 3.57% | 0.22% | 10.61% | 10.09% | 0.00% | -0.47% | 1.22% |
| 175 | Varied | None | Varied | 10.0% | 1 year | Constant | 4.64% | 0.72% | 6.90% | 2.62% | 23.33% | 18.00% | 13.36% | 8.46% | -1.08% |
| 176 | Varied | None | Varied | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.43% | 0.62% | 22.14% | 17.17% | 6.13% | 1.81% | 0.69% |
| 177 | Varied | None | Varied | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.44% | 0.54% | 22.01% | 17.21% | 6.30% | 2.12% | 0.96% |
| 178 | Varied | None | Varied | 10.0% | 8 year | Constant | 4.41% | 0.82% | 6.70% | 2.63% | 19.58% | 17.05% | 9.91% | 7.58% | -1.23% |
| 179 | Varied | None | Varied | 10.0% | 8 year | Rounded | 4.41% | 0.82% | 4.21% | 0.64% | 13.92% | 13.17% | -1.02% | -1.67% | 0.25% |
| 180 | Varied | None | Varied | 10.0% | 8 year | Exact | 4.41% | 0.82% | 4.22% | 0.56% | 13.89% | 13.18% | -0.78% | -1.39% | 0.66% |

Base Case Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity Randomization | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail Wtd Avg Excess | Non Tail | Alternative |
|----------|---------|-----------|-----------|-----------|---------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------------------------|-----------------------|------------------|
| | | Trend | | | | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | Latest Diag excess | Method Excess |
| 181 | Varied | 1.0% | Varied | 0.0% | 1 year | Constant | 4.18% | 0.69% | 3.48% | 0.03% | 13.63% | 9.79% | 4.44% | 0.91% | 1.63% |
| 182 | Varied | 1.0% | Varied | 0.0% | 1 year | Rounded | 4.18% | 0.69% | 3.48% | 0.03% | 13.63% | 9.79% | 4.44% | 0.91% | 1.63% |
| 183 | Varied | 1.0% | Varied | 0.0% | 1 year | Exact | 4.18% | 0.69% | 3.48% | 0.03% | 13.63% | 9.79% | 4.44% | 0.91% | 1.63% |
| 184 | Varied | 1.0% | Varied | 0.0% | 8 year | Constant | 4.08% | 0.76% | 3.28% | 0.05% | 11.92% | 10.81% | 2.86% | 1.85% | 1.56% |
| 185 | Varied | 1.0% | Varied | 0.0% | 8 year | Rounded | 4.08% | 0.76% | 3.28% | 0.05% | 11.92% | 10.81% | 2.86% | 1.85% | 1.56% |
| 186 | Varied | 1.0% | Varied | 0.0% | 8 year | Exact | 4.08% | 0.76% | 3.28% | 0.05% | 11.92% | 10.81% | 2.86% | 1.85% | 1.56% |
| 187 | Varied | 1.0% | Varied | 3.0% | 1 year | Constant | 4.34% | 0.70% | 4.50% | 0.78% | 15.57% | 11.33% | 6.22% | 2.33% | 0.69% |
| 188 | Varied | 1.0% | Varied | 3.0% | 1 year | Rounded | 4.34% | 0.70% | 3.68% | -0.04% | 15.33% | 11.53% | 4.32% | 0.89% | 1.96% |
| 189 | Varied | 1.0% | Varied | 3.0% | 1 year | Exact | 4.34% | 0.70% | 3.79% | 0.19% | 15.41% | 11.35% | 4.35% | 0.67% | 1.40% |
| 190 | Varied | 1.0% | Varied | 3.0% | 8 year | Constant | 4.23% | 0.78% | 4.30% | 0.79% | 15.03% | 13.32% | 5.72% | 4.16% | 0.64% |
| 191 | Varied | 1.0% | Varied | 3.0% | 8 year | Rounded | 4.23% | 0.78% | 3.49% | 0.00% | 13.41% | 12.31% | 2.59% | 1.59% | 1.93% |
| 192 | Varied | 1.0% | Varied | 3.0% | 8 year | Exact | 4.23% | 0.78% | 3.59% | 0.21% | 13.68% | 12.44% | 2.77% | 1.66% | 1.31% |
| 193 | Varied | 1.0% | Varied | 10.0% | 1 year | Constant | 4.65% | 0.71% | 6.95% | 2.64% | 22.17% | 16.93% | 12.29% | 7.47% | -1.19% |
| 194 | Varied | 1.0% | Varied | 10.0% | 1 year | Rounded | 4.65% | 0.71% | 4.45% | 0.61% | 19.52% | 14.84% | 3.85% | -0.21% | 0.59% |
| 195 | Varied | 1.0% | Varied | 10.0% | 1 year | Exact | 4.65% | 0.71% | 4.45% | 0.53% | 19.42% | 14.91% | 4.04% | 0.11% | 0.88% |
| 196 | Varied | 1.0% | Varied | 10.0% | 8 year | Constant | 4.51% | 0.80% | 6.75% | 2.66% | 22.40% | 19.29% | 12.50% | 9.64% | -1.28% |
| 197 | Varied | 1.0% | Varied | 10.0% | 8 year | Rounded | 4.51% | 0.80% | 4.23% | 0.63% | 17.64% | 16.08% | 2.22% | 0.86% | 0.38% |
| 198 | Varied | 1.0% | Varied | 10.0% | 8 year | Exact | 4.51% | 0.80% | 4.24% | 0.56% | 17.57% | 16.08% | 2.43% | 1.13% | 0.74% |
| 199 | Varied | -1.0% | Varied | 0.0% | 1 year | Constant | 4.15% | 0.69% | 3.42% | 0.05% | 17.22% | 12.77% | 7.74% | 3.65% | 1.65% |
| 200 | Varied | -1.0% | Varied | 0.0% | 1 year | Rounded | 4.15% | 0.69% | 3.42% | 0.05% | 17.22% | 12.77% | 7.74% | 3.65% | 1.65% |
| 201 | Varied | -1.0% | Varied | 0.0% | 1 year | Exact | 4.15% | 0.69% | 3.42% | 0.05% | 17.22% | 12.77% | 7.74% | 3.65% | 1.65% |
| 202 | Varied | -1.0% | Varied | 0.0% | 8 year | Constant | 3.96% | 0.76% | 3.21% | 0.07% | 9.48% | 8.96% | 0.62% | 0.15% | 1.47% |
| 203 | Varied | -1.0% | Varied | 0.0% | 8 year | Rounded | 3.96% | 0.76% | 3.21% | 0.07% | 9.48% | 8.96% | 0.62% | 0.15% | 1.47% |
| 204 | Varied | -1.0% | Varied | 0.0% | 8 year | Exact | 3.96% | 0.76% | 3.21% | 0.07% | 9.48% | 8.96% | 0.62% | 0.15% | 1.47% |
| 205 | Varied | -1.0% | Varied | 3.0% | 1 year | Constant | 4.32% | 0.70% | 4.43% | 0.78% | 19.04% | 14.27% | 9.41% | 5.03% | 0.77% |
| 206 | Varied | -1.0% | Varied | 3.0% | 1 year | Rounded | 4.32% | 0.70% | 3.64% | -0.01% | 19.16% | 14.74% | 7.79% | 3.79% | 1.93% |
| 207 | Varied | -1.0% | Varied | 3.0% | 1 year | Exact | 4.32% | 0.70% | 3.74% | 0.21% | 19.24% | 14.56% | 7.80% | 3.58% | 1.44% |
| 208 | Varied | -1.0% | Varied | 3.0% | 8 year | Constant | 4.12% | 0.78% | 4.21% | 0.79% | 12.47% | 11.37% | 3.37% | 2.37% | 0.62% |
| 209 | Varied | -1.0% | Varied | 3.0% | 8 year | Rounded | 4.12% | 0.78% | 3.43% | 0.03% | 10.88% | 10.38% | 0.30% | -0.15% | 1.85% |
| 210 | Varied | -1.0% | Varied | 3.0% | 8 year | Exact | 4.12% | 0.78% | 3.53% | 0.23% | 11.10% | 10.49% | 0.45% | -0.11% | 1.22% |
| 211 | Varied | -1.0% | Varied | 10.0% | 1 year | Constant | 4.64% | 0.72% | 6.83% | 2.60% | 24.85% | 19.26% | 14.75% | 9.61% | -1.01% |
| 212 | Varied | -1.0% | Varied | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.41% | 0.63% | 23.93% | 18.61% | 7.69% | 3.06% | 0.71% |
| 213 | Varied | -1.0% | Varied | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.42% | 0.55% | 23.80% | 18.65% | 7.85% | 3.37% | 0.96% |
| 214 | Varied | -1.0% | Varied | 10.0% | 8 year | Constant | 4.43% | 0.81% | 6.62% | 2.61% | 19.81% | 17.29% | 10.12% | 7.80% | -1.23% |
| 215 | Varied | -1.0% | Varied | 10.0% | 8 year | Rounded | 4.43% | 0.81% | 4.18% | 0.66% | 14.73% | 13.86% | -0.31% | -1.07% | 0.28% |
| 216 | Varied | -1.0% | Varied | 10.0% | 8 year | Exact | 4.43% | 0.81% | 4.19% | 0.59% | 14.70% | 13.89% | -0.07% | -0.78% | 0.65% |

\$250,000 Retention Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail Wtd Avg Excess | Non Tail | Alternative |
|----------|----------|-----------|-----------|-----------|---------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------------------------|-----------------------|------------------|
| | | Trend | | | Randomization | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | Latest Diag excess | Method Excess |
| 1 | Constant | None | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 6.40% | 6.40% | 0.00% | 0.00% | 0.00% |
| 2 | Constant | None | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 6.40% | 6.40% | 0.00% | 0.00% | 0.00% |
| 3 | Constant | None | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 6.40% | 6.40% | 0.00% | 0.00% | 0.00% |
| 4 | Constant | None | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 2.16% | 2.95% | -3.99% | -3.24% | 0.00% |
| 5 | Constant | None | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 2.16% | 2.95% | -3.99% | -3.24% | 0.00% |
| 6 | Constant | None | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 2.16% | 2.95% | -3.99% | -3.24% | 0.00% |
| 7 | Constant | None | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.00% | 0.87% | 8.11% | 7.87% | 1.60% | 1.37% | -0.77% |
| 8 | Constant | None | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.03% | -0.04% | 7.71% | 7.81% | -0.17% | -0.08% | 0.14% |
| 9 | Constant | None | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 7.86% | 7.86% | -0.21% | -0.21% | -0.21% |
| 10 | Constant | None | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 1.00% | 0.87% | 4.13% | 4.49% | -2.13% | -1.80% | -0.83% |
| 11 | Constant | None | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.01% | -0.07% | 3.03% | 3.70% | -4.51% | -3.88% | 0.21% |
| 12 | Constant | None | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 3.30% | 4.05% | -4.43% | -3.73% | -0.24% |
| 13 | Constant | None | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.12% | 2.25% | 13.36% | 13.31% | 6.54% | 6.49% | -1.12% |
| 14 | Constant | None | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.73% | 0.70% | 11.33% | 11.26% | -0.79% | -0.86% | -0.76% |
| 15 | Constant | None | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 11.20% | 11.20% | -0.69% | -0.69% | -0.69% |
| 16 | Constant | None | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.14% | 2.25% | 10.32% | 10.73% | 3.68% | 4.07% | -1.09% |
| 17 | Constant | None | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.75% | 0.71% | 6.05% | 6.67% | -5.49% | -4.94% | -0.84% |
| 18 | Constant | None | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 5.81% | 6.48% | -5.50% | -4.90% | -0.79% |
| 19 | Constant | 1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 4.88% | 5.15% | -1.43% | -1.18% | 0.00% |
| 20 | Constant | 1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 4.88% | 5.15% | -1.43% | -1.18% | 0.00% |
| 21 | Constant | 1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 4.88% | 5.15% | -1.43% | -1.18% | 0.00% |
| 22 | Constant | 1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 4.35% | 4.73% | -1.93% | -1.57% | 0.00% |
| 23 | Constant | 1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 4.35% | 4.73% | -1.93% | -1.57% | 0.00% |
| 24 | Constant | 1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 4.35% | 4.73% | -1.93% | -1.57% | 0.00% |
| 25 | Constant | 1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.01% | 0.89% | 6.82% | 6.82% | 0.39% | 0.39% | -0.79% |
| 26 | Constant | 1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.03% | -0.05% | 6.09% | 6.47% | -1.67% | -1.32% | 0.15% |
| 27 | Constant | 1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 6.24% | 6.52% | -1.71% | -1.46% | -0.22% |
| 28 | Constant | 1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 1.01% | 0.89% | 6.32% | 6.21% | -0.08% | -0.18% | -0.82% |
| 29 | Constant | 1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.01% | -0.07% | 5.37% | 5.58% | -2.34% | -2.15% | 0.20% |
| 30 | Constant | 1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 5.66% | 5.97% | -2.25% | -1.96% | -0.23% |
| 31 | Constant | 1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.17% | 2.29% | 12.56% | 12.70% | 5.78% | 5.92% | -1.15% |
| 32 | Constant | 1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.73% | 0.70% | 9.45% | 9.67% | -2.47% | -2.27% | -0.78% |
| 33 | Constant | 1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 9.35% | 9.65% | -2.34% | -2.07% | -0.71% |
| 34 | Constant | 1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.19% | 2.29% | 12.46% | 12.48% | 5.70% | 5.71% | -1.10% |
| 35 | Constant | 1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.75% | 0.71% | 8.87% | 8.99% | -2.98% | -2.88% | -0.82% |
| 36 | Constant | 1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 8.59% | 8.73% | -3.02% | -2.89% | -0.76% |
| 37 | Constant | -1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 7.96% | 7.69% | 1.46% | 1.21% | 0.00% |
| 38 | Constant | -1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 7.96% | 7.69% | 1.46% | 1.21% | 0.00% |
| 39 | Constant | -1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 7.96% | 7.69% | 1.46% | 1.21% | 0.00% |
| 40 | Constant | -1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 2.68% | 3.35% | -3.50% | -2.87% | 0.00% |
| 41 | Constant | -1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 2.68% | 3.35% | -3.50% | -2.87% | 0.00% |
| 42 | Constant | -1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 2.68% | 3.35% | -3.50% | -2.87% | 0.00% |
| 43 | Constant | -1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.98% | 0.86% | 9.68% | 9.17% | 3.08% | 2.60% | -0.74% |
| 44 | Constant | -1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.04% | -0.04% | 9.36% | 9.17% | 1.36% | 1.18% | 0.12% |
| 45 | Constant | -1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 9.52% | 9.23% | 1.32% | 1.06% | -0.21% |

\$250,000 Retention Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity Randomization | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail Wtd Avg Excess | Non Tail | Alternative |
|----------|----------|-----------|-----------|-----------|---------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------------------------|-----------------------|------------------|
| | | Trend | | | | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | Latest Diag excess | Method Excess |
| 46 | Constant | -1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.98% | 0.85% | 4.59% | 4.82% | -1.71% | -1.49% | -0.80% |
| 47 | Constant | -1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.02% | -0.06% | 3.62% | 4.19% | -3.96% | -3.43% | 0.20% |
| 48 | Constant | -1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 3.89% | 4.52% | -3.89% | -3.30% | -0.24% |
| 49 | Constant | -1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.07% | 2.21% | 14.89% | 14.57% | 7.98% | 7.67% | -1.10% |
| 50 | Constant | -1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.73% | 0.70% | 13.24% | 12.86% | 0.91% | 0.57% | -0.74% |
| 51 | Constant | -1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 13.09% | 12.78% | 1.01% | 0.73% | -0.67% |
| 52 | Constant | -1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.09% | 2.20% | 10.61% | 10.90% | 3.95% | 4.23% | -1.04% |
| 53 | Constant | -1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.75% | 0.71% | 6.86% | 7.33% | -4.78% | -4.36% | -0.85% |
| 54 | Constant | -1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 6.60% | 7.12% | -4.80% | -4.33% | -0.78% |
| 55 | Varied | None | Constant | 0.0% | 1 year | Constant | 4.20% | 0.70% | 3.29% | -0.20% | 13.51% | 9.58% | 6.44% | 2.75% | 1.73% |
| 56 | Varied | None | Constant | 0.0% | 1 year | Rounded | 4.20% | 0.70% | 3.29% | -0.20% | 13.51% | 9.58% | 6.44% | 2.75% | 1.73% |
| 57 | Varied | None | Constant | 0.0% | 1 year | Exact | 4.20% | 0.70% | 3.29% | -0.20% | 13.51% | 9.58% | 6.44% | 2.75% | 1.73% |
| 58 | Varied | None | Constant | 0.0% | 8 year | Constant | 4.01% | 0.78% | 3.15% | -0.19% | 9.44% | 7.96% | 2.62% | 1.23% | 1.82% |
| 59 | Varied | None | Constant | 0.0% | 8 year | Rounded | 4.01% | 0.78% | 3.15% | -0.19% | 9.44% | 7.96% | 2.62% | 1.23% | 1.82% |
| 60 | Varied | None | Constant | 0.0% | 8 year | Exact | 4.01% | 0.78% | 3.15% | -0.19% | 9.44% | 7.96% | 2.62% | 1.23% | 1.82% |
| 61 | Varied | None | Constant | 3.0% | 1 year | Constant | 4.36% | 0.71% | 4.26% | 0.50% | 15.65% | 11.27% | 8.44% | 4.33% | 1.13% |
| 62 | Varied | None | Constant | 3.0% | 1 year | Rounded | 4.36% | 0.71% | 3.49% | -0.26% | 15.13% | 11.08% | 6.46% | 2.72% | 1.94% |
| 63 | Varied | None | Constant | 3.0% | 1 year | Exact | 4.36% | 0.71% | 3.60% | -0.06% | 15.38% | 11.24% | 6.50% | 2.68% | 1.61% |
| 64 | Varied | None | Constant | 3.0% | 8 year | Constant | 4.16% | 0.80% | 4.11% | 0.50% | 11.92% | 9.82% | 4.95% | 2.97% | 1.21% |
| 65 | Varied | None | Constant | 3.0% | 8 year | Rounded | 4.16% | 0.80% | 3.32% | -0.28% | 10.63% | 8.91% | 2.31% | 0.72% | 2.13% |
| 66 | Varied | None | Constant | 3.0% | 8 year | Exact | 4.16% | 0.80% | 3.45% | -0.05% | 11.02% | 9.43% | 2.48% | 1.01% | 1.69% |
| 67 | Varied | None | Constant | 10.0% | 1 year | Constant | 4.67% | 0.73% | 6.00% | 1.29% | 21.94% | 17.36% | 14.34% | 10.05% | 1.02% |
| 68 | Varied | None | Constant | 10.0% | 1 year | Rounded | 4.67% | 0.73% | 4.34% | 0.34% | 19.81% | 15.18% | 6.53% | 2.41% | 1.22% |
| 69 | Varied | None | Constant | 10.0% | 1 year | Exact | 4.67% | 0.73% | 4.23% | 0.25% | 19.57% | 15.03% | 6.56% | 2.51% | 1.32% |
| 70 | Varied | None | Constant | 10.0% | 8 year | Constant | 4.45% | 0.83% | 5.86% | 1.31% | 19.35% | 16.92% | 11.91% | 9.63% | 1.24% |
| 71 | Varied | None | Constant | 10.0% | 8 year | Rounded | 4.45% | 0.83% | 4.19% | 0.37% | 14.90% | 13.00% | 2.16% | 0.47% | 1.27% |
| 72 | Varied | None | Constant | 10.0% | 8 year | Exact | 4.45% | 0.83% | 4.07% | 0.26% | 14.52% | 12.70% | 2.05% | 0.43% | 1.39% |
| 73 | Varied | 1.0% | Constant | 0.0% | 1 year | Constant | 4.25% | 0.70% | 3.34% | -0.22% | 12.19% | 8.52% | 5.19% | 1.75% | 1.76% |
| 74 | Varied | 1.0% | Constant | 0.0% | 1 year | Rounded | 4.25% | 0.70% | 3.34% | -0.22% | 12.19% | 8.52% | 5.19% | 1.75% | 1.76% |
| 75 | Varied | 1.0% | Constant | 0.0% | 1 year | Exact | 4.25% | 0.70% | 3.34% | -0.22% | 12.19% | 8.52% | 5.19% | 1.75% | 1.76% |
| 76 | Varied | 1.0% | Constant | 0.0% | 8 year | Constant | 4.11% | 0.78% | 3.17% | -0.20% | 11.88% | 9.78% | 4.90% | 2.94% | 1.84% |
| 77 | Varied | 1.0% | Constant | 0.0% | 8 year | Rounded | 4.11% | 0.78% | 3.17% | -0.20% | 11.88% | 9.78% | 4.90% | 2.94% | 1.84% |
| 78 | Varied | 1.0% | Constant | 0.0% | 8 year | Exact | 4.11% | 0.78% | 3.17% | -0.20% | 11.88% | 9.78% | 4.90% | 2.94% | 1.84% |
| 79 | Varied | 1.0% | Constant | 3.0% | 1 year | Constant | 4.41% | 0.71% | 4.31% | 0.49% | 14.57% | 10.40% | 7.42% | 3.51% | 1.13% |
| 80 | Varied | 1.0% | Constant | 3.0% | 1 year | Rounded | 4.41% | 0.71% | 3.52% | -0.28% | 13.72% | 9.94% | 5.16% | 1.67% | 1.98% |
| 81 | Varied | 1.0% | Constant | 3.0% | 1 year | Exact | 4.41% | 0.71% | 3.64% | -0.08% | 13.97% | 10.11% | 5.20% | 1.64% | 1.64% |
| 82 | Varied | 1.0% | Constant | 3.0% | 8 year | Constant | 4.26% | 0.80% | 4.15% | 0.51% | 14.30% | 11.60% | 7.18% | 4.64% | 1.21% |
| 83 | Varied | 1.0% | Constant | 3.0% | 8 year | Rounded | 4.26% | 0.80% | 3.33% | -0.29% | 13.20% | 10.83% | 4.68% | 2.49% | 2.12% |
| 84 | Varied | 1.0% | Constant | 3.0% | 8 year | Exact | 4.26% | 0.80% | 3.47% | -0.06% | 13.61% | 11.38% | 4.87% | 2.81% | 1.71% |
| 85 | Varied | 1.0% | Constant | 10.0% | 1 year | Constant | 4.70% | 0.73% | 6.06% | 1.30% | 21.33% | 16.90% | 13.77% | 9.61% | 1.02% |
| 86 | Varied | 1.0% | Constant | 10.0% | 1 year | Rounded | 4.70% | 0.73% | 4.37% | 0.32% | 18.18% | 13.85% | 5.08% | 1.23% | 1.23% |
| 87 | Varied | 1.0% | Constant | 10.0% | 1 year | Exact | 4.70% | 0.73% | 4.26% | 0.23% | 17.97% | 13.73% | 5.13% | 1.35% | 1.34% |
| 88 | Varied | 1.0% | Constant | 10.0% | 8 year | Constant | 4.53% | 0.81% | 5.90% | 1.32% | 21.56% | 18.68% | 13.98% | 11.28% | 1.18% |
| 89 | Varied | 1.0% | Constant | 10.0% | 8 year | Rounded | 4.53% | 0.81% | 4.21% | 0.36% | 17.88% | 15.29% | 4.81% | 2.51% | 1.28% |
| 90 | Varied | 1.0% | Constant | 10.0% | 8 year | Exact | 4.53% | 0.81% | 4.08% | 0.25% | 17.46% | 14.93% | 4.67% | 2.42% | 1.40% |

\$250,000 Retention Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail | Alternative | |
|----------|----------|-----------|-----------|-----------|---------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--------------------|---------------|
| | | Trend | | | Randomization | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Wtd Avg Excess | Latest Diag excess | Method Excess |
| 91 | Varied | -1.0% | Constant | 0.0% | 1 year | Constant | 4.17% | 0.69% | 3.25% | -0.19% | 14.91% | 10.69% | 7.74% | 3.79% | 1.71% |
| 92 | Varied | -1.0% | Constant | 0.0% | 1 year | Rounded | 4.17% | 0.69% | 3.25% | -0.19% | 14.91% | 10.69% | 7.74% | 3.79% | 1.71% |
| 93 | Varied | -1.0% | Constant | 0.0% | 1 year | Exact | 4.17% | 0.69% | 3.25% | -0.19% | 14.91% | 10.69% | 7.74% | 3.79% | 1.71% |
| 94 | Varied | -1.0% | Constant | 0.0% | 8 year | Constant | 3.98% | 0.78% | 3.09% | -0.17% | 9.98% | 8.17% | 3.12% | 1.43% | 1.78% |
| 95 | Varied | -1.0% | Constant | 0.0% | 8 year | Rounded | 3.98% | 0.78% | 3.09% | -0.17% | 9.98% | 8.17% | 3.12% | 1.43% | 1.78% |
| 96 | Varied | -1.0% | Constant | 0.0% | 8 year | Exact | 3.98% | 0.78% | 3.09% | -0.17% | 9.98% | 8.17% | 3.12% | 1.43% | 1.78% |
| 97 | Varied | -1.0% | Constant | 3.0% | 1 year | Constant | 4.33% | 0.71% | 4.21% | 0.49% | 17.04% | 12.39% | 9.74% | 5.38% | 1.12% |
| 98 | Varied | -1.0% | Constant | 3.0% | 1 year | Rounded | 4.33% | 0.71% | 3.46% | -0.25% | 16.60% | 12.27% | 7.83% | 3.82% | 1.90% |
| 99 | Varied | -1.0% | Constant | 3.0% | 1 year | Exact | 4.33% | 0.71% | 3.56% | -0.05% | 16.86% | 12.43% | 7.87% | 3.78% | 1.59% |
| 100 | Varied | -1.0% | Constant | 3.0% | 8 year | Constant | 4.13% | 0.80% | 4.04% | 0.52% | 12.39% | 10.00% | 5.39% | 3.14% | 1.19% |
| 101 | Varied | -1.0% | Constant | 3.0% | 8 year | Rounded | 4.13% | 0.80% | 3.26% | -0.24% | 11.25% | 9.22% | 2.88% | 1.00% | 2.07% |
| 102 | Varied | -1.0% | Constant | 3.0% | 8 year | Exact | 4.13% | 0.80% | 3.39% | -0.02% | 11.64% | 9.70% | 3.05% | 1.26% | 1.66% |
| 103 | Varied | -1.0% | Constant | 10.0% | 1 year | Constant | 4.64% | 0.72% | 5.93% | 1.27% | 23.22% | 18.39% | 15.54% | 11.01% | 0.99% |
| 104 | Varied | -1.0% | Constant | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.32% | 0.35% | 21.51% | 16.56% | 8.04% | 3.64% | 1.21% |
| 105 | Varied | -1.0% | Constant | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.21% | 0.26% | 21.26% | 16.40% | 8.06% | 3.73% | 1.31% |
| 106 | Varied | -1.0% | Constant | 10.0% | 8 year | Constant | 4.43% | 0.82% | 5.78% | 1.30% | 19.61% | 16.99% | 12.15% | 9.69% | 1.23% |
| 107 | Varied | -1.0% | Constant | 10.0% | 8 year | Rounded | 4.43% | 0.82% | 4.14% | 0.40% | 15.73% | 13.43% | 2.90% | 0.86% | 1.23% |
| 108 | Varied | -1.0% | Constant | 10.0% | 8 year | Exact | 4.43% | 0.82% | 4.02% | 0.29% | 15.33% | 13.12% | 2.77% | 0.81% | 1.36% |
| 109 | Constant | None | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 6.31% | 6.39% | -0.14% | -0.06% | 0.00% |
| 110 | Constant | None | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 6.31% | 6.39% | -0.14% | -0.06% | 0.00% |
| 111 | Constant | None | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 6.31% | 6.39% | -0.14% | -0.06% | 0.00% |
| 112 | Constant | None | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 2.28% | 2.75% | -3.93% | -3.48% | 0.00% |
| 113 | Constant | None | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 2.28% | 2.75% | -3.93% | -3.48% | 0.00% |
| 114 | Constant | None | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 2.28% | 2.75% | -3.93% | -3.48% | 0.00% |
| 115 | Constant | None | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 8.08% | 7.90% | 1.53% | 1.36% | -0.77% |
| 116 | Constant | None | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.04% | -0.03% | 7.64% | 7.78% | -0.28% | -0.15% | 0.12% |
| 117 | Constant | None | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 7.78% | 7.86% | -0.33% | -0.26% | -0.21% |
| 118 | Constant | None | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 4.25% | 4.28% | -2.07% | -2.04% | -0.83% |
| 119 | Constant | None | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.02% | -0.06% | 3.16% | 3.53% | -4.43% | -4.09% | 0.19% |
| 120 | Constant | None | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 3.41% | 3.83% | -4.37% | -3.99% | -0.24% |
| 121 | Constant | None | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.09% | 2.24% | 13.48% | 13.49% | 6.60% | 6.61% | -1.14% |
| 122 | Constant | None | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.73% | 0.69% | 11.31% | 11.33% | -0.85% | -0.84% | -0.75% |
| 123 | Constant | None | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 11.17% | 11.23% | -0.76% | -0.70% | -0.69% |
| 124 | Constant | None | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.12% | 2.24% | 10.45% | 10.46% | 3.75% | 3.76% | -1.10% |
| 125 | Constant | None | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.75% | 0.71% | 6.15% | 6.37% | -5.45% | -5.26% | -0.83% |
| 126 | Constant | None | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 5.92% | 6.20% | -5.44% | -5.20% | -0.79% |
| 127 | Constant | 1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 5.01% | 5.13% | -1.35% | -1.24% | 0.00% |
| 128 | Constant | 1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 5.01% | 5.13% | -1.35% | -1.24% | 0.00% |
| 129 | Constant | 1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 5.01% | 5.13% | -1.35% | -1.24% | 0.00% |
| 130 | Constant | 1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 3.62% | 3.98% | -2.66% | -2.33% | 0.00% |
| 131 | Constant | 1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 3.62% | 3.98% | -2.66% | -2.33% | 0.00% |
| 132 | Constant | 1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 3.62% | 3.98% | -2.66% | -2.33% | 0.00% |
| 133 | Constant | 1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.01% | 0.88% | 6.96% | 6.81% | 0.48% | 0.34% | -0.80% |
| 134 | Constant | 1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.04% | -0.04% | 6.23% | 6.44% | -1.59% | -1.39% | 0.13% |
| 135 | Constant | 1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 6.38% | 6.50% | -1.63% | -1.52% | -0.22% |

\$250,000 Retention Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity Randomization | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail Avg Excess | Non Tail | Alternative |
|----------|----------|-----------|-----------|-----------|---------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|------------------------|-----------------------|------------------|
| | | Trend | | | | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | Latest Diag excess | Method Excess |
| 136 | Constant | 1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 1.01% | 0.88% | 5.67% | 5.53% | -0.73% | -0.86% | -0.83% |
| 137 | Constant | 1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.01% | -0.06% | 4.63% | 4.86% | -3.07% | -2.85% | 0.19% |
| 138 | Constant | 1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 4.92% | 5.20% | -2.98% | -2.72% | -0.24% |
| 139 | Constant | 1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.14% | 2.28% | 12.73% | 12.72% | 5.90% | 5.89% | -1.16% |
| 140 | Constant | 1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.73% | 0.69% | 9.62% | 9.66% | -2.36% | -2.33% | -0.76% |
| 141 | Constant | 1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 9.50% | 9.61% | -2.25% | -2.15% | -0.71% |
| 142 | Constant | 1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.16% | 2.27% | 12.03% | 11.93% | 5.24% | 5.14% | -1.11% |
| 143 | Constant | 1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.75% | 0.71% | 8.12% | 8.15% | -3.69% | -3.67% | -0.82% |
| 144 | Constant | 1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 7.84% | 7.93% | -3.73% | -3.65% | -0.77% |
| 145 | Constant | -1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 7.75% | 7.63% | 1.22% | 1.11% | 0.00% |
| 146 | Constant | -1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 7.75% | 7.63% | 1.22% | 1.11% | 0.00% |
| 147 | Constant | -1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 7.75% | 7.63% | 1.22% | 1.11% | 0.00% |
| 148 | Constant | -1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 2.15% | 3.00% | -4.04% | -3.25% | 0.00% |
| 149 | Constant | -1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 2.15% | 3.00% | -4.04% | -3.25% | 0.00% |
| 150 | Constant | -1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 2.15% | 3.00% | -4.04% | -3.25% | 0.00% |
| 151 | Constant | -1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.98% | 0.86% | 9.50% | 9.13% | 2.86% | 2.51% | -0.74% |
| 152 | Constant | -1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.05% | -0.03% | 9.16% | 9.10% | 1.13% | 1.07% | 0.11% |
| 153 | Constant | -1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 9.32% | 9.19% | 1.09% | 0.97% | -0.21% |
| 154 | Constant | -1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.98% | 0.85% | 4.10% | 4.49% | -2.21% | -1.85% | -0.81% |
| 155 | Constant | -1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.02% | -0.05% | 3.11% | 3.85% | -4.48% | -3.79% | 0.19% |
| 156 | Constant | -1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 3.35% | 4.15% | -4.43% | -3.68% | -0.24% |
| 157 | Constant | -1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.05% | 2.20% | 14.81% | 14.64% | 7.85% | 7.69% | -1.11% |
| 158 | Constant | -1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.72% | 0.69% | 13.07% | 12.86% | 0.71% | 0.53% | -0.74% |
| 159 | Constant | -1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 12.92% | 12.76% | 0.81% | 0.66% | -0.67% |
| 160 | Constant | -1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.07% | 2.20% | 10.25% | 10.63% | 3.56% | 3.92% | -1.05% |
| 161 | Constant | -1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.74% | 0.71% | 6.28% | 6.92% | -5.34% | -4.77% | -0.84% |
| 162 | Constant | -1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 6.04% | 6.74% | -5.34% | -4.72% | -0.79% |
| 163 | Varied | None | Varied | 0.0% | 1 year | Constant | 4.17% | 0.69% | 3.28% | -0.20% | 13.37% | 9.57% | 6.25% | 2.69% | 1.75% |
| 164 | Varied | None | Varied | 0.0% | 1 year | Rounded | 4.17% | 0.69% | 3.28% | -0.20% | 13.37% | 9.57% | 6.25% | 2.69% | 1.75% |
| 165 | Varied | None | Varied | 0.0% | 1 year | Exact | 4.17% | 0.69% | 3.28% | -0.20% | 13.37% | 9.57% | 6.25% | 2.69% | 1.75% |
| 166 | Varied | None | Varied | 0.0% | 8 year | Constant | 3.95% | 0.77% | 3.13% | -0.19% | 9.43% | 7.80% | 2.56% | 1.03% | 1.83% |
| 167 | Varied | None | Varied | 0.0% | 8 year | Rounded | 3.95% | 0.77% | 3.13% | -0.19% | 9.43% | 7.80% | 2.56% | 1.03% | 1.83% |
| 168 | Varied | None | Varied | 0.0% | 8 year | Exact | 3.95% | 0.77% | 3.13% | -0.19% | 9.43% | 7.80% | 2.56% | 1.03% | 1.83% |
| 169 | Varied | None | Varied | 3.0% | 1 year | Constant | 4.33% | 0.70% | 4.24% | 0.49% | 15.57% | 11.31% | 8.31% | 4.32% | 1.13% |
| 170 | Varied | None | Varied | 3.0% | 1 year | Rounded | 4.33% | 0.70% | 3.49% | -0.25% | 15.00% | 11.07% | 6.30% | 2.67% | 1.94% |
| 171 | Varied | None | Varied | 3.0% | 1 year | Exact | 4.33% | 0.70% | 3.59% | -0.06% | 11.25% | 11.25% | 6.33% | 2.65% | 1.62% |
| 172 | Varied | None | Varied | 3.0% | 8 year | Constant | 4.11% | 0.79% | 4.09% | 0.50% | 11.93% | 9.67% | 4.90% | 2.78% | 1.21% |
| 173 | Varied | None | Varied | 3.0% | 8 year | Rounded | 4.11% | 0.79% | 3.31% | -0.27% | 10.64% | 8.80% | 2.27% | 0.56% | 2.11% |
| 174 | Varied | None | Varied | 3.0% | 8 year | Exact | 4.11% | 0.79% | 3.43% | -0.05% | 11.01% | 9.26% | 2.42% | 0.81% | 1.70% |
| 175 | Varied | None | Varied | 10.0% | 1 year | Constant | 4.64% | 0.72% | 5.98% | 1.28% | 22.00% | 17.55% | 14.34% | 10.17% | 1.01% |
| 176 | Varied | None | Varied | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.34% | 0.34% | 19.75% | 15.26% | 6.43% | 2.44% | 1.24% |
| 177 | Varied | None | Varied | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.23% | 0.25% | 19.49% | 15.08% | 6.44% | 2.51% | 1.33% |
| 178 | Varied | None | Varied | 10.0% | 8 year | Constant | 4.41% | 0.82% | 5.83% | 1.30% | 19.38% | 16.72% | 11.88% | 9.40% | 1.22% |
| 179 | Varied | None | Varied | 10.0% | 8 year | Rounded | 4.41% | 0.82% | 4.18% | 0.36% | 14.88% | 12.78% | 2.10% | 0.24% | 1.30% |
| 180 | Varied | None | Varied | 10.0% | 8 year | Exact | 4.41% | 0.82% | 4.06% | 0.26% | 14.52% | 12.50% | 2.01% | 0.21% | 1.40% |

\$250,000 Retention Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail Avg Excess | Non Tail | Alternative |
|----------|---------|-----------|-----------|-----------|---------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|------------------------|-----------------------|------------------|
| | | Trend | | | Randomization | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | Latest Diag excess | Method Excess |
| 181 | Varied | 1.0% | Varied | 0.0% | 1 year | Constant | 4.18% | 0.69% | 3.31% | -0.22% | 12.19% | 8.56% | 5.15% | 1.75% | 1.75% |
| 182 | Varied | 1.0% | Varied | 0.0% | 1 year | Rounded | 4.18% | 0.69% | 3.31% | -0.22% | 12.19% | 8.56% | 5.15% | 1.75% | 1.75% |
| 183 | Varied | 1.0% | Varied | 0.0% | 1 year | Exact | 4.18% | 0.69% | 3.31% | -0.22% | 12.19% | 8.56% | 5.15% | 1.75% | 1.75% |
| 184 | Varied | 1.0% | Varied | 0.0% | 8 year | Constant | 4.08% | 0.76% | 3.15% | -0.20% | 11.16% | 9.06% | 4.18% | 2.21% | 1.82% |
| 185 | Varied | 1.0% | Varied | 0.0% | 8 year | Rounded | 4.08% | 0.76% | 3.15% | -0.20% | 11.16% | 9.06% | 4.18% | 2.21% | 1.82% |
| 186 | Varied | 1.0% | Varied | 0.0% | 8 year | Exact | 4.08% | 0.76% | 3.15% | -0.20% | 11.16% | 9.06% | 4.18% | 2.21% | 1.82% |
| 187 | Varied | 1.0% | Varied | 3.0% | 1 year | Constant | 4.34% | 0.70% | 4.28% | 0.49% | 14.59% | 10.45% | 7.39% | 3.52% | 1.12% |
| 188 | Varied | 1.0% | Varied | 3.0% | 1 year | Rounded | 4.34% | 0.70% | 3.51% | -0.27% | 13.73% | 9.98% | 5.13% | 1.66% | 1.96% |
| 189 | Varied | 1.0% | Varied | 3.0% | 1 year | Exact | 4.34% | 0.70% | 3.61% | -0.08% | 13.99% | 10.15% | 5.17% | 1.63% | 1.63% |
| 190 | Varied | 1.0% | Varied | 3.0% | 8 year | Constant | 4.23% | 0.78% | 4.12% | 0.50% | 13.68% | 10.95% | 6.54% | 3.99% | 1.18% |
| 191 | Varied | 1.0% | Varied | 3.0% | 8 year | Rounded | 4.23% | 0.78% | 3.32% | -0.28% | 12.48% | 10.13% | 3.97% | 1.80% | 2.09% |
| 192 | Varied | 1.0% | Varied | 3.0% | 8 year | Exact | 4.23% | 0.78% | 3.45% | -0.06% | 12.89% | 10.64% | 4.16% | 2.08% | 1.69% |
| 193 | Varied | 1.0% | Varied | 10.0% | 1 year | Constant | 4.65% | 0.71% | 6.03% | 1.29% | 21.41% | 16.99% | 13.79% | 9.64% | 1.01% |
| 194 | Varied | 1.0% | Varied | 10.0% | 1 year | Rounded | 4.65% | 0.71% | 4.35% | 0.31% | 18.25% | 13.92% | 5.10% | 1.25% | 1.24% |
| 195 | Varied | 1.0% | Varied | 10.0% | 1 year | Exact | 4.65% | 0.71% | 4.25% | 0.23% | 18.02% | 13.78% | 5.13% | 1.35% | 1.33% |
| 196 | Varied | 1.0% | Varied | 10.0% | 8 year | Constant | 4.51% | 0.80% | 5.87% | 1.31% | 21.16% | 18.17% | 13.55% | 10.76% | 1.16% |
| 197 | Varied | 1.0% | Varied | 10.0% | 8 year | Rounded | 4.51% | 0.80% | 4.19% | 0.35% | 17.19% | 14.52% | 4.15% | 1.78% | 1.27% |
| 198 | Varied | 1.0% | Varied | 10.0% | 8 year | Exact | 4.51% | 0.80% | 4.07% | 0.25% | 16.76% | 14.18% | 4.01% | 1.71% | 1.38% |
| 199 | Varied | -1.0% | Varied | 0.0% | 1 year | Constant | 4.15% | 0.69% | 3.25% | -0.19% | 14.69% | 10.63% | 7.49% | 3.69% | 1.72% |
| 200 | Varied | -1.0% | Varied | 0.0% | 1 year | Rounded | 4.15% | 0.69% | 3.25% | -0.19% | 14.69% | 10.63% | 7.49% | 3.69% | 1.72% |
| 201 | Varied | -1.0% | Varied | 0.0% | 1 year | Exact | 4.15% | 0.69% | 3.25% | -0.19% | 14.69% | 10.63% | 7.49% | 3.69% | 1.72% |
| 202 | Varied | -1.0% | Varied | 0.0% | 8 year | Constant | 3.96% | 0.76% | 3.08% | -0.17% | 9.46% | 7.85% | 2.58% | 1.07% | 1.77% |
| 203 | Varied | -1.0% | Varied | 0.0% | 8 year | Rounded | 3.96% | 0.76% | 3.08% | -0.17% | 9.46% | 7.85% | 2.58% | 1.07% | 1.77% |
| 204 | Varied | -1.0% | Varied | 0.0% | 8 year | Exact | 3.96% | 0.76% | 3.08% | -0.17% | 9.46% | 7.85% | 2.58% | 1.07% | 1.77% |
| 205 | Varied | -1.0% | Varied | 3.0% | 1 year | Constant | 4.32% | 0.70% | 4.20% | 0.50% | 16.85% | 12.34% | 9.52% | 5.29% | 1.12% |
| 206 | Varied | -1.0% | Varied | 3.0% | 1 year | Rounded | 4.32% | 0.70% | 3.46% | -0.24% | 16.39% | 12.20% | 7.59% | 3.71% | 1.90% |
| 207 | Varied | -1.0% | Varied | 3.0% | 1 year | Exact | 4.32% | 0.70% | 3.56% | -0.05% | 16.65% | 12.38% | 7.63% | 3.69% | 1.60% |
| 208 | Varied | -1.0% | Varied | 3.0% | 8 year | Constant | 4.12% | 0.78% | 4.03% | 0.51% | 11.92% | 9.69% | 4.90% | 2.81% | 1.17% |
| 209 | Varied | -1.0% | Varied | 3.0% | 8 year | Rounded | 4.12% | 0.78% | 3.27% | -0.24% | 10.74% | 8.90% | 2.36% | 0.66% | 2.05% |
| 210 | Varied | -1.0% | Varied | 3.0% | 8 year | Exact | 4.12% | 0.78% | 3.39% | -0.03% | 11.11% | 9.37% | 2.51% | 0.91% | 1.64% |
| 211 | Varied | -1.0% | Varied | 10.0% | 1 year | Constant | 4.64% | 0.72% | 5.91% | 1.27% | 23.14% | 18.46% | 15.41% | 11.03% | 0.99% |
| 212 | Varied | -1.0% | Varied | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.31% | 0.35% | 21.33% | 16.55% | 7.84% | 3.59% | 1.22% |
| 213 | Varied | -1.0% | Varied | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.21% | 0.26% | 21.08% | 16.38% | 7.85% | 3.67% | 1.31% |
| 214 | Varied | -1.0% | Varied | 10.0% | 8 year | Constant | 4.43% | 0.81% | 5.76% | 1.30% | 19.29% | 16.75% | 11.80% | 9.42% | 1.20% |
| 215 | Varied | -1.0% | Varied | 10.0% | 8 year | Rounded | 4.43% | 0.81% | 4.14% | 0.39% | 15.18% | 13.07% | 2.36% | 0.49% | 1.22% |
| 216 | Varied | -1.0% | Varied | 10.0% | 8 year | Exact | 4.43% | 0.81% | 4.02% | 0.29% | 14.80% | 12.78% | 2.26% | 0.46% | 1.34% |

A Methodology for Avoiding the Pitfalls of Excess Loss Development

\$550,000 Retention Scenario Results
Total Error in Methods

Appendix 2 - \$550,000 Retention, Page 1

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail Avg Excess | Non Tail | Alternative |
|----------|----------|-----------|-----------|-----------|---------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|------------------------|-----------------------|------------------|
| | | Trend | | | Randomization | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | Latest Diag excess | Method Excess |
| 1 | Constant | None | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 9.30% | 9.30% | 0.00% | 0.00% | 0.00% |
| 2 | Constant | None | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 9.30% | 9.30% | 0.00% | 0.00% | 0.00% |
| 3 | Constant | None | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 9.30% | 9.30% | 0.00% | 0.00% | 0.00% |
| 4 | Constant | None | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | -2.22% | 0.72% | -10.54% | -7.85% | 0.00% |
| 5 | Constant | None | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | -2.22% | 0.72% | -10.54% | -7.85% | 0.00% |
| 6 | Constant | None | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | -2.22% | 0.72% | -10.54% | -7.85% | 0.00% |
| 7 | Constant | None | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.00% | 0.88% | 10.32% | 10.18% | 0.93% | 0.80% | -1.35% |
| 8 | Constant | None | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.15% | 0.19% | 10.65% | 10.50% | -0.52% | -0.65% | -0.46% |
| 9 | Constant | None | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 10.80% | 10.80% | -0.37% | -0.37% | -0.37% |
| 10 | Constant | None | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 0.04% | 2.66% | -8.47% | -6.08% | -1.61% |
| 11 | Constant | None | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.15% | 0.19% | -1.52% | 1.40% | -11.46% | -8.83% | -0.80% |
| 12 | Constant | None | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | -1.40% | 1.56% | -11.33% | -8.67% | -0.46% |
| 13 | Constant | None | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.54% | 3.11% | 13.42% | 13.19% | 3.76% | 3.55% | -4.04% |
| 14 | Constant | None | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.62% | 0.65% | 14.32% | 14.16% | -1.02% | -1.15% | -1.37% |
| 15 | Constant | None | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 14.23% | 14.23% | -1.19% | -1.19% | -1.19% |
| 16 | Constant | None | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.50% | 3.09% | 7.49% | 9.17% | -1.65% | -0.13% | -4.62% |
| 17 | Constant | None | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.65% | 0.44% | 3.23% | -13.03% | -10.62% | -2.03% |
| 18 | Constant | None | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 0.35% | 3.29% | -13.19% | -10.65% | -1.50% |
| 19 | Constant | 1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 6.51% | 7.02% | -2.55% | -2.09% | 0.00% |
| 20 | Constant | 1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 6.51% | 7.02% | -2.55% | -2.09% | 0.00% |
| 21 | Constant | 1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 6.51% | 7.02% | -2.55% | -2.09% | 0.00% |
| 22 | Constant | 1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 2.31% | 4.90% | -6.40% | -4.03% | 0.00% |
| 23 | Constant | 1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 2.31% | 4.90% | -6.40% | -4.03% | 0.00% |
| 24 | Constant | 1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 2.31% | 4.90% | -6.40% | -4.03% | 0.00% |
| 25 | Constant | 1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.02% | 0.89% | 7.33% | 7.68% | -1.81% | -1.48% | -1.41% |
| 26 | Constant | 1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.15% | 0.18% | 7.67% | 8.05% | -3.19% | -2.86% | -0.49% |
| 27 | Constant | 1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 7.82% | 8.35% | -3.04% | -2.57% | -0.38% |
| 28 | Constant | 1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 1.01% | 0.89% | 4.68% | 6.71% | -4.23% | -2.37% | -1.54% |
| 29 | Constant | 1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.15% | 0.19% | 3.28% | 5.81% | -7.14% | -4.87% | -0.65% |
| 30 | Constant | 1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 3.51% | 6.09% | -6.92% | -4.60% | -0.44% |
| 31 | Constant | 1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.59% | 3.17% | 10.87% | 11.12% | 1.43% | 1.66% | -4.21% |
| 32 | Constant | 1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.62% | 0.65% | 10.90% | 11.31% | -3.98% | -3.62% | -1.45% |
| 33 | Constant | 1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 10.82% | 11.40% | -4.14% | -3.63% | -1.24% |
| 34 | Constant | 1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.56% | 3.14% | 11.83% | 12.67% | 2.31% | 3.08% | -4.47% |
| 35 | Constant | 1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.65% | 6.24% | 8.54% | -8.01% | -6.02% | -1.78% |
| 36 | Constant | 1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 6.15% | 8.67% | -8.17% | -5.99% | -1.43% |
| 37 | Constant | -1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 11.07% | 10.72% | 1.61% | 1.30% | 0.00% |
| 38 | Constant | -1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 11.07% | 10.72% | 1.61% | 1.30% | 0.00% |
| 39 | Constant | -1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 11.07% | 10.72% | 1.61% | 1.30% | 0.00% |
| 40 | Constant | -1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | -0.70% | 1.92% | -9.15% | -6.75% | 0.00% |
| 41 | Constant | -1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | -0.70% | 1.92% | -9.15% | -6.75% | 0.00% |
| 42 | Constant | -1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | -0.70% | 1.92% | -9.15% | -6.75% | 0.00% |
| 43 | Constant | -1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.99% | 0.86% | 12.26% | 11.76% | 2.70% | 2.25% | -1.31% |
| 44 | Constant | -1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.15% | 0.19% | 12.53% | 12.03% | 1.18% | 0.72% | -0.44% |
| 45 | Constant | -1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 12.68% | 12.31% | 1.32% | 1.00% | -0.36% |

\$550,000 Retention Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity Randomization | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail | Non Tail | Alternative |
|----------|----------|-----------|-----------|-----------|---------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--------------------|---------------|
| | | Trend | | | | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Wtd Avg Excess | Latest Diag excess | Method Excess |
| 46 | Constant | -1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.98% | 0.85% | 1.52% | 3.74% | -7.12% | -5.09% | -1.52% |
| 47 | Constant | -1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.15% | 0.19% | 0.15% | 2.71% | -9.96% | -7.66% | -0.71% |
| 48 | Constant | -1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 0.31% | 2.93% | -9.80% | -7.44% | -0.45% |
| 49 | Constant | -1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.49% | 3.07% | 15.68% | 15.08% | 5.83% | 5.28% | -3.90% |
| 50 | Constant | -1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.65% | 16.47% | 15.91% | 0.84% | 0.36% | -1.32% |
| 51 | Constant | -1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 16.37% | 15.97% | 0.67% | 0.32% | -1.15% |
| 52 | Constant | -1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.45% | 3.03% | 8.68% | 9.86% | -0.57% | 0.51% | -4.43% |
| 53 | Constant | -1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.64% | 2.60% | 5.01% | -11.16% | -9.08% | -1.86% |
| 54 | Constant | -1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 2.51% | 5.11% | -11.32% | -9.08% | -1.48% |
| 55 | Varied | None | Constant | 0.0% | 1 year | Constant | 4.20% | 0.70% | 3.59% | 0.21% | 16.78% | 12.21% | 6.37% | 2.21% | 1.44% |
| 56 | Varied | None | Constant | 0.0% | 1 year | Rounded | 4.20% | 0.70% | 3.59% | 0.21% | 16.78% | 12.21% | 6.37% | 2.21% | 1.44% |
| 57 | Varied | None | Constant | 0.0% | 1 year | Exact | 4.20% | 0.70% | 3.59% | 0.21% | 16.78% | 12.21% | 6.37% | 2.21% | 1.44% |
| 58 | Varied | None | Constant | 0.0% | 8 year | Constant | 4.01% | 0.78% | 3.35% | 0.24% | 6.49% | 7.40% | -3.00% | -2.18% | 0.69% |
| 59 | Varied | None | Constant | 0.0% | 8 year | Rounded | 4.01% | 0.78% | 3.35% | 0.24% | 6.49% | 7.40% | -3.00% | -2.18% | 0.69% |
| 60 | Varied | None | Constant | 0.0% | 8 year | Exact | 4.01% | 0.78% | 3.35% | 0.24% | 6.49% | 7.40% | -3.00% | -2.18% | 0.69% |
| 61 | Varied | None | Constant | 3.0% | 1 year | Constant | 4.36% | 0.71% | 4.63% | 0.96% | 18.34% | 13.50% | 7.79% | 3.38% | 0.32% |
| 62 | Varied | None | Constant | 3.0% | 1 year | Rounded | 4.36% | 0.71% | 3.90% | 0.38% | 18.49% | 13.68% | 6.07% | 1.76% | 1.09% |
| 63 | Varied | None | Constant | 3.0% | 1 year | Exact | 4.36% | 0.71% | 3.92% | 0.38% | 18.68% | 13.88% | 6.26% | 1.96% | 1.14% |
| 64 | Varied | None | Constant | 3.0% | 8 year | Constant | 4.16% | 0.80% | 4.39% | 0.98% | 9.40% | 9.80% | -0.35% | 0.02% | -0.24% |
| 65 | Varied | None | Constant | 3.0% | 8 year | Rounded | 4.16% | 0.80% | 3.65% | 0.41% | 7.64% | 8.68% | -3.65% | -2.72% | 0.10% |
| 66 | Varied | None | Constant | 3.0% | 8 year | Exact | 4.16% | 0.80% | 3.67% | 0.41% | 7.86% | 8.74% | -3.43% | -2.64% | 0.29% |
| 67 | Varied | None | Constant | 10.0% | 1 year | Constant | 4.67% | 0.73% | 7.14% | 2.87% | 22.37% | 17.12% | 11.46% | 6.68% | -1.98% |
| 68 | Varied | None | Constant | 10.0% | 1 year | Rounded | 4.67% | 0.73% | 4.61% | 0.77% | 23.08% | 17.70% | 6.13% | 1.48% | 0.42% |
| 69 | Varied | None | Constant | 10.0% | 1 year | Exact | 4.67% | 0.73% | 4.60% | 0.75% | 22.97% | 17.69% | 5.93% | 1.38% | 0.46% |
| 70 | Varied | None | Constant | 10.0% | 8 year | Constant | 4.45% | 0.83% | 6.89% | 2.86% | 17.73% | 16.97% | 7.24% | 6.54% | -2.44% |
| 71 | Varied | None | Constant | 10.0% | 8 year | Rounded | 4.45% | 0.83% | 4.34% | 0.80% | 10.95% | 11.56% | -4.33% | -3.80% | -0.65% |
| 72 | Varied | None | Constant | 10.0% | 8 year | Exact | 4.45% | 0.83% | 4.34% | 0.78% | 10.82% | 11.64% | -4.54% | -3.83% | -0.60% |
| 73 | Varied | 1.0% | Constant | 0.0% | 1 year | Constant | 4.25% | 0.70% | 3.65% | 0.21% | 14.22% | 10.19% | 4.04% | 0.37% | 1.41% |
| 74 | Varied | 1.0% | Constant | 0.0% | 1 year | Rounded | 4.25% | 0.70% | 3.65% | 0.21% | 14.22% | 10.19% | 4.04% | 0.37% | 1.41% |
| 75 | Varied | 1.0% | Constant | 0.0% | 1 year | Exact | 4.25% | 0.70% | 3.65% | 0.21% | 14.22% | 10.19% | 4.04% | 0.37% | 1.41% |
| 76 | Varied | 1.0% | Constant | 0.0% | 8 year | Constant | 4.11% | 0.78% | 3.41% | 0.23% | 11.24% | 11.11% | 1.33% | 1.21% | 1.10% |
| 77 | Varied | 1.0% | Constant | 0.0% | 8 year | Rounded | 4.11% | 0.78% | 3.41% | 0.23% | 11.24% | 11.11% | 1.33% | 1.21% | 1.10% |
| 78 | Varied | 1.0% | Constant | 0.0% | 8 year | Exact | 4.11% | 0.78% | 3.41% | 0.23% | 11.24% | 11.11% | 1.33% | 1.21% | 1.10% |
| 79 | Varied | 1.0% | Constant | 3.0% | 1 year | Constant | 4.41% | 0.71% | 4.70% | 0.97% | 15.63% | 11.32% | 5.32% | 1.40% | 0.25% |
| 80 | Varied | 1.0% | Constant | 3.0% | 1 year | Rounded | 4.41% | 0.71% | 3.95% | 0.37% | 15.77% | 11.52% | 3.63% | -0.17% | 1.04% |
| 81 | Varied | 1.0% | Constant | 3.0% | 1 year | Exact | 4.41% | 0.71% | 3.97% | 0.38% | 15.96% | 11.72% | 3.82% | 0.03% | 1.10% |
| 82 | Varied | 1.0% | Constant | 3.0% | 8 year | Constant | 4.26% | 0.80% | 4.45% | 0.99% | 14.17% | 13.49% | 3.99% | 3.37% | 0.00% |
| 83 | Varied | 1.0% | Constant | 3.0% | 8 year | Rounded | 4.26% | 0.80% | 3.70% | 0.40% | 12.60% | 12.57% | 0.80% | 0.77% | 0.60% |
| 84 | Varied | 1.0% | Constant | 3.0% | 8 year | Exact | 4.26% | 0.80% | 3.72% | 0.40% | 12.92% | 12.72% | 1.11% | 0.93% | 0.73% |
| 85 | Varied | 1.0% | Constant | 10.0% | 1 year | Constant | 4.70% | 0.73% | 7.23% | 2.91% | 20.16% | 15.33% | 9.45% | 5.05% | -2.14% |
| 86 | Varied | 1.0% | Constant | 10.0% | 1 year | Rounded | 4.70% | 0.73% | 4.65% | 0.76% | 19.99% | 15.20% | 3.46% | -0.67% | 0.34% |
| 87 | Varied | 1.0% | Constant | 10.0% | 1 year | Exact | 4.70% | 0.73% | 4.64% | 0.74% | 19.88% | 15.21% | 3.27% | -0.76% | 0.39% |
| 88 | Varied | 1.0% | Constant | 10.0% | 8 year | Constant | 4.53% | 0.81% | 6.96% | 2.90% | 22.03% | 20.28% | 11.15% | 9.56% | -2.34% |
| 89 | Varied | 1.0% | Constant | 10.0% | 8 year | Rounded | 4.53% | 0.81% | 4.39% | 0.79% | 16.73% | 16.16% | 0.65% | 0.16% | -0.15% |
| 90 | Varied | 1.0% | Constant | 10.0% | 8 year | Exact | 4.53% | 0.81% | 4.38% | 0.77% | 16.61% | 16.27% | 0.45% | 0.16% | -0.10% |

\$550,000 Retention Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail | Non Tail | Alternative |
|----------|----------|-----------|-----------|-----------|---------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--------------------|---------------|
| | | Trend | | | Randomization | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Wtd Avg Excess | Latest Diag excess | Method Excess |
| 91 | Varied | -1.0% | Constant | 0.0% | 1 year | Constant | 4.17% | 0.69% | 3.55% | 0.21% | 18.40% | 13.50% | 7.84% | 3.39% | 1.44% |
| 92 | Varied | -1.0% | Constant | 0.0% | 1 year | Rounded | 4.17% | 0.69% | 3.55% | 0.21% | 18.40% | 13.50% | 7.84% | 3.39% | 1.44% |
| 93 | Varied | -1.0% | Constant | 0.0% | 1 year | Exact | 4.17% | 0.69% | 3.55% | 0.21% | 18.40% | 13.50% | 7.84% | 3.39% | 1.44% |
| 94 | Varied | -1.0% | Constant | 0.0% | 8 year | Constant | 3.98% | 0.78% | 3.31% | 0.25% | 8.00% | 7.98% | -1.63% | -1.65% | 0.91% |
| 95 | Varied | -1.0% | Constant | 0.0% | 8 year | Rounded | 3.98% | 0.78% | 3.31% | 0.25% | 8.00% | 7.98% | -1.63% | -1.65% | 0.91% |
| 96 | Varied | -1.0% | Constant | 0.0% | 8 year | Exact | 3.98% | 0.78% | 3.31% | 0.25% | 8.00% | 7.98% | -1.63% | -1.65% | 0.91% |
| 97 | Varied | -1.0% | Constant | 3.0% | 1 year | Constant | 4.33% | 0.71% | 4.58% | 0.95% | 20.10% | 14.91% | 9.39% | 4.67% | 0.36% |
| 98 | Varied | -1.0% | Constant | 3.0% | 1 year | Rounded | 4.33% | 0.71% | 3.87% | 0.38% | 20.21% | 15.06% | 7.60% | 3.00% | 1.11% |
| 99 | Varied | -1.0% | Constant | 3.0% | 1 year | Exact | 4.33% | 0.71% | 3.88% | 0.38% | 20.40% | 15.26% | 7.80% | 3.20% | 1.15% |
| 100 | Varied | -1.0% | Constant | 3.0% | 8 year | Constant | 4.13% | 0.80% | 4.32% | 0.98% | 10.86% | 10.31% | 0.98% | 0.47% | -0.09% |
| 101 | Varied | -1.0% | Constant | 3.0% | 8 year | Rounded | 4.13% | 0.80% | 3.61% | 0.42% | 9.27% | 9.32% | -2.19% | -2.14% | 0.37% |
| 102 | Varied | -1.0% | Constant | 3.0% | 8 year | Exact | 4.13% | 0.80% | 3.63% | 0.42% | 9.53% | 9.44% | -1.93% | -2.02% | 0.53% |
| 103 | Varied | -1.0% | Constant | 10.0% | 1 year | Constant | 4.64% | 0.72% | 7.06% | 2.83% | 24.38% | 18.78% | 13.29% | 8.19% | -1.87% |
| 104 | Varied | -1.0% | Constant | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.58% | 0.77% | 25.03% | 19.28% | 7.80% | 2.84% | 0.46% |
| 105 | Varied | -1.0% | Constant | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.57% | 0.75% | 24.91% | 19.26% | 7.61% | 2.74% | 0.50% |
| 106 | Varied | -1.0% | Constant | 10.0% | 8 year | Constant | 4.43% | 0.82% | 6.78% | 2.84% | 18.88% | 17.22% | 8.29% | 6.77% | -2.33% |
| 107 | Varied | -1.0% | Constant | 10.0% | 8 year | Rounded | 4.43% | 0.82% | 4.31% | 0.81% | 13.00% | 12.56% | -2.56% | -2.94% | -0.36% |
| 108 | Varied | -1.0% | Constant | 10.0% | 8 year | Exact | 4.43% | 0.82% | 4.30% | 0.80% | 12.89% | 12.65% | -2.75% | -2.96% | -0.32% |
| 109 | Constant | None | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 9.14% | 9.21% | -0.21% | -0.15% | 0.00% |
| 110 | Constant | None | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 9.14% | 9.21% | -0.21% | -0.15% | 0.00% |
| 111 | Constant | None | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 9.14% | 9.21% | -0.21% | -0.15% | 0.00% |
| 112 | Constant | None | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | -2.06% | 0.39% | -10.45% | -8.21% | 0.00% |
| 113 | Constant | None | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | -2.06% | 0.39% | -10.45% | -8.21% | 0.00% |
| 114 | Constant | None | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | -2.06% | 0.39% | -10.45% | -8.21% | 0.00% |
| 115 | Constant | None | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 10.23% | 10.16% | 0.79% | 0.72% | -1.36% |
| 116 | Constant | None | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.15% | 0.18% | 10.53% | 10.45% | -0.68% | -0.76% | -0.47% |
| 117 | Constant | None | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 10.67% | 10.74% | -0.54% | -0.48% | -0.37% |
| 118 | Constant | None | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 0.16% | 2.23% | -8.42% | -6.53% | -1.61% |
| 119 | Constant | None | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.15% | 0.19% | -1.37% | 1.00% | -11.38% | -9.25% | -0.80% |
| 120 | Constant | None | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | -1.24% | 1.19% | -11.24% | -9.06% | -0.46% |
| 121 | Constant | None | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.51% | 3.10% | 13.51% | 13.33% | 3.78% | 3.62% | -4.08% |
| 122 | Constant | None | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.64% | 14.30% | 14.17% | -1.09% | -1.20% | -1.38% |
| 123 | Constant | None | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 14.20% | 14.24% | -1.26% | -1.23% | -1.20% |
| 124 | Constant | None | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.49% | 3.08% | 7.58% | 8.57% | -1.63% | -0.73% | -4.63% |
| 125 | Constant | None | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.64% | 0.56% | 2.76% | -12.97% | -11.07% | -2.04% |
| 126 | Constant | None | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 0.49% | 2.84% | -13.12% | -11.09% | -1.50% |
| 127 | Constant | 1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 6.62% | 6.85% | -2.51% | -2.30% | 0.00% |
| 128 | Constant | 1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 6.62% | 6.85% | -2.51% | -2.30% | 0.00% |
| 129 | Constant | 1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 6.62% | 6.85% | -2.51% | -2.30% | 0.00% |
| 130 | Constant | 1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 0.94% | 3.50% | -7.70% | -5.37% | 0.00% |
| 131 | Constant | 1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 0.94% | 3.50% | -7.70% | -5.37% | 0.00% |
| 132 | Constant | 1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 0.94% | 3.50% | -7.70% | -5.37% | 0.00% |
| 133 | Constant | 1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.01% | 0.89% | 7.46% | 7.52% | -1.74% | -1.69% | -1.42% |
| 134 | Constant | 1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.14% | 0.18% | 7.81% | 7.89% | -3.13% | -3.06% | -0.50% |
| 135 | Constant | 1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 7.94% | 8.18% | -2.99% | -2.78% | -0.38% |

\$550,000 Retention Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity Randomization | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail Avg Excess | Non Tail | Alternative |
|----------|----------|-----------|-----------|-----------|---------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|------------------------|-----------------------|------------------|
| | | Trend | | | | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | Latest Diag excess | Method Excess |
| 136 | Constant | 1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 1.00% | 0.88% | 3.51% | 5.46% | -5.36% | -3.58% | -1.56% |
| 137 | Constant | 1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.15% | 0.19% | 1.91% | 4.36% | -8.43% | -6.23% | -0.68% |
| 138 | Constant | 1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 2.15% | 4.68% | -8.20% | -5.93% | -0.45% |
| 139 | Constant | 1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.57% | 3.15% | 11.18% | 11.07% | 1.66% | 1.55% | -4.23% |
| 140 | Constant | 1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.62% | 0.65% | 11.05% | 11.11% | -3.90% | -3.85% | -1.46% |
| 141 | Constant | 1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 10.96% | 11.20% | -4.07% | -3.86% | -1.25% |
| 142 | Constant | 1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.54% | 3.12% | 11.16% | 11.77% | 1.63% | 2.20% | -4.54% |
| 143 | Constant | 1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.65% | 4.93% | 7.11% | -9.20% | -7.31% | -1.82% |
| 144 | Constant | 1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 4.83% | 7.26% | -9.37% | -7.27% | -1.47% |
| 145 | Constant | -1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 10.79% | 10.58% | 1.30% | 1.11% | 0.00% |
| 146 | Constant | -1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 10.79% | 10.58% | 1.30% | 1.11% | 0.00% |
| 147 | Constant | -1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 10.79% | 10.58% | 1.30% | 1.11% | 0.00% |
| 148 | Constant | -1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | -1.66% | 1.30% | -10.08% | -7.38% | 0.00% |
| 149 | Constant | -1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | -1.66% | 1.30% | -10.08% | -7.38% | 0.00% |
| 150 | Constant | -1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | -1.66% | 1.30% | -10.08% | -7.38% | 0.00% |
| 151 | Constant | -1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.99% | 0.86% | 12.01% | 11.66% | 2.41% | 2.09% | -1.32% |
| 152 | Constant | -1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.15% | 0.18% | 12.27% | 11.90% | 0.88% | 0.55% | -0.45% |
| 153 | Constant | -1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 12.42% | 12.19% | 1.03% | 0.82% | -0.36% |
| 154 | Constant | -1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.97% | 0.85% | 0.65% | 3.21% | -7.97% | -5.63% | -1.54% |
| 155 | Constant | -1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.15% | 0.19% | -0.86% | 2.04% | -10.92% | -8.31% | -0.72% |
| 156 | Constant | -1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | -0.67% | 2.29% | -10.73% | -8.07% | -0.46% |
| 157 | Constant | -1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.48% | 3.06% | 15.52% | 15.08% | 5.62% | 5.22% | -3.93% |
| 158 | Constant | -1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.64% | 16.26% | 15.82% | 0.60% | 0.23% | -1.33% |
| 159 | Constant | -1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 16.16% | 15.88% | 0.43% | 0.18% | -1.16% |
| 160 | Constant | -1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.44% | 3.03% | 8.08% | 9.56% | -1.18% | 0.18% | -4.50% |
| 161 | Constant | -1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.64% | 1.57% | 4.33% | -12.11% | -9.72% | -1.90% |
| 162 | Constant | -1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 1.49% | 4.43% | -12.26% | -9.71% | -1.50% |
| 163 | Varied | None | Varied | 0.0% | 1 year | Constant | 4.17% | 0.69% | 3.56% | 0.20% | 16.60% | 12.12% | 6.15% | 2.06% | 1.46% |
| 164 | Varied | None | Varied | 0.0% | 1 year | Rounded | 4.17% | 0.69% | 3.56% | 0.20% | 16.60% | 12.12% | 6.15% | 2.06% | 1.46% |
| 165 | Varied | None | Varied | 0.0% | 1 year | Exact | 4.17% | 0.69% | 3.56% | 0.20% | 16.60% | 12.12% | 6.15% | 2.06% | 1.46% |
| 166 | Varied | None | Varied | 0.0% | 8 year | Constant | 3.95% | 0.77% | 3.32% | 0.23% | 6.52% | 7.09% | -3.03% | -2.52% | 0.70% |
| 167 | Varied | None | Varied | 0.0% | 8 year | Rounded | 3.95% | 0.77% | 3.32% | 0.23% | 6.52% | 7.09% | -3.03% | -2.52% | 0.70% |
| 168 | Varied | None | Varied | 0.0% | 8 year | Exact | 3.95% | 0.77% | 3.32% | 0.23% | 6.52% | 7.09% | -3.03% | -2.52% | 0.70% |
| 169 | Varied | None | Varied | 3.0% | 1 year | Constant | 4.33% | 0.70% | 4.59% | 0.95% | 18.23% | 13.48% | 7.63% | 3.30% | 0.33% |
| 170 | Varied | None | Varied | 3.0% | 1 year | Rounded | 4.33% | 0.70% | 3.87% | 0.37% | 18.35% | 13.62% | 5.88% | 1.65% | 1.10% |
| 171 | Varied | None | Varied | 3.0% | 1 year | Exact | 4.33% | 0.70% | 3.89% | 0.38% | 18.54% | 13.82% | 6.07% | 1.84% | 1.16% |
| 172 | Varied | None | Varied | 3.0% | 8 year | Constant | 4.11% | 0.79% | 4.36% | 0.97% | 9.40% | 9.43% | -0.41% | -0.39% | -0.23% |
| 173 | Varied | None | Varied | 3.0% | 8 year | Rounded | 4.11% | 0.79% | 3.62% | 0.40% | 7.67% | 8.31% | -3.68% | -3.10% | 0.11% |
| 174 | Varied | None | Varied | 3.0% | 8 year | Exact | 4.11% | 0.79% | 3.64% | 0.40% | 7.90% | 8.41% | -3.45% | -2.99% | 0.31% |
| 175 | Varied | None | Varied | 10.0% | 1 year | Constant | 4.64% | 0.72% | 7.10% | 2.85% | 22.42% | 17.27% | 11.44% | 6.76% | -2.00% |
| 176 | Varied | None | Varied | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.58% | 0.76% | 23.04% | 17.71% | 6.03% | 1.44% | 0.44% |
| 177 | Varied | None | Varied | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.58% | 0.75% | 22.92% | 17.70% | 5.83% | 1.33% | 0.47% |
| 178 | Varied | None | Varied | 10.0% | 8 year | Constant | 4.41% | 0.82% | 6.85% | 2.85% | 17.72% | 16.48% | 7.16% | 6.03% | -2.44% |
| 179 | Varied | None | Varied | 10.0% | 8 year | Rounded | 4.41% | 0.82% | 4.32% | 0.79% | 10.97% | 11.17% | -4.37% | -4.20% | -0.62% |
| 180 | Varied | None | Varied | 10.0% | 8 year | Exact | 4.41% | 0.82% | 4.31% | 0.78% | 10.85% | 11.26% | -4.56% | -4.21% | -0.57% |

\$550,000 Retention Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail | Non Tail | Alternative |
|----------|---------|-----------|-----------|-----------|---------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--------------------|---------------|
| | | Trend | | | Randomization | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Wtd Avg Excess | Latest Diag excess | Method Excess |
| 181 | Varied | 1.0% | Varied | 0.0% | 1 year | Constant | 4.18% | 0.69% | 3.59% | 0.20% | 14.29% | 10.16% | 4.04% | 0.28% | 1.38% |
| 182 | Varied | 1.0% | Varied | 0.0% | 1 year | Rounded | 4.18% | 0.69% | 3.59% | 0.20% | 14.29% | 10.16% | 4.04% | 0.28% | 1.38% |
| 183 | Varied | 1.0% | Varied | 0.0% | 1 year | Exact | 4.18% | 0.69% | 3.59% | 0.20% | 14.29% | 10.16% | 4.04% | 0.28% | 1.38% |
| 184 | Varied | 1.0% | Varied | 0.0% | 8 year | Constant | 4.08% | 0.76% | 3.36% | 0.22% | 10.07% | 9.81% | 0.20% | -0.04% | 1.02% |
| 185 | Varied | 1.0% | Varied | 0.0% | 8 year | Rounded | 4.08% | 0.76% | 3.36% | 0.22% | 10.07% | 9.81% | 0.20% | -0.04% | 1.02% |
| 186 | Varied | 1.0% | Varied | 0.0% | 8 year | Exact | 4.08% | 0.76% | 3.36% | 0.22% | 10.07% | 9.81% | 0.20% | -0.04% | 1.02% |
| 187 | Varied | 1.0% | Varied | 3.0% | 1 year | Constant | 4.34% | 0.70% | 4.64% | 0.96% | 15.74% | 11.30% | 5.36% | 1.32% | 0.22% |
| 188 | Varied | 1.0% | Varied | 3.0% | 1 year | Rounded | 4.34% | 0.70% | 3.89% | 0.36% | 15.87% | 11.50% | 3.67% | -0.25% | 1.00% |
| 189 | Varied | 1.0% | Varied | 3.0% | 1 year | Exact | 4.34% | 0.70% | 3.91% | 0.37% | 16.05% | 11.69% | 3.85% | -0.06% | 1.06% |
| 190 | Varied | 1.0% | Varied | 3.0% | 8 year | Constant | 4.23% | 0.78% | 4.40% | 0.98% | 13.20% | 12.35% | 3.05% | 2.27% | -0.09% |
| 191 | Varied | 1.0% | Varied | 3.0% | 8 year | Rounded | 4.23% | 0.78% | 3.66% | 0.39% | 11.44% | 11.23% | -0.30% | -0.49% | 0.50% |
| 192 | Varied | 1.0% | Varied | 3.0% | 8 year | Exact | 4.23% | 0.78% | 3.68% | 0.39% | 11.78% | 11.42% | 0.02% | -0.30% | 0.65% |
| 193 | Varied | 1.0% | Varied | 10.0% | 1 year | Constant | 4.65% | 0.71% | 7.16% | 2.88% | 20.48% | 15.45% | 9.67% | 5.10% | -2.18% |
| 194 | Varied | 1.0% | Varied | 10.0% | 1 year | Rounded | 4.65% | 0.71% | 4.60% | 0.75% | 20.14% | 15.18% | 3.53% | -0.75% | 0.30% |
| 195 | Varied | 1.0% | Varied | 10.0% | 1 year | Exact | 4.65% | 0.71% | 4.59% | 0.73% | 20.02% | 15.18% | 3.33% | -0.84% | 0.35% |
| 196 | Varied | 1.0% | Varied | 10.0% | 8 year | Constant | 4.51% | 0.80% | 6.91% | 2.88% | 21.55% | 19.54% | 10.65% | 8.82% | -2.44% |
| 197 | Varied | 1.0% | Varied | 10.0% | 8 year | Rounded | 4.51% | 0.80% | 4.35% | 0.78% | 15.68% | 14.87% | -0.31% | -1.01% | -0.25% |
| 198 | Varied | 1.0% | Varied | 10.0% | 8 year | Exact | 4.51% | 0.80% | 4.34% | 0.77% | 15.54% | 14.98% | -0.52% | -1.01% | -0.20% |
| 199 | Varied | -1.0% | Varied | 0.0% | 1 year | Constant | 4.15% | 0.69% | 3.54% | 0.21% | 18.12% | 13.34% | 7.53% | 3.18% | 1.46% |
| 200 | Varied | -1.0% | Varied | 0.0% | 1 year | Rounded | 4.15% | 0.69% | 3.54% | 0.21% | 18.12% | 13.34% | 7.53% | 3.18% | 1.46% |
| 201 | Varied | -1.0% | Varied | 0.0% | 1 year | Exact | 4.15% | 0.69% | 3.54% | 0.21% | 18.12% | 13.34% | 7.53% | 3.18% | 1.46% |
| 202 | Varied | -1.0% | Varied | 0.0% | 8 year | Constant | 3.96% | 0.76% | 3.29% | 0.24% | 7.12% | 7.43% | -2.49% | -2.20% | 0.85% |
| 203 | Varied | -1.0% | Varied | 0.0% | 8 year | Rounded | 3.96% | 0.76% | 3.29% | 0.24% | 7.12% | 7.43% | -2.49% | -2.20% | 0.85% |
| 204 | Varied | -1.0% | Varied | 0.0% | 8 year | Exact | 3.96% | 0.76% | 3.29% | 0.24% | 7.12% | 7.43% | -2.49% | -2.20% | 0.85% |
| 205 | Varied | -1.0% | Varied | 3.0% | 1 year | Constant | 4.32% | 0.70% | 4.56% | 0.95% | 19.85% | 14.79% | 9.10% | 4.50% | 0.36% |
| 206 | Varied | -1.0% | Varied | 3.0% | 1 year | Rounded | 4.32% | 0.70% | 3.85% | 0.37% | 19.95% | 14.91% | 7.31% | 2.81% | 1.12% |
| 207 | Varied | -1.0% | Varied | 3.0% | 1 year | Exact | 4.32% | 0.70% | 3.87% | 0.38% | 20.14% | 15.11% | 7.51% | 3.00% | 1.17% |
| 208 | Varied | -1.0% | Varied | 3.0% | 8 year | Constant | 4.12% | 0.78% | 4.31% | 0.97% | 10.08% | 9.85% | 0.21% | 0.00% | -0.15% |
| 209 | Varied | -1.0% | Varied | 3.0% | 8 year | Rounded | 4.12% | 0.78% | 3.59% | 0.41% | 8.36% | 8.75% | -3.06% | -2.71% | 0.30% |
| 210 | Varied | -1.0% | Varied | 3.0% | 8 year | Exact | 4.12% | 0.78% | 3.61% | 0.41% | 8.64% | 8.89% | -2.79% | -2.57% | 0.46% |
| 211 | Varied | -1.0% | Varied | 10.0% | 1 year | Constant | 4.64% | 0.72% | 7.05% | 2.83% | 24.21% | 18.77% | 13.07% | 8.11% | -1.88% |
| 212 | Varied | -1.0% | Varied | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.57% | 0.77% | 24.82% | 19.17% | 7.56% | 2.69% | 0.48% |
| 213 | Varied | -1.0% | Varied | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.56% | 0.75% | 24.70% | 19.15% | 7.36% | 2.58% | 0.50% |
| 214 | Varied | -1.0% | Varied | 10.0% | 8 year | Constant | 4.43% | 0.81% | 6.77% | 2.82% | 18.37% | 17.01% | 7.75% | 6.51% | -2.40% |
| 215 | Varied | -1.0% | Varied | 10.0% | 8 year | Rounded | 4.43% | 0.81% | 4.30% | 0.80% | 12.11% | 11.99% | -3.39% | -3.49% | -0.44% |
| 216 | Varied | -1.0% | Varied | 10.0% | 8 year | Exact | 4.43% | 0.81% | 4.29% | 0.79% | 11.99% | 12.09% | -3.58% | -3.49% | -0.41% |

| Multiple Retention Scenario Results | | | | | | | | | | | | | | | | |
|-------------------------------------|----------|-----------|-----------|-----------|----------|-----------|-----------|-------------|---------|-------------|---------|-------------|----------|-------------|-------------|-------------|
| Total Error in Methods | | | | | | | | | | | | | | | | |
| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd | | Wtd | | Wtd | | Non Tail | Non Tail | Alternative | Sum of Ret. |
| | | Trend | | | | | Average | Latest Diag | Average | Latest Diag | Average | Latest Diag | Wtd Avg | Latest Diag | Method | Method |
| | | | | | | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Excess | excess | Excess | Excess |
| 1 | Constant | None | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 7.86% | 7.86% | 0.00% | 0.00% | 0.00% | 0.00% |
| 2 | Constant | None | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 7.86% | 7.86% | 0.00% | 0.00% | 0.00% | 0.00% |
| 3 | Constant | None | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 7.86% | 7.86% | 0.00% | 0.00% | 0.00% | 0.00% |
| 4 | Constant | None | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 1.01% | 2.64% | -6.35% | -4.84% | 0.00% | 0.00% |
| 5 | Constant | None | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 1.01% | 2.64% | -6.35% | -4.84% | 0.00% | 0.00% |
| 6 | Constant | None | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 1.01% | 2.64% | -6.35% | -4.84% | 0.00% | 0.00% |
| 7 | Constant | None | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.99% | 0.86% | 9.19% | 9.01% | 1.23% | 1.07% | -1.23% | -1.03% |
| 8 | Constant | None | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.08% | 0.04% | 9.29% | 9.37% | -0.25% | -0.17% | -0.07% | 0.00% |
| 9 | Constant | None | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 9.34% | 9.34% | -0.28% | -0.28% | -0.28% | -0.28% |
| 10 | Constant | None | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.98% | 0.86% | 3.14% | 4.36% | -4.38% | -3.24% | -1.44% | -1.17% |
| 11 | Constant | None | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.07% | 0.05% | 1.92% | 3.46% | -6.97% | -5.56% | -0.09% | 0.02% |
| 12 | Constant | None | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.19% | 2.05% | 3.65% | -6.93% | -5.47% | -0.34% | -0.34% |
| 13 | Constant | None | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.35% | 2.80% | 13.74% | 13.44% | 5.45% | 5.18% | -3.30% | -2.64% |
| 14 | Constant | None | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.65% | 0.68% | 12.78% | 12.67% | -1.01% | -1.11% | -1.05% | -1.10% |
| 15 | Constant | None | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 12.72% | 12.72% | -0.92% | -0.92% | -0.92% | -0.92% |
| 16 | Constant | None | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.35% | 2.80% | 9.62% | 10.25% | 1.63% | 2.21% | -3.81% | -2.87% |
| 17 | Constant | None | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.65% | 0.68% | 4.35% | 5.84% | -8.41% | -7.11% | -1.26% | -1.44% |
| 18 | Constant | None | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 4.31% | 5.86% | -8.31% | -6.95% | -1.11% | -1.10% |
| 19 | Constant | 1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 5.69% | 6.07% | -2.01% | -1.66% | 0.00% | 0.00% |
| 20 | Constant | 1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 5.69% | 6.07% | -2.01% | -1.66% | 0.00% | 0.00% |
| 21 | Constant | 1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 5.69% | 6.07% | -2.01% | -1.66% | 0.00% | 0.00% |
| 22 | Constant | 1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | -0.01% | 0.00% | 4.11% | 5.31% | -3.48% | -2.36% | 0.00% | 0.00% |
| 23 | Constant | 1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | -0.01% | 0.00% | 4.11% | 5.31% | -3.48% | -2.36% | 0.00% | 0.00% |
| 24 | Constant | 1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | -0.01% | 0.00% | 4.11% | 5.31% | -3.48% | -2.36% | 0.00% | 0.00% |
| 25 | Constant | 1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.00% | 0.88% | 7.12% | 7.31% | -0.68% | -0.51% | -1.29% | -1.08% |
| 26 | Constant | 1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.07% | 0.04% | 6.98% | 7.45% | -2.35% | -1.92% | -0.06% | 0.01% |
| 27 | Constant | 1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 7.02% | 7.42% | -2.39% | -2.03% | -0.29% | -0.29% |
| 28 | Constant | 1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.99% | 0.88% | 6.28% | 6.97% | -1.47% | -0.83% | -1.41% | -1.13% |
| 29 | Constant | 1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.06% | 0.04% | 5.23% | 6.32% | -3.95% | -2.95% | -0.07% | 0.01% |
| 30 | Constant | 1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.19% | 5.40% | 6.55% | -3.88% | -2.83% | -0.33% | -0.32% |
| 31 | Constant | 1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.39% | 2.84% | 12.22% | 12.25% | 4.04% | 4.07% | -3.44% | -2.73% |
| 32 | Constant | 1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.65% | 0.68% | 10.11% | 10.42% | -3.36% | -3.08% | -1.09% | -1.16% |
| 33 | Constant | 1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 10.08% | 10.51% | -3.24% | -2.86% | -0.95% | -0.95% |
| 34 | Constant | 1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.40% | 2.84% | 12.60% | 12.64% | 4.40% | 4.43% | -3.71% | -2.81% |
| 35 | Constant | 1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.65% | 0.68% | 8.34% | 9.28% | -4.91% | -4.08% | -1.21% | -1.32% |
| 36 | Constant | 1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.59% | 0.60% | 8.26% | 9.27% | -4.84% | -3.95% | -1.06% | -1.05% |
| 37 | Constant | -1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | -0.01% | -0.01% | 9.55% | 9.23% | 1.56% | 1.27% | 0.01% | 0.00% |
| 38 | Constant | -1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | -0.01% | -0.01% | 9.55% | 9.23% | 1.56% | 1.27% | 0.01% | 0.00% |
| 39 | Constant | -1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | -0.01% | -0.01% | 9.55% | 9.23% | 1.56% | 1.27% | 0.01% | 0.00% |
| 40 | Constant | -1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 1.90% | 3.33% | -5.52% | -4.20% | 0.00% | 0.00% |
| 41 | Constant | -1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 1.90% | 3.33% | -5.52% | -4.20% | 0.00% | 0.00% |
| 42 | Constant | -1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 1.90% | 3.33% | -5.52% | -4.20% | 0.00% | 0.00% |
| 43 | Constant | -1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.97% | 0.84% | 10.98% | 10.48% | 2.89% | 2.43% | -1.17% | -1.00% |
| 44 | Constant | -1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.07% | 0.04% | 11.07% | 10.82% | 1.38% | 1.15% | -0.06% | -0.01% |
| 45 | Constant | -1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 11.13% | 10.80% | 1.36% | 1.06% | -0.27% | -0.28% |

| | | Multiple Retention Scenario Results | | | | | | | | | | | | | | |
|----------|----------|-------------------------------------|-----------|-----------|----------|-----------|-----------|-------------|---------|-------------|---------|-------------|----------|-------------|-------------|-------------|
| | | Total Error in Methods | | | | | | | | | | | | | | |
| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd | | Wtd | | Wtd | | Non Tail | Non Tail | Alternative | Sum of Ret. |
| | | Trend | | | | | Average | Latest Diag | Average | Latest Diag | Average | Latest Diag | Wtd Avg | Latest Diag | Method | Method |
| | | | | | | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Excess | excess | Excess | Excess |
| 46 | Constant | -1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.96% | 0.85% | 3.97% | 4.97% | -3.61% | -2.68% | -1.40% | -1.11% |
| 47 | Constant | -1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.07% | 0.05% | 2.92% | 4.28% | -6.06% | -4.81% | -0.09% | 0.01% |
| 48 | Constant | -1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.19% | 3.05% | 4.45% | -6.01% | -4.74% | -0.34% | -0.33% |
| 49 | Constant | -1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.29% | 2.75% | 15.61% | 14.99% | 7.18% | 6.61% | -3.15% | -2.55% |
| 50 | Constant | -1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.64% | 0.67% | 14.85% | 14.37% | 0.80% | 0.39% | -1.00% | -1.06% |
| 51 | Constant | -1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.59% | 0.59% | 14.77% | 14.41% | 0.89% | 0.57% | -0.88% | -0.89% |
| 52 | Constant | -1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.30% | 2.75% | 10.22% | 10.60% | 2.19% | 2.54% | -3.72% | -2.76% |
| 53 | Constant | -1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.64% | 0.68% | 5.67% | 6.92% | -7.26% | -6.16% | -1.24% | -1.37% |
| 54 | Constant | -1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 5.61% | 6.93% | -7.17% | -6.01% | -1.09% | -1.08% |
| 55 | Varied | None | Constant | 0.0% | 1 year | Constant | 4.20% | 0.70% | 3.46% | 0.03% | 15.20% | 10.99% | 6.45% | 2.56% | 1.73% | 1.62% |
| 56 | Varied | None | Constant | 0.0% | 1 year | Rounded | 4.20% | 0.70% | 3.46% | 0.03% | 15.20% | 10.99% | 6.45% | 2.56% | 1.73% | 1.62% |
| 57 | Varied | None | Constant | 0.0% | 1 year | Exact | 4.20% | 0.70% | 3.46% | 0.03% | 15.20% | 10.99% | 6.45% | 2.56% | 1.73% | 1.62% |
| 58 | Varied | None | Constant | 0.0% | 8 year | Constant | 4.01% | 0.78% | 3.26% | 0.04% | 8.91% | 8.32% | 0.64% | 0.10% | 2.12% | 1.40% |
| 59 | Varied | None | Constant | 0.0% | 8 year | Rounded | 4.01% | 0.78% | 3.26% | 0.04% | 8.91% | 8.32% | 0.64% | 0.10% | 2.12% | 1.40% |
| 60 | Varied | None | Constant | 0.0% | 8 year | Exact | 4.01% | 0.78% | 3.26% | 0.04% | 8.91% | 8.32% | 0.64% | 0.10% | 2.12% | 1.40% |
| 61 | Varied | None | Constant | 3.0% | 1 year | Constant | 4.36% | 0.71% | 4.45% | 0.75% | 17.02% | 12.45% | 8.13% | 3.91% | 0.66% | 0.77% |
| 62 | Varied | None | Constant | 3.0% | 1 year | Rounded | 4.36% | 0.71% | 3.70% | 0.05% | 16.94% | 12.64% | 6.39% | 2.48% | 1.72% | 1.70% |
| 63 | Varied | None | Constant | 3.0% | 1 year | Exact | 4.36% | 0.71% | 3.78% | 0.18% | 17.09% | 12.66% | 6.44% | 2.42% | 1.52% | 1.42% |
| 64 | Varied | None | Constant | 3.0% | 8 year | Constant | 4.16% | 0.80% | 4.26% | 0.76% | 11.60% | 10.43% | 3.13% | 2.05% | 0.86% | 0.63% |
| 65 | Varied | None | Constant | 3.0% | 8 year | Rounded | 4.16% | 0.80% | 3.49% | 0.08% | 10.16% | 9.47% | 0.23% | -0.41% | 2.11% | 1.50% |
| 66 | Varied | None | Constant | 3.0% | 8 year | Exact | 4.16% | 0.80% | 3.57% | 0.20% | 10.43% | 9.76% | 0.39% | -0.22% | 1.88% | 1.16% |
| 67 | Varied | None | Constant | 10.0% | 1 year | Constant | 4.67% | 0.73% | 6.67% | 2.26% | 22.47% | 17.45% | 13.18% | 8.53% | -1.09% | -0.52% |
| 68 | Varied | None | Constant | 10.0% | 1 year | Rounded | 4.67% | 0.73% | 4.47% | 0.59% | 21.49% | 16.50% | 6.30% | 1.94% | 0.94% | 0.82% |
| 69 | Varied | None | Constant | 10.0% | 1 year | Exact | 4.67% | 0.73% | 4.43% | 0.52% | 21.34% | 16.48% | 6.33% | 2.07% | 1.03% | 0.95% |
| 70 | Varied | None | Constant | 10.0% | 8 year | Constant | 4.45% | 0.83% | 6.48% | 2.28% | 19.10% | 17.07% | 10.06% | 8.18% | -1.16% | -0.59% |
| 71 | Varied | None | Constant | 10.0% | 8 year | Rounded | 4.45% | 0.83% | 4.25% | 0.61% | 13.93% | 13.01% | -0.32% | -1.12% | 1.22% | 0.42% |
| 72 | Varied | None | Constant | 10.0% | 8 year | Exact | 4.45% | 0.83% | 4.22% | 0.55% | 13.76% | 12.93% | -0.32% | -1.05% | 1.33% | 0.61% |
| 73 | Varied | 1.0% | Constant | 0.0% | 1 year | Constant | 4.25% | 0.70% | 3.51% | 0.02% | 13.25% | 9.44% | 4.65% | 1.13% | 1.79% | 1.62% |
| 74 | Varied | 1.0% | Constant | 0.0% | 1 year | Rounded | 4.25% | 0.70% | 3.51% | 0.02% | 13.25% | 9.44% | 4.65% | 1.13% | 1.79% | 1.62% |
| 75 | Varied | 1.0% | Constant | 0.0% | 1 year | Exact | 4.25% | 0.70% | 3.51% | 0.02% | 13.25% | 9.44% | 4.65% | 1.13% | 1.79% | 1.62% |
| 76 | Varied | 1.0% | Constant | 0.0% | 8 year | Constant | 4.11% | 0.78% | 3.30% | 0.04% | 12.26% | 10.89% | 3.74% | 2.47% | 2.09% | 1.56% |
| 77 | Varied | 1.0% | Constant | 0.0% | 8 year | Rounded | 4.11% | 0.78% | 3.30% | 0.04% | 12.26% | 10.89% | 3.74% | 2.47% | 2.09% | 1.56% |
| 78 | Varied | 1.0% | Constant | 0.0% | 8 year | Exact | 4.11% | 0.78% | 3.30% | 0.04% | 12.26% | 10.89% | 3.74% | 2.47% | 2.09% | 1.56% |
| 79 | Varied | 1.0% | Constant | 3.0% | 1 year | Constant | 4.41% | 0.71% | 4.52% | 0.75% | 15.20% | 10.99% | 6.45% | 2.56% | 0.66% | 0.75% |
| 80 | Varied | 1.0% | Constant | 3.0% | 1 year | Rounded | 4.41% | 0.71% | 3.74% | 0.04% | 14.87% | 10.98% | 4.51% | 0.97% | 1.78% | 1.72% |
| 81 | Varied | 1.0% | Constant | 3.0% | 1 year | Exact | 4.41% | 0.71% | 3.82% | 0.17% | 15.01% | 11.01% | 4.55% | 0.91% | 1.57% | 1.42% |
| 82 | Varied | 1.0% | Constant | 3.0% | 8 year | Constant | 4.26% | 0.80% | 4.30% | 0.77% | 14.92% | 12.97% | 6.20% | 4.39% | 0.84% | 0.71% |
| 83 | Varied | 1.0% | Constant | 3.0% | 8 year | Rounded | 4.26% | 0.80% | 3.53% | 0.06% | 13.68% | 12.19% | 3.43% | 2.07% | 2.08% | 1.66% |
| 84 | Varied | 1.0% | Constant | 3.0% | 8 year | Exact | 4.26% | 0.80% | 3.61% | 0.20% | 13.99% | 12.51% | 3.63% | 2.28% | 1.85% | 1.33% |
| 85 | Varied | 1.0% | Constant | 10.0% | 1 year | Constant | 4.70% | 0.73% | 6.74% | 2.29% | 21.21% | 16.45% | 12.01% | 7.61% | -1.16% | -0.59% |
| 86 | Varied | 1.0% | Constant | 10.0% | 1 year | Rounded | 4.70% | 0.73% | 4.50% | 0.57% | 19.10% | 14.58% | 4.21% | 0.25% | 0.97% | 0.78% |
| 87 | Varied | 1.0% | Constant | 10.0% | 1 year | Exact | 4.70% | 0.73% | 4.47% | 0.51% | 18.99% | 14.58% | 4.26% | 0.40% | 1.07% | 0.93% |
| 88 | Varied | 1.0% | Constant | 10.0% | 8 year | Constant | 4.53% | 0.81% | 6.54% | 2.31% | 22.13% | 19.42% | 12.86% | 10.35% | -1.14% | -0.58% |
| 89 | Varied | 1.0% | Constant | 10.0% | 8 year | Rounded | 4.53% | 0.81% | 4.27% | 0.60% | 18.02% | 16.21% | 3.27% | 1.68% | 1.19% | 0.63% |
| 90 | Varied | 1.0% | Constant | 10.0% | 8 year | Exact | 4.53% | 0.81% | 4.24% | 0.54% | 17.82% | 16.10% | 3.24% | 1.73% | 1.30% | 0.80% |

Multiple Retention Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | | Inflation | Severity Randomization | Retention | Wtd Average | | Wtd Latest Diag | | Wtd Average | | Non Tail Wtd Avg | | Non Tail Latest Diag | | Alternative Method Excess | Sum of Ret. Method Excess |
|----------|----------|-----------|-----------|-----------|---------------------------|-----------|----------------|-----------|--------------------|---------|----------------|--------|---------------------|--------|-------------------------|--------|---------------------------------|---------------------------------|
| | | Trend | Frequency | | | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Excess | excess | | | | |
| 91 | Varied | -1.0% | Constant | 0.0% | 1 year | Constant | 4.17% | 0.69% | 3.41% | 0.02% | 16.73% | 12.21% | 7.87% | 3.69% | 1.69% | 1.61% | | |
| 92 | Varied | -1.0% | Constant | 0.0% | 1 year | Rounded | 4.17% | 0.69% | 3.41% | 0.02% | 16.73% | 12.21% | 7.87% | 3.69% | 1.69% | 1.61% | | |
| 93 | Varied | -1.0% | Constant | 0.0% | 1 year | Exact | 4.17% | 0.69% | 3.41% | 0.02% | 16.73% | 12.21% | 7.87% | 3.69% | 1.69% | 1.61% | | |
| 94 | Varied | -1.0% | Constant | 0.0% | 8 year | Constant | 3.98% | 0.78% | 3.20% | 0.06% | 9.82% | 8.68% | 1.48% | 0.43% | 2.06% | 1.46% | | |
| 95 | Varied | -1.0% | Constant | 0.0% | 8 year | Rounded | 3.98% | 0.78% | 3.20% | 0.06% | 9.82% | 8.68% | 1.48% | 0.43% | 2.06% | 1.46% | | |
| 96 | Varied | -1.0% | Constant | 0.0% | 8 year | Exact | 3.98% | 0.78% | 3.20% | 0.06% | 9.82% | 8.68% | 1.48% | 0.43% | 2.06% | 1.46% | | |
| 97 | Varied | -1.0% | Constant | 3.0% | 1 year | Constant | 4.33% | 0.71% | 4.40% | 0.73% | 18.62% | 13.74% | 9.61% | 5.10% | 0.66% | 0.78% | | |
| 98 | Varied | -1.0% | Constant | 3.0% | 1 year | Rounded | 4.33% | 0.71% | 3.66% | 0.06% | 18.55% | 13.93% | 7.86% | 3.66% | 1.67% | 1.68% | | |
| 99 | Varied | -1.0% | Constant | 3.0% | 1 year | Exact | 4.33% | 0.71% | 3.73% | 0.18% | 18.71% | 13.96% | 7.92% | 3.60% | 1.49% | 1.41% | | |
| 100 | Varied | -1.0% | Constant | 3.0% | 8 year | Constant | 4.13% | 0.80% | 4.18% | 0.77% | 12.44% | 10.74% | 3.91% | 2.33% | 0.84% | 0.66% | | |
| 101 | Varied | -1.0% | Constant | 3.0% | 8 year | Rounded | 4.13% | 0.80% | 3.44% | 0.10% | 11.17% | 9.94% | 1.15% | 0.02% | 2.04% | 1.55% | | |
| 102 | Varied | -1.0% | Constant | 3.0% | 8 year | Exact | 4.13% | 0.80% | 3.52% | 0.22% | 11.45% | 10.20% | 1.31% | 0.18% | 1.82% | 1.22% | | |
| 103 | Varied | -1.0% | Constant | 10.0% | 1 year | Constant | 4.64% | 0.72% | 6.59% | 2.23% | 24.09% | 18.76% | 14.67% | 9.74% | -1.01% | -0.48% | | |
| 104 | Varied | -1.0% | Constant | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.43% | 0.58% | 23.33% | 18.00% | 7.91% | 3.25% | 0.93% | 0.83% | | |
| 105 | Varied | -1.0% | Constant | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.40% | 0.52% | 23.18% | 17.97% | 7.94% | 3.37% | 1.01% | 0.96% | | |
| 106 | Varied | -1.0% | Constant | 10.0% | 8 year | Constant | 4.43% | 0.82% | 6.39% | 2.26% | 19.69% | 17.20% | 10.60% | 8.30% | -1.12% | -0.55% | | |
| 107 | Varied | -1.0% | Constant | 10.0% | 8 year | Rounded | 4.43% | 0.82% | 4.20% | 0.64% | 15.23% | 13.66% | 0.82% | -0.50% | 1.17% | 0.51% | | |
| 108 | Varied | -1.0% | Constant | 10.0% | 8 year | Exact | 4.43% | 0.82% | 4.17% | 0.58% | 15.05% | 13.58% | 0.82% | -0.48% | 1.28% | 0.69% | | |
| 109 | Constant | None | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 7.74% | 7.84% | -0.17% | -0.08% | 0.00% | 0.00% | | |
| 110 | Constant | None | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 7.74% | 7.84% | -0.17% | -0.08% | 0.00% | 0.00% | | |
| 111 | Constant | None | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 7.74% | 7.84% | -0.17% | -0.08% | 0.00% | 0.00% | | |
| 112 | Constant | None | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 1.14% | 2.36% | -6.29% | -5.15% | 0.00% | 0.00% | | |
| 113 | Constant | None | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 1.14% | 2.36% | -6.29% | -5.15% | 0.00% | 0.00% | | |
| 114 | Constant | None | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 1.14% | 2.36% | -6.29% | -5.15% | 0.00% | 0.00% | | |
| 115 | Constant | None | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.98% | 0.86% | 9.14% | 9.05% | 1.13% | 1.04% | -1.24% | -1.04% | | |
| 116 | Constant | None | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.08% | 0.05% | 9.20% | 9.35% | -0.38% | -0.24% | -0.07% | 0.00% | | |
| 117 | Constant | None | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.19% | 9.25% | 9.33% | -0.42% | -0.34% | -0.29% | -0.29% | | |
| 118 | Constant | None | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.97% | 0.86% | 3.26% | 4.05% | -4.32% | -3.59% | -1.44% | -1.17% | | |
| 119 | Constant | None | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.07% | 0.05% | 2.05% | 3.19% | -6.90% | -5.87% | -0.09% | 0.01% | | |
| 120 | Constant | None | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.19% | 2.17% | 3.35% | -6.87% | -5.80% | -0.34% | -0.34% | | |
| 121 | Constant | None | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.32% | 2.78% | 13.86% | 13.62% | 5.50% | 5.28% | -3.32% | -2.66% | | |
| 122 | Constant | None | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.65% | 0.67% | 12.77% | 12.74% | -1.07% | -1.10% | -1.05% | -1.10% | | |
| 123 | Constant | None | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 12.71% | 12.77% | -0.98% | -0.92% | -0.93% | -0.93% | | |
| 124 | Constant | None | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.33% | 2.79% | 9.74% | 9.86% | 1.69% | 1.80% | -3.80% | -2.88% | | |
| 125 | Constant | None | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.64% | 0.68% | 4.45% | 5.45% | -8.37% | -7.50% | -1.26% | -1.44% | | |
| 126 | Constant | None | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.59% | 0.60% | 4.42% | 5.47% | -8.26% | -7.33% | -1.11% | -1.10% | | |
| 127 | Constant | 1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 5.84% | 6.01% | -1.93% | -1.77% | 0.00% | 0.00% | | |
| 128 | Constant | 1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 5.84% | 6.01% | -1.93% | -1.77% | 0.00% | 0.00% | | |
| 129 | Constant | 1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 5.84% | 6.01% | -1.93% | -1.77% | 0.00% | 0.00% | | |
| 130 | Constant | 1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | -0.01% | 0.00% | 3.14% | 4.30% | -4.43% | -3.35% | 0.00% | 0.00% | | |
| 131 | Constant | 1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | -0.01% | 0.00% | 3.14% | 4.30% | -4.43% | -3.35% | 0.00% | 0.00% | | |
| 132 | Constant | 1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | -0.01% | 0.00% | 3.14% | 4.30% | -4.43% | -3.35% | 0.00% | 0.00% | | |
| 133 | Constant | 1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 7.31% | 7.27% | -0.57% | -0.60% | -1.29% | -1.08% | | |
| 134 | Constant | 1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.07% | 0.04% | 7.14% | 7.38% | -2.26% | -2.04% | -0.07% | 0.00% | | |
| 135 | Constant | 1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.19% | 0.18% | 7.18% | 7.35% | -2.30% | -2.15% | -0.30% | -0.30% | | |

| | | Multiple Retention Scenario Results | | | | | | | | | | | | | | |
|----------|----------|-------------------------------------|-----------|-----------|---------------------------|-----------|----------------------|--------------------------|--------------------|------------------------|-------------------|-----------------------|-------------------------------|-----------------------------------|---------------------------------|---------------------------------|
| | | Total Error in Methods | | | | | | | | | | | | | | |
| Scenario | Pattern | Frequency | Frequency | Inflation | Severity Randomization | Retention | Wtd | | Wtd | | Wtd | | Non Tail Wtd Avg Excess | Non Tail Latest Diag excess | Alternative Method Excess | Sum of Ret. Method Excess |
| | | Trend | | | | | Average Unlimited | Latest Diag Unlimited | Average Limited | Latest Diag Limited | Average Excess | Latest Diag Excess | | | | |
| 136 | Constant | 1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 5.43% | 6.05% | -2.31% | -1.73% | -1.44% | -1.15% |
| 137 | Constant | 1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.07% | 0.04% | 4.24% | 5.31% | -4.90% | -3.92% | -0.08% | 0.01% |
| 138 | Constant | 1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.19% | 4.42% | 5.52% | -4.82% | -3.82% | -0.33% | -0.33% |
| 139 | Constant | 1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.37% | 2.83% | 12.50% | 12.28% | 4.25% | 4.04% | -3.45% | -2.74% |
| 140 | Constant | 1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.65% | 0.68% | 10.30% | 10.34% | -3.24% | -3.20% | -1.09% | -1.15% |
| 141 | Constant | 1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 10.26% | 10.42% | -3.13% | -2.99% | -0.96% | -0.96% |
| 142 | Constant | 1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.37% | 2.83% | 12.08% | 11.94% | 3.85% | 3.73% | -3.77% | -2.85% |
| 143 | Constant | 1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.64% | 0.68% | 7.36% | 8.21% | -5.81% | -5.07% | -1.23% | -1.34% |
| 144 | Constant | 1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.59% | 0.60% | 7.28% | 8.22% | -5.75% | -4.92% | -1.08% | -1.07% |
| 145 | Constant | -1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | -0.01% | 0.00% | 9.30% | 9.15% | 1.28% | 1.14% | 0.01% | 0.00% |
| 146 | Constant | -1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | -0.01% | 0.00% | 9.30% | 9.15% | 1.28% | 1.14% | 0.01% | 0.00% |
| 147 | Constant | -1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | -0.01% | 0.00% | 9.30% | 9.15% | 1.28% | 1.14% | 0.01% | 0.00% |
| 148 | Constant | -1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 1.21% | 2.89% | -6.22% | -4.66% | -0.01% | 0.00% |
| 149 | Constant | -1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 1.21% | 2.89% | -6.22% | -4.66% | -0.01% | 0.00% |
| 150 | Constant | -1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 1.21% | 2.89% | -6.22% | -4.66% | -0.01% | 0.00% |
| 151 | Constant | -1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.96% | 0.84% | 10.76% | 10.43% | 2.63% | 2.33% | -1.18% | -1.01% |
| 152 | Constant | -1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.07% | 0.04% | 10.84% | 10.74% | 1.12% | 1.03% | -0.06% | -0.01% |
| 153 | Constant | -1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 10.90% | 10.73% | 1.09% | 0.94% | -0.27% | -0.28% |
| 154 | Constant | -1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.96% | 0.85% | 3.33% | 4.57% | -4.25% | -3.10% | -1.42% | -1.13% |
| 155 | Constant | -1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.08% | 0.05% | 2.21% | 3.84% | -6.75% | -5.27% | -0.10% | 0.00% |
| 156 | Constant | -1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.19% | 2.34% | 4.00% | -6.71% | -5.20% | -0.34% | -0.34% |
| 157 | Constant | -1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.28% | 2.74% | 15.49% | 15.03% | 7.01% | 6.59% | -3.17% | -2.57% |
| 158 | Constant | -1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.64% | 0.67% | 14.65% | 14.34% | 0.58% | 0.31% | -1.01% | -1.07% |
| 159 | Constant | -1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.59% | 0.59% | 14.58% | 14.37% | 0.66% | 0.49% | -0.89% | -0.90% |
| 160 | Constant | -1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.28% | 2.74% | 9.76% | 10.33% | 1.71% | 2.23% | -3.76% | -2.80% |
| 161 | Constant | -1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.64% | 0.68% | 4.91% | 6.43% | -7.96% | -6.63% | -1.26% | -1.38% |
| 162 | Constant | -1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 4.87% | 6.47% | -7.86% | -6.46% | -1.11% | -1.10% |
| 163 | Varied | None | Varied | 0.0% | 1 year | Constant | 4.17% | 0.69% | 3.43% | 0.02% | 15.05% | 10.96% | 6.26% | 2.48% | 1.72% | 1.64% |
| 164 | Varied | None | Varied | 0.0% | 1 year | Rounded | 4.17% | 0.69% | 3.43% | 0.02% | 15.05% | 10.96% | 6.26% | 2.48% | 1.72% | 1.64% |
| 165 | Varied | None | Varied | 0.0% | 1 year | Exact | 4.17% | 0.69% | 3.43% | 0.02% | 15.05% | 10.96% | 6.26% | 2.48% | 1.72% | 1.64% |
| 166 | Varied | None | Varied | 0.0% | 8 year | Constant | 3.95% | 0.77% | 3.23% | 0.04% | 8.91% | 8.09% | 0.58% | -0.17% | 2.11% | 1.41% |
| 167 | Varied | None | Varied | 0.0% | 8 year | Rounded | 3.95% | 0.77% | 3.23% | 0.04% | 8.91% | 8.09% | 0.58% | -0.17% | 2.11% | 1.41% |
| 168 | Varied | None | Varied | 0.0% | 8 year | Exact | 3.95% | 0.77% | 3.23% | 0.04% | 8.91% | 8.09% | 0.58% | -0.17% | 2.11% | 1.41% |
| 169 | Varied | None | Varied | 3.0% | 1 year | Constant | 4.33% | 0.70% | 4.43% | 0.74% | 16.93% | 12.48% | 8.00% | 3.88% | 0.65% | 0.78% |
| 170 | Varied | None | Varied | 3.0% | 1 year | Rounded | 4.33% | 0.70% | 3.68% | 0.05% | 16.81% | 12.63% | 6.22% | 2.42% | 1.71% | 1.71% |
| 171 | Varied | None | Varied | 3.0% | 1 year | Exact | 4.33% | 0.70% | 3.75% | 0.18% | 16.96% | 12.66% | 6.27% | 2.37% | 1.51% | 1.44% |
| 172 | Varied | None | Varied | 3.0% | 8 year | Constant | 4.11% | 0.79% | 4.23% | 0.76% | 11.60% | 10.18% | 3.07% | 1.76% | 0.86% | 0.63% |
| 173 | Varied | None | Varied | 3.0% | 8 year | Rounded | 4.11% | 0.79% | 3.47% | 0.07% | 10.17% | 9.25% | 0.18% | -0.65% | 2.10% | 1.51% |
| 174 | Varied | None | Varied | 3.0% | 8 year | Exact | 4.11% | 0.79% | 3.55% | 0.20% | 10.43% | 9.51% | 0.33% | -0.50% | 1.87% | 1.17% |
| 175 | Varied | None | Varied | 10.0% | 1 year | Constant | 4.64% | 0.72% | 6.64% | 2.25% | 22.54% | 17.63% | 13.18% | 8.64% | -1.11% | -0.53% |
| 176 | Varied | None | Varied | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.45% | 0.58% | 21.44% | 16.58% | 6.20% | 1.95% | 0.93% | 0.84% |
| 177 | Varied | None | Varied | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.42% | 0.52% | 21.29% | 16.54% | 6.23% | 2.07% | 1.02% | 0.97% |
| 178 | Varied | None | Varied | 10.0% | 8 year | Constant | 4.41% | 0.82% | 6.45% | 2.27% | 19.12% | 16.77% | 10.02% | 7.85% | -1.16% | -0.59% |
| 179 | Varied | None | Varied | 10.0% | 8 year | Rounded | 4.41% | 0.82% | 4.23% | 0.61% | 13.91% | 12.71% | -0.38% | -1.43% | 1.22% | 0.44% |
| 180 | Varied | None | Varied | 10.0% | 8 year | Exact | 4.41% | 0.82% | 4.20% | 0.55% | 13.76% | 12.64% | -0.37% | -1.35% | 1.32% | 0.63% |

| | | Multiple Retention Scenario Results | | | | | | | | | | | | | | |
|----------|---------|-------------------------------------|-----------|-----------|----------|-----------|-----------|-------------|---------|-------------|---------|-------------|----------|----------|-------------|-------------|
| | | Total Error in Methods | | | | | | | | | | | | | | |
| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd | | Wtd | | Wtd | | Non Tail | Non Tail | Alternative | Sum of Ret. |
| | | Trend | | | | | Average | Latest Diag | Average | Latest Diag | Average | Latest Diag | | | | |
| | | | | | | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Excess | excess | Excess | Excess |
| 181 | Varied | 1.0% | Varied | 0.0% | 1 year | Constant | 4.18% | 0.69% | 3.46% | 0.01% | 13.31% | 9.47% | 4.65% | 1.11% | 1.77% | 1.61% |
| 182 | Varied | 1.0% | Varied | 0.0% | 1 year | Rounded | 4.18% | 0.69% | 3.46% | 0.01% | 13.31% | 9.47% | 4.65% | 1.11% | 1.77% | 1.61% |
| 183 | Varied | 1.0% | Varied | 0.0% | 1 year | Exact | 4.18% | 0.69% | 3.46% | 0.01% | 13.31% | 9.47% | 4.65% | 1.11% | 1.77% | 1.61% |
| 184 | Varied | 1.0% | Varied | 0.0% | 8 year | Constant | 4.08% | 0.76% | 3.26% | 0.03% | 11.36% | 9.93% | 2.85% | 1.53% | 2.07% | 1.52% |
| 185 | Varied | 1.0% | Varied | 0.0% | 8 year | Rounded | 4.08% | 0.76% | 3.26% | 0.03% | 11.36% | 9.93% | 2.85% | 1.53% | 2.07% | 1.52% |
| 186 | Varied | 1.0% | Varied | 0.0% | 8 year | Exact | 4.08% | 0.76% | 3.26% | 0.03% | 11.36% | 9.93% | 2.85% | 1.53% | 2.07% | 1.52% |
| 187 | Varied | 1.0% | Varied | 3.0% | 1 year | Constant | 4.34% | 0.70% | 4.46% | 0.74% | 15.30% | 11.05% | 6.49% | 2.56% | 0.64% | 0.73% |
| 188 | Varied | 1.0% | Varied | 3.0% | 1 year | Rounded | 4.34% | 0.70% | 3.70% | 0.04% | 14.95% | 11.02% | 4.53% | 0.95% | 1.76% | 1.69% |
| 189 | Varied | 1.0% | Varied | 3.0% | 1 year | Exact | 4.34% | 0.70% | 3.78% | 0.17% | 15.10% | 11.04% | 4.58% | 0.89% | 1.55% | 1.40% |
| 190 | Varied | 1.0% | Varied | 3.0% | 8 year | Constant | 4.23% | 0.78% | 4.26% | 0.76% | 14.16% | 12.12% | 5.44% | 3.55% | 0.80% | 0.66% |
| 191 | Varied | 1.0% | Varied | 3.0% | 8 year | Rounded | 4.23% | 0.78% | 3.49% | 0.06% | 12.80% | 11.24% | 2.57% | 1.15% | 2.05% | 1.61% |
| 192 | Varied | 1.0% | Varied | 3.0% | 8 year | Exact | 4.23% | 0.78% | 3.57% | 0.19% | 13.11% | 11.54% | 2.77% | 1.35% | 1.83% | 1.28% |
| 193 | Varied | 1.0% | Varied | 10.0% | 1 year | Constant | 4.65% | 0.71% | 6.69% | 2.27% | 21.43% | 16.59% | 12.15% | 7.69% | -1.18% | -0.61% |
| 194 | Varied | 1.0% | Varied | 10.0% | 1 year | Rounded | 4.65% | 0.71% | 4.47% | 0.57% | 19.24% | 14.63% | 4.28% | 0.25% | 0.95% | 0.77% |
| 195 | Varied | 1.0% | Varied | 10.0% | 1 year | Exact | 4.65% | 0.71% | 4.44% | 0.51% | 19.11% | 14.62% | 4.32% | 0.38% | 1.05% | 0.91% |
| 196 | Varied | 1.0% | Varied | 10.0% | 8 year | Constant | 4.51% | 0.80% | 6.50% | 2.30% | 21.70% | 18.81% | 12.40% | 9.73% | -1.20% | -0.64% |
| 197 | Varied | 1.0% | Varied | 10.0% | 8 year | Rounded | 4.51% | 0.80% | 4.25% | 0.60% | 17.19% | 15.23% | 2.49% | 0.78% | 1.16% | 0.57% |
| 198 | Varied | 1.0% | Varied | 10.0% | 8 year | Exact | 4.51% | 0.80% | 4.22% | 0.54% | 16.98% | 15.13% | 2.46% | 0.84% | 1.26% | 0.74% |
| 199 | Varied | -1.0% | Varied | 0.0% | 1 year | Constant | 4.15% | 0.69% | 3.40% | 0.02% | 16.48% | 12.11% | 7.58% | 3.54% | 1.69% | 1.62% |
| 200 | Varied | -1.0% | Varied | 0.0% | 1 year | Rounded | 4.15% | 0.69% | 3.40% | 0.02% | 16.48% | 12.11% | 7.58% | 3.54% | 1.69% | 1.62% |
| 201 | Varied | -1.0% | Varied | 0.0% | 1 year | Exact | 4.15% | 0.69% | 3.40% | 0.02% | 16.48% | 12.11% | 7.58% | 3.54% | 1.69% | 1.62% |
| 202 | Varied | -1.0% | Varied | 0.0% | 8 year | Constant | 3.96% | 0.76% | 3.19% | 0.06% | 9.16% | 8.28% | 0.81% | 0.01% | 2.05% | 1.43% |
| 203 | Varied | -1.0% | Varied | 0.0% | 8 year | Rounded | 3.96% | 0.76% | 3.19% | 0.06% | 9.16% | 8.28% | 0.81% | 0.01% | 2.05% | 1.43% |
| 204 | Varied | -1.0% | Varied | 0.0% | 8 year | Exact | 3.96% | 0.76% | 3.19% | 0.06% | 9.16% | 8.28% | 0.81% | 0.01% | 2.05% | 1.43% |
| 205 | Varied | -1.0% | Varied | 3.0% | 1 year | Constant | 4.32% | 0.70% | 4.39% | 0.73% | 18.40% | 13.67% | 9.36% | 4.98% | 0.66% | 0.79% |
| 206 | Varied | -1.0% | Varied | 3.0% | 1 year | Rounded | 4.32% | 0.70% | 3.65% | 0.06% | 18.32% | 13.84% | 7.59% | 3.52% | 1.67% | 1.69% |
| 207 | Varied | -1.0% | Varied | 3.0% | 1 year | Exact | 4.32% | 0.70% | 3.72% | 0.18% | 18.48% | 13.88% | 7.65% | 3.47% | 1.49% | 1.42% |
| 208 | Varied | -1.0% | Varied | 3.0% | 8 year | Constant | 4.12% | 0.78% | 4.17% | 0.76% | 11.85% | 10.39% | 3.30% | 1.95% | 0.82% | 0.63% |
| 209 | Varied | -1.0% | Varied | 3.0% | 8 year | Rounded | 4.12% | 0.78% | 3.44% | 0.09% | 10.51% | 9.53% | 0.49% | -0.40% | 2.03% | 1.52% |
| 210 | Varied | -1.0% | Varied | 3.0% | 8 year | Exact | 4.12% | 0.78% | 3.51% | 0.22% | 10.78% | 9.80% | 0.65% | -0.24% | 1.81% | 1.19% |
| 211 | Varied | -1.0% | Varied | 10.0% | 1 year | Constant | 4.64% | 0.72% | 6.58% | 2.23% | 23.96% | 18.80% | 14.49% | 9.72% | -1.02% | -0.49% |
| 212 | Varied | -1.0% | Varied | 10.0% | 1 year | Rounded | 4.64% | 0.72% | 4.43% | 0.58% | 23.14% | 17.96% | 7.69% | 3.16% | 0.93% | 0.85% |
| 213 | Varied | -1.0% | Varied | 10.0% | 1 year | Exact | 4.64% | 0.72% | 4.40% | 0.52% | 22.98% | 17.92% | 7.71% | 3.28% | 1.01% | 0.97% |
| 214 | Varied | -1.0% | Varied | 10.0% | 8 year | Constant | 4.43% | 0.81% | 6.37% | 2.26% | 19.29% | 16.98% | 10.18% | 8.04% | -1.17% | -0.59% |
| 215 | Varied | -1.0% | Varied | 10.0% | 8 year | Rounded | 4.43% | 0.81% | 4.20% | 0.63% | 14.55% | 13.24% | 0.18% | -0.97% | 1.16% | 0.47% |
| 216 | Varied | -1.0% | Varied | 10.0% | 8 year | Exact | 4.43% | 0.81% | 4.17% | 0.57% | 14.38% | 13.18% | 0.18% | -0.88% | 1.26% | 0.65% |

| Cape Cod Scenario Results | | | | | | | | | | | | | | | | | | |
|---------------------------|----------|-----------------|-----------|-----------|------------------------|-----------|--------------------|-------------------|------------------|----------|------------------|-------------------|------------------|----------|------------------|-------------------|------------------|------------------|
| Total Error in Methods | | | | | | | | | | | | | | | | | | |
| Scenario | Pattern | Frequency Trend | Frequency | Inflation | Severity Randomization | Retention | Cape Cod Unlimited | Cape Cod | Cape Cod | Cape cod | Wtd Avg | Cape Cod | Cape Cod | Cape cod | Wtd Avg | Cape Cod | Cape Cod | Wtd Avg |
| | | | | | | | | Limited \$400,000 | Excess \$400,000 | unlim | Excess \$400,000 | Limited \$250,000 | Excess \$250,000 | unlim | Excess \$250,000 | Limited \$550,000 | Excess \$550,000 | Excess \$550,000 |
| 1 | Constant | None | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 8.37% | 0.00% | 8.37% | 0.00% | 6.40% | 0.00% | 6.40% | 0.00% | 9.30% | 9.30% |
| 2 | Constant | None | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 8.37% | 0.00% | 8.37% | 0.00% | 6.40% | 0.00% | 6.40% | 0.00% | 9.30% | 9.30% |
| 3 | Constant | None | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 8.37% | 0.00% | 8.37% | 0.00% | 6.40% | 0.00% | 6.40% | 0.00% | 9.30% | 9.30% |
| 4 | Constant | None | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 1.10% | 0.00% | 1.01% | 0.00% | 2.31% | 0.00% | 2.16% | 0.00% | -2.27% | -2.22% |
| 5 | Constant | None | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 1.10% | 0.00% | 1.01% | 0.00% | 2.31% | 0.00% | 2.16% | 0.00% | -2.27% | -2.22% |
| 6 | Constant | None | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 1.10% | 0.00% | 1.01% | 0.00% | 2.31% | 0.00% | 2.16% | 0.00% | -2.27% | -2.22% |
| 7 | Constant | None | Constant | 3.0% | 1 year | Constant | 0.00% | 0.97% | 9.82% | 0.00% | 9.52% | 0.97% | 8.23% | 0.00% | 8.11% | 0.97% | 10.78% | 10.32% |
| 8 | Constant | None | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.04% | 9.82% | 0.00% | 9.93% | 0.04% | 7.66% | 0.00% | 7.71% | 0.15% | 10.66% | 10.65% |
| 9 | Constant | None | Constant | 3.0% | 1 year | Exact | 0.00% | 0.18% | 9.85% | 0.00% | 9.85% | 0.18% | 7.86% | 0.00% | 7.86% | 0.18% | 10.80% | 10.80% |
| 10 | Constant | None | Constant | 3.0% | 8 year | Constant | 0.00% | 0.97% | 4.02% | 0.00% | 3.46% | 0.97% | 4.49% | 0.00% | 4.13% | 0.96% | 0.86% | 0.04% |
| 11 | Constant | None | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.05% | 1.97% | 0.00% | 1.97% | 0.02% | 3.15% | 0.00% | 3.03% | 0.15% | -1.51% | -1.52% |
| 12 | Constant | None | Constant | 3.0% | 8 year | Exact | 0.00% | 0.18% | 2.14% | 0.00% | 2.01% | 0.18% | 3.47% | 0.00% | 3.30% | 0.18% | -1.39% | -1.40% |
| 13 | Constant | None | Constant | 10.0% | 1 year | Constant | 0.00% | 3.41% | 15.27% | 0.00% | 14.59% | 3.04% | 13.58% | 0.00% | 13.36% | 3.43% | 14.53% | 13.42% |
| 14 | Constant | None | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.60% | 13.34% | 0.00% | 13.28% | 0.73% | 11.37% | 0.00% | 11.33% | 0.61% | 14.34% | 14.32% |
| 15 | Constant | None | Constant | 10.0% | 1 year | Exact | 0.00% | 0.60% | 13.25% | 0.00% | 13.25% | 0.60% | 11.20% | 0.00% | 11.20% | 0.60% | 14.23% | 14.23% |
| 16 | Constant | None | Constant | 10.0% | 8 year | Constant | 0.00% | 3.40% | 11.28% | 0.00% | 10.09% | 3.06% | 10.86% | 0.00% | 10.32% | 3.40% | 9.43% | 7.49% |
| 17 | Constant | None | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.60% | 4.33% | 0.00% | 4.04% | 0.75% | 6.36% | 0.00% | 6.05% | 0.61% | 0.59% | 0.44% |
| 18 | Constant | None | Constant | 10.0% | 8 year | Exact | 0.00% | 0.60% | 4.40% | 0.00% | 4.18% | 0.60% | 6.06% | 0.00% | 5.81% | 0.60% | 0.47% | 0.35% |
| 19 | Constant | 1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 5.77% | 0.00% | 5.79% | 0.00% | 4.92% | 0.00% | 4.88% | 0.00% | 6.39% | 6.51% |
| 20 | Constant | 1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 5.77% | 0.00% | 5.79% | 0.00% | 4.92% | 0.00% | 4.88% | 0.00% | 6.39% | 6.51% |
| 21 | Constant | 1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 5.77% | 0.00% | 5.79% | 0.00% | 4.92% | 0.00% | 4.88% | 0.00% | 6.39% | 6.51% |
| 22 | Constant | 1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 4.71% | 0.00% | 4.45% | 0.00% | 4.56% | 0.00% | 4.35% | 0.00% | 2.61% | 2.31% |
| 23 | Constant | 1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 4.71% | 0.00% | 4.45% | 0.00% | 4.56% | 0.00% | 4.35% | 0.00% | 2.61% | 2.31% |
| 24 | Constant | 1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 4.71% | 0.00% | 4.45% | 0.00% | 4.56% | 0.00% | 4.35% | 0.00% | 2.61% | 2.31% |
| 25 | Constant | 1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.99% | 7.43% | 0.00% | 7.11% | 0.99% | 6.98% | 0.00% | 6.82% | 0.99% | 7.73% | 7.33% |
| 26 | Constant | 1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.04% | 7.05% | 0.00% | 7.17% | 0.04% | 6.09% | 0.00% | 6.09% | 0.15% | 7.56% | 7.67% |
| 27 | Constant | 1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.18% | 7.08% | 0.00% | 7.10% | 0.18% | 6.28% | 0.00% | 6.24% | 0.18% | 7.70% | 7.82% |
| 28 | Constant | 1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.98% | 7.64% | 0.00% | 6.95% | 0.99% | 6.72% | 0.00% | 6.32% | 0.98% | 5.76% | 4.68% |
| 29 | Constant | 1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.04% | 5.84% | 0.00% | 5.68% | 0.01% | 5.55% | 0.00% | 5.37% | 0.15% | 3.64% | 3.28% |
| 30 | Constant | 1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.18% | 6.04% | 0.00% | 5.73% | 0.18% | 5.90% | 0.00% | 5.66% | 0.18% | 3.87% | 3.51% |
| 31 | Constant | 1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 3.46% | 13.64% | 0.00% | 12.92% | 3.09% | 12.80% | 0.00% | 12.56% | 3.49% | 12.01% | 10.87% |
| 32 | Constant | 1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.60% | 10.15% | 0.00% | 10.10% | 0.73% | 9.54% | 0.00% | 9.45% | 0.61% | 10.82% | 10.90% |
| 33 | Constant | 1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.60% | 10.09% | 0.00% | 10.10% | 0.60% | 9.40% | 0.00% | 9.35% | 0.60% | 10.70% | 10.82% |
| 34 | Constant | 1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 3.45% | 14.58% | 0.00% | 13.30% | 3.11% | 13.03% | 0.00% | 12.46% | 3.46% | 13.89% | 11.83% |
| 35 | Constant | 1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.60% | 8.96% | 0.00% | 8.49% | 0.75% | 9.25% | 0.00% | 8.87% | 0.61% | 6.74% | 6.24% |
| 36 | Constant | 1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.60% | 8.98% | 0.00% | 8.58% | 0.60% | 8.91% | 0.00% | 8.59% | 0.60% | 6.63% | 6.15% |
| 37 | Constant | -1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 10.18% | 0.00% | 10.17% | 0.00% | 7.92% | 0.00% | 7.96% | 0.00% | 11.15% | 11.07% |
| 38 | Constant | -1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 10.18% | 0.00% | 10.17% | 0.00% | 7.92% | 0.00% | 7.96% | 0.00% | 11.15% | 11.07% |
| 39 | Constant | -1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 10.18% | 0.00% | 10.17% | 0.00% | 7.92% | 0.00% | 7.96% | 0.00% | 11.15% | 11.07% |
| 40 | Constant | -1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 2.11% | 0.00% | 2.05% | 0.00% | 2.82% | 0.00% | 2.68% | 0.00% | -0.80% | -0.70% |
| 41 | Constant | -1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 2.11% | 0.00% | 2.05% | 0.00% | 2.82% | 0.00% | 2.68% | 0.00% | -0.80% | -0.70% |
| 42 | Constant | -1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 2.11% | 0.00% | 2.05% | 0.00% | 2.82% | 0.00% | 2.68% | 0.00% | -0.80% | -0.70% |
| 43 | Constant | -1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.96% | 11.77% | 0.00% | 11.48% | 0.96% | 9.75% | 0.00% | 9.68% | 0.96% | 12.76% | 12.26% |
| 44 | Constant | -1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.05% | 11.74% | 0.00% | 11.83% | 0.05% | 9.27% | 0.00% | 9.36% | 0.15% | 12.62% | 12.53% |
| 45 | Constant | -1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.18% | 11.78% | 0.00% | 11.77% | 0.18% | 9.48% | 0.00% | 9.52% | 0.18% | 12.76% | 12.68% |
| 46 | Constant | -1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.95% | 4.96% | 0.00% | 4.43% | 0.96% | 4.93% | 0.00% | 4.59% | 0.95% | 2.28% | 1.52% |
| 47 | Constant | -1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.06% | 3.12% | 0.00% | 3.15% | 0.02% | 3.73% | 0.00% | 3.62% | 0.15% | 0.10% | 0.15% |
| 48 | Constant | -1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.18% | 3.29% | 0.00% | 3.18% | 0.18% | 4.06% | 0.00% | 3.89% | 0.18% | 0.27% | 0.31% |
| 49 | Constant | -1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 3.36% | 17.22% | 0.00% | 16.58% | 2.99% | 15.05% | 0.00% | 14.89% | 3.38% | 16.77% | 15.68% |
| 50 | Constant | -1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.60% | 15.55% | 0.00% | 15.48% | 0.73% | 13.24% | 0.00% | 13.24% | 0.61% | 16.57% | 16.47% |
| 51 | Constant | -1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.60% | 15.45% | 0.00% | 15.44% | 0.60% | 13.05% | 0.00% | 13.09% | 0.60% | 16.45% | 16.37% |

| Cape Cod Scenario Results | | | | | | | | | | | | | | | | | | | |
|---------------------------|----------|-----------|-----------|-----------|---------------|-----------|-----------|--------------------|------------------|-----------------|----------------|----------------|------------------|-----------------|----------------|----------------|------------------|-----------------|----------------|
| Total Error in Methods | | | | | | | | | | | | | | | | | | | |
| Scenario | Pattern | Frequency | | Inflation | Severity | | | Cape Cod Unlimited | Cape Cod Limited | Cape Cod Excess | Cape cod unlim | Wtd Avg Excess | Cape Cod Limited | Cape Cod Excess | Cape cod unlim | Wtd Avg Excess | Cape Cod Limited | Cape Cod Excess | Wtd Avg Excess |
| | | Trend | Frequency | | Randomization | Retention | \$400,000 | | \$400,000 | \$400,000 | | \$250,000 | \$250,000 | \$250,000 | | \$550,000 | \$550,000 | \$550,000 | |
| 52 | Constant | -1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 3.35% | 11.96% | 0.00% | 10.77% | 3.02% | 11.14% | 0.00% | 10.61% | 3.35% | 10.59% | 8.68% | |
| 53 | Constant | -1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.60% | 5.82% | 0.00% | 5.57% | 0.75% | 7.15% | 0.00% | 6.86% | 0.61% | 2.69% | 2.60% | |
| 54 | Constant | -1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.60% | 5.88% | 0.00% | 5.69% | 0.60% | 6.84% | 0.00% | 6.60% | 0.60% | 2.59% | 2.51% | |
| 55 | Varied | None | Constant | 0.0% | 1 year | Constant | 5.81% | 4.37% | 19.93% | 5.81% | 15.85% | 3.97% | 17.17% | 5.81% | 13.51% | 4.64% | 21.06% | 16.78% | |
| 56 | Varied | None | Constant | 0.0% | 1 year | Rounded | 5.81% | 4.37% | 19.93% | 5.81% | 15.85% | 3.97% | 17.17% | 5.81% | 13.51% | 4.64% | 21.06% | 16.78% | |
| 57 | Varied | None | Constant | 0.0% | 1 year | Exact | 5.81% | 4.37% | 19.93% | 5.81% | 15.85% | 3.97% | 17.17% | 5.81% | 13.51% | 4.64% | 21.06% | 16.78% | |
| 58 | Varied | None | Constant | 0.0% | 8 year | Constant | 5.64% | 4.14% | 14.64% | 5.64% | 9.13% | 3.79% | 13.83% | 5.64% | 9.44% | 4.35% | 13.07% | 6.49% | |
| 59 | Varied | None | Constant | 0.0% | 8 year | Rounded | 5.64% | 4.14% | 14.64% | 5.64% | 9.13% | 3.79% | 13.83% | 5.64% | 9.44% | 4.35% | 13.07% | 6.49% | |
| 60 | Varied | None | Constant | 0.0% | 8 year | Exact | 5.64% | 4.14% | 14.64% | 5.64% | 9.13% | 3.79% | 13.83% | 5.64% | 9.44% | 4.35% | 13.07% | 6.49% | |
| 61 | Varied | None | Constant | 3.0% | 1 year | Constant | 5.92% | 5.36% | 21.57% | 5.92% | 17.51% | 4.91% | 19.20% | 5.92% | 15.65% | 5.64% | 22.67% | 18.34% | |
| 62 | Varied | None | Constant | 3.0% | 1 year | Rounded | 5.92% | 4.57% | 21.55% | 5.92% | 17.68% | 4.16% | 18.58% | 5.92% | 15.13% | 4.92% | 22.66% | 18.49% | |
| 63 | Varied | None | Constant | 3.0% | 1 year | Exact | 5.92% | 4.68% | 21.73% | 5.92% | 17.75% | 4.27% | 18.94% | 5.92% | 15.38% | 4.94% | 22.87% | 18.68% | |
| 64 | Varied | None | Constant | 3.0% | 8 year | Constant | 5.74% | 5.12% | 17.63% | 5.74% | 12.13% | 4.74% | 16.20% | 5.74% | 11.92% | 5.34% | 16.09% | 9.40% | |
| 65 | Varied | None | Constant | 3.0% | 8 year | Rounded | 5.74% | 4.34% | 15.61% | 5.74% | 10.40% | 3.96% | 14.77% | 5.74% | 10.63% | 4.62% | 14.07% | 7.64% | |
| 66 | Varied | None | Constant | 3.0% | 8 year | Exact | 5.74% | 4.43% | 16.05% | 5.74% | 10.63% | 4.09% | 15.32% | 5.74% | 11.02% | 4.65% | 14.35% | 7.86% | |
| 67 | Varied | None | Constant | 10.0% | 1 year | Constant | 6.10% | 7.71% | 27.02% | 6.10% | 23.26% | 6.58% | 25.10% | 6.10% | 21.94% | 8.04% | 26.51% | 22.37% | |
| 68 | Varied | None | Constant | 10.0% | 1 year | Rounded | 6.10% | 5.28% | 25.98% | 6.10% | 22.17% | 5.01% | 23.19% | 6.10% | 19.81% | 5.57% | 27.00% | 23.08% | |
| 69 | Varied | None | Constant | 10.0% | 1 year | Exact | 6.10% | 5.29% | 25.76% | 6.10% | 22.04% | 4.89% | 22.90% | 6.10% | 19.57% | 5.56% | 26.89% | 22.97% | |
| 70 | Varied | None | Constant | 10.0% | 8 year | Constant | 5.91% | 7.48% | 24.59% | 5.91% | 19.55% | 6.43% | 23.18% | 5.91% | 19.35% | 7.74% | 23.98% | 17.73% | |
| 71 | Varied | None | Constant | 10.0% | 8 year | Rounded | 5.91% | 5.02% | 19.25% | 5.91% | 13.93% | 4.83% | 19.07% | 5.91% | 14.90% | 5.26% | 17.10% | 10.95% | |
| 72 | Varied | None | Constant | 10.0% | 8 year | Exact | 5.91% | 5.04% | 19.06% | 5.91% | 13.91% | 4.70% | 18.59% | 5.91% | 14.52% | 5.25% | 17.01% | 10.82% | |
| 73 | Varied | 1.0% | Constant | 0.0% | 1 year | Constant | 5.85% | 4.42% | 17.56% | 5.85% | 13.52% | 4.01% | 15.84% | 5.85% | 12.19% | 4.69% | 18.42% | 14.22% | |
| 74 | Varied | 1.0% | Constant | 0.0% | 1 year | Rounded | 5.85% | 4.42% | 17.56% | 5.85% | 13.52% | 4.01% | 15.84% | 5.85% | 12.19% | 4.69% | 18.42% | 14.22% | |
| 75 | Varied | 1.0% | Constant | 0.0% | 1 year | Exact | 5.85% | 4.42% | 17.56% | 5.85% | 13.52% | 4.01% | 15.84% | 5.85% | 12.19% | 4.69% | 18.42% | 14.22% | |
| 76 | Varied | 1.0% | Constant | 0.0% | 8 year | Constant | 5.72% | 4.17% | 18.33% | 5.72% | 12.83% | 3.82% | 16.21% | 5.72% | 11.88% | 4.40% | 17.88% | 11.24% | |
| 77 | Varied | 1.0% | Constant | 0.0% | 8 year | Rounded | 5.72% | 4.17% | 18.33% | 5.72% | 12.83% | 3.82% | 16.21% | 5.72% | 11.88% | 4.40% | 17.88% | 11.24% | |
| 78 | Varied | 1.0% | Constant | 0.0% | 8 year | Exact | 5.72% | 4.17% | 18.33% | 5.72% | 12.83% | 3.82% | 16.21% | 5.72% | 11.88% | 4.40% | 17.88% | 11.24% | |
| 79 | Varied | 1.0% | Constant | 3.0% | 1 year | Constant | 5.95% | 5.41% | 19.44% | 5.95% | 15.38% | 4.96% | 18.12% | 5.95% | 14.57% | 5.70% | 19.92% | 15.63% | |
| 80 | Varied | 1.0% | Constant | 3.0% | 1 year | Rounded | 5.95% | 4.61% | 19.03% | 5.95% | 15.20% | 4.19% | 17.17% | 5.95% | 13.72% | 4.96% | 19.87% | 15.77% | |
| 81 | Varied | 1.0% | Constant | 3.0% | 1 year | Exact | 5.95% | 4.72% | 19.23% | 5.95% | 15.27% | 4.31% | 17.53% | 5.95% | 13.97% | 4.99% | 20.07% | 15.96% | |
| 82 | Varied | 1.0% | Constant | 3.0% | 8 year | Constant | 5.81% | 5.16% | 21.22% | 5.81% | 15.79% | 4.77% | 18.50% | 5.81% | 14.30% | 5.40% | 20.79% | 14.17% | |
| 83 | Varied | 1.0% | Constant | 3.0% | 8 year | Rounded | 5.81% | 4.37% | 19.49% | 5.81% | 14.32% | 3.97% | 17.28% | 5.81% | 13.20% | 4.67% | 19.06% | 12.60% | |
| 84 | Varied | 1.0% | Constant | 3.0% | 8 year | Exact | 5.81% | 4.46% | 19.96% | 5.81% | 14.57% | 4.11% | 17.85% | 5.81% | 13.61% | 4.69% | 19.43% | 12.92% | |
| 85 | Varied | 1.0% | Constant | 10.0% | 1 year | Constant | 6.12% | 7.78% | 25.64% | 6.12% | 21.86% | 6.64% | 24.49% | 6.12% | 21.33% | 8.13% | 24.33% | 20.16% | |
| 86 | Varied | 1.0% | Constant | 10.0% | 1 year | Rounded | 6.12% | 5.31% | 23.12% | 6.12% | 19.33% | 5.04% | 21.56% | 6.12% | 18.18% | 5.59% | 23.84% | 19.99% | |
| 87 | Varied | 1.0% | Constant | 10.0% | 1 year | Exact | 6.12% | 5.32% | 22.93% | 6.12% | 19.23% | 4.92% | 21.30% | 6.12% | 17.97% | 5.59% | 23.74% | 19.88% | |
| 88 | Varied | 1.0% | Constant | 10.0% | 8 year | Constant | 5.95% | 7.54% | 27.68% | 5.95% | 22.80% | 6.46% | 25.27% | 5.95% | 21.56% | 7.81% | 28.06% | 22.03% | |
| 89 | Varied | 1.0% | Constant | 10.0% | 8 year | Rounded | 5.95% | 5.05% | 23.71% | 5.95% | 18.48% | 4.84% | 21.95% | 5.95% | 17.88% | 5.28% | 22.82% | 16.73% | |
| 90 | Varied | 1.0% | Constant | 10.0% | 8 year | Exact | 5.95% | 5.06% | 23.48% | 5.95% | 18.42% | 4.70% | 21.44% | 5.95% | 17.46% | 5.28% | 22.73% | 16.61% | |
| 91 | Varied | -1.0% | Constant | 0.0% | 1 year | Constant | 5.78% | 4.33% | 21.59% | 5.78% | 17.48% | 3.93% | 18.56% | 5.78% | 14.91% | 4.60% | 22.74% | 18.40% | |
| 92 | Varied | -1.0% | Constant | 0.0% | 1 year | Rounded | 5.78% | 4.33% | 21.59% | 5.78% | 17.48% | 3.93% | 18.56% | 5.78% | 14.91% | 4.60% | 22.74% | 18.40% | |
| 93 | Varied | -1.0% | Constant | 0.0% | 1 year | Exact | 5.78% | 4.33% | 21.59% | 5.78% | 17.48% | 3.93% | 18.56% | 5.78% | 14.91% | 4.60% | 22.74% | 18.40% | |
| 94 | Varied | -1.0% | Constant | 0.0% | 8 year | Constant | 5.64% | 4.09% | 15.72% | 5.64% | 10.19% | 3.74% | 14.42% | 5.64% | 9.98% | 4.32% | 14.59% | 8.00% | |
| 95 | Varied | -1.0% | Constant | 0.0% | 8 year | Rounded | 5.64% | 4.09% | 15.72% | 5.64% | 10.19% | 3.74% | 14.42% | 5.64% | 9.98% | 4.32% | 14.59% | 8.00% | |
| 96 | Varied | -1.0% | Constant | 0.0% | 8 year | Exact | 5.64% | 4.09% | 15.72% | 5.64% | 10.19% | 3.74% | 14.42% | 5.64% | 9.98% | 4.32% | 14.59% | 8.00% | |
| 97 | Varied | -1.0% | Constant | 3.0% | 1 year | Constant | 5.90% | 5.30% | 23.35% | 5.90% | 19.27% | 4.85% | 20.58% | 5.90% | 17.04% | 5.59% | 24.47% | 20.10% | |
| 98 | Varied | -1.0% | Constant | 3.0% | 1 year | Rounded | 5.90% | 4.54% | 23.30% | 5.90% | 19.40% | 4.13% | 20.05% | 5.90% | 16.60% | 4.89% | 24.44% | 20.21% | |
| 99 | Varied | -1.0% | Constant | 3.0% | 1 year | Exact | 5.90% | 4.64% | 23.50% | 5.90% | 19.49% | 4.23% | 20.41% | 5.90% | 16.86% | 4.91% | 24.65% | 20.40% | |
| 100 | Varied | -1.0% | Constant | 3.0% | 8 year | Constant | 5.74% | 5.06% | 18.65% | 5.74% | 13.11% | 4.67% | 16.73% | 5.74% | 12.39% | 5.29% | 17.55% | 10.86% | |
| 101 | Varied | -1.0% | Constant | 3.0% | 8 year | Rounded | 5.74% | 4.31% | 16.83% | 5.74% | 11.59% | 3.91% | 15.44% | 5.74% | 11.25% | 4.59% | 15.72% | 9.27% | |
| 102 | Varied | -1.0% | Constant | 3.0% | 8 year | Exact | 5.74% | 4.39% | 17.26% | 5.74% | 11.82% | 4.04% | 16.00% | 5.74% | 11.64% | 4.62% | 16.03% | 9.53% | |

| | | Cape Cod Scenario Results Total Error in Methods | | | | | | | | | | | | | | | | |
|----------|----------|---|-----------|-----------|---------------|-----------|-----------|----------------------|---------------------|---------|---------------------|----------------------|---------------------|---------|---------------------|----------------------|---------------------|---------------------|
| Scenario | Pattern | Frequency | Severity | | | | Cape Cod | Cape Cod | Cape Cod | Wtd Avg | Cape Cod | Cape Cod | Cape Cod | Wtd Avg | Cape Cod | Cape Cod | Wtd Avg | |
| | | Trend | Frequency | Inflation | Randomization | Retention | Unlimited | Limited \$400,000 | Excess \$400,000 | unlim | Excess \$400,000 | Limited \$250,000 | Excess \$250,000 | unlim | Excess \$250,000 | Limited \$550,000 | Excess \$550,000 | Excess \$550,000 |
| 103 | Varied | -1.0% | Constant | 10.0% | 1 year | Constant | 6.08% | 7.63% | 28.75% | 6.08% | 25.00% | 6.51% | 26.36% | 6.08% | 23.22% | 7.97% | 28.51% | 24.38% |
| 104 | Varied | -1.0% | Constant | 10.0% | 1 year | Rounded | 6.08% | 5.26% | 27.97% | 6.08% | 24.14% | 4.98% | 24.88% | 6.08% | 21.51% | 5.54% | 29.00% | 25.03% |
| 105 | Varied | -1.0% | Constant | 10.0% | 1 year | Exact | 6.08% | 5.27% | 27.75% | 6.08% | 24.00% | 4.87% | 24.57% | 6.08% | 21.26% | 5.54% | 28.89% | 24.91% |
| 106 | Varied | -1.0% | Constant | 10.0% | 8 year | Constant | 5.91% | 7.39% | 25.31% | 5.91% | 20.22% | 6.35% | 23.51% | 5.91% | 19.61% | 7.66% | 25.16% | 18.88% |
| 107 | Varied | -1.0% | Constant | 10.0% | 8 year | Rounded | 5.91% | 4.99% | 20.79% | 5.91% | 15.45% | 4.79% | 19.96% | 5.91% | 15.73% | 5.23% | 19.17% | 13.00% |
| 108 | Varied | -1.0% | Constant | 10.0% | 8 year | Exact | 5.91% | 5.01% | 20.59% | 5.91% | 15.41% | 4.65% | 19.46% | 5.91% | 15.33% | 5.23% | 19.09% | 12.89% |
| 109 | Constant | None | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 8.20% | 0.00% | 8.25% | 0.00% | 6.28% | 0.00% | 6.31% | 0.00% | 9.11% | 9.14% |
| 110 | Constant | None | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 8.20% | 0.00% | 8.25% | 0.00% | 6.28% | 0.00% | 6.31% | 0.00% | 9.11% | 9.14% |
| 111 | Constant | None | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 8.20% | 0.00% | 8.25% | 0.00% | 6.28% | 0.00% | 6.31% | 0.00% | 9.11% | 9.14% |
| 112 | Constant | None | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 1.25% | 0.00% | 1.12% | 0.00% | 2.43% | 0.00% | 2.28% | 0.00% | -2.07% | -2.06% |
| 113 | Constant | None | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 1.25% | 0.00% | 1.12% | 0.00% | 2.43% | 0.00% | 2.28% | 0.00% | -2.07% | -2.06% |
| 114 | Constant | None | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 1.25% | 0.00% | 1.12% | 0.00% | 2.43% | 0.00% | 2.28% | 0.00% | -2.07% | -2.06% |
| 115 | Constant | None | Varied | 3.0% | 1 year | Constant | 0.00% | 0.96% | 9.74% | 0.00% | 9.47% | 0.97% | 8.18% | 0.00% | 8.08% | 0.96% | 10.68% | 10.23% |
| 116 | Constant | None | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.04% | 9.69% | 0.00% | 9.84% | 0.05% | 7.57% | 0.00% | 7.64% | 0.15% | 10.52% | 10.53% |
| 117 | Constant | None | Varied | 3.0% | 1 year | Exact | 0.00% | 0.18% | 9.72% | 0.00% | 9.77% | 0.18% | 7.76% | 0.00% | 7.78% | 0.18% | 10.65% | 10.67% |
| 118 | Constant | None | Varied | 3.0% | 8 year | Constant | 0.00% | 0.96% | 4.15% | 0.00% | 3.57% | 0.97% | 4.61% | 0.00% | 4.25% | 0.96% | 1.02% | 0.16% |
| 119 | Constant | None | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.05% | 2.11% | 0.00% | 2.08% | 0.03% | 3.29% | 0.00% | 3.16% | 0.15% | -1.32% | -1.37% |
| 120 | Constant | None | Varied | 3.0% | 8 year | Exact | 0.00% | 0.18% | 2.28% | 0.00% | 2.12% | 0.18% | 3.60% | 0.00% | 3.41% | 0.18% | -1.19% | -1.24% |
| 121 | Constant | None | Varied | 10.0% | 1 year | Constant | 0.00% | 3.39% | 15.38% | 0.00% | 14.71% | 3.01% | 13.68% | 0.00% | 13.48% | 3.41% | 14.63% | 13.51% |
| 122 | Constant | None | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.60% | 13.32% | 0.00% | 13.29% | 0.73% | 11.33% | 0.00% | 11.31% | 0.61% | 14.32% | 14.30% |
| 123 | Constant | None | Varied | 10.0% | 1 year | Exact | 0.00% | 0.60% | 13.23% | 0.00% | 13.26% | 0.60% | 11.14% | 0.00% | 11.17% | 0.60% | 14.20% | 14.20% |
| 124 | Constant | None | Varied | 10.0% | 8 year | Constant | 0.00% | 3.38% | 11.42% | 0.00% | 10.22% | 3.04% | 10.98% | 0.00% | 10.45% | 3.39% | 9.54% | 7.58% |
| 125 | Constant | None | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.60% | 4.46% | 0.00% | 4.13% | 0.75% | 6.46% | 0.00% | 6.15% | 0.61% | 0.76% | 0.56% |
| 126 | Constant | None | Varied | 10.0% | 8 year | Exact | 0.00% | 0.60% | 4.52% | 0.00% | 4.26% | 0.60% | 6.18% | 0.00% | 5.92% | 0.60% | 0.66% | 0.49% |
| 127 | Constant | 1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 6.00% | 0.00% | 5.97% | 0.00% | 5.06% | 0.00% | 5.01% | 0.00% | 6.58% | 6.62% |
| 128 | Constant | 1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 6.00% | 0.00% | 5.97% | 0.00% | 5.06% | 0.00% | 5.01% | 0.00% | 6.58% | 6.62% |
| 129 | Constant | 1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 6.00% | 0.00% | 5.97% | 0.00% | 5.06% | 0.00% | 5.01% | 0.00% | 6.58% | 6.62% |
| 130 | Constant | 1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 3.59% | 0.00% | 3.43% | 0.00% | 3.79% | 0.00% | 3.62% | 0.00% | 1.05% | 0.94% |
| 131 | Constant | 1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 3.59% | 0.00% | 3.43% | 0.00% | 3.79% | 0.00% | 3.62% | 0.00% | 1.05% | 0.94% |
| 132 | Constant | 1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 3.59% | 0.00% | 3.43% | 0.00% | 3.79% | 0.00% | 3.62% | 0.00% | 1.05% | 0.94% |
| 133 | Constant | 1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.98% | 7.73% | 0.00% | 7.37% | 0.98% | 7.13% | 0.00% | 6.96% | 0.98% | 7.95% | 7.46% |
| 134 | Constant | 1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.04% | 7.29% | 0.00% | 7.36% | 0.04% | 6.24% | 0.00% | 6.23% | 0.14% | 7.78% | 7.81% |
| 135 | Constant | 1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.18% | 7.33% | 0.00% | 7.30% | 0.18% | 6.43% | 0.00% | 6.38% | 0.18% | 7.90% | 7.94% |
| 136 | Constant | 1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.98% | 6.71% | 0.00% | 6.07% | 0.98% | 6.04% | 0.00% | 5.67% | 0.97% | 4.49% | 3.51% |
| 137 | Constant | 1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.04% | 4.71% | 0.00% | 4.64% | 0.02% | 4.77% | 0.00% | 4.63% | 0.15% | 2.08% | 1.91% |
| 138 | Constant | 1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.18% | 4.92% | 0.00% | 4.71% | 0.18% | 5.12% | 0.00% | 4.92% | 0.18% | 2.32% | 2.15% |
| 139 | Constant | 1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 3.44% | 14.05% | 0.00% | 13.28% | 3.06% | 12.98% | 0.00% | 12.73% | 3.46% | 12.42% | 11.18% |
| 140 | Constant | 1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.60% | 10.44% | 0.00% | 10.33% | 0.73% | 9.73% | 0.00% | 9.62% | 0.61% | 11.05% | 11.05% |
| 141 | Constant | 1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.60% | 10.38% | 0.00% | 10.33% | 0.60% | 9.56% | 0.00% | 9.50% | 0.60% | 10.93% | 10.96% |
| 142 | Constant | 1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 3.43% | 14.05% | 0.00% | 12.79% | 3.08% | 12.57% | 0.00% | 12.03% | 3.43% | 13.23% | 11.16% |
| 143 | Constant | 1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.60% | 7.85% | 0.00% | 7.47% | 0.75% | 8.46% | 0.00% | 8.12% | 0.61% | 5.25% | 4.93% |
| 144 | Constant | 1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.60% | 7.87% | 0.00% | 7.57% | 0.60% | 8.12% | 0.00% | 7.84% | 0.60% | 5.12% | 4.83% |
| 145 | Constant | -1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 9.87% | 0.00% | 9.90% | 0.00% | 7.68% | 0.00% | 7.75% | 0.00% | 10.83% | 10.79% |
| 146 | Constant | -1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 9.87% | 0.00% | 9.90% | 0.00% | 7.68% | 0.00% | 7.75% | 0.00% | 10.83% | 10.79% |
| 147 | Constant | -1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 9.87% | 0.00% | 9.90% | 0.00% | 7.68% | 0.00% | 7.75% | 0.00% | 10.83% | 10.79% |
| 148 | Constant | -1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 1.26% | 0.00% | 1.29% | 0.00% | 2.25% | 0.00% | 2.15% | 0.00% | -1.90% | -1.66% |
| 149 | Constant | -1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 1.26% | 0.00% | 1.29% | 0.00% | 2.25% | 0.00% | 2.15% | 0.00% | -1.90% | -1.66% |
| 150 | Constant | -1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 1.26% | 0.00% | 1.29% | 0.00% | 2.25% | 0.00% | 2.15% | 0.00% | -1.90% | -1.66% |
| 151 | Constant | -1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.95% | 11.50% | 0.00% | 11.25% | 0.95% | 9.55% | 0.00% | 9.50% | 0.95% | 12.48% | 12.01% |
| 152 | Constant | -1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.05% | 11.45% | 0.00% | 11.58% | 0.05% | 9.05% | 0.00% | 9.16% | 0.15% | 12.32% | 12.27% |
| 153 | Constant | -1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.18% | 11.49% | 0.00% | 11.52% | 0.18% | 9.25% | 0.00% | 9.32% | 0.18% | 12.46% | 12.42% |

| Cape Cod Scenario Results | | | | | | | | | | | | | | | | | | | |
|---------------------------|----------|-----------|-----------|-----------|---------------|-----------|-----------|--------------------|------------------|-----------------|----------------|----------------|------------------|-----------------|----------------|----------------|------------------|-----------------|----------------|
| Total Error in Methods | | | | | | | | | | | | | | | | | | | |
| Scenario | Pattern | Frequency | | Inflation | Severity | | | Cape Cod Unlimited | Cape Cod Limited | Cape Cod Excess | Cape cod unlim | Wtd Avg Excess | Cape Cod Limited | Cape Cod Excess | Cape cod unlim | Wtd Avg Excess | Cape Cod Limited | Cape Cod Excess | Wtd Avg Excess |
| | | Trend | Frequency | | Randomization | Retention | \$400,000 | | \$400,000 | \$400,000 | | \$250,000 | \$250,000 | \$250,000 | | \$550,000 | \$550,000 | \$550,000 | |
| 154 | Constant | -1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.95% | 4.20% | 0.00% | 3.74% | 0.95% | 4.42% | 0.00% | 4.10% | 0.94% | 1.31% | 0.65% | |
| 155 | Constant | -1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.06% | 2.26% | 0.00% | 2.38% | 0.03% | 3.19% | 0.00% | 3.11% | 0.15% | -1.05% | -0.86% | |
| 156 | Constant | -1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.18% | 2.42% | 0.00% | 2.41% | 0.18% | 3.48% | 0.00% | 3.35% | 0.18% | -0.86% | -0.67% | |
| 157 | Constant | -1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 3.35% | 17.05% | 0.00% | 16.43% | 2.97% | 14.95% | 0.00% | 14.81% | 3.37% | 16.59% | 15.52% | |
| 158 | Constant | -1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.60% | 15.31% | 0.00% | 15.28% | 0.72% | 13.04% | 0.00% | 13.07% | 0.61% | 16.33% | 16.26% | |
| 159 | Constant | -1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.60% | 15.21% | 0.00% | 15.24% | 0.60% | 12.85% | 0.00% | 12.92% | 0.60% | 16.21% | 16.16% | |
| 160 | Constant | -1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 3.33% | 11.43% | 0.00% | 10.29% | 2.99% | 10.75% | 0.00% | 10.25% | 3.34% | 9.95% | 8.08% | |
| 161 | Constant | -1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.60% | 4.93% | 0.00% | 4.77% | 0.74% | 6.53% | 0.00% | 6.28% | 0.60% | 1.53% | 1.57% | |
| 162 | Constant | -1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.60% | 5.00% | 0.00% | 4.89% | 0.60% | 6.24% | 0.00% | 6.04% | 0.60% | 1.43% | 1.49% | |
| 163 | Varied | None | Varied | 0.0% | 1 year | Constant | 5.77% | 4.34% | 19.80% | 5.77% | 15.70% | 3.95% | 17.01% | 5.77% | 13.37% | 4.60% | 20.94% | 16.60% | |
| 164 | Varied | None | Varied | 0.0% | 1 year | Rounded | 5.77% | 4.34% | 19.80% | 5.77% | 15.70% | 3.95% | 17.01% | 5.77% | 13.37% | 4.60% | 20.94% | 16.60% | |
| 165 | Varied | None | Varied | 0.0% | 1 year | Exact | 5.77% | 4.34% | 19.80% | 5.77% | 15.70% | 3.95% | 17.01% | 5.77% | 13.37% | 4.60% | 20.94% | 16.60% | |
| 166 | Varied | None | Varied | 0.0% | 8 year | Constant | 5.58% | 4.10% | 14.59% | 5.58% | 9.11% | 3.77% | 13.77% | 5.58% | 9.43% | 4.31% | 13.08% | 6.52% | |
| 167 | Varied | None | Varied | 0.0% | 8 year | Rounded | 5.58% | 4.10% | 14.59% | 5.58% | 9.11% | 3.77% | 13.77% | 5.58% | 9.43% | 4.31% | 13.08% | 6.52% | |
| 168 | Varied | None | Varied | 0.0% | 8 year | Exact | 5.58% | 4.10% | 14.59% | 5.58% | 9.11% | 3.77% | 13.77% | 5.58% | 9.43% | 4.31% | 13.08% | 6.52% | |
| 169 | Varied | None | Varied | 3.0% | 1 year | Constant | 5.88% | 5.32% | 21.51% | 5.88% | 17.43% | 4.89% | 19.11% | 5.88% | 15.57% | 5.59% | 22.62% | 18.23% | |
| 170 | Varied | None | Varied | 3.0% | 1 year | Rounded | 5.88% | 4.54% | 21.45% | 5.88% | 17.57% | 4.16% | 18.44% | 5.88% | 15.00% | 4.88% | 22.58% | 18.35% | |
| 171 | Varied | None | Varied | 3.0% | 1 year | Exact | 5.88% | 4.65% | 21.64% | 5.88% | 17.64% | 4.26% | 18.80% | 5.88% | 15.25% | 4.91% | 22.78% | 18.54% | |
| 172 | Varied | None | Varied | 3.0% | 8 year | Constant | 5.68% | 5.08% | 17.57% | 5.68% | 12.10% | 4.71% | 16.17% | 5.68% | 11.93% | 5.30% | 16.05% | 9.40% | |
| 173 | Varied | None | Varied | 3.0% | 8 year | Rounded | 5.68% | 4.31% | 15.56% | 5.68% | 10.39% | 3.95% | 14.74% | 5.68% | 10.64% | 4.58% | 14.08% | 7.67% | |
| 174 | Varied | None | Varied | 3.0% | 8 year | Exact | 5.68% | 4.40% | 16.00% | 5.68% | 10.61% | 4.07% | 15.28% | 5.68% | 11.01% | 4.61% | 14.35% | 7.90% | |
| 175 | Varied | None | Varied | 10.0% | 1 year | Constant | 6.07% | 7.68% | 27.11% | 6.07% | 23.33% | 6.56% | 25.16% | 6.07% | 22.00% | 8.01% | 26.60% | 22.42% | |
| 176 | Varied | None | Varied | 10.0% | 1 year | Rounded | 6.07% | 5.27% | 25.98% | 6.07% | 22.14% | 5.01% | 23.13% | 6.07% | 19.75% | 5.54% | 27.01% | 23.04% | |
| 177 | Varied | None | Varied | 10.0% | 1 year | Exact | 6.07% | 5.28% | 25.75% | 6.07% | 22.01% | 4.89% | 22.81% | 6.07% | 19.49% | 5.54% | 26.90% | 22.92% | |
| 178 | Varied | None | Varied | 10.0% | 8 year | Constant | 5.85% | 7.44% | 24.58% | 5.85% | 19.58% | 6.39% | 23.18% | 5.85% | 19.38% | 7.70% | 23.93% | 17.72% | |
| 179 | Varied | None | Varied | 10.0% | 8 year | Rounded | 5.85% | 5.01% | 19.20% | 5.85% | 13.92% | 4.82% | 19.03% | 5.85% | 14.88% | 5.23% | 17.09% | 10.97% | |
| 180 | Varied | None | Varied | 10.0% | 8 year | Exact | 5.85% | 5.02% | 19.00% | 5.85% | 13.89% | 4.69% | 18.56% | 5.85% | 14.52% | 5.22% | 17.01% | 10.85% | |
| 181 | Varied | 1.0% | Varied | 0.0% | 1 year | Constant | 5.76% | 4.36% | 17.74% | 5.76% | 13.63% | 3.98% | 15.84% | 5.76% | 12.19% | 4.62% | 18.58% | 14.29% | |
| 182 | Varied | 1.0% | Varied | 0.0% | 1 year | Rounded | 5.76% | 4.36% | 17.74% | 5.76% | 13.63% | 3.98% | 15.84% | 5.76% | 12.19% | 4.62% | 18.58% | 14.29% | |
| 183 | Varied | 1.0% | Varied | 0.0% | 1 year | Exact | 5.76% | 4.36% | 17.74% | 5.76% | 13.63% | 3.98% | 15.84% | 5.76% | 12.19% | 4.62% | 18.58% | 14.29% | |
| 184 | Varied | 1.0% | Varied | 0.0% | 8 year | Constant | 5.68% | 4.13% | 17.50% | 5.68% | 11.92% | 3.80% | 15.51% | 5.68% | 11.16% | 4.35% | 16.88% | 10.07% | |
| 185 | Varied | 1.0% | Varied | 0.0% | 8 year | Rounded | 5.68% | 4.13% | 17.50% | 5.68% | 11.92% | 3.80% | 15.51% | 5.68% | 11.16% | 4.35% | 16.88% | 10.07% | |
| 186 | Varied | 1.0% | Varied | 0.0% | 8 year | Exact | 5.68% | 4.13% | 17.50% | 5.68% | 11.92% | 3.80% | 15.51% | 5.68% | 11.16% | 4.35% | 16.88% | 10.07% | |
| 187 | Varied | 1.0% | Varied | 3.0% | 1 year | Constant | 5.88% | 5.35% | 19.69% | 5.88% | 15.57% | 4.93% | 18.14% | 5.88% | 14.59% | 5.63% | 20.13% | 15.74% | |
| 188 | Varied | 1.0% | Varied | 3.0% | 1 year | Rounded | 5.88% | 4.56% | 19.22% | 5.88% | 15.33% | 4.18% | 17.18% | 5.88% | 13.73% | 4.89% | 20.06% | 15.87% | |
| 189 | Varied | 1.0% | Varied | 3.0% | 1 year | Exact | 5.88% | 4.67% | 19.43% | 5.88% | 15.41% | 4.28% | 17.55% | 5.88% | 13.99% | 4.92% | 20.25% | 16.05% | |
| 190 | Varied | 1.0% | Varied | 3.0% | 8 year | Constant | 5.78% | 5.12% | 20.57% | 5.78% | 15.03% | 4.75% | 17.91% | 5.78% | 13.68% | 5.34% | 20.04% | 13.20% | |
| 191 | Varied | 1.0% | Varied | 3.0% | 8 year | Rounded | 5.78% | 4.33% | 18.67% | 5.78% | 13.41% | 3.96% | 16.59% | 5.78% | 12.48% | 4.62% | 18.08% | 11.44% | |
| 192 | Varied | 1.0% | Varied | 3.0% | 8 year | Exact | 5.78% | 4.43% | 19.16% | 5.78% | 13.68% | 4.09% | 17.16% | 5.78% | 12.89% | 4.64% | 18.48% | 11.78% | |
| 193 | Varied | 1.0% | Varied | 10.0% | 1 year | Constant | 6.06% | 7.72% | 26.01% | 6.06% | 22.17% | 6.61% | 24.57% | 6.06% | 21.41% | 8.05% | 24.74% | 20.48% | |
| 194 | Varied | 1.0% | Varied | 10.0% | 1 year | Rounded | 6.06% | 5.28% | 23.39% | 6.06% | 19.52% | 5.02% | 21.65% | 6.06% | 18.25% | 5.54% | 24.09% | 20.14% | |
| 195 | Varied | 1.0% | Varied | 10.0% | 1 year | Exact | 6.06% | 5.28% | 23.19% | 6.06% | 19.42% | 4.90% | 21.36% | 6.06% | 18.02% | 5.54% | 23.97% | 20.02% | |
| 196 | Varied | 1.0% | Varied | 10.0% | 8 year | Constant | 5.94% | 7.49% | 27.41% | 5.94% | 22.40% | 6.43% | 24.92% | 5.94% | 21.16% | 7.75% | 27.82% | 21.55% | |
| 197 | Varied | 1.0% | Varied | 10.0% | 8 year | Rounded | 5.94% | 5.02% | 23.01% | 5.94% | 17.64% | 4.83% | 21.32% | 5.94% | 17.19% | 5.25% | 22.00% | 15.68% | |
| 198 | Varied | 1.0% | Varied | 10.0% | 8 year | Exact | 5.94% | 5.03% | 22.76% | 5.94% | 17.57% | 4.70% | 20.79% | 5.94% | 16.76% | 5.25% | 21.90% | 15.54% | |
| 199 | Varied | -1.0% | Varied | 0.0% | 1 year | Constant | 5.76% | 4.31% | 21.32% | 5.76% | 17.22% | 3.92% | 18.33% | 5.76% | 14.69% | 4.58% | 22.47% | 18.12% | |
| 200 | Varied | -1.0% | Varied | 0.0% | 1 year | Rounded | 5.76% | 4.31% | 21.32% | 5.76% | 17.22% | 3.92% | 18.33% | 5.76% | 14.69% | 4.58% | 22.47% | 18.12% | |
| 201 | Varied | -1.0% | Varied | 0.0% | 1 year | Exact | 5.76% | 4.31% | 21.32% | 5.76% | 17.22% | 3.92% | 18.33% | 5.76% | 14.69% | 4.58% | 22.47% | 18.12% | |
| 202 | Varied | -1.0% | Varied | 0.0% | 8 year | Constant | 5.61% | 4.07% | 15.03% | 5.61% | 9.48% | 3.73% | 13.89% | 5.61% | 9.46% | 4.29% | 13.73% | 7.12% | |
| 203 | Varied | -1.0% | Varied | 0.0% | 8 year | Rounded | 5.61% | 4.07% | 15.03% | 5.61% | 9.48% | 3.73% | 13.89% | 5.61% | 9.46% | 4.29% | 13.73% | 7.12% | |
| 204 | Varied | -1.0% | Varied | 0.0% | 8 year | Exact | 5.61% | 4.07% | 15.03% | 5.61% | 9.48% | 3.73% | 13.89% | 5.61% | 9.46% | 4.29% | 13.73% | 7.12% | |

| | | Cape Cod Scenario Results Total Error in Methods | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|---------|---|-----------|-----------|---------------|-----------|----------|--------------------|----------|----------------------------|----------|---------------------------|----------|--------------------------|----------|----------------------------|----------|---------------------------|----------|--------------------------|----------|----------------------------|----------|---------------------------|----------|--------------------------|----------|
| Scenario | Pattern | Frequency | | Inflation | Severity | | | Cape Cod Unlimited | | Cape Cod Limited \$400,000 | | Cape Cod Excess \$400,000 | | Cape cod unlim \$400,000 | | Cape Cod Limited \$250,000 | | Cape Cod Excess \$250,000 | | Cape cod unlim \$250,000 | | Cape Cod Limited \$550,000 | | Cape Cod Excess \$550,000 | | Cape cod unlim \$550,000 | |
| | | Trend | Frequency | | Randomization | Retention | Cape Cod | Wtd Avg | Cape Cod | Wtd Avg | Cape Cod | Wtd Avg | Cape Cod | Wtd Avg | Cape Cod | Wtd Avg | Cape Cod | Wtd Avg | Cape Cod | Wtd Avg | Cape Cod | Wtd Avg | Cape Cod | Wtd Avg | Cape Cod | Wtd Avg | Cape Cod |
| 205 | Varied | -1.0% | Varied | 3.0% | 1 year | Constant | 5.88% | 5.29% | 23.11% | 5.88% | 19.04% | 4.85% | 20.38% | 5.88% | 16.85% | 5.57% | 24.23% | 19.85% | | | | | | | | | |
| 206 | Varied | -1.0% | Varied | 3.0% | 1 year | Rounded | 5.88% | 4.53% | 23.05% | 5.88% | 19.16% | 4.13% | 19.83% | 5.88% | 16.39% | 4.87% | 24.19% | 19.95% | | | | | | | | | |
| 207 | Varied | -1.0% | Varied | 3.0% | 1 year | Exact | 5.88% | 4.63% | 23.24% | 5.88% | 19.24% | 4.23% | 20.20% | 5.88% | 16.65% | 4.89% | 24.39% | 20.14% | | | | | | | | | |
| 208 | Varied | -1.0% | Varied | 3.0% | 8 year | Constant | 5.72% | 5.04% | 18.04% | 5.72% | 12.47% | 4.66% | 16.27% | 5.72% | 11.92% | 5.27% | 16.83% | 10.08% | | | | | | | | | |
| 209 | Varied | -1.0% | Varied | 3.0% | 8 year | Rounded | 5.72% | 4.29% | 16.13% | 5.72% | 10.88% | 3.92% | 14.93% | 5.72% | 10.74% | 4.57% | 14.85% | 8.36% | | | | | | | | | |
| 210 | Varied | -1.0% | Varied | 3.0% | 8 year | Exact | 5.72% | 4.38% | 16.58% | 5.72% | 11.10% | 4.03% | 15.47% | 5.72% | 11.11% | 4.59% | 15.18% | 8.64% | | | | | | | | | |
| 211 | Varied | -1.0% | Varied | 10.0% | 1 year | Constant | 6.07% | 7.61% | 28.59% | 6.07% | 24.85% | 6.50% | 26.27% | 6.07% | 23.14% | 7.95% | 28.35% | 24.21% | | | | | | | | | |
| 212 | Varied | -1.0% | Varied | 10.0% | 1 year | Rounded | 6.07% | 5.25% | 27.76% | 6.07% | 23.93% | 4.98% | 24.69% | 6.07% | 21.33% | 5.53% | 28.80% | 24.82% | | | | | | | | | |
| 213 | Varied | -1.0% | Varied | 10.0% | 1 year | Exact | 6.07% | 5.27% | 27.54% | 6.07% | 23.80% | 4.87% | 24.38% | 6.07% | 21.08% | 5.53% | 28.68% | 24.70% | | | | | | | | | |
| 214 | Varied | -1.0% | Varied | 10.0% | 8 year | Constant | 5.91% | 7.37% | 24.94% | 5.91% | 19.81% | 6.33% | 23.20% | 5.91% | 19.29% | 7.64% | 24.75% | 18.37% | | | | | | | | | |
| 215 | Varied | -1.0% | Varied | 10.0% | 8 year | Rounded | 5.91% | 4.99% | 20.13% | 5.91% | 14.73% | 4.79% | 19.43% | 5.91% | 15.18% | 5.22% | 18.35% | 12.11% | | | | | | | | | |
| 216 | Varied | -1.0% | Varied | 10.0% | 8 year | Exact | 5.91% | 5.00% | 19.93% | 5.91% | 14.70% | 4.66% | 18.94% | 5.91% | 14.80% | 5.22% | 18.27% | 11.99% | | | | | | | | | |

Increased Variation Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail Wtd Avg Excess | Non Tail Latest Diag excess | Alternative Method Excess |
|----------|----------|-----------|-----------|-----------|---------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------------------------|-----------------------------------|------------------------------|
| | | Trend | | | Randomization | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | | |
| 1 | Constant | None | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 8.37% | 8.37% | 0.00% | 0.00% | 0.00% |
| 2 | Constant | None | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 8.37% | 8.37% | 0.00% | 0.00% | 0.00% |
| 3 | Constant | None | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 8.37% | 8.37% | 0.00% | 0.00% | 0.00% |
| 4 | Constant | None | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 1.01% | 2.87% | -6.79% | -5.07% | 0.00% |
| 5 | Constant | None | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 1.01% | 2.87% | -6.79% | -5.07% | 0.00% |
| 6 | Constant | None | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 1.01% | 2.87% | -6.79% | -5.07% | 0.00% |
| 7 | Constant | None | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.00% | 0.88% | 9.52% | 9.40% | 1.06% | 0.95% | -1.08% |
| 8 | Constant | None | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.03% | -0.05% | 9.93% | 10.13% | -0.18% | 0.01% | 0.24% |
| 9 | Constant | None | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 9.85% | 9.85% | -0.30% | -0.30% | -0.30% |
| 10 | Constant | None | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 3.46% | 4.97% | -4.53% | -3.14% | -1.22% |
| 11 | Constant | None | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.04% | -0.04% | 1.97% | 3.81% | -7.40% | -5.73% | 0.46% |
| 12 | Constant | None | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 2.01% | 3.86% | -7.41% | -5.74% | -0.35% |
| 13 | Constant | None | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.51% | 3.09% | 14.59% | 13.88% | 5.74% | 5.08% | -3.20% |
| 14 | Constant | None | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 13.28% | 13.13% | -1.20% | -1.33% | -1.28% |
| 15 | Constant | None | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 13.25% | 13.25% | -0.96% | -0.96% | -0.96% |
| 16 | Constant | None | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.49% | 3.07% | 10.09% | 10.39% | 1.59% | 1.87% | -3.56% |
| 17 | Constant | None | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 4.04% | 5.82% | -9.26% | -7.70% | -1.70% |
| 18 | Constant | None | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 4.18% | 5.96% | -8.90% | -7.34% | -1.15% |
| 19 | Constant | 1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 5.79% | 6.25% | -2.38% | -1.96% | 0.00% |
| 20 | Constant | 1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 5.79% | 6.25% | -2.38% | -1.96% | 0.00% |
| 21 | Constant | 1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 5.79% | 6.25% | -2.38% | -1.96% | 0.00% |
| 22 | Constant | 1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 4.45% | 5.86% | -3.61% | -2.31% | 0.00% |
| 23 | Constant | 1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 4.45% | 5.86% | -3.61% | -2.31% | 0.00% |
| 24 | Constant | 1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 4.45% | 5.86% | -3.61% | -2.31% | 0.00% |
| 25 | Constant | 1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.02% | 0.89% | 7.11% | 7.43% | -1.16% | -0.87% | -1.12% |
| 26 | Constant | 1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.02% | -0.06% | 7.17% | 7.85% | -2.68% | -2.06% | 0.28% |
| 27 | Constant | 1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 7.10% | 7.58% | -2.79% | -2.36% | -0.31% |
| 28 | Constant | 1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 1.01% | 0.89% | 6.95% | 7.87% | -1.31% | -0.46% | -1.18% |
| 29 | Constant | 1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.03% | -0.04% | 5.68% | 7.10% | -4.03% | -2.74% | 0.34% |
| 30 | Constant | 1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 5.73% | 7.09% | -4.03% | -2.80% | -0.34% |
| 31 | Constant | 1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.56% | 3.14% | 12.92% | 12.58% | 4.20% | 3.89% | -3.32% |
| 32 | Constant | 1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.70% | 10.10% | 10.47% | -3.97% | -3.65% | -1.36% |
| 33 | Constant | 1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 10.10% | 10.62% | -3.71% | -3.26% | -1.00% |
| 34 | Constant | 1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.55% | 3.12% | 13.30% | 12.87% | 4.55% | 4.15% | -3.47% |
| 35 | Constant | 1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 8.49% | 9.67% | -5.38% | -4.35% | -1.55% |
| 36 | Constant | 1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 8.58% | 9.79% | -5.05% | -3.99% | -1.10% |
| 37 | Constant | -1.0% | Constant | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 10.17% | 9.82% | 1.66% | 1.34% | 0.00% |
| 38 | Constant | -1.0% | Constant | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 10.17% | 9.82% | 1.66% | 1.34% | 0.00% |
| 39 | Constant | -1.0% | Constant | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 10.17% | 9.82% | 1.66% | 1.34% | 0.00% |
| 40 | Constant | -1.0% | Constant | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 2.05% | 3.63% | -5.83% | -4.37% | 0.00% |
| 41 | Constant | -1.0% | Constant | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 2.05% | 3.63% | -5.83% | -4.37% | 0.00% |
| 42 | Constant | -1.0% | Constant | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 2.05% | 3.63% | -5.83% | -4.37% | 0.00% |
| 43 | Constant | -1.0% | Constant | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.99% | 0.86% | 11.48% | 11.00% | 2.87% | 2.43% | -1.05% |
| 44 | Constant | -1.0% | Constant | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.03% | -0.04% | 11.83% | 11.66% | 1.55% | 1.40% | 0.21% |
| 45 | Constant | -1.0% | Constant | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 11.77% | 11.40% | 1.44% | 1.11% | -0.29% |

Increased Variation Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity Randomization | Retention | Wtd Average Unlimited | Latest Diag Unlimited | Wtd Average Limited | Latest Diag Limited | Wtd Average Excess | Latest Diag Excess | Non Tail Wtd Avg Excess | Non Tail | Alternative |
|----------|----------|-----------|-----------|-----------|---------------------------|-----------|--------------------------|--------------------------|------------------------|------------------------|-----------------------|-----------------------|-------------------------------|-----------------------|---------------|
| | | Trend | | | | | | | | | | | | Latest Diag excess | Method Excess |
| 46 | Constant | -1.0% | Constant | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.98% | 0.85% | 4.43% | 5.62% | -3.64% | -2.54% | -1.16% |
| 47 | Constant | -1.0% | Constant | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.05% | -0.03% | 3.15% | 4.76% | -6.33% | -4.87% | 0.35% |
| 48 | Constant | -1.0% | Constant | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 3.18% | 4.74% | -6.35% | -4.94% | -0.35% |
| 49 | Constant | -1.0% | Constant | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.46% | 3.04% | 16.58% | 15.52% | 7.58% | 6.59% | -3.08% |
| 50 | Constant | -1.0% | Constant | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 15.48% | 14.93% | 0.72% | 0.24% | -1.23% |
| 51 | Constant | -1.0% | Constant | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 15.44% | 15.04% | 0.95% | 0.60% | -0.93% |
| 52 | Constant | -1.0% | Constant | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.44% | 3.02% | 10.77% | 10.73% | 2.21% | 2.18% | -3.43% |
| 53 | Constant | -1.0% | Constant | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 5.57% | 7.01% | -7.93% | -6.66% | -1.61% |
| 54 | Constant | -1.0% | Constant | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 5.69% | 7.16% | -7.58% | -6.29% | -1.13% |
| 55 | Varied | None | Constant | 0.0% | 1 year | Constant | 7.15% | 3.32% | 4.69% | 1.14% | 23.39% | 18.80% | 11.23% | 7.10% | 6.45% |
| 56 | Varied | None | Constant | 0.0% | 1 year | Rounded | 7.15% | 3.32% | 4.69% | 1.14% | 23.39% | 18.80% | 11.23% | 7.10% | 6.45% |
| 57 | Varied | None | Constant | 0.0% | 1 year | Exact | 7.15% | 3.32% | 4.69% | 1.14% | 23.39% | 18.80% | 11.23% | 7.10% | 6.45% |
| 58 | Varied | None | Constant | 0.0% | 8 year | Constant | 7.00% | 3.45% | 4.45% | 1.12% | 18.51% | 18.62% | 6.83% | 6.93% | 6.82% |
| 59 | Varied | None | Constant | 0.0% | 8 year | Rounded | 7.00% | 3.45% | 4.45% | 1.12% | 18.51% | 18.62% | 6.83% | 6.93% | 6.82% |
| 60 | Varied | None | Constant | 0.0% | 8 year | Exact | 7.00% | 3.45% | 4.45% | 1.12% | 18.51% | 18.62% | 6.83% | 6.93% | 6.82% |
| 61 | Varied | None | Constant | 3.0% | 1 year | Constant | 7.31% | 3.33% | 5.58% | 1.76% | 24.96% | 20.08% | 12.65% | 8.25% | 5.55% |
| 62 | Varied | None | Constant | 3.0% | 1 year | Rounded | 7.31% | 3.33% | 4.92% | 1.11% | 25.28% | 20.72% | 11.18% | 7.14% | 6.68% |
| 63 | Varied | None | Constant | 3.0% | 1 year | Exact | 7.31% | 3.33% | 5.00% | 1.30% | 25.40% | 20.60% | 11.23% | 6.97% | 6.23% |
| 64 | Varied | None | Constant | 3.0% | 8 year | Constant | 7.15% | 3.47% | 5.34% | 1.74% | 21.22% | 20.83% | 9.28% | 8.93% | 5.96% |
| 65 | Varied | None | Constant | 3.0% | 8 year | Rounded | 7.15% | 3.47% | 4.69% | 1.10% | 19.96% | 20.05% | 6.46% | 6.54% | 7.15% |
| 66 | Varied | None | Constant | 3.0% | 8 year | Exact | 7.15% | 3.47% | 4.76% | 1.28% | 20.23% | 20.31% | 6.65% | 6.72% | 6.58% |
| 67 | Varied | None | Constant | 10.0% | 1 year | Constant | 7.58% | 3.32% | 7.69% | 3.30% | 30.11% | 24.48% | 17.29% | 12.21% | 3.65% |
| 68 | Varied | None | Constant | 10.0% | 1 year | Rounded | 7.58% | 3.32% | 5.64% | 1.71% | 30.10% | 24.69% | 10.98% | 6.37% | 5.48% |
| 69 | Varied | None | Constant | 10.0% | 1 year | Exact | 7.58% | 3.32% | 5.65% | 1.64% | 29.88% | 24.65% | 11.09% | 6.61% | 5.70% |
| 70 | Varied | None | Constant | 10.0% | 8 year | Constant | 7.43% | 3.49% | 7.46% | 3.27% | 27.78% | 26.10% | 15.19% | 13.67% | 4.00% |
| 71 | Varied | None | Constant | 10.0% | 8 year | Rounded | 7.43% | 3.49% | 5.39% | 1.71% | 24.15% | 24.15% | 5.91% | 5.91% | 5.69% |
| 72 | Varied | None | Constant | 10.0% | 8 year | Exact | 7.43% | 3.49% | 5.40% | 1.63% | 23.99% | 24.02% | 6.05% | 6.07% | 6.02% |
| 73 | Varied | 1.0% | Constant | 0.0% | 1 year | Constant | 7.20% | 3.32% | 4.74% | 1.13% | 21.45% | 17.32% | 9.49% | 5.76% | 6.52% |
| 74 | Varied | 1.0% | Constant | 0.0% | 1 year | Rounded | 7.20% | 3.32% | 4.74% | 1.13% | 21.45% | 17.32% | 9.49% | 5.76% | 6.52% |
| 75 | Varied | 1.0% | Constant | 0.0% | 1 year | Exact | 7.20% | 3.32% | 4.74% | 1.13% | 21.45% | 17.32% | 9.49% | 5.76% | 6.52% |
| 76 | Varied | 1.0% | Constant | 0.0% | 8 year | Constant | 7.10% | 3.43% | 4.49% | 1.12% | 21.59% | 20.84% | 9.61% | 8.93% | 6.86% |
| 77 | Varied | 1.0% | Constant | 0.0% | 8 year | Rounded | 7.10% | 3.43% | 4.49% | 1.12% | 21.59% | 20.84% | 9.61% | 8.93% | 6.86% |
| 78 | Varied | 1.0% | Constant | 0.0% | 8 year | Exact | 7.10% | 3.43% | 4.49% | 1.12% | 21.59% | 20.84% | 9.61% | 8.93% | 6.86% |
| 79 | Varied | 1.0% | Constant | 3.0% | 1 year | Constant | 7.35% | 3.33% | 5.64% | 1.77% | 23.20% | 18.73% | 11.07% | 7.03% | 5.59% |
| 80 | Varied | 1.0% | Constant | 3.0% | 1 year | Rounded | 7.35% | 3.33% | 4.96% | 1.09% | 23.21% | 19.13% | 9.35% | 5.72% | 6.78% |
| 81 | Varied | 1.0% | Constant | 3.0% | 1 year | Exact | 7.35% | 3.33% | 5.05% | 1.29% | 23.34% | 19.01% | 9.40% | 5.56% | 6.29% |
| 82 | Varied | 1.0% | Constant | 3.0% | 8 year | Constant | 7.24% | 3.45% | 5.39% | 1.75% | 24.24% | 23.01% | 12.00% | 10.89% | 5.91% |
| 83 | Varied | 1.0% | Constant | 3.0% | 8 year | Rounded | 7.24% | 3.45% | 4.72% | 1.09% | 23.20% | 22.45% | 9.33% | 8.67% | 7.14% |
| 84 | Varied | 1.0% | Constant | 3.0% | 8 year | Exact | 7.24% | 3.45% | 4.80% | 1.28% | 23.49% | 22.67% | 9.53% | 8.81% | 6.61% |
| 85 | Varied | 1.0% | Constant | 10.0% | 1 year | Constant | 7.61% | 3.32% | 7.77% | 3.32% | 28.98% | 23.63% | 16.27% | 11.45% | 3.61% |
| 86 | Varied | 1.0% | Constant | 10.0% | 1 year | Rounded | 7.61% | 3.32% | 5.68% | 1.70% | 27.73% | 22.84% | 8.96% | 4.79% | 5.51% |
| 87 | Varied | 1.0% | Constant | 10.0% | 1 year | Exact | 7.61% | 3.32% | 5.69% | 1.62% | 27.54% | 22.81% | 9.08% | 5.04% | 5.75% |
| 88 | Varied | 1.0% | Constant | 10.0% | 8 year | Constant | 7.48% | 3.45% | 7.52% | 3.30% | 30.40% | 27.99% | 17.56% | 15.38% | 3.88% |
| 89 | Varied | 1.0% | Constant | 10.0% | 8 year | Rounded | 7.48% | 3.45% | 5.42% | 1.70% | 27.84% | 26.85% | 9.05% | 8.22% | 5.75% |
| 90 | Varied | 1.0% | Constant | 10.0% | 8 year | Exact | 7.48% | 3.45% | 5.43% | 1.62% | 27.64% | 26.71% | 9.18% | 8.38% | 6.03% |

Increased Variation Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail Wtd Avg Excess | Non Tail | Alternative Method Excess |
|----------|----------|-----------|-----------|-----------|---------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------------------------|-----------------------|------------------------------|
| | | Trend | | | Randomization | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | | Latest Diag excess | |
| 91 | Varied | -1.0% | Constant | 0.0% | 1 year | Constant | 7.11% | 3.30% | 4.64% | 1.14% | 24.74% | 19.84% | 12.45% | 8.04% | 6.38% |
| 92 | Varied | -1.0% | Constant | 0.0% | 1 year | Rounded | 7.11% | 3.30% | 4.64% | 1.14% | 24.74% | 19.84% | 12.45% | 8.04% | 6.38% |
| 93 | Varied | -1.0% | Constant | 0.0% | 1 year | Exact | 7.11% | 3.30% | 4.64% | 1.14% | 24.74% | 19.84% | 12.45% | 8.04% | 6.38% |
| 94 | Varied | -1.0% | Constant | 0.0% | 8 year | Constant | 6.98% | 3.45% | 4.40% | 1.15% | 19.39% | 18.75% | 7.63% | 7.06% | 6.86% |
| 95 | Varied | -1.0% | Constant | 0.0% | 8 year | Rounded | 6.98% | 3.45% | 4.40% | 1.15% | 19.39% | 18.75% | 7.63% | 7.06% | 6.86% |
| 96 | Varied | -1.0% | Constant | 0.0% | 8 year | Exact | 6.98% | 3.45% | 4.40% | 1.15% | 19.39% | 18.75% | 7.63% | 7.06% | 6.86% |
| 97 | Varied | -1.0% | Constant | 3.0% | 1 year | Constant | 7.27% | 3.31% | 5.53% | 1.75% | 26.41% | 21.22% | 13.96% | 9.27% | 5.50% |
| 98 | Varied | -1.0% | Constant | 3.0% | 1 year | Rounded | 7.27% | 3.31% | 4.88% | 1.11% | 26.70% | 21.83% | 12.44% | 8.12% | 6.58% |
| 99 | Varied | -1.0% | Constant | 3.0% | 1 year | Exact | 7.27% | 3.31% | 4.96% | 1.30% | 26.83% | 21.71% | 12.50% | 7.96% | 6.16% |
| 100 | Varied | -1.0% | Constant | 3.0% | 8 year | Constant | 7.14% | 3.47% | 5.28% | 1.75% | 22.04% | 20.92% | 10.02% | 9.01% | 5.98% |
| 101 | Varied | -1.0% | Constant | 3.0% | 8 year | Rounded | 7.14% | 3.47% | 4.65% | 1.14% | 20.95% | 20.32% | 7.34% | 6.78% | 7.14% |
| 102 | Varied | -1.0% | Constant | 3.0% | 8 year | Exact | 7.14% | 3.47% | 4.72% | 1.31% | 21.22% | 20.52% | 7.52% | 6.90% | 6.62% |
| 103 | Varied | -1.0% | Constant | 10.0% | 1 year | Constant | 7.55% | 3.31% | 7.62% | 3.27% | 31.53% | 25.61% | 18.57% | 13.23% | 3.65% |
| 104 | Varied | -1.0% | Constant | 10.0% | 1 year | Rounded | 7.55% | 3.31% | 5.61% | 1.71% | 31.73% | 25.98% | 12.37% | 7.47% | 5.44% |
| 105 | Varied | -1.0% | Constant | 10.0% | 1 year | Exact | 7.55% | 3.31% | 5.62% | 1.64% | 31.51% | 25.93% | 12.48% | 7.71% | 5.64% |
| 106 | Varied | -1.0% | Constant | 10.0% | 8 year | Constant | 7.42% | 3.50% | 7.37% | 3.26% | 28.35% | 26.06% | 15.71% | 13.64% | 4.03% |
| 107 | Varied | -1.0% | Constant | 10.0% | 8 year | Rounded | 7.42% | 3.50% | 5.35% | 1.74% | 25.41% | 24.53% | 6.99% | 6.24% | 5.77% |
| 108 | Varied | -1.0% | Constant | 10.0% | 8 year | Exact | 7.42% | 3.50% | 5.37% | 1.67% | 25.24% | 24.41% | 7.12% | 6.41% | 6.06% |
| 109 | Constant | None | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 8.25% | 8.37% | -0.17% | -0.06% | 0.00% |
| 110 | Constant | None | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 8.25% | 8.37% | -0.17% | -0.06% | 0.00% |
| 111 | Constant | None | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 8.25% | 8.37% | -0.17% | -0.06% | 0.00% |
| 112 | Constant | None | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 1.12% | 2.52% | -6.74% | -5.45% | 0.00% |
| 113 | Constant | None | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 1.12% | 2.52% | -6.74% | -5.45% | 0.00% |
| 114 | Constant | None | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 1.12% | 2.52% | -6.74% | -5.45% | 0.00% |
| 115 | Constant | None | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 9.47% | 9.45% | 0.96% | 0.94% | -1.09% |
| 116 | Constant | None | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.03% | -0.05% | 9.84% | 10.16% | -0.31% | -0.02% | 0.25% |
| 117 | Constant | None | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 9.77% | 9.88% | -0.43% | -0.32% | -0.30% |
| 118 | Constant | None | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.99% | 0.87% | 3.57% | 4.56% | -4.48% | -3.57% | -1.22% |
| 119 | Constant | None | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.04% | -0.04% | 2.08% | 3.44% | -7.35% | -6.12% | 0.47% |
| 120 | Constant | None | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 2.12% | 3.46% | -7.37% | -6.14% | -0.35% |
| 121 | Constant | None | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.48% | 3.07% | 14.71% | 14.04% | 5.79% | 5.18% | -3.22% |
| 122 | Constant | None | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 13.29% | 13.23% | -1.24% | -1.29% | -1.29% |
| 123 | Constant | None | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 13.26% | 13.35% | -1.00% | -0.92% | -0.97% |
| 124 | Constant | None | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.48% | 3.07% | 10.22% | 9.97% | 1.65% | 1.42% | -3.57% |
| 125 | Constant | None | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 4.13% | 5.34% | -9.23% | -8.17% | -1.70% |
| 126 | Constant | None | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 4.26% | 5.48% | -8.87% | -7.81% | -1.15% |
| 127 | Constant | 1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 5.97% | 6.17% | -2.08% | -2.08% | 0.00% |
| 128 | Constant | 1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 5.97% | 6.17% | -2.27% | -2.08% | 0.00% |
| 129 | Constant | 1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 5.97% | 6.17% | -2.27% | -2.08% | 0.00% |
| 130 | Constant | 1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 3.43% | 4.78% | -4.61% | -3.37% | 0.00% |
| 131 | Constant | 1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 3.43% | 4.78% | -4.61% | -3.37% | 0.00% |
| 132 | Constant | 1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 3.43% | 4.78% | -4.61% | -3.37% | 0.00% |
| 133 | Constant | 1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 1.01% | 0.89% | 7.37% | 7.40% | -0.98% | -0.95% | -1.13% |
| 134 | Constant | 1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.02% | -0.06% | 7.36% | 7.76% | -2.56% | -2.19% | 0.28% |
| 135 | Constant | 1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 7.30% | 7.50% | -2.67% | -2.49% | -0.31% |

Increased Variation Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | | Severity | | | Wtd Average | | Latest Diag | | Wtd Average | | Latest Diag | | Non Tail | | Alternative Method |
|----------|----------|-----------|-----------|-----------|---------------|-----------|-------------|-----------|-------------|---------|-------------|--------|-------------------------|--------------------|---------------|--|--------------------|
| | | Trend | Frequency | Inflation | Randomization | Retention | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Non Tail Wtd Avg Excess | Latest Diag excess | Method Excess | | |
| 136 | Constant | 1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 1.00% | 0.88% | 6.07% | 6.89% | -2.17% | -1.41% | -1.20% | | |
| 137 | Constant | 1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.03% | -0.04% | 4.64% | 5.99% | -5.02% | -3.81% | 0.35% | | |
| 138 | Constant | 1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 4.71% | 5.99% | -5.01% | -3.85% | -0.35% | | |
| 139 | Constant | 1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.53% | 3.12% | 13.28% | 12.64% | 4.47% | 3.89% | -3.33% | | |
| 140 | Constant | 1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 10.33% | 10.37% | -3.82% | -3.78% | -1.37% | | |
| 141 | Constant | 1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 10.33% | 10.52% | -3.56% | -3.40% | -1.01% | | |
| 142 | Constant | 1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.52% | 3.11% | 12.79% | 12.20% | 4.02% | 3.48% | -3.51% | | |
| 143 | Constant | 1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 7.47% | 8.54% | -6.31% | -5.39% | -1.59% | | |
| 144 | Constant | 1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 7.57% | 8.67% | -5.98% | -5.01% | -1.13% | | |
| 145 | Constant | -1.0% | Varied | 0.0% | 1 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 9.90% | 9.74% | 1.36% | 1.21% | 0.00% | | |
| 146 | Constant | -1.0% | Varied | 0.0% | 1 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 9.90% | 9.74% | 1.36% | 1.21% | 0.00% | | |
| 147 | Constant | -1.0% | Varied | 0.0% | 1 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 9.90% | 9.74% | 1.36% | 1.21% | 0.00% | | |
| 148 | Constant | -1.0% | Varied | 0.0% | 8 year | Constant | 0.00% | 0.00% | 0.00% | 0.00% | 1.29% | 3.19% | -6.59% | -4.83% | 0.00% | | |
| 149 | Constant | -1.0% | Varied | 0.0% | 8 year | Rounded | 0.00% | 0.00% | 0.00% | 0.00% | 1.29% | 3.19% | -6.59% | -4.83% | 0.00% | | |
| 150 | Constant | -1.0% | Varied | 0.0% | 8 year | Exact | 0.00% | 0.00% | 0.00% | 0.00% | 1.29% | 3.19% | -6.59% | -4.83% | 0.00% | | |
| 151 | Constant | -1.0% | Varied | 3.0% | 1 year | Constant | 0.00% | 0.00% | 0.98% | 0.86% | 11.25% | 10.96% | 2.60% | 2.33% | -1.05% | | |
| 152 | Constant | -1.0% | Varied | 3.0% | 1 year | Rounded | 0.00% | 0.00% | 0.03% | -0.05% | 11.58% | 11.60% | 1.27% | 1.29% | 0.22% | | |
| 153 | Constant | -1.0% | Varied | 3.0% | 1 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 11.52% | 11.34% | 1.16% | 1.00% | -0.29% | | |
| 154 | Constant | -1.0% | Varied | 3.0% | 8 year | Constant | 0.00% | 0.00% | 0.97% | 0.85% | 3.74% | 5.23% | -4.32% | -2.95% | -1.18% | | |
| 155 | Constant | -1.0% | Varied | 3.0% | 8 year | Rounded | 0.00% | 0.00% | 0.04% | -0.03% | 2.38% | 4.30% | -7.08% | -5.34% | 0.38% | | |
| 156 | Constant | -1.0% | Varied | 3.0% | 8 year | Exact | 0.00% | 0.00% | 0.18% | 0.18% | 2.41% | 4.29% | -7.10% | -5.39% | -0.35% | | |
| 157 | Constant | -1.0% | Varied | 10.0% | 1 year | Constant | 0.00% | 0.00% | 3.45% | 3.03% | 16.43% | 15.54% | 7.38% | 6.56% | -3.11% | | |
| 158 | Constant | -1.0% | Varied | 10.0% | 1 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 15.28% | 14.91% | 0.49% | 0.17% | -1.24% | | |
| 159 | Constant | -1.0% | Varied | 10.0% | 1 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 15.24% | 15.02% | 0.72% | 0.54% | -0.94% | | |
| 160 | Constant | -1.0% | Varied | 10.0% | 8 year | Constant | 0.00% | 0.00% | 3.43% | 3.01% | 10.29% | 10.48% | 1.71% | 1.89% | -3.48% | | |
| 161 | Constant | -1.0% | Varied | 10.0% | 8 year | Rounded | 0.00% | 0.00% | 0.61% | 0.69% | 4.77% | 6.55% | -8.67% | -7.11% | -1.64% | | |
| 162 | Constant | -1.0% | Varied | 10.0% | 8 year | Exact | 0.00% | 0.00% | 0.60% | 0.60% | 4.89% | 6.70% | -8.32% | -6.73% | -1.15% | | |
| 163 | Varied | None | Varied | 0.0% | 1 year | Constant | 7.10% | 3.31% | 4.65% | 1.14% | 23.31% | 18.82% | 11.11% | 7.06% | 6.50% | | |
| 164 | Varied | None | Varied | 0.0% | 1 year | Rounded | 7.10% | 3.31% | 4.65% | 1.14% | 23.31% | 18.82% | 11.11% | 7.06% | 6.50% | | |
| 165 | Varied | None | Varied | 0.0% | 1 year | Exact | 7.10% | 3.31% | 4.65% | 1.14% | 23.31% | 18.82% | 11.11% | 7.06% | 6.50% | | |
| 166 | Varied | None | Varied | 0.0% | 8 year | Constant | 6.95% | 3.45% | 4.42% | 1.12% | 18.54% | 18.45% | 6.82% | 6.73% | 6.87% | | |
| 167 | Varied | None | Varied | 0.0% | 8 year | Rounded | 6.95% | 3.45% | 4.42% | 1.12% | 18.54% | 18.45% | 6.82% | 6.73% | 6.87% | | |
| 168 | Varied | None | Varied | 0.0% | 8 year | Exact | 6.95% | 3.45% | 4.42% | 1.12% | 18.54% | 18.45% | 6.82% | 6.73% | 6.87% | | |
| 169 | Varied | None | Varied | 3.0% | 1 year | Constant | 7.26% | 3.32% | 5.55% | 1.76% | 24.93% | 20.15% | 12.57% | 8.26% | 5.58% | | |
| 170 | Varied | None | Varied | 3.0% | 1 year | Rounded | 7.26% | 3.32% | 4.89% | 1.10% | 25.23% | 20.77% | 11.09% | 7.13% | 6.73% | | |
| 171 | Varied | None | Varied | 3.0% | 1 year | Exact | 7.26% | 3.32% | 4.97% | 1.30% | 25.35% | 20.64% | 11.14% | 6.96% | 6.27% | | |
| 172 | Varied | None | Varied | 3.0% | 8 year | Constant | 7.11% | 3.48% | 5.31% | 1.73% | 21.25% | 20.63% | 9.26% | 8.70% | 6.01% | | |
| 173 | Varied | None | Varied | 3.0% | 8 year | Rounded | 7.11% | 3.48% | 4.66% | 1.09% | 20.01% | 19.89% | 6.45% | 6.35% | 7.21% | | |
| 174 | Varied | None | Varied | 3.0% | 8 year | Exact | 7.11% | 3.48% | 4.73% | 1.28% | 20.28% | 20.13% | 6.64% | 6.51% | 6.63% | | |
| 175 | Varied | None | Varied | 10.0% | 1 year | Constant | 7.55% | 3.31% | 7.66% | 3.29% | 30.21% | 24.66% | 17.33% | 12.33% | 3.65% | | |
| 176 | Varied | None | Varied | 10.0% | 1 year | Rounded | 7.55% | 3.31% | 5.63% | 1.71% | 30.13% | 24.80% | 10.96% | 6.42% | 5.52% | | |
| 177 | Varied | None | Varied | 10.0% | 1 year | Exact | 7.55% | 3.31% | 5.64% | 1.64% | 29.91% | 24.76% | 11.07% | 6.66% | 5.74% | | |
| 178 | Varied | None | Varied | 10.0% | 8 year | Constant | 7.39% | 3.51% | 7.43% | 3.26% | 27.85% | 25.90% | 15.21% | 13.45% | 4.04% | | |
| 179 | Varied | None | Varied | 10.0% | 8 year | Rounded | 7.39% | 3.51% | 5.37% | 1.70% | 24.21% | 23.94% | 5.92% | 5.69% | 5.76% | | |
| 180 | Varied | None | Varied | 10.0% | 8 year | Exact | 7.39% | 3.51% | 5.38% | 1.63% | 24.05% | 23.80% | 6.05% | 5.85% | 6.08% | | |

Increased Variation Scenario Results
Total Error in Methods

| Scenario | Pattern | Frequency | Frequency | Inflation | Severity | Retention | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Wtd Average | Latest Diag | Non Tail | Non Tail | Alternative |
|----------|---------|-----------|-----------|-----------|---------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|----------|-------------|
| | | Trend | | | Randomization | | Unlimited | Unlimited | Limited | Limited | Excess | Excess | Wtd Avg Excess | | |
| 181 | Varied | 1.0% | Varied | 0.0% | 1 year | Constant | 7.10% | 3.29% | 4.67% | 1.12% | 21.56% | 17.47% | 9.53% | 5.85% | 6.52% |
| 182 | Varied | 1.0% | Varied | 0.0% | 1 year | Rounded | 7.10% | 3.29% | 4.67% | 1.12% | 21.56% | 17.47% | 9.53% | 5.85% | 6.52% |
| 183 | Varied | 1.0% | Varied | 0.0% | 1 year | Exact | 7.10% | 3.29% | 4.67% | 1.12% | 21.56% | 17.47% | 9.53% | 5.85% | 6.52% |
| 184 | Varied | 1.0% | Varied | 0.0% | 8 year | Constant | 7.04% | 3.41% | 4.44% | 1.11% | 20.88% | 20.27% | 8.93% | 8.37% | 6.88% |
| 185 | Varied | 1.0% | Varied | 0.0% | 8 year | Rounded | 7.04% | 3.41% | 4.44% | 1.11% | 20.88% | 20.27% | 8.93% | 8.37% | 6.88% |
| 186 | Varied | 1.0% | Varied | 0.0% | 8 year | Exact | 7.04% | 3.41% | 4.44% | 1.11% | 20.88% | 20.27% | 8.93% | 8.37% | 6.88% |
| 187 | Varied | 1.0% | Varied | 3.0% | 1 year | Constant | 7.26% | 3.30% | 5.57% | 1.75% | 23.38% | 18.93% | 11.17% | 7.17% | 5.58% |
| 188 | Varied | 1.0% | Varied | 3.0% | 1 year | Rounded | 7.26% | 3.30% | 4.89% | 1.07% | 23.34% | 19.28% | 9.41% | 5.81% | 6.78% |
| 189 | Varied | 1.0% | Varied | 3.0% | 1 year | Exact | 7.26% | 3.30% | 4.99% | 1.27% | 23.47% | 19.17% | 9.47% | 5.66% | 6.29% |
| 190 | Varied | 1.0% | Varied | 3.0% | 8 year | Constant | 7.19% | 3.43% | 5.34% | 1.73% | 23.67% | 22.54% | 11.44% | 10.42% | 5.92% |
| 191 | Varied | 1.0% | Varied | 3.0% | 8 year | Rounded | 7.19% | 3.43% | 4.67% | 1.08% | 22.51% | 21.86% | 8.68% | 8.10% | 7.17% |
| 192 | Varied | 1.0% | Varied | 3.0% | 8 year | Exact | 7.19% | 3.43% | 4.75% | 1.27% | 22.81% | 22.12% | 8.89% | 8.27% | 6.63% |
| 193 | Varied | 1.0% | Varied | 10.0% | 1 year | Constant | 7.54% | 3.30% | 7.70% | 3.30% | 29.26% | 23.92% | 16.47% | 11.66% | 3.60% |
| 194 | Varied | 1.0% | Varied | 10.0% | 1 year | Rounded | 7.54% | 3.30% | 5.63% | 1.69% | 27.92% | 23.02% | 9.08% | 4.91% | 5.50% |
| 195 | Varied | 1.0% | Varied | 10.0% | 1 year | Exact | 7.54% | 3.30% | 5.64% | 1.61% | 27.73% | 23.00% | 9.20% | 5.16% | 5.74% |
| 196 | Varied | 1.0% | Varied | 10.0% | 8 year | Constant | 7.45% | 3.44% | 7.46% | 3.28% | 30.15% | 27.78% | 17.27% | 15.14% | 3.86% |
| 197 | Varied | 1.0% | Varied | 10.0% | 8 year | Rounded | 7.45% | 3.44% | 5.38% | 1.69% | 27.23% | 26.34% | 8.49% | 7.73% | 5.76% |
| 198 | Varied | 1.0% | Varied | 10.0% | 8 year | Exact | 7.45% | 3.44% | 5.39% | 1.62% | 27.04% | 26.19% | 8.61% | 7.89% | 6.05% |
| 199 | Varied | -1.0% | Varied | 0.0% | 1 year | Constant | 7.10% | 3.31% | 4.63% | 1.15% | 24.56% | 19.78% | 12.24% | 7.93% | 6.43% |
| 200 | Varied | -1.0% | Varied | 0.0% | 1 year | Rounded | 7.10% | 3.31% | 4.63% | 1.15% | 24.56% | 19.78% | 12.24% | 7.93% | 6.43% |
| 201 | Varied | -1.0% | Varied | 0.0% | 1 year | Exact | 7.10% | 3.31% | 4.63% | 1.15% | 24.56% | 19.78% | 12.24% | 7.93% | 6.43% |
| 202 | Varied | -1.0% | Varied | 0.0% | 8 year | Constant | 6.97% | 3.45% | 4.39% | 1.15% | 18.86% | 18.61% | 7.10% | 6.88% | 6.90% |
| 203 | Varied | -1.0% | Varied | 0.0% | 8 year | Rounded | 6.97% | 3.45% | 4.39% | 1.15% | 18.86% | 18.61% | 7.10% | 6.88% | 6.90% |
| 204 | Varied | -1.0% | Varied | 0.0% | 8 year | Exact | 6.97% | 3.45% | 4.39% | 1.15% | 18.86% | 18.61% | 7.10% | 6.88% | 6.90% |
| 205 | Varied | -1.0% | Varied | 3.0% | 1 year | Constant | 7.26% | 3.32% | 5.52% | 1.76% | 26.26% | 21.18% | 13.77% | 9.19% | 5.54% |
| 206 | Varied | -1.0% | Varied | 3.0% | 1 year | Rounded | 7.26% | 3.32% | 4.87% | 1.11% | 26.54% | 21.78% | 12.25% | 8.02% | 6.64% |
| 207 | Varied | -1.0% | Varied | 3.0% | 1 year | Exact | 7.26% | 3.32% | 4.96% | 1.31% | 26.67% | 21.66% | 12.31% | 7.87% | 6.21% |
| 208 | Varied | -1.0% | Varied | 3.0% | 8 year | Constant | 7.13% | 3.47% | 5.27% | 1.75% | 21.57% | 20.82% | 9.54% | 8.87% | 6.01% |
| 209 | Varied | -1.0% | Varied | 3.0% | 8 year | Rounded | 7.13% | 3.47% | 4.64% | 1.13% | 20.42% | 20.17% | 6.82% | 6.60% | 7.19% |
| 210 | Varied | -1.0% | Varied | 3.0% | 8 year | Exact | 7.13% | 3.47% | 4.71% | 1.31% | 20.69% | 20.38% | 7.00% | 6.73% | 6.65% |
| 211 | Varied | -1.0% | Varied | 10.0% | 1 year | Constant | 7.55% | 3.32% | 7.61% | 3.28% | 31.44% | 25.64% | 18.44% | 13.21% | 3.67% |
| 212 | Varied | -1.0% | Varied | 10.0% | 1 year | Rounded | 7.55% | 3.32% | 5.61% | 1.72% | 31.61% | 25.96% | 12.22% | 7.41% | 5.49% |
| 213 | Varied | -1.0% | Varied | 10.0% | 1 year | Exact | 7.55% | 3.32% | 5.62% | 1.65% | 31.39% | 25.91% | 12.33% | 7.65% | 5.68% |
| 214 | Varied | -1.0% | Varied | 10.0% | 8 year | Constant | 7.42% | 3.50% | 7.36% | 3.26% | 28.06% | 26.05% | 15.39% | 13.58% | 4.03% |
| 215 | Varied | -1.0% | Varied | 10.0% | 8 year | Rounded | 7.42% | 3.50% | 5.35% | 1.74% | 24.89% | 24.42% | 6.50% | 6.10% | 5.79% |
| 216 | Varied | -1.0% | Varied | 10.0% | 8 year | Exact | 7.42% | 3.50% | 5.37% | 1.67% | 24.72% | 24.30% | 6.63% | 6.27% | 6.08% |

A Methodology for Avoiding the Pitfalls of Excess Loss Development

Unlimited

| Accident Yr | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 | 156 | 168 | 180 | 192 | 204 | 216 | 228 | 240 | 252 | 264 | 276 | 288 |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1981 | 103,747 | 138,893 | 155,864 | 164,517 | 171,942 | 175,493 | 179,000 | 181,996 | 184,490 | 187,870 | 189,288 | 191,809 | 194,378 | 195,035 | 194,962 | 195,964 | 196,574 | 197,308 | 197,447 | 198,676 | 199,147 | 201,480 | 202,700 | 203,285 |
| 1982 | 109,739 | 148,608 | 169,329 | 182,043 | 190,100 | 196,998 | 206,271 | 209,429 | 213,065 | 214,032 | 214,305 | 215,366 | 217,225 | 217,523 | 218,238 | 219,363 | 219,068 | 221,346 | 221,305 | 221,533 | 224,194 | 224,854 | 225,233 | 225,605 |
| 1983 | 107,258 | 150,321 | 177,463 | 195,212 | 205,328 | 214,791 | 220,157 | 228,729 | 231,755 | 232,202 | 230,470 | 231,856 | 232,072 | 231,919 | 234,230 | 235,709 | 236,066 | 236,625 | 236,211 | 236,405 | 238,128 | 239,247 | 239,920 | 239,568 |
| 1984 | 117,819 | 168,762 | 201,589 | 224,872 | 237,361 | 245,317 | 250,435 | 254,357 | 253,652 | 257,419 | 260,066 | 260,325 | 261,080 | 262,987 | 263,795 | 264,223 | 264,547 | 265,869 | 265,726 | 267,083 | 268,368 | 268,485 | 268,563 | 269,422 |
| 1985 | 108,566 | 159,254 | 192,000 | 210,607 | 221,498 | 231,217 | 235,526 | 235,756 | 240,226 | 239,671 | 240,990 | 242,344 | 243,673 | 244,368 | 245,441 | 244,818 | 245,471 | 246,522 | 247,442 | 247,888 | 248,256 | 248,729 | 248,951 | 253,482 |
| 1986 | 115,327 | 180,032 | 211,836 | 231,996 | 245,769 | 255,894 | 259,512 | 265,950 | 267,150 | 269,080 | 270,319 | 274,643 | 273,778 | 279,138 | 278,423 | 278,243 | 278,617 | 281,689 | 282,305 | 283,951 | 284,704 | 286,757 | 286,590 | 288,814 |
| 1987 | 153,086 | 230,042 | 266,806 | 290,140 | 304,279 | 315,007 | 320,207 | 322,382 | 325,391 | 325,266 | 327,258 | 329,692 | 330,328 | 331,770 | 333,778 | 336,329 | 338,224 | 341,581 | 342,553 | 342,790 | 343,375 | 346,600 | 346,943 | 347,538 |
| 1988 | 172,300 | 250,520 | 294,394 | 320,109 | 327,584 | 340,144 | 342,740 | 346,781 | 347,166 | 351,116 | 353,733 | 356,577 | 359,182 | 359,667 | 361,915 | 361,969 | 364,380 | 364,988 | 365,017 | 364,833 | 365,678 | 367,212 | 368,234 | 368,798 |
| 1989 | 206,549 | 301,734 | 354,369 | 380,862 | 399,472 | 409,246 | 414,389 | 416,767 | 425,713 | 426,934 | 427,302 | 428,850 | 434,942 | 437,220 | 443,279 | 444,264 | 444,437 | 445,716 | 447,148 | 448,450 | 449,494 | 450,679 | 449,638 | |
| 1990 | 259,719 | 399,206 | 464,548 | 500,012 | 518,761 | 533,554 | 538,490 | 545,881 | 550,085 | 554,355 | 555,281 | 558,829 | 562,229 | 566,397 | 571,016 | 573,574 | 575,026 | 576,753 | 579,161 | 581,634 | 581,192 | 582,272 | | |
| 1991 | 273,827 | 394,533 | 454,242 | 494,252 | 518,771 | 530,341 | 538,952 | 547,295 | 554,573 | 560,478 | 565,240 | 570,791 | 574,642 | 581,946 | 584,135 | 585,209 | 586,124 | 591,353 | 595,581 | 597,489 | 598,684 | | | |
| 1992 | 267,683 | 380,406 | 434,716 | 472,469 | 489,208 | 503,129 | 516,789 | 524,840 | 526,775 | 534,430 | 541,630 | 544,276 | 546,974 | 550,185 | 550,698 | 551,221 | 554,647 | 560,008 | 560,774 | 561,978 | | | | |
| 1993 | 251,840 | 354,810 | 408,472 | 437,338 | 456,766 | 481,423 | 492,096 | 494,554 | 500,205 | 508,885 | 513,348 | 517,574 | 520,864 | 522,123 | 523,951 | 526,293 | 529,245 | 528,796 | 531,985 | | | | | |
| 1994 | 205,281 | 284,928 | 325,984 | 351,904 | 363,686 | 375,656 | 383,380 | 390,480 | 394,253 | 404,341 | 413,176 | 415,890 | 413,937 | 418,001 | 420,955 | 424,337 | 424,068 | 427,663 | | | | | | |
| 1995 | 169,032 | 246,400 | 293,409 | 315,122 | 329,911 | 333,729 | 347,292 | 355,028 | 363,438 | 372,294 | 374,845 | 376,749 | 383,738 | 397,219 | 401,774 | 404,235 | 403,885 | | | | | | | |
| 1996 | 165,360 | 250,278 | 292,433 | 316,704 | 330,128 | 341,800 | 353,291 | 358,609 | 363,494 | 366,833 | 371,540 | 375,997 | 384,124 | 388,734 | 388,808 | 393,386 | | | | | | | | |
| 1997 | 165,752 | 254,299 | 295,345 | 318,803 | 337,098 | 346,877 | 352,681 | 363,104 | 370,080 | 374,314 | 376,534 | 380,872 | 385,418 | 386,028 | 388,703 | | | | | | | | | |
| 1998 | 160,614 | 247,459 | 287,834 | 315,100 | 333,349 | 347,520 | 354,717 | 357,559 | 362,039 | 364,771 | 367,673 | 372,355 | 372,845 | 377,522 | | | | | | | | | | |
| 1999 | 167,190 | 255,539 | 307,870 | 339,875 | 360,079 | 375,252 | 385,217 | 392,272 | 401,466 | 408,245 | 417,782 | 421,991 | 423,222 | | | | | | | | | | | |
| 2000 | 194,999 | 328,045 | 386,296 | 425,294 | 452,850 | 469,359 | 477,308 | 486,919 | 502,059 | 513,813 | 515,859 | 518,794 | | | | | | | | | | | | |
| 2001 | 193,399 | 338,983 | 404,093 | 440,697 | 462,380 | 473,701 | 490,623 | 500,238 | 512,669 | 516,964 | 523,016 | | | | | | | | | | | | | |
| 2002 | 224,214 | 386,518 | 466,827 | 510,594 | 532,235 | 551,593 | 570,648 | 589,292 | 596,885 | 602,848 | | | | | | | | | | | | | | |
| 2003 | 249,463 | 431,515 | 513,406 | 557,541 | 593,191 | 612,742 | 635,454 | 644,289 | 651,341 | | | | | | | | | | | | | | | |
| 2004 | 288,781 | 473,041 | 552,844 | 606,548 | 637,317 | 669,479 | 684,292 | 697,768 | | | | | | | | | | | | | | | | |
| 2005 | 284,446 | 452,941 | 540,039 | 592,984 | 633,277 | 657,280 | 678,405 | | | | | | | | | | | | | | | | | |
| 2006 | 261,146 | 411,415 | 494,786 | 552,003 | 582,127 | 610,760 | | | | | | | | | | | | | | | | | | |
| 2007 | 265,473 | 432,928 | 527,202 | 572,465 | 601,938 | | | | | | | | | | | | | | | | | | | |
| 2008 | 260,865 | 450,470 | 534,994 | 585,132 | | | | | | | | | | | | | | | | | | | | |
| 2009 | 249,953 | 414,847 | 495,269 | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 244,205 | 405,703 | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | 222,883 | | | | | | | | | | | | | | | | | | | | | | | |

Age-to-Age Factors

| Accident Yr | 12-24 | 24-36 | 36-48 | 48-60 | 60-72 | 72-84 | 84-96 | 96-108 | 108-120 | 120-132 | 132-144 | 144-156 | 156-168 | 168-180 | 180-192 | 192-204 | 204-216 | 216-228 | 228-240 | 240-252 | 252-264 | 264-276 | 276-288 | 288-300 |
|-------------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1981 | 1.339 | 1.122 | 1.056 | 1.045 | 1.021 | 1.020 | 1.017 | 1.014 | 1.018 | 1.008 | 1.013 | 1.013 | 1.003 | 1.000 | 1.005 | 1.003 | 1.004 | 1.001 | 1.006 | 1.002 | 1.012 | 1.006 | 1.003 | 1.003 |
| 1982 | 1.354 | 1.139 | 1.075 | 1.044 | 1.036 | 1.047 | 1.015 | 1.017 | 1.005 | 1.001 | 1.005 | 1.009 | 1.001 | 1.003 | 1.005 | 0.999 | 1.010 | 1.000 | 1.001 | 1.012 | 1.003 | 1.002 | 1.002 | 1.000 |
| 1983 | 1.401 | 1.181 | 1.100 | 1.052 | 1.046 | 1.025 | 1.039 | 1.013 | 1.002 | 0.993 | 1.006 | 1.001 | 0.999 | 1.010 | 1.006 | 1.002 | 1.002 | 0.998 | 1.001 | 1.007 | 1.005 | 1.003 | 0.999 | 1.000 |
| 1984 | 1.432 | 1.195 | 1.115 | 1.056 | 1.034 | 1.021 | 1.016 | 0.997 | 1.015 | 1.010 | 1.001 | 1.003 | 1.007 | 1.003 | 1.002 | 1.001 | 1.005 | 0.999 | 1.005 | 1.000 | 1.000 | 1.003 | 1.004 | 1.000 |
| 1985 | 1.467 | 1.206 | 1.097 | 1.052 | 1.044 | 1.019 | 1.001 | 1.019 | 0.998 | 1.006 | 1.006 | 1.005 | 1.003 | 1.004 | 0.997 | 1.003 | 1.004 | 1.004 | 1.002 | 1.001 | 1.002 | 1.001 | 1.018 | 1.002 |
| 1986 | 1.561 | 1.177 | 1.095 | 1.059 | 1.041 | 1.014 | 1.025 | 1.005 | 1.007 | 1.005 | 1.016 | 0.997 | 1.020 | 0.997 | 0.999 | 1.001 | 1.011 | 1.002 | 1.006 | 1.003 | 1.007 | 0.999 | 1.008 | 1.010 |
| 1987 | 1.503 | 1.160 | 1.087 | 1.049 | 1.035 | 1.017 | 1.007 | 1.009 | 1.000 | 1.006 | 1.007 | 1.002 | 1.004 | 1.006 | 1.008 | 1.006 | 1.010 | 1.003 | 1.001 | 1.002 | 1.009 | 1.001 | 1.002 | 1.002 |
| 1988 | 1.454 | 1.175 | 1.087 | 1.023 | 1.038 | 1.008 | 1.012 | 1.001 | 1.011 | 1.007 | 1.008 | 1.007 | 1.001 | 1.006 | 1.000 | 1.007 | 1.002 | 1.000 | 0.999 | 1.002 | 1.004 | 1.003 | 1.002 | |
| 1989 | 1.461 | 1.174 | 1.075 | 1.049 | 1.024 | 1.013 | 1.006 | 1.021 | 1.003 | 1.001 | 1.004 | 1.014 | 1.005 | 1.014 | 1.002 | 1.000 | 1.003 | 1.003 | 1.003 | 1.003 | 1.002 | 1.003 | 0.998 | |
| 1990 | 1.537 | 1.164 | 1.076 | 1.037 | 1.029 | 1.009 | 1.014 | 1.008 | 1.008 | 1.002 | 1.006 | 1.007 | 1.008 | 1.004 | 1.003 | 1.004 | 1.004 | 1.004 | 0.999 | 1.002 | | | | |
| 1991 | 1.441 | 1.151 | 1.088 | 1.050 | 1.022 | 1.016 | 1.015 | 1.013 | 1.011 | 1.008 | 1.010 | 1.007 | 1.013 | 1.004 | 1.002 | 1.002 | 1.009 | 1.007 | 1.003 | 1.002 | | | | |
| 1992 | 1.421 | 1.143 | 1.087 | 1.035 | 1.028 | 1.027 | 1.016 | 1.004 | 1.015 | 1.013 | 1.005 | 1.005 | 1.006 | 1.001 | 1.001 | 1.006 | 1.010 | 1.001 | 1.002 | | | | | |
| 1993 | 1.409 | 1.151 | 1.071 | 1.044 | 1.054 | 1.022 | 1.005 | 1.011 | 1.017 | 1.009 | 1.008 | 1.006 | 1.002 | 1.004 | 1.004 | 1.006 | 0.999 | 1.006 | | | | | | |
| 1994 | 1.388 | 1.144 | 1.080 | 1.033 | 1.033 | 1.021 | 1.019 | 1.010 | 1.026 | 1.022 | 1.007 | 0.995 | 1.010 | 1.007 | 1.008 | 0.999 | 1.008 | | | | | | | |
| 1995 | 1.458 | 1.191 | 1.074 | 1.047 | 1.012 | 1.041 | 1.022 | 1.024 | 1.024 | 1.007 | 1.005 | 1.019 | 1.035 | 1.011 | 1.006 | 0.999 | | | | | | | | |
| 1996 | 1.514 | 1.168 | 1.083 | 1.042 | 1.035 | 1.034 | 1.015 | 1.014 | 1.009 | 1.013 | 1.012 | 1.022 | 1.012 | 1.000 | 1.012 | | | | | | | | | |
| 1997 | 1.534 | 1.161 | 1.079 | 1.057 | 1.029 | 1.017 | 1.030 | 1.019 | 1.011 | 1.006 | 1.012 | 1.012 | 1.002 | 1.007 | | | | | | | | | | |
| 1998 | 1.541 | 1.163 | 1.095 | 1.058 | 1.043 | 1.021 | 1.008 | 1.013 | 1.008 | 1.008 | 1.013 | 1.001 | 1.013 | | | | | | | | | | | |
| 1999 | 1.528 | 1.205 | 1.104 | 1.059 | 1.042 | 1.027 | 1.018 | 1.023 | 1.017 | 1.023 | 1.010 | 1.003 | | | | | | | | | | | | |
| 2000 | 1.682 | 1.178 | 1.101 | 1.065 | 1.036 | 1.017 | 1.020 | 1.031 | 1.023 | 1.004 | 1.006 | | | | | | | | | | | | | |
| 2001 | 1.753 | 1.192 | 1.091 | 1.049 | 1.024 | 1.036 | 1.020 | 1.025 | 1.008 | 1.012 | | | | | | | | | | | | | | |
| 2002 | 1.724 | 1.208 | 1.094 | 1.042 | 1.036 | 1.035 | 1.033 | 1.013 | 1.010 | | | | | | | | | | | | | | | |
| 2003 | 1.730 | 1.190 | 1.086 | 1.064 | 1.033 | 1.037 | 1.014 | 1.011 | | | | | | | | | | | | | | | | |
| 2004 | 1.638 | 1.169 | 1.097 | 1.051 | 1.050 | 1.022 | 1.020 | | | | | | | | | | | | | | | | | |
| 2005 | 1.592 | 1.192 | 1.098 | 1.068 | 1.038 | 1.032 | | | | | | | | | | | | | | | | | | |
| 2006 | 1.575 | 1.203 | 1.116 | 1.055 | 1.049 | | | | | | | | | | | | | | | | | | | |
| 2007 | 1.631 | 1.218 | 1.086 | 1.051 | | | | | | | | | | | | | | | | | | | | |
| 2008 | 1.727 | 1.188 | 1.094 | | | | | | | | | | | | | | | | | | | | | |
| 2009 | 1.660 | 1.194 | | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 1.661 | | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | | | | | | | | | | | | |

Averages

| | 12-24 | 24-36 | 36-48 | 48-60 | 60-72 | 72-84 | 84-96 | 96-108 | 108-120 | 120-132 | 132-144 | 144-156 | 156-168 | 168-180 | 180-192 | 192-204 | 204-216 | 216-228 | 228-240 | 240-252 | 252-264 | 264-276 | 276-288 | 288-300 |
|------------------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| NCCI Countrywide | 1.346 | 1.103 | 1.052 | 1.028 | 1.020 | 1.012 | 1.011 | 1.085 | | | | | | | | | | | | | | | | |
| Volume Wtd All | 1.554 | 1.178 | 1.090 | 1.050 | 1.036 | 1.024 | 1.017 | 1.014 | 1.012 | 1.008 | 1.008 | 1.007 | 1.008 | | | | | | | | | | | |

A Methodology for Avoiding the Pitfalls of Excess Loss Development

Unlimited

| Accident Yr | 300 | 312 | 324 | 336 | 348 | 360 | 372 | Ultimate |
|-------------|---------|---------|---------|---------|---------|---------|---------|----------|
| 1981 | 203,840 | 203,356 | 203,487 | 204,442 | 204,478 | 205,052 | 205,317 | 205,317 |
| 1982 | 225,510 | 225,364 | 225,963 | 224,367 | 224,835 | 224,889 | | 225,180 |
| 1983 | 239,603 | 240,882 | 240,967 | 241,369 | 241,193 | | | 241,858 |
| 1984 | 270,385 | 271,243 | 271,733 | 272,839 | | | | 273,725 |
| 1985 | 253,958 | 254,571 | 255,902 | | | | | 256,970 |
| 1986 | 291,814 | 293,358 | | | | | | 295,231 |
| 1987 | 348,350 | | | | | | | 351,439 |
| 1988 | | | | | | | | 373,238 |
| 1989 | | | | | | | | 457,003 |
| 1990 | | | | | | | | 592,422 |
| 1991 | | | | | | | | 611,742 |
| 1992 | | | | | | | | 575,824 |
| 1993 | | | | | | | | 546,604 |
| 1994 | | | | | | | | 440,691 |
| 1995 | | | | | | | | 418,541 |
| 1996 | | | | | | | | 408,717 |
| 1997 | | | | | | | | 405,446 |
| 1998 | | | | | | | | 395,875 |
| 1999 | | | | | | | | 447,534 |
| 2000 | | | | | | | | 552,312 |
| 2001 | | | | | | | | 561,167 |
| 2002 | | | | | | | | 652,198 |
| 2003 | | | | | | | | 712,925 |
| 2004 | | | | | | | | 774,374 |
| 2005 | | | | | | | | 765,563 |
| 2006 | | | | | | | | 705,812 |
| 2007 | | | | | | | | 720,347 |
| 2008 | | | | | | | | 735,269 |
| 2009 | | | | | | | | 678,074 |
| 2010 | | | | | | | | 654,340 |
| 2011 | | | | | | | | 558,756 |

Age-to-Age Factors

| Accident Yr | 300 - 312 | 312 - 324 | 324 - 336 | 336 - 348 | 348 - 360 | 360 - 372 | To Ult |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| 1981 | 0.998 | 1.001 | 1.005 | 1.000 | 1.003 | 1.001 | 1.000 |
| 1982 | 0.999 | 1.003 | 0.993 | 1.002 | 1.000 | | |
| 1983 | 1.005 | 1.000 | 1.002 | 0.999 | | | |
| 1984 | 1.003 | 1.002 | 1.004 | | | | |
| 1985 | 1.002 | 1.005 | | | | | |
| 1986 | 1.005 | | | | | | |
| 1987 | | | | | | | |
| 1988 | | | | | | | |
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| 2006 | | | | | | | |
| 2007 | | | | | | | |
| 2008 | | | | | | | |
| 2009 | | | | | | | |
| 2010 | | | | | | | |
| 2011 | | | | | | | |

Averages

| | 300 - 312 | 312 - 324 | 324 - 336 | 336 - 348 | 348 - 360 | 360 - 372 | To Ult |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| NCCI Countrywide | | | | | | | |
| Volume Wtd All | 1.002 | 1.002 | 1.001 | 1.000 | 1.001 | 1.001 | 1.000 |
| Volume Wtd All | 1.009 | 1.006 | 1.004 | 1.003 | 1.003 | 1.001 | 1.000 |

A Methodology for Avoiding the Pitfalls of Excess Loss Development

Limited to 500k

| Accident Yr | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 | 156 | 168 | 180 | 192 | 204 | 216 | 228 | 240 | 252 | 264 | 276 | 288 |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1981 | 100,483 | 134,956 | 151,969 | 162,027 | 168,761 | 172,607 | 176,875 | 180,181 | 182,025 | 184,314 | 185,559 | 187,030 | 188,348 | 188,386 | 188,189 | 188,923 | 189,188 | 189,586 | 189,530 | 189,262 | 189,517 | 190,297 | 190,389 | 191,119 |
| 1982 | 105,756 | 144,004 | 164,424 | 176,988 | 184,511 | 189,940 | 197,973 | 200,031 | 201,957 | 204,031 | 204,463 | 205,006 | 205,999 | 206,135 | 206,258 | 206,773 | 206,943 | 207,111 | 207,110 | 207,065 | 207,278 | 208,133 | 208,945 | 209,607 |
| 1983 | 106,050 | 148,003 | 174,030 | 189,931 | 199,596 | 209,323 | 214,338 | 220,025 | 222,313 | 222,440 | 223,653 | 224,361 | 224,093 | 224,109 | 224,392 | 224,731 | 224,842 | 224,746 | 224,675 | 225,067 | 225,496 | 226,129 | 226,225 | 226,416 |
| 1984 | 116,374 | 165,644 | 197,204 | 218,269 | 230,372 | 237,809 | 241,601 | 245,373 | 244,724 | 247,381 | 248,488 | 248,739 | 249,306 | 250,220 | 250,790 | 250,849 | 251,219 | 251,304 | 251,532 | 252,306 | 253,040 | 252,900 | 253,000 | 253,305 |
| 1985 | 107,052 | 156,743 | 189,149 | 207,061 | 218,065 | 225,683 | 229,396 | 230,103 | 232,123 | 233,090 | 234,573 | 235,013 | 235,139 | 235,144 | 235,415 | 235,658 | 236,095 | 236,723 | 237,339 | 237,410 | 237,587 | 237,482 | 237,838 | 238,837 |
| 1986 | 114,452 | 176,759 | 207,255 | 226,087 | 237,900 | 245,275 | 249,335 | 252,820 | 253,854 | 255,359 | 256,163 | 257,162 | 257,675 | 258,754 | 258,590 | 259,256 | 259,513 | 260,300 | 260,804 | 261,906 | 262,222 | 262,785 | 262,802 | 263,633 |
| 1987 | 152,426 | 227,836 | 261,284 | 284,065 | 297,714 | 307,024 | 311,977 | 313,244 | 316,101 | 316,406 | 318,027 | 319,727 | 320,376 | 321,224 | 322,419 | 323,838 | 325,173 | 327,263 | 327,994 | 327,917 | 327,327 | 327,970 | 328,622 | 328,713 |
| 1988 | 171,114 | 247,449 | 286,975 | 311,346 | 322,138 | 331,803 | 334,850 | 337,822 | 338,873 | 342,059 | 344,221 | 345,461 | 347,151 | 347,720 | 349,241 | 349,626 | 351,442 | 351,866 | 351,808 | 351,434 | 351,931 | 352,740 | 353,334 | 353,748 |
| 1989 | 202,169 | 293,053 | 343,596 | 370,101 | 386,304 | 394,791 | 399,617 | 402,444 | 405,655 | 408,401 | 409,083 | 410,645 | 414,414 | 416,355 | 419,549 | 420,757 | 420,574 | 421,389 | 420,972 | 421,838 | 422,240 | 422,366 | 421,763 | |
| 1990 | 254,078 | 390,418 | 455,265 | 489,131 | 506,711 | 521,129 | 525,149 | 531,397 | 535,408 | 539,294 | 540,770 | 543,163 | 545,756 | 548,198 | 551,418 | 553,363 | 553,944 | 554,444 | 555,739 | 557,070 | 556,720 | 557,104 | | |
| 1991 | 267,444 | 386,947 | 444,267 | 480,190 | 502,884 | 514,901 | 523,503 | 530,997 | 535,185 | 539,619 | 542,520 | 547,821 | 551,193 | 555,340 | 556,231 | 557,009 | 557,913 | 559,787 | 561,374 | 561,577 | 562,324 | | | |
| 1992 | 264,342 | 375,842 | 429,728 | 465,971 | 481,967 | 494,625 | 506,624 | 512,500 | 515,088 | 519,479 | 524,565 | 527,219 | 529,580 | 531,632 | 532,246 | 532,837 | 534,286 | 536,844 | 537,453 | 538,201 | | | | |
| 1993 | 243,657 | 342,907 | 393,051 | 421,341 | 441,436 | 456,537 | 465,537 | 470,680 | 475,477 | 481,903 | 483,534 | 487,171 | 489,022 | 489,686 | 490,073 | 490,551 | 492,156 | 492,258 | 493,683 | | | | | |
| 1994 | 198,596 | 277,041 | 318,536 | 341,800 | 353,961 | 365,598 | 372,992 | 378,331 | 381,925 | 386,376 | 390,757 | 392,287 | 392,346 | 393,899 | 395,023 | 397,193 | 396,856 | 398,040 | | | | | | |
| 1995 | 162,351 | 232,536 | 270,168 | 292,073 | 306,245 | 314,760 | 322,909 | 330,217 | 335,451 | 340,916 | 343,503 | 345,000 | 346,802 | 348,391 | 349,734 | 350,475 | 351,035 | | | | | | | |
| 1996 | 163,065 | 244,348 | 284,536 | 308,261 | 320,981 | 332,212 | 342,837 | 348,136 | 352,407 | 355,432 | 357,409 | 360,095 | 362,766 | 365,844 | 366,494 | 367,867 | | | | | | | | |
| 1997 | 163,531 | 242,590 | 282,637 | 305,347 | 322,579 | 334,109 | 341,554 | 349,555 | 354,743 | 357,688 | 358,719 | 360,659 | 363,844 | 363,392 | 364,548 | | | | | | | | | |
| 1998 | 157,814 | 238,276 | 277,683 | 300,376 | 315,898 | 325,775 | 334,488 | 339,454 | 342,003 | 342,910 | 344,974 | 348,088 | 348,147 | 350,398 | | | | | | | | | | |
| 1999 | 161,241 | 246,750 | 297,343 | 330,183 | 347,754 | 360,966 | 368,221 | 373,129 | 377,470 | 380,718 | 386,371 | 387,003 | 387,708 | | | | | | | | | | | |
| 2000 | 187,381 | 310,162 | 373,244 | 406,690 | 431,555 | 444,467 | 450,405 | 457,948 | 463,124 | 470,334 | 471,548 | 473,832 | | | | | | | | | | | | |
| 2001 | 191,548 | 333,068 | 394,077 | 429,877 | 450,924 | 461,807 | 472,930 | 480,429 | 486,067 | 488,457 | 491,231 | | | | | | | | | | | | | |
| 2002 | 221,741 | 378,731 | 454,259 | 492,125 | 512,558 | 528,898 | 541,630 | 552,410 | 556,834 | 559,837 | | | | | | | | | | | | | | |
| 2003 | 248,572 | 427,534 | 506,723 | 546,245 | 574,755 | 590,902 | 604,520 | 611,238 | 614,640 | | | | | | | | | | | | | | | |
| 2004 | 283,417 | 464,978 | 536,604 | 585,867 | 612,331 | 635,546 | 645,499 | 655,687 | | | | | | | | | | | | | | | | |
| 2005 | 280,924 | 445,208 | 522,040 | 563,225 | 594,714 | 614,207 | 628,355 | | | | | | | | | | | | | | | | | |
| 2006 | 252,859 | 399,255 | 467,752 | 516,286 | 540,471 | 562,903 | | | | | | | | | | | | | | | | | | |
| 2007 | 261,350 | 421,622 | 506,571 | 547,307 | 574,351 | | | | | | | | | | | | | | | | | | | |
| 2008 | 258,099 | 439,446 | 514,658 | 560,623 | | | | | | | | | | | | | | | | | | | | |
| 2009 | 242,843 | 397,542 | 474,603 | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 240,789 | 395,168 | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | 219,814 | | | | | | | | | | | | | | | | | | | | | | | |

Age-to-Age Factors

| Accident Yr | 12 - 24 | 24 - 36 | 36 - 48 | 48 - 60 | 60 - 72 | 72 - 84 | 84 - 96 | 96 - 108 | 108 - 120 | 120 - 132 | 132 - 144 | 144 - 156 | 156 - 168 | 168 - 180 | 180 - 192 | 192 - 204 | 204 - 216 | 216 - 228 | 228 - 240 | 240 - 252 | 252 - 264 | 264 - 276 | 276 - 288 | 288 - 300 |
|-------------|---------|---------|---------|---------|---------|---------|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1981 | 1.343 | 1.126 | 1.066 | 1.042 | 1.023 | 1.025 | 1.019 | 1.010 | 1.013 | 1.007 | 1.008 | 1.007 | 1.000 | 0.999 | 1.004 | 1.001 | 1.002 | 1.000 | 0.999 | 1.001 | 1.004 | 1.004 | 1.004 | 1.001 |
| 1982 | 1.362 | 1.142 | 1.076 | 1.043 | 1.029 | 1.042 | 1.010 | 1.010 | 1.010 | 1.002 | 1.003 | 1.005 | 1.001 | 1.001 | 1.002 | 1.001 | 1.001 | 1.000 | 1.000 | 1.000 | 1.001 | 1.004 | 1.004 | 1.003 |
| 1983 | 1.396 | 1.176 | 1.091 | 1.051 | 1.049 | 1.024 | 1.027 | 1.010 | 1.001 | 1.005 | 1.003 | 0.999 | 1.000 | 1.001 | 1.002 | 1.000 | 1.000 | 1.000 | 1.002 | 1.002 | 1.003 | 1.000 | 1.001 | 1.001 |
| 1984 | 1.422 | 1.192 | 1.107 | 1.055 | 1.032 | 1.016 | 1.016 | 1.016 | 1.011 | 1.004 | 1.001 | 1.002 | 1.004 | 1.002 | 1.000 | 1.001 | 1.000 | 1.001 | 1.003 | 1.003 | 0.999 | 1.000 | 1.001 | 1.001 |
| 1985 | 1.464 | 1.207 | 1.095 | 1.053 | 1.035 | 1.016 | 1.003 | 1.009 | 1.004 | 1.006 | 1.002 | 1.001 | 1.000 | 1.001 | 1.001 | 1.002 | 1.003 | 1.003 | 1.000 | 1.001 | 1.000 | 1.002 | 1.004 | 1.001 |
| 1986 | 1.544 | 1.173 | 1.091 | 1.052 | 1.031 | 1.017 | 1.014 | 1.004 | 1.006 | 1.003 | 1.004 | 1.002 | 1.004 | 0.999 | 1.003 | 1.001 | 1.003 | 1.002 | 1.004 | 1.001 | 1.002 | 1.000 | 1.003 | 1.001 |
| 1987 | 1.495 | 1.147 | 1.087 | 1.048 | 1.031 | 1.016 | 1.004 | 1.009 | 1.001 | 1.005 | 1.005 | 1.002 | 1.003 | 1.004 | 1.004 | 1.004 | 1.006 | 1.002 | 1.000 | 0.998 | 1.002 | 1.002 | 1.000 | 1.001 |
| 1988 | 1.446 | 1.160 | 1.085 | 1.035 | 1.030 | 1.009 | 1.009 | 1.003 | 1.009 | 1.006 | 1.004 | 1.005 | 1.002 | 1.004 | 1.001 | 1.005 | 1.001 | 1.000 | 0.999 | 1.001 | 1.002 | 1.002 | 1.001 | 1.001 |
| 1989 | 1.450 | 1.172 | 1.077 | 1.044 | 1.022 | 1.012 | 1.007 | 1.008 | 1.007 | 1.002 | 1.004 | 1.009 | 1.005 | 1.008 | 1.003 | 1.000 | 1.002 | 0.999 | 1.002 | 1.001 | 1.000 | 0.999 | | |
| 1990 | 1.537 | 1.166 | 1.074 | 1.036 | 1.028 | 1.008 | 1.008 | 1.007 | 1.003 | 1.004 | 1.005 | 1.004 | 1.006 | 1.004 | 1.001 | 1.001 | 1.002 | 1.002 | 1.002 | 0.999 | 1.001 | | | |
| 1991 | 1.447 | 1.148 | 1.081 | 1.047 | 1.024 | 1.017 | 1.014 | 1.008 | 1.008 | 1.005 | 1.010 | 1.006 | 1.008 | 1.002 | 1.001 | 1.002 | 1.003 | 1.003 | 1.000 | 1.001 | | | | |
| 1992 | 1.422 | 1.143 | 1.084 | 1.034 | 1.026 | 1.024 | 1.012 | 1.005 | 1.009 | 1.010 | 1.005 | 1.004 | 1.004 | 1.001 | 1.001 | 1.003 | 1.005 | 1.001 | 1.001 | | | | | |
| 1993 | 1.407 | 1.146 | 1.072 | 1.048 | 1.034 | 1.020 | 1.011 | 1.010 | 1.014 | 1.003 | 1.008 | 1.004 | 1.001 | 1.001 | 1.001 | 1.003 | 1.000 | 1.003 | | | | | | |
| 1994 | 1.395 | 1.150 | 1.073 | 1.036 | 1.033 | 1.020 | 1.014 | 1.009 | 1.012 | 1.011 | 1.004 | 1.000 | 1.004 | 1.003 | 1.005 | 0.999 | 1.003 | | | | | | | |
| 1995 | 1.432 | 1.162 | 1.081 | 1.049 | 1.028 | 1.026 | 1.023 | 1.016 | 1.016 | 1.008 | 1.004 | 1.005 | 1.005 | 1.004 | 1.002 | 1.002 | | | | | | | | |
| 1996 | 1.498 | 1.164 | 1.083 | 1.041 | 1.035 | 1.032 | 1.015 | 1.013 | 1.008 | 1.006 | 1.008 | 1.007 | 1.008 | 1.002 | 1.004 | | | | | | | | | |
| 1997 | 1.483 | 1.165 | 1.080 | 1.056 | 1.036 | 1.022 | 1.023 | 1.015 | 1.008 | 1.003 | 1.005 | 1.009 | 0.999 | 1.003 | | | | | | | | | | |
| 1998 | 1.510 | 1.165 | 1.082 | 1.052 | 1.031 | 1.027 | 1.015 | 1.008 | 1.003 | 1.006 | 1.009 | 1.000 | 1.006 | | | | | | | | | | | |
| 1999 | 1.530 | 1.205 | 1.110 | 1.053 | 1.038 | 1.020 | 1.013 | 1.012 | 1.009 | 1.015 | 1.002 | 1.002 | | | | | | | | | | | | |
| 2000 | 1.653 | 1.203 | 1.090 | 1.061 | 1.030 | 1.013 | 1.017 | 1.011 | 1.016 | 1.003 | 1.005 | | | | | | | | | | | | | |
| 2001 | 1.739 | 1.183 | 1.091 | 1.049 | 1.024 | 1.024 | 1.016 | 1.012 | 1.005 | 1.006 | | | | | | | | | | | | | | |
| 2002 | 1.708 | 1.199 | 1.083 | 1.042 | 1.032 | 1.024 | 1.020 | 1.008 | 1.005 | | | | | | | | | | | | | | | |
| 2003 | 1.720 | 1.185 | 1.078 | 1.052 | 1.028 | 1.023 | 1.011 | 1.006 | | | | | | | | | | | | | | | | |
| 2004 | 1.641 | 1.154 | 1.092 | 1.045 | 1.038 | 1.016 | 1.016 | | | | | | | | | | | | | | | | | |
| 2005 | 1.585 | 1.173 | 1.079 | 1.056 | 1.033 | 1.023 | | | | | | | | | | | | | | | | | | |
| 2006 | 1.579 | 1.172 | 1.104 | 1.047 | 1.042 | | | | | | | | | | | | | | | | | | | |
| 2007 | 1.613 | 1.201 | 1.080 | 1.049 | | | | | | | | | | | | | | | | | | | | |

A Methodology for Avoiding the Pitfalls of Excess Loss Development

Limited to 500k

| Accident Yr | 300 | 312 | 324 | 336 | 348 | 360 | 372 | Ultimate | ELF |
|-------------|---------|---------|---------|---------|---------|---------|---------|----------|-------|
| 1981 | 191,327 | 191,347 | 191,410 | 191,662 | 191,871 | 191,723 | 191,725 | 191,725 | 0.066 |
| 1982 | 209,516 | 209,310 | 209,630 | 209,708 | 209,720 | 209,842 | | 209,844 | 0.068 |
| 1983 | 226,101 | 226,890 | 227,458 | 227,846 | 228,636 | | | 228,624 | 0.055 |
| 1984 | 253,587 | 254,494 | 254,794 | 255,486 | | | | 255,883 | 0.065 |
| 1985 | 239,177 | 239,313 | 239,995 | | | | | 240,751 | 0.063 |
| 1986 | 263,838 | 264,650 | | | | | | 265,941 | 0.099 |
| 1987 | 329,125 | | | | | | | 331,320 | 0.057 |
| 1988 | | | | | | | | 356,323 | 0.045 |
| 1989 | | | | | | | | 425,704 | 0.068 |
| 1990 | | | | | | | | 562,789 | 0.050 |
| 1991 | | | | | | | | 568,914 | 0.070 |
| 1992 | | | | | | | | 544,937 | 0.054 |
| 1993 | | | | | | | | 500,434 | 0.084 |
| 1994 | | | | | | | | 404,042 | 0.083 |
| 1995 | | | | | | | | 357,149 | 0.147 |
| 1996 | | | | | | | | 374,928 | 0.083 |
| 1997 | | | | | | | | 372,436 | 0.081 |
| 1998 | | | | | | | | 358,940 | 0.093 |
| 1999 | | | | | | | | 398,578 | 0.109 |
| 2000 | | | | | | | | 489,150 | 0.114 |
| 2001 | | | | | | | | 509,698 | 0.092 |
| 2002 | | | | | | | | 584,203 | 0.104 |
| 2003 | | | | | | | | 646,718 | 0.093 |
| 2004 | | | | | | | | 695,912 | 0.101 |
| 2005 | | | | | | | | 676,308 | 0.117 |
| 2006 | | | | | | | | 617,992 | 0.124 |
| 2007 | | | | | | | | 650,412 | 0.097 |
| 2008 | | | | | | | | 664,753 | 0.096 |
| 2009 | | | | | | | | 610,523 | 0.100 |
| 2010 | | | | | | | | 595,514 | 0.090 |
| 2011 | | | | | | | | 511,645 | 0.084 |

Age-to-Age Factors

| Accident Yr | 300 - 312 | 312 - 324 | 324 - 336 | 336 - 348 | 348 - 360 | 360 - 372 | To Ult |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| 1981 | 1.000 | 1.000 | 1.001 | 1.001 | 0.999 | 1.000 | |
| 1982 | 0.999 | 1.002 | 1.000 | 1.000 | 1.001 | | |
| 1983 | 1.003 | 1.003 | 1.002 | 1.003 | | | |
| 1984 | 1.004 | 1.001 | 1.003 | | | | |
| 1985 | 1.001 | 1.003 | | | | | |
| 1986 | 1.003 | | | | | | |
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Averages

| | 300 - 312 | 312 - 324 | 324 - 336 | 336 - 348 | 348 - 360 | 360 - 372 | To Ult |
|----------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| Volume Wtd All | 1.002 | 1.002 | 1.002 | 1.002 | 1.000 | 1.000 | 1.000 |
| Volume Wtd All | 1.007 | 1.005 | 1.003 | 1.002 | 1.000 | 1.000 | 1.000 |

A Methodology for Avoiding the Pitfalls of Excess Loss Development

Limited to 1000k

Table with 24 columns (Age) and 24 rows (Year 1981-2011). Values represent limited loss development factors.

Age-to-Age Factors

Table with 24 columns (Age) and 24 rows (Year 1981-2011). Values represent age-to-age factors.

Averages

Summary table with 24 columns (Age) and 2 rows (Volume Wtd All). Provides average values for each age.

A Methodology for Avoiding the Pitfalls of Excess Loss Development

Limited to 1000k

| Accident Yr | 300 | 312 | 324 | 336 | 348 | 360 | 372 | Ultimate | ELF |
|-------------|---------|---------|---------|---------|---------|---------|---------|----------|-------|
| 1981 | 197,151 | 197,203 | 197,163 | 197,622 | 197,935 | 198,074 | 198,053 | 198,053 | 0.035 |
| 1982 | 216,610 | 216,354 | 216,664 | 216,827 | 217,123 | 217,264 | | 217,241 | 0.035 |
| 1983 | 234,169 | 235,154 | 235,405 | 235,883 | 236,535 | | | 236,670 | 0.021 |
| 1984 | 263,542 | 264,496 | 264,917 | 265,797 | | | | 266,464 | 0.027 |
| 1985 | 247,311 | 247,823 | 248,679 | | | | | 249,842 | 0.028 |
| 1986 | 276,779 | 277,656 | | | | | | 279,387 | 0.054 |
| 1987 | 342,700 | | | | | | | 345,587 | 0.017 |
| 1988 | | | | | | | | 369,124 | 0.011 |
| 1989 | | | | | | | | 438,652 | 0.040 |
| 1990 | | | | | | | | 581,049 | 0.019 |
| 1991 | | | | | | | | 593,619 | 0.030 |
| 1992 | | | | | | | | 567,447 | 0.015 |
| 1993 | | | | | | | | 524,263 | 0.041 |
| 1994 | | | | | | | | 423,842 | 0.038 |
| 1995 | | | | | | | | 379,680 | 0.093 |
| 1996 | | | | | | | | 396,669 | 0.029 |
| 1997 | | | | | | | | 393,494 | 0.029 |
| 1998 | | | | | | | | 378,440 | 0.044 |
| 1999 | | | | | | | | 428,102 | 0.043 |
| 2000 | | | | | | | | 524,644 | 0.050 |
| 2001 | | | | | | | | 542,509 | 0.033 |
| 2002 | | | | | | | | 623,733 | 0.044 |
| 2003 | | | | | | | | 687,531 | 0.036 |
| 2004 | | | | | | | | 741,024 | 0.043 |
| 2005 | | | | | | | | 721,593 | 0.057 |
| 2006 | | | | | | | | 661,056 | 0.063 |
| 2007 | | | | | | | | 694,748 | 0.036 |
| 2008 | | | | | | | | 706,393 | 0.039 |
| 2009 | | | | | | | | 645,570 | 0.048 |
| 2010 | | | | | | | | 628,234 | 0.040 |
| 2011 | | | | | | | | 538,185 | 0.037 |

Age-to-Age Factors

| Accident Yr | 300 - 312 | 312 - 324 | 324 - 336 | 336 - 348 | 348 - 360 | 360 - 372 | To Ult |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| 1981 | 1.000 | 1.000 | 1.002 | 1.002 | 1.001 | 1.000 | |
| 1982 | 0.999 | 1.001 | 1.001 | 1.001 | 1.001 | | |
| 1983 | 1.004 | 1.001 | 1.002 | 1.003 | | | |
| 1984 | 1.004 | 1.002 | 1.003 | | | | |
| 1985 | 1.002 | 1.003 | | | | | |
| 1986 | 1.003 | | | | | | |
| 1987 | | | | | | | |
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| 2011 | | | | | | | |

Averages

| | 300 - 312 | 312 - 324 | 324 - 336 | 336 - 348 | 348 - 360 | 360 - 372 | To Ult |
|----------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| Volume Wtd All | 1.002 | 1.002 | 1.002 | 1.002 | 1.001 | 1.000 | 1.000 |
| Volume Wtd All | 1.008 | 1.006 | 1.005 | 1.003 | 1.001 | 1.000 | 1.000 |

A Methodology for Avoiding the Pitfalls of Excess Loss Development

| Excess of 500K | | | | | | | |
|----------------|--------|--------|--------|--------|--------|--------|--------|
| Accident Yr | 300 | 312 | 324 | 336 | 348 | 360 | 372 |
| 1981 | 12,513 | 12,009 | 12,077 | 12,779 | 12,608 | 13,329 | 13,592 |
| 1982 | 15,994 | 16,055 | 16,333 | 14,658 | 15,115 | 15,047 | |
| 1983 | 13,502 | 13,992 | 13,509 | 13,523 | 12,558 | | |
| 1984 | 16,798 | 16,749 | 16,939 | 17,352 | | | |
| 1985 | 14,781 | 15,259 | 15,908 | | | | |
| 1986 | 27,976 | 28,709 | | | | | |
| 1987 | 19,224 | | | | | | |
| 1988 | | | | | | | |
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| 2010 | | | | | | | |
| 2011 | | | | | | | |

| Ultimate | | | |
|-----------|------------|-----------|-----------|
| Factors | Difference | No Tail | Method |
| 15,641 | 13,592 | 13,592 | 13,592 |
| 17,657 | 15,335 | 15,344 | 15,335 |
| 15,083 | 13,234 | 13,107 | 13,234 |
| 20,496 | 17,842 | 17,811 | 17,842 |
| 18,616 | 16,219 | 16,177 | 16,219 |
| 33,914 | 29,290 | 29,471 | 29,290 |
| 22,980 | 20,120 | 19,969 | 20,120 |
| 18,718 | 16,915 | 16,266 | 16,915 |
| 36,090 | 31,300 | 31,362 | 31,300 |
| 32,715 | 29,634 | 28,429 | 29,634 |
| 49,844 | 42,828 | 43,313 | 42,828 |
| 33,855 | 30,887 | 29,420 | 30,887 |
| 56,399 | 46,170 | 49,010 | 46,170 |
| 44,992 | 36,648 | 39,097 | 36,648 |
| 85,971 | 61,393 | 74,707 | 61,393 |
| 42,234 | 33,789 | 36,700 | 33,789 |
| 41,240 | 33,010 | 35,837 | 33,010 |
| 48,815 | 36,935 | 42,419 | 36,935 |
| 70,637 | 48,956 | 61,382 | 48,956 |
| 94,702 | 63,162 | 82,294 | 63,162 |
| 71,133 | 51,469 | 61,813 | 51,469 |
| 102,245 | 67,994 | 88,848 | 67,994 |
| 94,685 | 66,207 | 82,280 | 66,207 |
| 123,531 | 78,462 | 107,346 | 78,462 |
| 159,244 | 89,255 | 138,379 | 89,255 |
| 171,622 | 87,820 | 149,136 | 87,820 |
| 113,138 | 69,935 | 98,315 | 69,935 |
| 113,957 | 70,516 | 99,026 | 70,516 |
| 118,988 | 67,551 | 103,398 | 67,551 |
| 86,643 | 58,826 | 75,291 | 58,826 |
| 51,785 | 47,111 | 45,000 | 47,111 |
| 2,007,571 | 1,392,406 | 1,744,535 | 1,392,406 |

| Age-to-Age Factors | | | | | | | |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| Accident Yr | 300 - 312 | 312 - 324 | 324 - 336 | 336 - 348 | 348 - 360 | 360 - 372 | To Ult |
| 1981 | 0.960 | 1.006 | 1.058 | 0.987 | 1.057 | 1.020 | |
| 1982 | 1.004 | 1.017 | 0.897 | 1.031 | 0.995 | | |
| 1983 | 1.036 | 0.965 | 1.001 | 0.929 | | | |
| 1984 | 0.997 | 1.011 | 1.024 | | | | |
| 1985 | 1.032 | 1.043 | | | | | |
| 1986 | 1.026 | | | | | | |
| 1987 | | | | | | | |
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| 2011 | | | | | | | |

Above Diff 44.18% 25.29% 0.00%

| Averages | | | | | | | |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| | 300 - 312 | 312 - 324 | 324 - 336 | 336 - 348 | 348 - 360 | 360 - 372 | To Ult |
| RAA Tail (Range 2) | | | | | | | 1.151 |
| Volume Wtd All | 1.012 | 1.009 | 0.991 | 0.983 | 1.024 | 1.020 | 1.151 |
| Volume Wtd All | 1.195 | 1.181 | 1.170 | 1.181 | 1.201 | 1.173 | 1.151 |
| Method | 1.047 | 1.020 | 1.020 | 1.028 | 1.054 | 1.019 | 1.000 |

A Methodology for Avoiding the Pitfalls of Excess Loss Development

Excess of 1000K

| Accident Yr | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 | 156 | 168 | 180 | 192 | 204 | 216 | 228 | 240 | 252 | 264 | 276 | 288 |
|-------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1981 | 1,108 | 1,300 | 886 | 69 | 156 | 240 | 329 | 329 | 408 | 758 | 908 | 1,803 | 2,542 | 3,213 | 3,330 | 3,365 | 3,484 | 3,639 | 3,770 | 4,889 | 5,055 | 6,322 | 7,192 | 6,591 |
| 1982 | 1,250 | 1,378 | 1,502 | 1,072 | 1,400 | 2,111 | 2,385 | 3,507 | 5,854 | 3,953 | 3,919 | 4,089 | 4,298 | 4,312 | 4,956 | 5,325 | 5,342 | 6,967 | 7,122 | 7,310 | 9,690 | 9,631 | 8,967 | 8,992 |
| 1983 | 368 | 454 | 962 | 2,438 | 2,714 | 2,656 | 2,654 | 5,097 | 4,887 | 4,951 | 2,138 | 2,120 | 2,211 | 2,224 | 3,566 | 4,324 | 4,242 | 4,292 | 4,266 | 3,942 | 5,103 | 5,079 | 5,392 | 5,390 |
| 1984 | 15 | 1,021 | 1,106 | 2,464 | 2,758 | 2,834 | 3,120 | 2,833 | 2,902 | 2,995 | 3,793 | 3,958 | 3,986 | 4,286 | 4,395 | 4,525 | 4,787 | 5,759 | 5,881 | 6,078 | 6,310 | 6,401 | 6,341 | 6,848 |
| 1985 | 447 | 448 | 521 | 289 | 291 | 768 | 817 | 912 | 1,783 | 1,082 | 1,102 | 1,088 | 2,220 | 3,459 | 4,040 | 2,964 | 2,953 | 3,027 | 3,065 | 3,102 | 3,152 | 3,658 | 3,468 | 6,490 |
| 1986 | 15 | 931 | 1,797 | 2,206 | 3,014 | 4,386 | 4,405 | 6,082 | 6,076 | 5,915 | 5,949 | 7,747 | 6,391 | 9,235 | 9,477 | 8,544 | 8,682 | 10,760 | 10,846 | 11,112 | 11,379 | 12,341 | 11,896 | 12,668 |
| 1987 | 15 | 233 | 1,403 | 1,425 | 1,195 | 1,621 | 1,291 | 1,609 | 1,457 | 1,479 | 1,554 | 1,638 | 1,616 | 1,838 | 1,824 | 1,966 | 2,089 | 2,072 | 1,995 | 2,403 | 3,408 | 5,345 | 4,987 | 5,216 |
| 1988 | 15 | 192 | 3,194 | 3,299 | 592 | 1,110 | 1,003 | 1,290 | 954 | 1,060 | 901 | 1,801 | 2,105 | 2,127 | 2,217 | 2,265 | 2,455 | 2,518 | 2,377 | 2,636 | 2,835 | 3,134 | 3,311 | 3,323 |
| 1989 | 1,479 | 5,151 | 6,226 | 5,395 | 6,129 | 6,473 | 6,189 | 6,114 | 10,813 | 10,717 | 10,775 | 10,789 | 11,813 | 11,789 | 14,118 | 13,573 | 13,620 | 13,837 | 15,183 | 15,624 | 15,405 | 16,465 | 16,420 | |
| 1990 | 1,620 | 4,081 | 3,276 | 3,418 | 3,425 | 3,513 | 3,690 | 4,673 | 4,641 | 4,889 | 4,587 | 5,542 | 5,788 | 7,449 | 7,757 | 7,881 | 8,078 | 8,079 | 7,967 | 8,555 | 8,772 | 9,121 | | |
| 1991 | 1,571 | 1,881 | 3,558 | 4,942 | 5,129 | 5,513 | 6,504 | 7,005 | 8,683 | 8,284 | 8,983 | 7,961 | 8,255 | 8,837 | 8,937 | 9,052 | 8,566 | 10,485 | 12,486 | 13,972 | 14,513 | | | |
| 1992 | 574 | 892 | 1,039 | 1,920 | 1,350 | 1,639 | 2,049 | 2,861 | 2,418 | 3,755 | 4,227 | 4,172 | 3,238 | 3,330 | 3,188 | 3,000 | 3,398 | 4,087 | 4,002 | 4,237 | | | | |
| 1993 | 3,015 | 4,282 | 6,465 | 6,366 | 5,759 | 13,644 | 14,852 | 12,242 | 11,527 | 12,957 | 15,392 | 15,445 | 15,278 | 15,308 | 16,064 | 17,108 | 17,654 | 17,062 | 17,551 | | | | | |
| 1994 | 2,029 | 2,024 | 2,013 | 3,462 | 3,794 | 3,608 | 2,964 | 3,915 | 3,797 | 8,161 | 9,338 | 9,672 | 7,800 | 9,557 | 11,001 | 11,680 | 11,460 | 12,654 | | | | | | |
| 1995 | 2,397 | 8,280 | 16,679 | 16,373 | 17,204 | 12,627 | 16,528 | 16,409 | 18,188 | 19,078 | 19,041 | 18,866 | 22,449 | 32,200 | 34,099 | 35,261 | 33,645 | | | | | | | |
| 1996 | 788 | 3,002 | 3,743 | 3,857 | 4,140 | 4,210 | 3,934 | 3,689 | 2,966 | 2,671 | 3,694 | 4,037 | 6,829 | 6,999 | 5,763 | 7,629 | | | | | | | | |
| 1997 | 739 | 8,029 | 8,875 | 9,148 | 8,816 | 6,330 | 4,236 | 4,407 | 5,147 | 5,141 | 5,406 | 6,062 | 6,308 | 7,167 | 7,331 | | | | | | | | | |
| 1998 | 695 | 5,195 | 5,289 | 9,750 | 11,486 | 14,086 | 12,074 | 9,182 | 9,052 | 10,519 | 10,783 | 10,709 | 10,919 | 12,211 | | | | | | | | | | |
| 1999 | 3,989 | 6,132 | 7,242 | 6,302 | 6,526 | 6,773 | 7,324 | 7,440 | 8,628 | 9,009 | 9,803 | 11,903 | 12,154 | | | | | | | | | | | |
| 2000 | 4,038 | 12,054 | 6,090 | 8,873 | 11,234 | 12,030 | 11,919 | 12,786 | 17,381 | 18,853 | 18,222 | 17,990 | | | | | | | | | | | | |
| 2001 | 726 | 2,368 | 3,850 | 3,528 | 3,457 | 3,109 | 6,031 | 5,536 | 8,024 | 7,206 | 8,783 | | | | | | | | | | | | | |
| 2002 | 268 | 3,648 | 6,488 | 9,236 | 8,755 | 10,132 | 10,900 | 12,671 | 15,163 | 16,151 | | | | | | | | | | | | | | |
| 2003 | 15 | 897 | 2,047 | 2,139 | 5,407 | 6,201 | 8,916 | 9,934 | 11,595 | | | | | | | | | | | | | | | |
| 2004 | 1,361 | 1,682 | 8,437 | 9,653 | 12,140 | 14,139 | 15,705 | 16,209 | | | | | | | | | | | | | | | | |
| 2005 | 392 | 1,976 | 7,754 | 16,728 | 21,398 | 22,947 | 25,408 | | | | | | | | | | | | | | | | | |
| 2006 | 1,942 | 4,143 | 15,476 | 20,720 | 23,657 | 26,102 | | | | | | | | | | | | | | | | | | |
| 2007 | 156 | 3,874 | 8,231 | 8,972 | 7,962 | | | | | | | | | | | | | | | | | | | |
| 2008 | 177 | 2,695 | 9,020 | 9,564 | | | | | | | | | | | | | | | | | | | | |
| 2009 | 2,983 | 11,030 | 11,695 | | | | | | | | | | | | | | | | | | | | | |
| 2010 | 825 | 4,772 | | | | | | | | | | | | | | | | | | | | | | |
| 2011 | 725 | | | | | | | | | | | | | | | | | | | | | | | |

Age-to-Age Factors

| Accident Yr | 12-24 | 24-36 | 36-48 | 48-60 | 60-72 | 72-84 | 84-96 | 96-108 | 108-120 | 120-132 | 132-144 | 144-156 | 156-168 | 168-180 | 180-192 | 192-204 | 204-216 | 216-228 | 228-240 | 240-252 | 252-264 | 264-276 | 276-288 | 288-300 |
|-------------|--------|--------|-------|-------|-------|-------|-------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1981 | 1.174 | 0.681 | 0.078 | 2.262 | 1.535 | 1.372 | 1.000 | 1.239 | 1.859 | 1.198 | 1.985 | 1.410 | 1.264 | 1.036 | 1.010 | 1.036 | 1.044 | 1.036 | 1.297 | 1.034 | 1.251 | 1.138 | 0.916 | 1.015 |
| 1982 | 1.102 | 1.090 | 0.714 | 1.306 | 1.508 | 1.130 | 1.471 | 1.669 | 0.675 | 0.991 | 1.043 | 1.051 | 1.003 | 1.149 | 1.075 | 1.003 | 1.304 | 1.022 | 1.026 | 1.325 | 0.994 | 0.931 | 1.003 | 0.990 |
| 1983 | 1.234 | 2.118 | 2.535 | 1.113 | 0.979 | 0.999 | 1.920 | 0.959 | 1.013 | 0.432 | 0.992 | 1.043 | 1.006 | 1.603 | 1.213 | 0.981 | 1.012 | 0.994 | 0.924 | 1.294 | 0.995 | 1.062 | 1.000 | 1.008 |
| 1984 | 68.047 | 1.083 | 2.229 | 1.119 | 1.028 | 1.101 | 0.908 | 1.024 | 1.032 | 1.267 | 1.043 | 1.007 | 1.075 | 1.025 | 1.030 | 1.058 | 1.203 | 1.021 | 1.033 | 1.038 | 1.014 | 0.991 | 1.080 | 0.999 |
| 1985 | 1.001 | 1.162 | 0.555 | 1.005 | 2.641 | 1.064 | 1.117 | 1.954 | 0.607 | 1.019 | 0.986 | 2.041 | 1.558 | 1.168 | 0.734 | 0.996 | 1.025 | 1.013 | 1.012 | 1.016 | 1.160 | 0.948 | 1.871 | 1.024 |
| 1986 | 62.077 | 1.930 | 1.228 | 1.366 | 1.455 | 1.004 | 1.381 | 0.999 | 0.973 | 1.006 | 1.302 | 0.825 | 1.445 | 1.026 | 0.902 | 1.016 | 1.240 | 1.007 | 1.025 | 1.024 | 1.085 | 0.964 | 1.065 | 1.187 |
| 1987 | 15.529 | 6.022 | 1.016 | 0.839 | 1.356 | 0.796 | 1.246 | 0.906 | 1.015 | 1.051 | 1.054 | 0.986 | 1.138 | 0.992 | 1.078 | 1.063 | 0.992 | 0.963 | 1.204 | 1.418 | 1.568 | 0.933 | 1.046 | 1.083 |
| 1988 | 12.773 | 16.668 | 1.033 | 0.179 | 1.876 | 0.903 | 1.287 | 0.740 | 1.110 | 0.850 | 1.998 | 1.169 | 1.010 | 1.042 | 1.022 | 1.084 | 1.025 | 0.944 | 1.109 | 1.075 | 1.106 | 1.056 | 1.004 | |
| 1989 | 3.482 | 1.209 | 0.867 | 1.136 | 1.056 | 0.956 | 0.988 | 1.768 | 0.991 | 1.005 | 1.001 | 1.095 | 0.998 | 1.198 | 0.961 | 1.003 | 1.016 | 1.097 | 1.029 | 0.986 | 1.069 | 0.997 | | |
| 1990 | 2.519 | 0.803 | 1.043 | 1.002 | 1.026 | 1.051 | 1.266 | 0.993 | 1.054 | 0.938 | 1.208 | 1.044 | 1.287 | 1.041 | 1.016 | 1.025 | 1.000 | 0.986 | 1.074 | 1.025 | 1.040 | | | |
| 1991 | 1.197 | 1.892 | 1.389 | 1.038 | 1.075 | 1.180 | 1.077 | 1.240 | 0.954 | 1.084 | 0.886 | 1.037 | 1.071 | 1.011 | 1.013 | 0.946 | 1.224 | 1.191 | 1.119 | 1.039 | | | | |
| 1992 | 1.553 | 1.165 | 1.849 | 0.703 | 1.214 | 1.250 | 1.397 | 0.845 | 1.553 | 1.126 | 0.987 | 0.776 | 1.029 | 0.957 | 0.941 | 1.133 | 1.203 | 0.979 | 1.059 | | | | | |
| 1993 | 1.420 | 1.510 | 0.985 | 0.905 | 2.369 | 1.089 | 0.824 | 0.942 | 1.124 | 1.188 | 1.003 | 0.989 | 1.002 | 1.049 | 1.065 | 1.032 | 0.967 | 1.029 | | | | | | |
| 1994 | 0.998 | 0.994 | 1.720 | 1.096 | 0.951 | 0.821 | 1.321 | 0.970 | 2.149 | 1.144 | 1.036 | 0.806 | 1.225 | 1.151 | 1.062 | 0.981 | 1.104 | | | | | | | |
| 1995 | 3.454 | 2.014 | 0.982 | 1.051 | 0.734 | 1.309 | 0.993 | 1.108 | 1.049 | 0.998 | 0.991 | 1.190 | 1.434 | 1.059 | 1.034 | 0.954 | | | | | | | | |
| 1996 | 3.808 | 1.247 | 1.030 | 1.073 | 1.017 | 0.934 | 0.938 | 0.804 | 0.900 | 1.383 | 1.093 | 1.692 | 1.025 | 0.823 | 1.324 | | | | | | | | | |
| 1997 | 10.860 | 1.105 | 1.031 | 0.964 | 0.718 | 0.669 | 1.040 | 1.168 | 0.999 | 1.052 | 1.121 | 1.041 | 1.136 | 1.023 | | | | | | | | | | |
| 1998 | 7.478 | 1.018 | 1.844 | 1.178 | 1.226 | 0.857 | 0.761 | 0.986 | 1.162 | 1.025 | 0.993 | 1.020 | 1.118 | | | | | | | | | | | |
| 1999 | 1.537 | 1.181 | 0.870 | 1.036 | 1.038 | 1.081 | 1.016 | 1.160 | 1.044 | 1.088 | 1.214 | 1.021 | | | | | | | | | | | | |
| 2000 | 2.985 | 0.505 | 1.457 | 1.266 | 1.071 | 0.991 | 1.073 | 1.359 | 1.085 | 0.967 | 0.987 | | | | | | | | | | | | | |
| 2001 | 3.264 | 1.626 | 0.916 | 0.980 | 0.899 | 1.940 | 0.918 | 1.449 | 0.898 | 1.219 | | | | | | | | | | | | | | |
| 2002 | 13.619 | 1.779 | 1.424 | 0.948 | 1.157 | 1.076 | 1.162 | 1.197 | 1.065 | | | | | | | | | | | | | | | |
| 2003 | 59.804 | 2.282 | 1.045 | 2.528 | 1.147 | 1.438 | 1.114 | 1.167 | | | | | | | | | | | | | | | | |
| 2004 | 1.236 | 5.015 | 1.144 | 1.258 | 1.165 | 1.111 | 1.032 | | | | | | | | | | | | | | | | | |
| 2005 | 5.037 | 3.923 | 2.157 | 1.279 | 1.072 | 1.107 | | | | | | | | | | | | | | | | | | |
| 2006 | 2.134 | 3.735 | 1.339 | 1 | | | | | | | | | | | | | | | | | | | | |

A Methodology for Avoiding the Pitfalls of Excess Loss Development

Excess of 1000K

| Accident Yr | 300 | 312 | 324 | 336 | 348 | 360 | 372 |
|-------------|--------|--------|-------|-------|-------|-------|-------|
| 1981 | 6,689 | 6,154 | 6,324 | 6,819 | 6,544 | 6,978 | 7,264 |
| 1982 | 8,900 | 9,011 | 9,299 | 7,540 | 7,712 | 7,625 | |
| 1983 | 5,434 | 5,727 | 5,562 | 5,486 | 4,658 | | |
| 1984 | 6,843 | 6,748 | 6,815 | 7,042 | | | |
| 1985 | 6,647 | 6,748 | 7,224 | | | | |
| 1986 | 15,035 | 15,702 | | | | | |
| 1987 | 5,650 | | | | | | |
| 1988 | | | | | | | |
| 1989 | | | | | | | |
| 1990 | | | | | | | |
| 1991 | | | | | | | |
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| 2006 | | | | | | | |
| 2007 | | | | | | | |
| 2008 | | | | | | | |
| 2009 | | | | | | | |
| 2010 | | | | | | | |
| 2011 | | | | | | | |

Ultimate

| Factors | Difference | No Tail | Method |
|---------|------------|---------|---------|
| | 12,200 | 7,264 | 7,264 |
| | 13,331 | 7,939 | 7,938 |
| | 8,341 | 5,188 | 4,967 |
| | 12,019 | 7,261 | 7,157 |
| | 11,839 | 7,127 | 7,050 |
| | 26,362 | 15,844 | 15,697 |
| | 9,588 | 5,852 | 5,709 |
| | 5,964 | 4,114 | 3,551 |
| | 31,737 | 18,351 | 18,897 |
| | 17,525 | 11,374 | 10,435 |
| | 30,391 | 18,123 | 18,096 |
| | 9,542 | 8,377 | 5,681 |
| | 41,975 | 22,341 | 24,993 |
| | 31,544 | 16,849 | 18,783 |
| | 91,179 | 38,861 | 54,291 |
| | 20,615 | 12,049 | 12,275 |
| | 20,360 | 11,952 | 12,123 |
| | 36,132 | 17,435 | 21,514 |
| | 42,193 | 19,432 | 25,123 |
| | 65,735 | 27,668 | 39,141 |
| | 33,662 | 18,658 | 20,044 |
| | 64,434 | 28,465 | 38,366 |
| | 48,967 | 25,394 | 29,157 |
| | 79,085 | 33,350 | 47,090 |
| | 129,689 | 43,970 | 77,221 |
| | 143,490 | 44,757 | 85,439 |
| | 48,068 | 25,599 | 28,621 |
| | 63,311 | 28,875 | 37,697 |
| | 93,885 | 32,504 | 55,902 |
| | 59,761 | 26,106 | 35,584 |
| | 26,987 | 20,570 | 16,069 |
| | 1,329,909 | 611,650 | 791,877 |

Age-to-Age Factors

| Accident Yr | 300 - 312 | 312 - 324 | 324 - 336 | 336 - 348 | 348 - 360 | 360 - 372 | To Ult |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| 1981 | 0.920 | 1.028 | 1.078 | 0.960 | 1.066 | 1.041 | |
| 1982 | 1.012 | 1.032 | 0.811 | 1.023 | 0.989 | | |
| 1983 | 1.054 | 0.971 | 0.986 | 0.849 | | | |
| 1984 | 0.986 | 1.010 | 1.053 | | | | |
| 1985 | 1.015 | 1.070 | | | | | |
| 1986 | 1.044 | | | | | | |
| 1987 | | | | | | | |
| 1988 | | | | | | | |
| 1989 | | | | | | | |
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| 2007 | | | | | | | |
| 2008 | | | | | | | |
| 2009 | | | | | | | |
| 2010 | | | | | | | |
| 2011 | | | | | | | |

Above Diff 117.43% 29.47% 0.00%

Averages

| | 300 - 312 | 312 - 324 | 324 - 336 | 336 - 348 | 348 - 360 | 360 - 372 | To Ult |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| RAA Tail (Range 3) | | | | | | | 1.679 |
| Volume Wtd All | 1.011 | 1.024 | 0.960 | 0.953 | 1.024 | 1.041 | 1.679 |
| Volume Wtd All | 1.697 | 1.679 | 1.639 | 1.707 | 1.791 | 1.748 | 1.679 |
| Method | 1.036 | 1.009 | 0.987 | 1.031 | 1.114 | 1.041 | 1.000 |