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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 Unites 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 manualequivalent 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 used 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 Casualty Actuarial Society *E-Forum*, Fall 2013 3

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:

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

Excess of 350 Development	12	24	36	Projection
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
Excess Age to Age Factors	12:24	24:36	12:Ult	
Year One	17.20	1.37		
Year Two (5 % Inflation)	14.77			
Year Three (5 % Inflation)				
Weighted Average	15.85	1.37	21.65	

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

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:

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, ELFs must be utilized. If the actuary considers the ultimate loss estimates that result from consideration of unlimited and limited loss development history, ELFs can be developed by accident year directly from the underlying data:

	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):

Excess CDF = Excess Ultimate Loss / Excess Reported Loss to Date

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

Excess CDF = [ELF] / [Unlimited Reported Loss – Limited Reported Loss]

Excess CDF = [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:

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:

In this simple example the resulting excess ultimate loss estimate from the Alternative 1) 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 Casualty Actuarial Society E-Forum, Fall 2013 8 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:

- Average claim value is \$65,000; this is based on consideration of California claim size data[4]. 1.
- 2. Claim severity is lognormally distributed.
- 3. Using the above parameters, we derived a table of ELFs 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 ELFs and California ELFs 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 ELFs, 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.

Limited CDF = (1-ELF)/[(1/% Reported Unlimited) - (1/% Reported Excess) x (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 9

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.

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.

						Non Tail	Alternative
		Seventy		Wtd Average	Wtd Average	Wtd Avg	Method
Scenario	Inflation	Randomization	Retention	Limited	Excess	Excess	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:

				Non Tail	Alternative
	Wtd Average V	Wtd Average '	Wtd Average	Wtd Avg	Method
	Unlimited	Limited	Excess	Excess	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:

				Non Tail	Alternative
	Wtd Average Wtd Average Wtd Average			Wtd Avg	Method
_	Unlimited	Limited	Excess	Excess	Excess
Frequency Trend	l				
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%
Frequency					
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.

				Non Tail	Alternative	
	Wtd Average	Wtd Average	Wtd Average	Wtd Avg	Method	
	Unlimited Limited		Excess	Excess	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:

					Non Tail	Alternative
		Wtd Average V	Wtd Average W	Wtd Avg	Method	
Inflation	Retention	Unlimited	Limited	Excess	Excess	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 Casualty Actuarial Society *E-Forum*, Fall 2013 14

\$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.

		Expected	
		Value of	
Policy Count		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
			255,010

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

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

	Expected				Expected	Limited
	Value of		12 Month	Industry	Value of	Reported at
Policy Count	Excess	Deductible	Limited CDF	ELF	Limited	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 Dedu	ctible	233,818	2.459	0.355		

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:

	Expected		12 Month		Expected	Limited			Excess
Policy	Value of		Limited	Industry	Value of	Reported at	Unlimited	Excess	Reported at
Count	Excess	Deductible	CDF	ELF	Limited	12 months	CDF	CDF	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 Dec	luctible	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

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

						Alternative
		Wtd Average	Wtd Average	Wtd Average	Non Tail Wtd	Method
Inflation	Retention	Unlimited	Limited	Excess	Avg Excess	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 Sce	enarios 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):

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

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

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

	Expected				
Policy	Policy Value of		Industry	ROL per	
Count	Excess	Deductible	ELF	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 ELFs 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 ELFs for the \$100,000 and \$1,000,000 deductible.

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

					ln
			Future	Ln (Future	(Deductible)
	Deductible	Limited 12:Ult	Development	Development) (y)	(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 ELFs based on ultimate loss projections. We can select ELFs and the resulting excess patterns based on our formula as follows:

			Unlimited			
Deductible		Limited 12:Ult	12:Ult	ELF from Data	ROL per Million	Excess 12:Ult
100	0,000	2.299	3.274	0.450	0.600	6.799
200	0,000	2.423	3.274	0.390	0.400	7.267
350	0,000	2.532	3.274	0.330	0.154	8.093
1,000	0,000	2.758	3.274	0.230		8.753
ROL 100k - 1000K				0.244		

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

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Sample Error Calculations

Appendex 1 - Scenario 10, Page 1

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

Appendex 1 - Scenario 10, Page 2

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

Appendex 1 - Scenario 10, Page 3

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

Estimated Ultimates Limited to Retention (400k Base)

4 1 . 37	x 1x	W. L. LODE	Latest
Accident Year	Incurred Losses	Weighted CDF	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	
Error	0.99%	0.87%)	0.97%		

Sample Error Calculations

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

Estimated Ultimates Unlimited

Accident Vear	Incurred Losses	Weighted CDF	Latest
Accident Teat	Incuirca Losses	weighted CDI	Diagonal CD1
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		

		Latest Diagonal	Trend in 12 Month	Cape Cod with	
Accident Year	Weighted LDM	LDM	Incurred	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
Error	0.00%	0.00%	D	0.00%	

Sample Error Calculations

Scenario		Frequency			Severity	
Number	Pattern	Trend	Frequency	Inflation	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 M	ethod Tail		289,756,241	293,960,652				
				Non-Tail Error			-4.53%	-3.14%				

Sample Error Calculations

Appendex 1 - Scenario 18, Page 1

Scenario Number	Pattern	Frequency Trend	Frequency	Inflation	Seve r ity 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

Appendex 1 - Scenario 18, Page 2

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

Appendex 1 - Scenario 18, Page 3

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		Frequency			Severity	
Number	Pattern	Trend	Frequency	Inflation	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	
Error	0.60%	0.60%)	0.60%		

Sample Error Calculations

Scenario		Frequency		Severity					
Number	Pattern	Trend	Frequency	Inflation	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		

	Latest		Trend in 12 Month	Cape Cod with	
Accident Year	Weighted LDM	LDM	Incurred	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
Error	0.00%	0.00%)	0.00%	
Error	0.00%	0.00%)	0.00%	

Sample Error Calculations

Scenario		Frequency		Severity					
Number	Pattern	Trend	Frequency	Inflation	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
2005	20,070,717	1.005	1.005	1.407	1.407	1.407	41,775,400	41,223,400	25,02,02	0.0040	40,005,517	26,022,527
2006	21,5/4,/30	1./66	1./60	1.650	1.544	1.544	38,101,508	38,101,508	35,602,692	0.8898	35,9/1,888	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
											1	
				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

Appendix 2 - Base Case, Page 1

													Non Tail	Alternative
	Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	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 vear	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%
22 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%	7.11%	7.45%	-2.68%	-2.06%	0.28%
20 Constant 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%	0.10%	6.95%	7.50%	-1 31%	-0.46%	-0.51%
20 Constant	1.0%	Constant	3.0%	8 year	Rounded	0.00%	0.00%	0.03%	0.02%	5.68%	7.0776	4.03%	2 74%	0.34%
2) Constant	1.0%	Constant	3.0%	8 year	Exact	0.00%	0.00%	0.0376	-0.0470	5 73%	7.1076	4.03%	-2.7470 2.80%	0.34%
31 Constant	1.0%	Constant	10.0%	1 year	Constant	0.00%	0.00%	3 56%	3 1 4 %	12 02%	12 58%	-4.0370	-2.8070	-0.5470
32 Constant	1.0%	Constant	10.0%	1 year	Rounded	0.00%	0.00%	0.61%	0.70%	10.10%	10.47%	4.2070	3.65%	-3.3270
32 Constant	1.0%	Constant	10.0%	1 year	Exact	0.00%	0.00%	0.0170	0.70%	10.10%	10.4770	-3.9770	-3.0570	-1.50%
24 Constant	1.070	Constant	10.076	1 year	Canatant	0.0076	0.0076	2.550/	2.120/	12 200/	10.0270	-5.7170	-3.2070	-1.00/0
34 Constant	1.0%	Constant	10.0%	8 year	Devended	0.00%	0.00%	3.33%	5.12%	13.30%	12.8/%	4.55%	4.15%	-3.4/%
35 Constant	1.0%	Constant	10.0%	8 year	Erret	0.00%	0.00%	0.01%	0.69%	0.49%	9.67%	-5.38%	-4.35%	-1.55%
27 Constant	1.0%	Constant	10.0%	o year	Exact	0.00%	0.00%	0.00%	0.00%	0.30%	9./9%	-5.05%	-3.99%	-1.10%
37 Constant	-1.0%	Constant	0.0%	1 year	Devended	0.00%	0.00%	0.00%	0.00%	10.17%	9.82%	1.00%	1.34%	0.00%
38 Constant	-1.0%	Constant	0.0%	1 year	Kounded	0.00%	0.00%	0.00%	0.00%	10.17%	9.82%	1.00%	1.34%	0.00%
59 Constant	-1.0%	Constant	0.0%	1 year	Exact	0.00%	0.00%	0.00%	0.00%	10.1/%	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%	5.65%	-5.85%	-4.3/%	0.00%
41 Constant	-1.0%	Constant	0.0%	8 year	Kounded	0.00%	0.00%	0.00%	0.00%	2.05%	3.63%	-5.85%	-4.3/%	0.00%
42 Constant	-1.0%	Constant	0.0%	8 year	Exact	0.00%	0.00%	0.00%	0.00%	2.05%	5.65%	-5.85%	-4.3/%	0.00%
45 Constant	-1.0%	Constant	3.0%	1 year	Constant	0.00%	0.00%	0.99%	0.86%	11.48%	11.00%	2.8/%	2.43%	-1.05%
44 Constant	-1.0%	Constant	3.0%	1 year	Kounded	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

Appendix 2 - Base Case, Page 2

													Non Tail	Alternative
	Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario Pattern	n Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Excess
46 Constan	nt -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 Constan	nt -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 Constan	nt -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 Constan	nt -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 Constan	nt -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 Constan	nt -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 Constan	nt -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 Constan	nt -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 Constan	nt -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 vear	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 vear	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%	17.02%	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%
70 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%	11.28%	4 26%	0.90%	1.98%
81 Varied	1.0%	Constant	3.0%	1 year	Exact	4 41%	0.71%	3 84%	0.19%	15.20%	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%	0.0070	14 57%	13.44%	3.64%	2.62%	1.36%
85 Varied	1.0%	Constant	10.0%	1 year	Constant	4.20%	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%	1.49%	0.62%	10.33%	14 78%	3 74%	0.21%	0.62%
87 Varied	1.0%	Constant	10.070	1 year	Exact	4.7070	0.73%	4.4270 A AQ0/-	0.0270	10.03%	14.7070	3.030/2	-0.2170	0.0270
88 Varied	1.0%	Constant	10.0%	i year	Constant	4 53%	0.81%	т.ту/0 6 80%	2 67%	22 80%	10.84%	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%	0.40%
20 1 and a	1.0/0	COnstant	10.070	0 year	Linace	1.55/0	0.01/0	1.4//0	0.00/0	10.14/0	I/.00/0	J / U	<u></u>	0.0070

Base Case Scenario Results Total Error in Methods

Appendix 2 - Base Case, Page 3

													Non Tail	Alternative
	Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	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 vear	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 vear	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 vear	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 vear	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	413%	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%	4.10%	0.59%	15 41%	14 25%	0.50%	-0.7076	0.69%
100 Constant	None	Varied	0.0%	1 year	Constant	0.00%	0.02%	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%
110 Constant	None	Varied	0.0%	1 year	Evect	0.00%	0.00%	0.00%	0.00%	8 25%	8 37%	0.17%	-0.06%	0.00%
112 Constant	None	Varied	0.0%	l year	Constant	0.00%	0.00%	0.00%	0.00%	1 1 20%	2 52%	-0.1770	-0.0070	0.00%
112 Constant	None	Varied	0.0%	8 year	Roundad	0.00%	0.00%	0.00%	0.00%	1.12/0	2.5270	-0.7470	-5.45%	0.00%
114 Constant	None	Varied	0.0%	8 year	Evect	0.00%	0.00%	0.00%	0.00%	1.12/0	2.5270	-0.7470	-5.45%	0.00%
114 Constant	None	Varied	3.0%	1 year	Constant	0.00%	0.00%	0.00%	0.0076	0.47%	0.45%	-0.7470	-5.4570	1.00%
115 Constant	None	Varied	3. 070	1 year	Poundad	0.00%	0.00%	0.9970	0.0770	0.947/0	9.4370 10.169/	0.9070	0.9470	-1.0970
110 Constant	None	Varied	3.0 70	1 year	Event	0.00%	0.00%	0.0376	-0.0370	0.77%	0.000/	-0.31/0	-0.0270	0.2370
117 Constant	None	Varied	3.070 2.09/	1 year	Constant	0.00%	0.00%	0.1676	0.1070	9.///0 2.570/	9.0070	-0.4370	-0.3270	-0.3076
110 Constant	None	Varied	3.0 70	8 year	Poundad	0.00%	0.00%	0.9970	0.0770	3. 5770	4.3070	-4.48/0	-3.3770	-1.22/0
120 Constant	None	Varied	3.070 2.09/	o year	Event	0.00%	0.00%	0.0470	-0.0470	2.0070	3.4470	-/.33/0	-0.1270	0.4770
120 Constant	None	Varied	10.0%	o year	Canatant	0.00%	0.00%	2 490/	2.070/	2.1270 14.710/	3.4070	-7.3770	-0.1470	-0.3376
121 Constant	None	Varied	10.0%	1 year	Poundad	0.00%	0.00%	0.61%	0.60%	14./1/0	14.0470	3.7970 1.240/	3.1070 1.200/	-3.2270
122 Constant	None	Varied	10.0%	1 year	Errent	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	Canatant	0.00%	0.00%	2 490/	2.070/	10.2070	13.3370	-1.00%	-0.9276	-0.9770
124 Constant	None	Varied	10.0%	8 year	David and	0.00%	0.00%	5.48% 0.619/	3.07%	10.22%	9.9/%	1.05%	1.42%	-3.5/%
125 Constant	None	Varied	10.0%	8 year	Kounded	0.00%	0.00%	0.61%	0.69%	4.15%	5.34%	-9.23%	-8.1/%	-1./0%
126 Constant	None	Varied	10.0%	8 year	Exact	0.00%	0.00%	0.60%	0.60%	4.26%	5.48%	-8.8/%	-/.81%	-1.15%
127 Constant	1.0%	Varied	0.0%	1 year	Constant	0.00%	0.00%	0.00%	0.00%	5.97%	6.1/%	-2.2/%	-2.08%	0.00%
128 Constant	1.0%	Varied	0.0%	1 year	Kounded	0.00%	0.00%	0.00%	0.00%	5.97%	6.1/%	-2.2/%	-2.08%	0.00%
129 Constant	1.0%	Varied	0.0%	1 year	Exact	0.00%	0.00%	0.00%	0.00%	5.97%	6.1/%	-2.2/%	-2.08%	0.00%
130 Constant	1.0%	varied	0.0%	8 year		0.00%	0.00%	0.00%	0.00%	5.43%	4./8%	-4.01%	-3.3/%	0.00%
131 Constant	1.0%	Varied	0.0%	8 year	Kounded	0.00%	0.00%	0.00%	0.00%	3.43%	4.78%	-4.61%	-3.3/%	0.00%
132 Constant	1.0%	Varied	0.0%	8 year	Exact	0.00%	0.00%	0.00%	0.00%	5.45%	4./8%	-4.61%	-3.3/%	0.00%
133 Constant	1.0%	Varied	3.0%	I year		0.00%	0.00%	1.01%	0.89%	/.5/%	/.40%	-0.98%	-0.95%	-1.13%
134 Constant	1.0%	Varied	3.0%	I year	Kounded	0.00%	0.00%	0.02%	-0.06%	/.36%	/./6%	-2.56%	-2.19%	0.28%
155 Constant	1.0%	Varied	5.0%	1 year	Exact	0.00%	0.00%	0.18%	0.18%	/.30%	/.50%	-2.6/%	-2.49%	-0.31%
Base Case Scenario Results Total Error in Methods

Appendix 2 - Base Case, Page 4

														Non Tail	Alternative
		Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario	o Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Excess
13	6 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%
13	7 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%
13	8 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%
13	9 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%
14	0 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%
14	1 Constant	1.0%	Varied	10.0%	1 vear	Exact	0.00%	0.00%	0.60%	0.60%	10.33%	10.52%	-3.56%	-3.40%	-1.01%
14	2 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%
14	3 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%
14	4 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%
14	5 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%
14	6 Constant	-1.0%	Varied	0.0%	1 vear	Rounded	0.00%	0.00%	0.00%	0.00%	9.90%	9.74%	1.36%	1.21%	0.00%
14	7 Constant	-1.0%	Varied	0.0%	1 vear	Exact	0.00%	0.00%	0.00%	0.00%	9.90%	9.74%	1.36%	1.21%	0.00%
14	8 Constant	-1.0%	Varied	0.0%	8 vear	Constant	0.00%	0.00%	0.00%	0.00%	1.29%	3.19%	-6.59%	-4.83%	0.00%
14	9 Constant	-1.0%	Varied	0.0%	8 vear	Rounded	0.00%	0.00%	0.00%	0.00%	1.29%	3.19%	-6.59%	-4.83%	0.00%
15	0 Constant	-1.0%	Varied	0.0%	8 vear	Exact	0.00%	0.00%	0.00%	0.00%	1.29%	3.19%	-6.59%	-4.83%	0.00%
15	1 Constant	-1.0%	Varied	3.0%	1 vear	Constant	0.00%	0.00%	0.98%	0.86%	11.25%	10.96%	2.60%	2.33%	-1.05%
15	2 Constant	-1.0%	Varied	3.0%	1 vear	Rounded	0.00%	0.00%	0.03%	-0.05%	11.58%	11.60%	1.27%	1.29%	0.22%
15	3 Constant	-1.0%	Varied	3.0%	1 vear	Exact	0.00%	0.00%	0.18%	0.18%	11.52%	11.34%	1.16%	1.00%	-0.29%
15	4 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%
15	5 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%
15	6 Constant	-1.0%	Varied	3.0%	8 vear	Exact	0.00%	0.00%	0.18%	0.18%	2.41%	4 29%	-7 10%	-5 39%	-0.35%
15	7 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%
15	8 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%
15	9 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%
16	0 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%
16	1 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%
16	2 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%
16	3 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%
16	4 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%
16	5 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%
16	6 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%
16	7 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%
16	8 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%
16	9 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%
17	0 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%
17	1 Varied	None	Varied	3.0%	1 year	Exact	4 33%	0.70%	3 77%	0.20%	17.64%	13.70%	6.36%	2 42%	1 45%
17	2 Varied	None	Varied	3.0%	8 year	Constant	4 11%	0.79%	4 27%	0.20%	12 10%	11.07%	3.04%	2.08%	0.63%
17	3 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%
17	4 Varied	None	Varied	3.0%	8 year	Exact	4 11%	0.79%	3 57%	0.22%	10.61%	10.09%	0.00%	-0.47%	1.09%
17	5 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%
17	6 Varied	None	Varied	10.0%	1 year	Rounded	4.64%	0.72%	4 43%	0.62%	20.0070	17 17%	6 13%	1 81%	0.60%
17	7 Varied	None	Varied	10.0%	1 year	Evact	4 64%	0.72%	4 44%	0.54%	22.1470	17 21%	6 30%	2 12%	0.05%
17	8 Varied	None	Varied	10.0%	s year	Constant	4 41%	0.7270	5 70%	2 63%	10 58%	17.05%	0.0070	7 58%	-1 23%
17	9 Varied	None	Varied	10.0%	8 year	Rounded	4 41%	0.82%	4 21%	0.64%	13.02%	13 17%	-1 02%	-1 67%	0.25%
18	0 Varied	None	Varied	10.0%	8 year	Exact	4 41%	0.82%	4 2.2%	0.56%	13 89%	13.18%	-0.78%	-1 39%	0.66%

Base Case Scenario Results Total Error in Methods

Appendix 2 - Base Case, Page 5

Scenario Pa	Frequ attern Tre	ency nd F	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 Latest Diag excess	Alternative Method Excess
181 Vat	ried 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 Vat	ried 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 Vat	ried 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 Va1	ried 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 Vat	ried 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 Vai	ried 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 Vai	ried 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 Vai	ried 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 Vai	ried 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 Vai	ried 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 Vai	ried 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 Vat	ried 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 Vai	ried 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 Vai	ried 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 Vai	ried 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 Vai	ried 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 Vat	ried 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 Vat	ried 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 Vat	ried -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 Vai	ried -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 Vat	ried -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 Vat	ried -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 Vat	ried -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 Vat	ried -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 Vat	ried -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 Vat	ried -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 Vat	ried -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 Vat	ried -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 Vat	ried -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 Vat	ried -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 Vat	ried -1.0	%	Varied	10.0%	1 vear	Constant	4.64%	0.72%	6.83%	2.60%	24.85%	19.26%	14.75%	9.61%	-1.01%
212 Vat	ried -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 Vat	ried -1.0	%	Varied	10.0%	1 vear	Exact	4.64%	0.72%	4.42%	0.55%	23.80%	18.65%	7.85%	3.37%	0.96%
214 Vat	ried -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 Vat	ried -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 Va1	ried -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

Appendix 2 - \$250,000 Retention, Page 1

														Non Tail	Alternative
		Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario	Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	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%	-5.0270	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%
30	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%	l year	Constant	0.00%	0.00%	0.00%	0.00%	2.68%	3 35%	3 50%	2 870/2	0.00%
40	Constant	-1.070	Constant	0.070	8 year	Rounded	0.0070	0.00%	0.00%	0.0070	2.0070	3 350/2	-5.50%	-2.07/0	0.00%
41	Constant	-1.070	Constant	0.070	o year	Exact	0.0070	0.0070	0.0070	0.0076	2.0070	2 350/	-5.5070	-2.0770	0.0070
42	Constant	-1.070	Constant	3.0%	1 year	Constant	0.0070	0.00%	0.0070	0.0070	2.0070	9.5570	-5.5070	-2.0770	0.0070
43	Constant	-1.070	Constant	2.0070	1 year	Poundad	0.0070	0.0076	0.2070	0.0070	0.260/	2.1/70 0.170/	1 240/	2.0070	-0.7470
44	Constant	-1.070	Constant	3.070	1 year	Exact	0.00%	0.00%	0.04%	-0.04%	9.30%	9.1/70	1.3070	1.1070	0.1270
45	Constant	-1.070	Constant	5.070	i year	Exact	0.0070	0.0070	0.1070	0.1070	2.5470	9.4370	1.5270	1.0070	-0.2170

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

Appendix 2 - \$250,000 Retention, Page 2

													Non Tail	Alternative
	Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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

Appendix 2 - \$250,000 Retention, Page 3

													Non Tail	Alternative
	Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	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 Appendix 2 - \$250,000 Retention, Page 4

														Non Tail	Alternative
		Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario	Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Excess
130	6 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%
13	7 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	8 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	O 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%
142	l 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	2 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	3 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	4 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	5 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%
140	6 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%
14	7 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	8 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	O 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%
153	l 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	2 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	3 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	4 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	5 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%
150	5 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	7 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	8 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	O 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%
163	l 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	2 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	3 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	4 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	5 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%
160	5 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%
16	7 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	8 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%
173	l Varied	None	Varied	3.0%	1 year	Exact	4.33%	0.70%	3.59%	-0.06%	15.25%	11.25%	6.33%	2.65%	1.62%
172	2 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	3 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	4 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	5 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%
170	6 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	7 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	8 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 Appendix 2 - \$250,000 Retention, Page 5

														Non Tail	Alternative
		Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario	Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	Exact	4 64%	0.72%	4 21%	0.26%	21.08%	16 38%	7 85%	3 67%	1 31%
213	Varied	-1.0%	Varied	10.0%	8 year	Constant	4 43%	0.81%	5 76%	1 30%	19 29%	16.30%	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%	1.20%
215	Varied	-1.0%	Varied	10.0%	8 year	Exact	4 43%	0.81%	4 02%	0.29%	14 80%	12 78%	2.00%	0.46%	1 34%
210	, and	-1.070	vancu	10.070	0 year	LIACU	7.7570	0.0170	7.02/0	0.2770	17.0070	12.7070	2.20/0	0.4070	1.54/0

\$550,000 Retention Scenario Results Total Error in Methods Appendix 2 - \$550,000 Retention, Page 1

													Non Tail	Alternative
	Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 vear	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 Appendix 2 - \$550,000 Retention, Page 2

														Non Tail	Alternative
		Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario	Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Excess
4	6 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%
4	7 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%
4	8 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%
4	9 Constant	-1.0%	Constant	10.0%	1 vear	Constant	0.00%	0.00%	3.49%	3.07%	15.68%	15.08%	5.83%	5.28%	-3.90%
5) Constant	-1.0%	Constant	10.0%	1 vear	Rounded	0.00%	0.00%	0.61%	0.65%	16.47%	15.91%	0.84%	0.36%	-1.32%
5	1 Constant	-1.0%	Constant	10.0%	1 vear	Exact	0.00%	0.00%	0.60%	0.60%	16.37%	15.97%	0.67%	0.32%	-1.15%
5	2 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%
5	3 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%
5.	4 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%
5	5 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%
5	6 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%
5	7 Varied	None	Constant	0.0%	1 year	Exact	4 20%	0.70%	3 59%	0.21%	16.78%	12.21%	6.37%	2.21%	1.11/0
5	8 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%
5) 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%
6) 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%
6	1 Varied	None	Constant	3.0%	1 year	Constant	4.0170	0.70%	4.63%	0.24%	18 34%	13 50%	-5.00%	3 38%	0.32%
6	7 Varied	None	Constant	3.0%	1 year	Rounded	4.36%	0.71%	3.90%	0.38%	18.40%	13.68%	6.07%	1.76%	1.09%
6	2 Varied	None	Constant	3.0%	1 year	Exact	4.36%	0.71%	3.92%	0.38%	18.68%	13.88%	6.26%	1.70%	1.00%
6.	1 Varied	None	Constant	3.0%	s year	Constant	4.16%	0.7170	1 30%	0.98%	9.40%	9.80%	0.20%	0.02%	0.24%
6	+ Varied	None	Constant	3.0%	8 year	Rounded	4.1070	0.80%	4.5970	0.9870	7.64%	9.0070 8.68%	-0.3570	2 72%	-0.2470
0.	Varied	None	Constant	3. 0%	8 year	Event	4.1070	0.80%	3.0370	0.41%	7.0470	0.0070 0.740/	-5.0570	-2.72/0	0.10%
6	7 Varied	None	Constant	10.0%	o year	Constant	4.1070	0.0070	3.0770 7.140/	0.4170	7.0070 22.270/	0./4/0	-3.4370	-2.0470	1 080/
0	Varied	None	Constant	10.0%	1 year	Pounded	4.0770	0.7370	/.1470	2.0770	22.3770	17.1270	6 120/	0.0070	-1.9670
0	o Varied	None	Constant	10.070	1 year	Erret	4.0770	0.7370	4.0170	0.7770	23.0670	17./070	5.020/	1.4070	0.4270
7	Varied	None	Constant	10.0%	1 year	Constant	4.0770	0.7370	4.0070	2 8404	17 720/	17.0970	3.9370 7.240/	1.3070	0.4070
7	1 Marial	None	Constant	10.0%	o year	Davidad	4.4370	0.0370	0.0970	2.0070	1/./3/0	10.9770	/.24/0	2 900/	-2.4470
/	Varied	None	Constant	10.0%	8 year	Kounded	4.45%	0.83%	4.34%	0.80%	10.95%	11.56%	-4.33%	-3.80%	-0.65%
/.	2 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%
7.	o varied	1.0%	Constant	0.0%	1 year	Constant	4.25%	0.70%	3.05%	0.21%	14.22%	10.19%	4.04%	0.37%	1.41%
/·	+ varied	1.0%	Constant	0.0%	1 year	Kounded	4.25%	0.70%	3.65%	0.21%	14.22%	10.19%	4.04%	0.37%	1.41%
7.	o 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%
//	5 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%
/	Varied	1.0%	Constant	0.0%	8 year	Kounded	4.11%	0.78%	5.41% 2.41%	0.23%	11.24%	11.11%	1.33%	1.21%	1.10%
//	s varied	1.0%	Constant	0.0%	8 year	Exact	4.11%	0.78%	5.41%	0.25%	11.24%	11.11%	1.33%	1.21%	1.10%
/	Varied	1.0%	Constant	3.0%	l year	Constant	4.41%	0.71%	4.70%	0.97%	15.63%	11.32%	5.32%	1.40%	0.25%
8) varied	1.0%	Constant	3.0%	1 year	Rounded	4.41%	0.71%	5.95%	0.3/%	15.//%	11.52%	5.65%	-0.1/%	1.04%
8	l Varied	1.0%	Constant	3.0%	1 year	Exact	4.41%	0.71%	3.9/%	0.38%	15.96%	11./2%	3.82%	0.03%	1.10%
8	2 Varied	1.0%	Constant	3.0%	8 year	Constant	4.26%	0.80%	4.45%	0.99%	14.17%	13.49%	3.99%	3.3/%	0.00%
8.	5 Varied	1.0%	Constant	3.0%	8 year	Rounded	4.26%	0.80%	3.70%	0.40%	12.60%	12.5/%	0.80%	0.77%	0.60%
8	4 Varied	1.0%	Constant	3.0%	8 year	Exact	4.26%	0.80%	3.72%	0.40%	12.92%	12./2%	1.11%	0.93%	0.73%
8.	5 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%
8	5 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%
8	/ 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%
8	8 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%
8	9 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%
9) 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 Appendix 2 - \$550,000 Retention, Page 3

													Non Tail	Alternative
	Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario Patt	tern Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Excess
91 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Varie	ed -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 Cons	stant 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 Cons	stant 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%
110 Cons 111 Cons	stant 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 Cons	stant 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%
112 Cons	stant 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%
115 Cons 114 Cons	stant 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 Cons	stant None	Varied	3.0%	1 year	Constant	0.00%	0.00%	0.00%	0.87%	10.23%	10.16%	0.79%	0.72%	-1.36%
116 Cons	stant None	Varied	3.0%	1 year	Rounded	0.00%	0.00%	0.15%	0.18%	10.53%	10.10%	0.68%	0.76%	0.47%
110 Cons 117 Cons	stant None	Varied	3.0%	1 year	Exact	0.00%	0.00%	0.19%	0.18%	10.5576	10.74%	0.54%	-0.7070	-0.4776
117 Cons	stant None	Varied	3.0%	l year	Constant	0.00%	0.00%	0.1870	0.1370	0.16%	2 230/	-0.3470 8.42%	-0.4070	-0.3770
110 Cons	stant None	Varied	3.0%	8 year	Rounded	0.00%	0.00%	0.9970	0.0770	1 37%	2.2370	11 38%	-0.35%	-1.01/0
119 Cons	stant None	Varied	3.0%	o year	Event	0.0076	0.00%	0.1370	0.1970	-1.3770	1.0070	-11.3670	-9.2370	-0.8076
120 Colls	stant None	Varied	10.0%	1 year	Constant	0.0076	0.00%	2 510/	2 100/	-1.24/0	12 220/	2 700/	-9.0070	-0.4070
121 Cons 122 Cons	stant None	Varied	10.0%	1 year	David	0.00%	0.00%	0.610/	0.640/	13.3170	13.3370	1.000/	3.0270 1.200/	-4.0070
122 Cons	stant None	Varied	10.0%	1 year	Erret	0.00%	0.00%	0.61%	0.64%	14.30%	14.1/%	-1.09%	-1.20%	-1.38%
125 Cons	stant None	Varied	10.0%	1 year	Exact	0.00%	0.00%	2.400/	2.00%	7 500/	14.24%	-1.20%	-1.23%	-1.20%
124 Cons	stant None	Varied	10.0%	8 year	Constant	0.00%	0.00%	5.49%	5.08%	7.58%	8.3/%	-1.03%	-0./3%	-4.05%
125 Cons	stant None	Varied	10.0%	8 year	Kounded	0.00%	0.00%	0.61%	0.64%	0.56%	2.76%	-12.97%	-11.07%	-2.04%
126 Cons	stant 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%
12/ Cons	stant 1.0%	Varied	0.0%	l year	Constant	0.00%	0.00%	0.00%	0.00%	6.62%	6.85%	-2.51%	-2.30%	0.00%
128 Cons	stant 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 Cons	stant 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 Cons	stant 1.0%	Varied	0.0%	8 year	Constant	0.00%	0.00%	0.00%	0.00%	0.94%	3.50%	-/./0%	-5.3/%	0.00%
131 Cons	stant 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 Cons	stant 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 Cons	stant 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 Cons	stant 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 Cons	stant 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 Appendix 2 - \$550,000 Retention, Page 4

														Non Tail	Alternative
		Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Method
Scenario	Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Excess
13	6 Constant	1.0%	Varied	3.0%	8 vear	Constant	0.00%	0.00%	1.00%	0.88%	3.51%	5.46%	-5.36%	-3.58%	-1.56%
13	7 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%
13	8 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%
13	9 Constant	1.0%	Varied	10.0%	1 vear	Constant	0.00%	0.00%	3.57%	3.15%	11.18%	11.07%	1.66%	1.55%	-4.23%
14) 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%
14	1 Constant	1.0%	Varied	10.0%	1 vear	Exact	0.00%	0.00%	0.60%	0.60%	10.96%	11.20%	-4.07%	-3.86%	-1.25%
14	2 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%
14	3 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%
14	4 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%
14	5 Constant	-1.0%	Varied	0.0%	1 vear	Constant	0.00%	0.00%	0.00%	0.00%	10.79%	10.58%	1.30%	1.11%	0.00%
14	6 Constant	-1.0%	Varied	0.0%	1 vear	Rounded	0.00%	0.00%	0.00%	0.00%	10 79%	10.58%	1 30%	1 11%	0.00%
14	7 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%
14	8 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%
14	9 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%
15	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%
15	1 Constant	-1.0%	Varied	3.0%	1 year	Constant	0.00%	0.00%	0.00%	0.86%	12.01%	11.66%	2 41%	2.09%	-1 32%
15	2 Constant	-1.0%	Varied	3.0%	1 year	Rounded	0.00%	0.00%	0.15%	0.00%	12.0176	11.00%	0.88%	0.55%	-0.45%
15	3 Constant	-1.0%	Varied	3.0%	1 year	Exact	0.00%	0.00%	0.18%	0.10%	12.27%	12 19%	1.03%	0.82%	-0.45%
15	4 Constant	-1.0%	Varied	3.0%	8 year	Constant	0.00%	0.00%	0.97%	0.10%	0.65%	3 21%	-7.97%	-5.63%	-0.50%
15	5 Constant	-1.0%	Varied	3.0%	8 year	Rounded	0.00%	0.00%	0.15%	0.05%	-0.86%	2 04%	-10.92%	-8 31%	-0.72%
15	Constant	-1.0%	Varied	3.0%	8 year	Exact	0.00%	0.00%	0.19%	0.19%	-0.67%	2.0476	10.72%	-0.5176	-0.7276
15	7 Constant	-1.0%	Varied	10.0%	1 year	Constant	0.00%	0.00%	3 48%	3.06%	15 52%	15 08%	-10.7376 5.62%	-0.0770 5.22%	3 93%
15	R Constant	-1.0%	Varied	10.0%	1 year	Rounded	0.00%	0.00%	0.61%	0.64%	16.26%	15.0076	0.60%	0.23%	1 33%
15	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%	-1.55%
16		-1.0%	Varied	10.0%	s year	Constant	0.00%	0.00%	3 44%	3.03%	8.08%	9.56%	1 18%	0.18%	4 50%
16	1 Constant	-1.0%	Varied	10.0%	8 year	Rounded	0.00%	0.00%	0.61%	0.64%	1 57%	1 33%	-1.1070	0.72%	-4.50%
10	Constant	-1.0%	Varied	10.0%	8 year	Exact	0.00%	0.00%	0.60%	0.0470	1.3770	4.3370	-12.11/0	-9.72/0	-1.90%
10.	2 Constant 2 Variad	-1.070 None	Varied	10.0%	1 year	Constant	4 17%	0.00%	3 56%	0.00%	1.4970	4.4370 12 1204	-12.2070	-9.7170	-1.3070
10.	4 Varied	None	Varied	0.0%	1 year	Rounded	4.1770	0.09%	3.50%	0.20%	16.60%	12.12/0	6 15%	2.0078	1.40%
16	+ Varied	None	Varied	0.0%	1 year	Exact	4.1770	0.09%	3.50%	0.20%	16.60%	12.12/0	6 15%	2.0078	1.40%
10.	Varied	None	Varied	0.0%	l year	Constant	4.1770	0.0970	3.3070	0.2070	6 52%	7.00%	2 0 2 9/	2.0070	0.70%
16	7 Varied	None	Varied	0.076	8 year	Pounded	2 050/	0.77%	3.5270	0.2370	6.52%	7.0970	-5.0570	-2.5270	0.70%
10	Varied	None	Varied	0.0%	8 year	Exact	3.95%	0.77%	3.3270	0.23%	6.52%	7.0970	-5.05%	-2.32/0	0.70%
16) Varied	None	Varied	3.0%	1 year	Constant	1 330/-	0.7776	J.5270	0.25%	18 23%	13 48%	-5.0570	-2.32/0	0.7070
10	Varied	None	Varied	3.070 2.0%	1 year	Pounded	4.3370	0.70%	4.3970	0.9376	10.2370	13.4070	7.0370	3.3076 1.659/	1 100/
17	J Varied	None	Varied	3. 070	1 year	Event	4.3370	0.70%	3.0770	0.3770	10.5570	12.0270	5.0870	1.0570	1.1070
17	Varied	None	Varied	3.0%	1 year	Exact	4.33%	0.70%	3.89%	0.58%	18.54%	15.82%	0.07%	1.84%	1.10%
17	2 Varied	None	Varied	3.0%	8 year	Derestant	4.11%	0.79%	4.50%	0.97%	9.40%	9.43%	-0.41%	-0.39%	-0.25%
17.	o varied	None	Varied	3.0%	8 year	Errent	4.11%	0.79%	3.02%	0.40%	7.07%	8.31% 9.410/	-3.08%	-3.10%	0.11%
17	+ Varied	None	Varied	10.0%	o year	Constant	4.1170	0.79%	3.0470 7.10%	0.4076	7.9070	0.4170 17.270/	-3.4370	-2.9978	2.00%
17	Vanie J	None	Varied	10.0%	1 year		4.04%	0.72%	/.10%	2.03%	22.42%	1/.2/%	11.44%	0./0%	-2.00%
1 / 1	varied	None	v aried	10.0%	i year	Freed	4.04%	0.72%	4.58%	0.75%	23.04%	1/./1%	6.03% E 929/	1.44%	0.44%
17	Varied	None	Varied	10.0%	i year	Exact	4.04%	0.72%	4.58%	0./5%	22.92% 17.700/	1/./0%	5.85% 7.170/	1.33%	0.4/%
17	o varieu	None	Varied	10.0%	o year	Donstant	4.41%	0.82%	0.85%	2.00%	1/./2%	10.48%	/.10%	0.03%	-2.44%
1/1	Varied	None	Varied	10.0%	o year	Ex	4.41%	0.82%	4.32%	0.79%	10.9/%	11.1/%	-4.3/%	-4.20%	-0.02%
18	<i>y</i> v aried	inone	varieu	10.0%	o year	Exact	4.41%	0.82%	4.31%	0./8%	10.65%	11.20%	-4.30%	-4.21%	-0.5/%

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

Appendix 2 - \$550,000 Retention, Page 5

		Frequency			Severity		With Average	Latest Diag	Witd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Non Tail Latest Diag	Alternative Method
Scenario	Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Excess
			- 1										0		
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	2 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	8 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	2 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	8 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	2 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	8 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	2 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 Ret Total	tention Scena Error in Met	ario Results thods					Appendix	2 - Multiple l	Retention, Page 1
Scenario Pattern	Frequency Trend	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 Latest Diag excess	Alternative Method Excess	Sum of Ret. Method Excess
1 Constant	None	Constant	0.0%	1 vear	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 vear	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 vear	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 vear	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 vear	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%
12 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%	12.70%	12.0776	-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%	-0.4170 8 31%	6.95%	-1.2070	-1.4476
10 Constant	1.0%	Constant	0.0%	1 year	Constant	0.00%	0.00%	0.00%	0.00%	- .5170	5.0070 6.07%	-0.5176	-0.7570	-1.1176	-1.10%
20 Constant	1.0%	Constant	0.0%	1 year	Rounded	0.00%	0.00%	0.00%	0.00%	5.60%	6.07%	-2.01%	-1.00/0	0.00%	0.00%
20 Constant	1.0%	Constant	0.0%	1 year	Exact	0.00%	0.00%	0.00%	0.00%	5.60%	6.07%	-2.01%	-1.00/0	0.00%	0.00%
21 Constant	1.0%	Constant	0.0%	1 year	Constant	0.00%	0.00%	0.0076	0.00%	J.0970	5 210/	-2.0170	-1.00/0	0.00%	0.00%
22 Constant	1.0%	Constant	0.0%	o year	Poundad	0.00%	0.00%	-0.0170	0.00%	4.1170	5.3170	-3.4070	-2.3070	0.00%	0.00%
25 Constant	1.0%	Constant	0.0%	8 year	Kounded	0.00%	0.00%	-0.01%	0.00%	4.11%	5.31%	-3.48%	-2.30%	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%	/.12%	7.31%	-0.68%	-0.51%	-1.29%	-1.08%
26 Constant	1.0%	Constant	3.0%	1 year	Kounded	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%	/.02%	/.42%	-2.39%	-2.05%	-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%	-1.4/%	-0.85%	-1.41%	-1.15%
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	5.0%	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%	l year	Constant	0.00%	0.00%	5.59%	2.84%	12.22%	12.25%	4.04%	4.07%	-3.44%	-2./3%
32 Constant	1.0%	Constant	10.0%	l year	Kounded	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%	l 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./1%	-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 Ret Total	tention Scena Error in Met	ario Results thods					Appendix	2 - Multiple l	Retention, Page 2
Scenario Pattern	Frequency Trend	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 Latest Diag excess	Alternative Method Excess	Sum of Ret. Method Excess
46 Constant	-1.0%	Constant	3.0%	8 vear	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 vear	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%	-0.0976
52 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%	0.00%	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%	10.00%	6.45%	2.50%	1.73%	1.62%
57 Varied	None	Constant	0.0%	1 year	Exact	4.20%	0.70%	3.46%	0.03%	15.20%	10.9970	6.45%	2.50%	1.73%	1.0270
58 Varied	None	Constant	0.0%	a year	Constant	4.2070	0.70%	3 26%	0.0378	1 J.20 /0 8 01%	8 3 20/	0.4370	2.3070	2 1 2 9/6	1.0270
50 Varied	None	Constant	0.0%	8 year	Rounded	4.01%	0.78%	3 26%	0.04%	8.9170 8.01%	8.3270 8.32%	0.64%	0.10%	2.12/0	1.40%
60 Varied	None	Constant	0.0%	8 year	Exact	4.01%	0.78%	3 26%	0.04%	8.9170 8.01%	8.3270 8.32%	0.64%	0.10%	2.12/0	1.40%
61 Varied	None	Constant	0.070 2.0%	o year	Constant	4.0170	0.7870	J.2070	0.0470	17.02%	12 45%	0.0470	2 010/0	2.12/0	0.77%
61 Varied	None	Constant	3.0% 2.0%	1 year	Poundad	4.30%	0.71%	4.45% 2.70%	0.75%	17.02%	12.45%	6.13% 6.20%	3.91% 2.400/	0.00%	0.77%
62 Varied	None	Constant	3.0%	1 year	Trans at	4.30%	0.71%	5./0% 2.790/	0.05%	10.94%	12.04%	0.39%	2.48%	1.7270	1.70%
65 Varied	None	Constant	3.0%	1 year	Exact	4.30%	0.71%	3./8%	0.18%	17.09%	12.00%	0.44%	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%	10.45%	5.15%	2.05%	0.86%	0.65%
65 Varied	None	Constant	3.0%	8 year	Kounded	4.16%	0.80%	3.49%	0.08%	10.16%	9.4/%	0.23%	-0.41%	2.11%	1.50%
66 Varied	None	Constant	3.0%	8 year	Exact	4.16%	0.80%	3.5/%	0.20%	10.43%	9.76%	0.39%	-0.22%	1.88%	1.16%
6/ Varied	None	Constant	10.0%	1 year	Constant	4.67%	0.73%	6.67%	2.26%	22.4/%	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%
/0 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 Ret Total	tention Scena Error in Met	ario Results thods					Appendix	x 2 - Multiple I	Retention, Page
						Wtd		Wtd		Wtd		Non Tail	Non Tail	Alternative	Sum of Ret.
Scenario Pattern	Frequency Trend	Frequency	Inflation	Severity Randomization	Retention	Average Unlimited	Latest Diag Unlimited	Average Limited	Latest Diag Limited	Average Excess	Latest Diag Excess	Wtd Avg Excess	Latest Diag excess	Method Excess	Method Excess
01 Variad	1.0%	Constant	0.0%	1 voor	Constant	4 17%	0.60%	3 /10/-	0.02%	16 73%	12 21%	7 870/	3 60%	1 60%	1 61%
91 Varied	-1.070	Constant	0.0%	1 year	Rounded	4.1770	0.09%	3 410/-	0.0278	16.73%	12.21/0	7.0770	3.60%	1.0970	1.0170
92 Varied	-1.070	Constant	0.0%	1 year	Exact	4.1770	0.09%	3 410/-	0.0278	16.73%	12.21/0	7.0770	3.60%	1.0970	1.0170
94 Varied	-1.070	Constant	0.0%	1 year	Constant	4.1770	0.09%	3 20%	0.0278	0.82%	8 68%	1.0770	0.43%	2.06%	1.0170
95 Varied	-1.0%	Constant	0.0%	8 year	Rounded	3.98%	0.78%	3 20%	0.06%	9.82%	8.68%	1.40%	0.43%	2.00%	1.46%
96 Varied	-1.0%	Constant	0.0%	8 year	Exact	3.98%	0.78%	3 20%	0.06%	9.82%	8.68%	1.40%	0.43%	2.00%	1.46%
90 Varied 07 Varied	-1.070	Constant	3.0%	1 year	Constant	J. 33%	0.7870	J.2070	0.73%	18 62%	13 74%	0.61%	5 10%	2.0070	0.78%
97 Varied	-1.0%	Constant	3.0%	1 year	Pounded	4.3370	0.71%	4.4070	0.7376	10.0270	13.7470	9.0170 7.020/	3.1070	1.67%	0.7070
90 Varied	-1.0%	Constant	3.0%	1 year	Event	4.3370	0.71%	2 720/	0.0076	10.3370	13.9370	7.0070	3.0070	1.0770	1.0070
100 Varied	-1.0%	Constant	3.0%	l year	Constant	4.3370	0.7170	3./3/0 4.190/	0.16%	10./170	10.74%	7.9270 2.010/	2 2 2 2 0 / 0	1.4970	1.4170
100 Varied	-1.0%	Constant	3.0%	8 year	Constant	4.13%	0.80%	4.18%	0.77%	12.44%	10.74%	5.91%	2.33%	0.84%	0.00%
101 Varied	-1.0%	Constant	3.0%	8 year	Kounded	4.13%	0.80%	3.44%	0.10%	11.1/%	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./4%	-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%	-0.55%	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 vear	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 vear	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 vear	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 vear	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 vear	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%	0.01%	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%

Appendix 2 - Multiple Retention, Page 3

						Multiple Ret Total	tention Scenz Error in Met	urio Results hods					Appendix	2 - Multiple	Retention, Page 4
	Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd Avg	Non Tail Latest Diag	Alternative Method	Sum of Ret. Method
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Excess	excess	Excess	Excess
104.0	1.00/		2 00/	0	0	0.000/	0.000/	0.000/	0.070/	F 400/	< 0 5 0/	2 240/	4 500/	4 4 40 4	4.450/
136 Constant	1.0%	Varied	3.0%	8 year	Constant	0.00%	0.00%	0.99%	0.8/%	5.43%	6.05%	-2.31%	-1.73%	-1.44%	-1.15%
137 Constant	1.0%	Varied	3.0%	8 year	Kounded	0.00%	0.00%	0.07%	0.04%	4.24%	5.51%	-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%	-0.35%
139 Constant	1.0%	Varied	10.0%	1 year	Constant David and	0.00%	0.00%	3.3/% 0.650/	2.83%	12.50%	12.28%	4.25%	4.04%	-3.45%	-2./4%
140 Constant	1.0%	Varied	10.0%	1 year	Kounded	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%	3.3/%	2.83%	12.08%	11.94%	5.85%	5./5%	-3.//%	-2.85%
145 Constant	1.0%	Varied	10.0%	8 year	Kounded	0.00%	0.00%	0.64%	0.68%	7.30%	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./5%	-4.92%	-1.08%	-1.0/%
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%	l year	Rounded	0.00%	0.00%	-0.01%	0.00%	9.30%	9.15%	1.28%	1.14%	0.01%	0.00%
14/ Constant	-1.0%	Varied	0.0%	l 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 vear	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													Appendix	2 - Multiple I	Retention, Page 5
						Total	Error in Met	hods							
						Wtd		Wtd		Wtd		Non Tail	Non Tail	Alternative	Sum of Ret.
	Frequency			Severity		Average	Latest Diag	Average	Latest Diag	Average	Latest Diag	Wtd Avg	Latest Diag	Method	Method
Scenario Patter	rn Trend	Frequency	Inflation	Randomization	Retention	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 vear	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

							Cape Cod	Cape Cod		Wtd Avg	Cape Cod	Cape Cod		Wtd Avg	Cape Cod	Cape Cod	Wtd Avg
	Frequency			Severity		Cape Cod	Limited	Excess	Cape cod	Excess	Limited	Excess	Cape cod	Excess	Limited	Excess	Excess
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	\$400,000	\$400,000	unlim	\$400,000	\$250,000	\$250,000	unlim	\$250,000	\$550,000	\$550,000	\$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%	3.8/%	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%	8.8/%	0.61%	6./4%	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%	0.03%	0.15% 11.07%
37 Constant	-1.0%	Constant	0.0%	l 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%	l year	Kounded	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%	0.700/
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	Kounded	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%
45 Constant	-1.0%	Constant	3.0%	l year	Constant	0.00%	0.96%	11.//%	0.00%	11.48%	0.96%	9./5%	0.00%	9.68%	0.96%	12./6%	12.20%
44 Constant 45 Constant	-1.0% 1.0%	Constant	3.0% 2.00/	i year	Event	0.00%	0.05%	11./4%	0.00%	11.85%	0.05%	9.2/%	0.00%	9.50%	0.15%	12.02%	12.33%
45 Constant	-1.0%	Constant	3.0%	1 year	Exact	0.00%	0.18%	11./8%	0.00%	11.//%	0.18%	9.48%	0.00%	9.52%	0.18%	12./0%	12.08%
46 Constant	-1.0%	Constant	3.0%	8 year	Constant David 1	0.00%	0.95%	4.96%	0.00%	4.43%	0.96%	4.93%	0.00%	4.59%	0.95%	2.28%	1.52%
4/ Constant	-1.0% 1.00/	Constant	3.0% 2.00/	o year	Erret	0.00%	0.00%	2.12%	0.00%	2 1 00/	0.02%	3./3%	0.00%	2 000/	0.15%	0.10%	0.15%
40 Constant	-1.070	Constant	5.0% 10.0%	o year	Constant	0.00%	0.18%	3.29% 17.20%	0.00%	3.18%0 16 580/	2.00%	4.00%	0.00%	3.89%0 14.800/	0.18%	0.27%	15 690/
49 Constant	-1.070	Constant	10.0%	1 year	Rounded	0.00%	0.20%	1/.22%	0.00%	10.30%	2.99% 0.720/	12 240/	0.00%	14.07%	0.2070 0.210/	10.//70	13.0870
51 Constant	-1.0%	Constant	10.0%	1 year	Exact	0.00%	0.0070	15.3570	0.00%	15.40%	0.7370	13.05%	0.00%	13.00%	0.0170	16.45%	10.4770 16.370/2
51 COnstant	=1.070	CONSTANT	10.070	1 yCal	LAdu	0.0070	0.0070	10.40/0	0.0070	1.3.44 /0	0.0070	10.00/0	0.0070	1.0.02/0	0.0070	10.40/0	10.07/70

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Cape Cod Scenario Results Total Error in Methods

	Frequency			Severity		Cape Cod	Cape Cod Limited	Cape Cod Excess	Cape cod	Wtd Avg Excess	Cape Cod Limited	Cape Cod Excess	Cape cod	Wtd Avg Excess	Cape Cod Limited	Cape Cod Excess	Wtd Avg Excess
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	\$400,000	\$400,000	unlim	\$400,000	\$250,000	\$250,000	unlim	\$250,000	\$550,000	\$550,000	\$550,000
52 Constant	-1.0%	Constant	10.0%	8 vear	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 vear	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 vear	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 vear	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 vear	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%	I 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%	10.86%	4.91%	24.65%	20.40%
100 Varied	-1.0%	Constant	3.0%	8 year	Constant David 1	5./4%	5.06%	16.05%	5./4%	13.11%	4.6/%	16./5%	5./4%	12.39%	5.29%	1/.55%	10.86%
101 Varied	-1.070 -1.0%	Constant	3.0% 3.0%	o year	Exact	5./4%	4.31%	10.65%	5.74% 5.74%	11.39%	3.91% 1 0.40%	15.44%	5.74%	11.23%	4.59%	15.72%	9.27%

Casualty Actuarial Society E-Forum, Fall 2013

Cape Cod Scenario Results Total Error in Methods

	Frequency			Severity		Cape Cod	Cape Cod Limited	Cape Cod Excess	Cape cod	Wtd Avg Excess	Cape Cod Limited	Cape Cod Excess	Cape cod	Wtd Avg Excess	Cape Cod Limited	Cape Cod Excess	Wtd Avg Excess
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	\$400,000	\$400,000	unlim	\$400,000	\$250,000	\$250,000	unlim	\$250,000	\$550,000	\$550,000	\$550,000
											· · · ·	· · · ·					
103 Varied	-1.0%	Constant	10.0%	1 vear	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%
13/ 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%	l year	Constant	0.00%	3.44%	14.05%	0.00%	13.28%	3.06%	12.98%	0.00%	12./3%	3.46%	12.42%	11.18%
140 Constant	1.0%	Varied	10.0%	l year	Rounded	0.00%	0.60%	10.44%	0.00%	10.33%	0./3%	9.73%	0.00%	9.62%	0.61%	11.05%	11.05%
141 Constant	1.0%	Varied	10.0%	l year	Exact	0.00%	0.60%	10.38%	0.00%	10.35%	0.60%	9.56%	0.00%	9.50%	0.60%	10.95%	10.96%
142 Constant	1.0%	Varied	10.0%	8 year	Constant	0.00%	5.45%	14.05%	0.00%	12./9%	5.08%	12.5/%	0.00%	12.05%	5.45%	13.23%	11.16%
143 Constant	1.0%	Varied	10.0%	8 year	Kounded	0.00%	0.60%	7.85%	0.00%	7.4/%	0.75%	8.46%	0.00%	8.12%	0.61%	5.25%	4.93%
144 Constant	1.0%	Varied	10.0%	o year	Exact	0.00%	0.00%	/.0/70	0.00%	7.5770	0.00%	8.1270 7.00/	0.00%	7.8470	0.00%	5.1270	4.8370
145 Constant	-1.0%	Varied	0.076	1 year	Poundad	0.0078	0.0078	9.0770	0.0076	9.9076	0.0078	7.00/0	0.0076	7.75%	0.0078	10.8376	10.7976
147 Constant	-1.0%	Varied	0.070	1 year	Exact	0.0070	0.0070	0.0770	0.00%	0.000/0 0.000/	0.0070 0.0070	7 6 20%	0.0070	7 750/	0.0070 0.0070	10.0370	10.7970
148 Constant	-1.0%	Varied	0.070	1 year	Constant	0.0070	0.0070	2.0770 1.260/	0.00%	9.9070 1.2007	0.0070 0.0070	7.00/0 2.250/	0.0070	7.75/0 2150/	0.0070 0.0070	_1 00070	-1 660/
140 Constant	-1.0%	Varied	0.070	8 year	Rounded	0.0070	0.0076	1.2070	0.00%	1.29/0	0.0076	2.23/0	0.00%	2.1370 215%	0.0076	-1.9070 _1.90%	-1.00/0
150 Constant	-1.0%	Varied	0.070	8 year	Exact	0.0070	0.0076	1.2070	0.00%	1.29/0	0.0076	2.23/0	0.00%	2.1370 215%	0.0076	-1.9070 _1.90%	-1.00/0
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%	11.2370	0.05%	9.05%	0.00%	9.16%	0.15%	12.70/0	12.0170
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%	12.52%	12.42%

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Cape Cod Scenario Results Total Error in Methods

	Frequency			Severity		Cape Cod	Cape Cod Limited	Cape Cod Excess	Cape cod	Wtd Avg Excess	Cape Cod Limited	Cape Cod Excess	Cape cod	Wtd Avg Excess	Cape Cod Limited	Cape Cod Excess	Wtd Avg Excess
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	\$400,000	\$400,000	unlim	\$400,000	\$250,000	\$250,000	unlim	\$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.//%	0.74%	6.53%	0.00%	6.28%	0.60%	1.53%	1.5/%
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%	l year	Constant	5.77%	4.34%	19.80%	5.//%	15.70%	3.95%	17.01%	5.//%	13.3/%	4.60%	20.94%	16.60%
164 Varied	None	Varied	0.0%	l year	Rounded	5.77%	4.34%	19.80%	5.//%	15.70%	3.95%	17.01%	5.//%	13.3/%	4.60%	20.94%	16.60%
165 Varied	None	Varied	0.0%	l year	Exact	5.77%	4.34%	19.80%	5.//%	15.70%	3.95%	17.01%	5.//%	13.3/%	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.//%	13.//%	5.58%	9.43%	4.31%	13.08%	6.52%
16/ Varied	None	Varied	0.0%	8 year	Rounded	5.58%	4.10%	14.59%	5.58%	9.11%	3.//%	13.//%	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.//%	13.//%	5.58%	9.43%	4.31%	13.08%	6.52%
169 Varied	None	Varied	3.0%	l year	Constant	5.88%	5.32%	21.51%	5.88%	17.43%	4.89%	19.11%	5.88%	15.5/%	5.59%	22.62%	18.23%
170 Varied	None	Varied	3.0%	l 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%
1/1 Varied	None	Varied	3.0%	l year	Exact	5.88%	4.65%	21.64%	5.88%	17.64%	4.26%	18.80%	5.88%	15.25%	4.91%	22./8%	18.54%
1/2 Varied	None	Varied	3.0%	8 year	Constant	5.68%	5.08%	17.57%	5.68%	12.10%	4./1%	16.1/%	5.68%	11.93%	5.30%	16.05%	9.40%
1/5 Varied	None	Varied	3.0%	8 year	Kounded	5.68%	4.31%	15.56%	5.68%	10.39%	5.95%	14./4%	5.68%	10.64%	4.58%	14.08%	7.0/%
1/4 Varied	None	Varied	5.0%	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%
1/5 Varied	None	Varied	10.0%	1 year	Constant	6.07%	7.68%	27.11%	6.07%	25.55%	6.56%	25.16%	6.07%	22.00%	8.01%	26.60%	22.42%
1/6 Varied	None	Varied	10.0%	1 year	Kounded	6.07%	5.27%	25.98%	6.07%	22.14%	5.01%	23.15%	6.07%	19.75%	5.54%	27.01%	23.04%
1// Varied	None	Varied	10.0%	1 year	Exact	6.07%	5.28%	25./5%	6.07%	22.01%	4.89%	22.81%	6.07%	19.49%	5.54%	26.90%	22.92%
1/8 Varied	None	Varied	10.0%	8 year	Devendent	5.85%	7.44%	24.58%	5.85%	19.58%	6.39%	23.18%	5.85%	19.38%	7.70%	25.95%	1/./2%
1/9 Varied	None	Varied	10.0%	8 year	Kounded	5.85%	5.01%	19.20%	5.85%	13.92%	4.82%	19.05%	5.85%	14.88%	5.23%	17.09%	10.97%
180 Varied	1.00/	Varied	10.0%	o year	Exact	5.8570	5.02%	17.00%	5.85%	13.69%	4.0970	15.3070	5.8570	14.5270	5.2270	17.0170	10.85%
182 Varied	1.0%	Varied	0.0%	1 year	Poundad	5.76%	4.3070	17.7470	5.7070	13.0370	3.9670	15.8470	5./070	12.1970	4.0270	10.3070	14.29%
182 Varied	1.0%	Varied	0.0%	1 year	Event	5.76%	4.3070	17.7470	5.7070	13.0370	3.9670	15.8470	5./070	12.1970	4.0270	10.3070	14.29%
100 Varied	1.076	Varied	0.0%	i year	Constant	5.7070	4.3070	17.7470	5.7070	11.0370	3.9070	15.6470	5.7070	12.1970	4.02/0	16.30/0	14.2970
104 Varied	1.076	Varied	0.0%	o year	Poundad	5.00/0	4.1370	17.5070	5.00/0	11.9270	3.0070	15.5170	5.00/0	11.1070	4.3370	16.00/0	10.0776
186 Varied	1.0%	Varied	0.0%	8 year	Exact	5.68%	4.1370	17.50%	5.68%	11.9270	3.80%	15.51%	5.68%	11.1070	4.3370	16.88%	10.07%
187 Varied	1.0%	Varied	3.0%	1 year	Constant	5.88%	4.1370 5 350%	10.60%	5.08%	15 57%	4.03%	18 14%	5.88%	14 50%	4.5570 5.63%	20.13%	15 74%
188 Varied	1.0%	Varied	3.0%	1 year	Rounded	5.88%	4 56%	19.09%	5.88%	15 33%	4.9370	17 18%	5.88%	13 73%	4.89%	20.15%	15.87%
189 Varied	1.0%	Varied	3.0%	1 year	Exact	5.88%	4.50%	19.43%	5.88%	15.41%	4.18%	17.55%	5.88%	13.99%	4.02%	20.0078	16.05%
100 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%	20.2376	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%
197 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%	12.40%	4.64%	18.48%	11.78%
192 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%	20.40%
195 Varied	1.0%	Varied	10.0%	1 year	Exact	6.06%	5.28%	23.19%	6.06%	19.42%	4 90%	21.05%	6.06%	18.02%	5 54%	23.07%	20.1476
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%	20.0276
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%	27.0276	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%	5.74%	17 22%	3.92%	18 33%	5.74%	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%

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Cape Cod Scenario Results Total Error in Methods Cape Cod Cape Cod Wtd Avg Cape Cod Cape Cod Wtd Avg Cape Cod Cape Cod Wtd Avg Cape Cod Severity Limited Limited Excess Cape cod Limited Excess Frequency Excess Cape cod Excess Excess Excess \$550,000 Scenario Pattern Trend Frequency Inflation Randomization Retention Unlimited \$400,000 \$400,000 unlim \$400,000 \$250,000 \$250,000 unlim \$250,000 \$550,000 \$550,000 205 Varied -1.0% Varied 3.0% 1 year 5.88% 5.29% 23.11% 5.88% 19.04% 4.85% 20.38% 5.88% 16.85% 5.57% 24.23% 19.85% Constant -1.0% 3.0% 5.88%4.53% 23.05%5.88% 19.16%4.13% 19.83% 5.88% 4.87%24.19% 206 Varied Varied 1 year Rounded 16.39% 19.95%23.24% 5.88% 207 Varied -1.0% Varied 3.0% 1 year Exact 5.88% 4.63% 19.24% 4.23% 20.20% 5.88% 16.65% 4.89% 24.39% 20.14% 208 Varied Varied 8 year 5.72% -1.0% 3.0% Constant 5.72% 5.04% 18.04% 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% 3.0% 5.72% 4.38% 16.58% 5.72% 11.10% 4.03% 15.47% 5.72% 4.59% 15.18% 8.64% Varied 8 year Exact 11.11% 28.59% 6.07% 211 Varied -1.0% Varied 10.0% 1 year Constant 6.07%7.61% 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% 6.07%5.27% 27.54% 6.07%23.80% 4.87% 24.38% 6.07% 21.08% 5.53% 28.68% 24.70% 1 year Exact 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% 10.0% 5.91% 4.99% 20.13% 5.91% 14.73% 19.43% 5.91% 5.22% 18.35% 215 Varied -1.0% Varied 8 year Rounded 4.79% 15.18% 12.11% 216 Varied -1.0% 10.0% 8 year 5.91% 5.00%19.93% 5.91% 14.70% 4.66% 18.94% 5.91% 14.80% 5.22% 18.27% 11.99% Varied Exact

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Increased Variation Scenario Results Total Error in Methods

Appendix 2 - Increased Variation Page 1

														Non Tail	
		Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Alternative
Scenario	Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Method 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 0	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 C	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 C	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 C	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 C	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 C	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 C	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 0	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 0	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 0	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 0	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 0	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 0	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 0	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 0	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 C	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

Appendix 2 - Increased Variation Page 2

	_			- ·									Non Tail	
	Frequency	_		Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Alternative
Scenario Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	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

Appendix 2 - Increased Variation Page 3

													Non Tail	
	Frequency			Severity		Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Alternative
Scenario Pattern	Irend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Method 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%	-2.27%	-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%

Increased Variation Scenario Results Total Error in Methods

Appendix 2 - Increased Variation Page 4

													Non Tail	
с : р	Frequency	F	тас	Severity	D'	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Alternative
Scenario Pattern	Irend	Frequency	Inflation	Kandomization	Ketention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Method Excess
104 0	1.00/	¥7 · 1	2 00/	0	0									
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

Appendix 2 - Increased Variation Page 5

					- ·									Non Tail	
· ·	D	Frequency	Г	T. G:	Seventy	D	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Wtd Average	Latest Diag	Non Tail Wtd	Latest Diag	Alternative
Scenario	Pattern	Trend	Frequency	Inflation	Randomization	Retention	Unlimited	Unlimited	Limited	Limited	Excess	Excess	Avg Excess	excess	Method Excess
	· ·	4 00 /	· ·	0.007		-									
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 vear	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 vear	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 vear	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 vear	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%
190	Varied	-1.0%	Varied	0.0%	1 year	Constant	7.10%	3 31%	4.63%	1.15%	24.56%	19.78%	12 24%	7.03%	6.43%
200	Varied	-1.0%	Varied	0.0%	1 year	Rounded	7.10%	3 31%	4.63%	1.15%	24.56%	19.78%	12.21%	7.93%	6.43%
200	Varied	1.0%	Varied	0.0%	1 year	Exact	7.10%	2 210/	4.63%	1.15%	24.50%	10.78%	12.24%	7.03%	6 420/
201	Varied	-1.0%	Varied	0.0%	l year	Constant	7.1070 6.07%	2 4504	4.0370	1.1570	24.3070	19.7070	7 10%	/.93/0	6.00%
202	Varied	-1.0%	Varied	0.0%	8 year	Poundad	0.9770	2.450/	4.3970	1.1570	10.0070	10.01/0	7.1078	0.0070	6.90%
203	Varied	-1.0%	Varied	0.0%	o year	Erret	6.9770	5.45% 2.45%	4.39%	1.1570	10.0070	18.0170	7.10%	0.0070	6.90%
204	varied	-1.0%	Varied	2.0%	8 year	Exact	6.97%	3.45%	4.39%	1.15%	18.86%	18.61%	/.10%	0.88%	6.90%
205	varied	-1.0%	Varied	3.0%	1 year	Constant	7.26%	5.52%	5.52%	1./6%	26.26%	21.18%	13.//%	9.19%	5.54%
206	Varied	-1.0%	Varied	3.0%	l year	Rounded	/.26%	3.32%	4.8/%	1.11%	26.54%	21./8%	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%

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 Eactors																								
Age-to-Age Pactors																								
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	1.005	1.000	1.000	1.003	1.004
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

	12 21	21 50	30 10	10 00	00 12	12 01	01 20	50 100	100 120	120 132	155 111	111 150	150 100	100 100	100 172	172 201	201 210	210 220	220 210	210 202	202 201	201 210	2/0 200	200 300
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	1.005	1.000	1.000	1.003	1.004
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	1.002	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	1.006	1.007	1.008	1.004	1.003	1.003	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 Countravide	1 346	1 103	1.052	1.028	1.020	1.012	1.011	1.085																
Volume Wtd All	1.540	1.105	1.002	1.020	1.020	1.012	1.017	1.085	1.012	1.008	1.008	1.007	1.008	1.005	1.004	1.003	1.006	1.003	1.003	1.003	1.004	1.001	1.004	1.003
Volume Wtd All	2 507	1.1/0	1.090	1.050	1.030	1.024	1 1 1 2 0	1.014	1.012	1.008	1.008	1.007	1.008	1.005	1.004	1.005	1.000	1.005	1.005	1.005	1.004	1.001	1.004	1.005
volunic with All	2.307	1.015	1.309	1.237	1.197	1.150	1.120	1.110	1.095	1.062	1.075	1.005	1.057	1.049	1.045	1.0.59	1.030	1.0.00	1.027	1.025	1.022	1.017	1.010	1.012

Appendix	3,	Page	2
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Accident Yr	300	312	324	336	348	360	372
1081	203 840	203 356	203.487	204 442	204 478	205.052	205 317
1982	205,640	205,550	205,407	224 367	204,470	223,032	203,517
1983	239,603	240 882	240 967	241 369	241 193	224,000	
1984	270,385	271.243	271,733	272.839	,		
1985	253 958	254 571	255.902				
1986	291 814	293 358	200,002				
1987	348 350	270,000					
1988	510,550						
1989							
1990							
1991							
1992							
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2008							
2009							
2010							
2011							
e-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	1.000		
1984	1.003	1.000	1.002	0.000			
1985	1.003	1.002	1.001				
1986	1.002	1.005					
1987	1.005						
1988							
1989							
1990							
1991							
1002							
1997							
1992							
1992 1993							
1992 1993 1994							
1992 1993 1994 1995							
1992 1993 1994 1995 1996							
1992 1993 1994 1995 1996 1997							
1992 1993 1994 1995 1996 1997 1998 1990							
1992 1993 1994 1995 1996 1997 1998 1999 2000							
1992 1993 1994 1995 1996 1997 1998 1999 2000							
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001							
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2001 2002							
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2001 2002 2003							
1992 1993 1994 1995 1996 1997 1998 2000 2001 2001 2002 2003 2004 2005							
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005							
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2005 2006							
1992 1993 1994 1995 1996 1997 2000 2001 2002 2003 2004 2005 2006 2007							
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2004 2005 2006 2007 2008							
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2005 2006 2007 2008 2009							
1992 1993 1994 1995 1996 1997 2000 2001 2002 2003 2004 2005 2006 2007 2006 2007 2008 2009							
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2004 2005 2006 2007 2008 2009 2010 2010							
1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2004 2005 2006 2007 2008 2009 2010							

rerages							
	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

Note V 1 8 8 6 10<	Limited to 500k																								
$\frac{1}{100} + \frac{1}{100} + \frac{1}$	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
108 1006 1000	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	101 110
108 1060	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
1064 11674 1644 1724 2160 </td <td>1983</td> <td>106.050</td> <td>148 003</td> <td>174.030</td> <td>189 931</td> <td>199 596</td> <td>209 323</td> <td>214 338</td> <td>220.025</td> <td>222 313</td> <td>222,440</td> <td>223 653</td> <td>224 361</td> <td>224 093</td> <td>224 109</td> <td>224 392</td> <td>224 731</td> <td>224 842</td> <td>224 746</td> <td>224 675</td> <td>225.067</td> <td>225 496</td> <td>226 129</td> <td>226 225</td> <td>226 416</td>	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
105 107/20 <td>1984</td> <td>116 374</td> <td>165 464</td> <td>197 204</td> <td>218 269</td> <td>230 372</td> <td>237 809</td> <td>241 601</td> <td>245 373</td> <td>244 724</td> <td>247 381</td> <td>248 488</td> <td>248 739</td> <td>249 306</td> <td>250 220</td> <td>250 790</td> <td>250 849</td> <td>251 219</td> <td>251 304</td> <td>251 532</td> <td>252 306</td> <td>253.040</td> <td>252,900</td> <td>253,000</td> <td>253 305</td>	1984	116 374	165 464	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
108 11.42 17.70 207.20 207.00 207.00 207.00	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	235 228	235 144	235 415	235.658	236.095	236 723	237 339	237 410	237 587	237 482	237 838	238 837
1976 1926 292.6 292.6 292.6 292.6 292.6 292.6 292.9 2	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
108 1111 217.00 306/25 317.00 302.00 317.00 302.00 317.00	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
1997 251.0 251.0 251.0 251.0 251.0 251.0 252.0	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
1990 54,0/8 89,0/8 84,0/8 84,0/8 84,0/8 84,0/8 84,0/8 84,0/8 84,0/8 85,0/8	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	416,335	419,549	420.757	420,574	421.389	420,972	421,838	422.240	422.366	421.763	
1971 37.744 89.767 89.767 89.767 89.777	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	,	
19/2 24/54 75/4 85/70 8	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	,		
192 26.02 32.07 97.08 41.26 46.37 46.37 46.37 57.07 97.08 47.17 497.02 497.08 497.05 97.08 <t< td=""><td>1992</td><td>264.342</td><td>375.842</td><td>429,728</td><td>465,971</td><td>481,967</td><td>494.625</td><td>506.624</td><td>512,500</td><td>515.088</td><td>519,479</td><td>524,565</td><td>527.219</td><td>529,580</td><td>531,632</td><td>532,246</td><td>532.837</td><td>534.286</td><td>536.844</td><td>537,453</td><td>538,201</td><td></td><td></td><td></td><td></td></t<>	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				
1994 19529 27.01 38.58 38.59 37.29 39.29	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	000,201				
1995 142,58 25,40 24,248 24,270 36,270 35,407	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	,					
10% 14,348 24,349 34,340 30,247 33,242 35,470	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	· ·						
1997 16,33 26,04 82,67 30,347 82,67 33,48 33,48 35,88 34,24 35,88 36,48 36,28 36,28 36,78 35,88 35,88 35,88 35,87 35,88 35,88 35,88 35,88 35,87 35,88 35,88 35,88 35,87 35,88 <th< td=""><td>1996</td><td>163.065</td><td>244,348</td><td>284,536</td><td>308,261</td><td>320,981</td><td>332.212</td><td>342,837</td><td>348,136</td><td>352,707</td><td>355,432</td><td>357,409</td><td>360.095</td><td>362,766</td><td>365,844</td><td>366,494</td><td>367.867</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	1996	163.065	244,348	284,536	308,261	320,981	332.212	342,837	348,136	352,707	355,432	357,409	360.095	362,766	365,844	366,494	367.867								
1988 197.4 24.27 27.48 30.27 37.48 30.94 30.97	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	,								
1999 161,24 24,759 27,343 380,10 37,74 37,70	1998	157,814	238,276	277,683	300,376	315,898	325,775	334,488	339,454	342,005	342,910	344,974	348,088	348,147	350,398										
200 167.8 310.02 373.47 440.07 470.35 470.34 470.34 671.36 671.36 773.35 187.36 173.45 773.35 173.45 773.35 470.34 670.36 671.36 773.35 173.45 773.35 473.35	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											
201 11,54 33,068 94,47 472,39 440,87 472,39 484,067 484,07 491,37 2013 246,372 472,35 366,423 573,55 590,32 644,30 553,47 590,32 544,34 593,47 590,32 544,34 593,47 590,32 544,34 593,47 590,32 544,34 593,47 590,32 544,44 593,47 590,32 544,44 593,47 590,32 544,44 593,47 593,47 543,44	2000	187,581	310,162	373,244	406,690	431,555	444,467	450,405	457,948	463,124	470,334	471,548	473,832												
2012 211,741 978,713 49.29 92.28 93.28 93.78 94.29 95.78 94.79 95.78 94.79 95.78 94.79 95.78 94.79 94.29 94.28 94.28 94.28 94.28 94.28 94.28 94.28 94.29	2001	191,548	333,068	394,077	429,877	450,924	461,807	472,930	480,429	486,067	488,457	491,231													
2013 248,572 477,38 506,248 574,758 506,248 574,758 506,248 574,758 506,248 574,758 506,248 574,758 506,358 545,448 555,47 525,87 52	2002	221,741	378,731	454,259	492,125	512,558	528,898	541,630	552,410	556,834	559,837														
2004 25,477 44.978 55,060 55,875 51,871 61,803 64,909 50,875 2006 252,895 972,55 61,737 51,628 54,747 64,207 55,877 51,828 54,747 51,228 54,747 <	2003	248,572	427,534	506,723	546,245	574,755	590,902	604,520	611,238	614,640															
2005 280,04 452,28 592,74 614,207 628,353 2007 261,58 477,352 477,352 547,377 547,357 547,377 547,357 547,377 547,357 547,377 547,357 547,377 547,357	2004	283,417	464,978	536,604	585,867	612,331	635,546	645,499	655,687																
206 232,89 399,25 47,72 51,20 547,72 57,30 547,30 557,30	2005	280,924	445,208	522,040	563,225	594,714	614,207	628,355																	
207 21,30 421,62 50x,571 574,581 50x,5	2006	252,859	399,255	467,752	516,286	540,471	562,903																		
208 258,09 439,449 514,648 504,624 744,033 514,648 514	2007	261,350	421,622	506,571	547,307	574,351																			
200 24,84 37,542 97,542	2008	258,099	439,446	514,658	560,623																				
2010 2017 2019 2017 2019 2017 2019 Age-to-Age Factors Accident Yr 12-24 24-36 36-48 48-60 0-72 72-84 84-96 0-108 100-11 1001 1002 100 1001 1002 100 1001 1002 1001 <th< td=""><td>2009</td><td>242,843</td><td>397,542</td><td>474,603</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	2009	242,843	397,542	474,603																					
2011 219,81 Acciden Yr 12-24 24-36 36-48 48-60 60-72 72-84 84-96 06-108 100-12 120-12 132-14 144-156 166-168 180-192 192-24 216-228 28-240 240-252 252-264 264-276 276-288 288-300 1981 1.343 1.126 1.066 1.042 1.023 1.025 1.010 1.010 1.002 1.005 1.001 1.002 1.000 1.000 1.004 1.004 1.004 1.003 1.003 1.005 1.001 1.002 1.001 1.000 1.004 1.004 1.003 1.003 1.003 1.003 1.003 1.003 1.003 1.003 1.003 1.001 1.004 1.001 1.002 1.001 1.001 1.004 1.003 1.002 1.001 1.001 1.004 1.001 1.002 1.001 1.001 1.001 1.001 1.001 1.001 1.001 1.001 1.001 1.001 1.	2010	240,789	395,168																						
Age-to-Age Factors Accident Yr 12 - 24 24 - 36 36 - 48 48 - 60 60 - 72 72 - 84 84 - 96 100 - 100 100 - 100 1000	2011	219,814																							
Accident Yr 12 - 24 24 - 36 56 - 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 - 214 214 - 216 216 - 228 282 - 240 240 - 252 252 - 264 264 - 276 276 - 288 288 - 300 1981 1.343 1.126 1.066 1.042 1.023 1.010 1.010 1.000 1.001 1.000 1.001 1.000 1.001 <td>Age-to-Age Factors</td> <td></td>	Age-to-Age Factors																								
1981 1.343 1.126 1.066 1.042 1.023 1.025 1.019 1.010 1.007 1.000 0.999 1.004 1.000 0.999 1.001 1.000 0.999 1.001 1.000 1.000 1.001 1.004 1.001 1.004 1.001	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
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	4004	1.040	1.126	1.044	1.042	1.022	1.025	1.010	1.010	1.012	1.007	1.000	1.007	4.000	0.000	1.004	1.001	1.000	1.000	0.000	4.004	1.004	1.000	1.004	1.001
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1981	1.545	1.120	1.000	1.042	1.025	1.025	1.019	1.010	1.015	1.007	1.008	1.007	1.000	0.999	1.004	1.001	1.002	1.000	0.999	1.001	1.004	1.000	1.004	1.001
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1982	1.362	1.142	1.076	1.045	1.029	1.042	1.010	1.010	1.010	1.002	1.005	1.005	1.001	1.001	1.002	1.001	1.001	1.000	1.000	1.001	1.004	1.004	1.003	1.000
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1985	1.396	1.1/0	1.091	1.051	1.049	1.024	1.02/	1.010	1.001	1.005	1.005	0.999	1.000	1.001	1.002	1.000	1.000	1.000	1.002	1.002	1.005	1.000	1.001	0.999
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1984	1.422	1.192	1.107	1.055	1.032	1.016	1.016	0.997	1.011	1.004	1.001	1.002	1.004	1.002	1.000	1.001	1.000	1.001	1.005	1.005	0.999	1.000	1.001	1.001
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1985	1.464	1.207	1.095	1.055	1.035	1.016	1.005	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
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1986	1.544	1.1/5	1.091	1.052	1.031	1.017	1.014	1.004	1.006	1.005	1.004	1.002	1.004	0.999	1.005	1.001	1.005	1.002	1.004	1.001	1.002	1.000	1.003	1.001
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1987	1.495	1.14/	1.087	1.046	1.031	1.010	1.004	1.009	1.001	1.005	1.005	1.002	1.003	1.004	1.004	1.004	1.000	1.002	0.000	1.001	1.002	1.002	1.000	1.001
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1200	1.440	1.100	1.085	1.035	1.030	1.009	1.007	1.005	1.007	1.000	1.004	1.005	1.002	1.004	1.001	1.005	1.001	0.000	1.002	1.001	1.002	0.002	1.001	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1989	1.430	1.1/2	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	1.002	1.002	0.000	1.000	0.999		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1990	1.337	1.100	1.074	1.030	1.026	1.008	1.012	1.008	1.007	1.005	1.004	1.005	1.004	1.000	1.004	1.001	1.001	1.002	1.002	1.001	1.001			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1992	1.447	1.140	1.084	1.047	1.024	1.017	1.014	1.005	1.000	1.005	1.010	1.000	1.008	1.002	1.001	1.002	1.005	1.005	1.000	1.001				
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1993	1 407	1.145	1.004	1.0.49	1.020	1.024	1.012	1.005	1.009	1.003	1.005	1.004	1.004	1.001	1.001	1.003	1.005	1.001	1.001					
1995 1.432 1.162 1.081 1.049 1.025 1.026 1.023 1.016 1.016 1.016 1.004 1.005 1.004 1.005 1.004 1.002	1994	1 305	1 150	1.072	1.046	1.034	1.020	1.014	1.009	1.014	1.005	1.000	1.004	1.004	1.001	1.001	0.000	1.000	1.005						
	1995	1.432	1.162	1.075	1.049	1.028	1.020	1.023	1.016	1.012	1.008	1.004	1.005	1.004	1.005	1.002	1.002	1.005							
1720 1.420 1.04 1.000 1.041 1.000 1.001 1.000 1.000 1.000 1.000	1996	1.498	1.164	1.083	1.041	1.025	1.032	1.015	1.013	1.008	1.006	1.004	1.007	1.003	1.007	1.004	1.002								

2006	1.579	1.172	1.104	1.047	1.042																			
2007	1.613	1.201	1.080	1.049																				
2008	1.703	1.171	1.089																					
2009	1.637	1.194																						
2010	1.641																							
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
Volume Wtd All	1.545	1.171	1.085	1.047	1.031	1.020	1.014	1.009	1.008	1.006	1.005	1.004	1.004	1.003	1.002	1.002	1.002	1.001	1.001	1.001	1.001	1.001	1.002	1.001
Volume Wtd All	2.328	1.507	1.286	1.186	1.132	1.098	1.076	1.061	1.052	1.044	1.038	1.032	1.028	1.024	1.022	1.019	1.017	1.015	1.014	1.013	1.012	1.010	1.009	1.007

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0.066 0.068 0.055 0.065 0.063 0.099 0.057 0.045 0.068 0.050 0.070 0.054 0.084 0.083 0.147 0.083 0.081 0.093 0.109 0.114 0.092 0.104 0.093 0.101 0.117 0.124 0.097 0.096 0.100 0.090 0.084

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
1081	1.000	1.000	1.001	1.001	0.000	1.000	
1002	0.000	1.000	1.001	1.001	1.001	1.000	
1962	0.999	1.002	1.000	1.000	1.001		
1985	1.005	1.003	1.002	1.005			
1984	1.004	1.001	1.005				
1985	1.001	1.003					
1986	1.005						
1987							
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2011							
verages							
iverages	300 - 312	312 - 324	324 - 336	336 - 348	348 - 360	360 - 372	To Ult
		0.2 021			0.10 000		10 011
Volume Wtd All	1.002	1.002	1.002	1.002	1.000	1.000	1.00
Volume Wtd All	1.007	1.005	1.003	1.002	1.000	1.000	1.00

Limited to 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
4004	102 (10	427 502	454.070	141.140	474 707	175 050	470 474	101 //7	404.002	107 110	400.270	100.007	101.024	101.022	101 (22	102 (00	102.000	102 ((0	102 (77	102 202	101.000	105 150	105 500	107 101
1981	102,640	137,592	154,978	164,448	1/1,/86	1/5,255	203 886	205.021	207 211	210.079	210 386	211 277	212 027	213 211	213 281	214.038	213 726	214 380	214 183	214 222	214 504	215 223	216 267	216 613
1983	106,489	149 867	176 501	192,774	202.614	212,134	217 503	223 632	226 867	227 251	228 333	229 736	229 861	229 695	230,664	231 384	231 824	232 332	231 944	232,463	233 025	234 168	234 528	234 177
1984	117,804	167,741	200,483	222,408	234,604	242,483	247,314	251,524	250,750	254,424	256,272	256,368	257,094	258,701	259,400	259,698	259,760	260,111	259,845	261,005	262,058	262,084	262,222	262,574
1985	108,118	158,806	191,479	210,318	221,207	230,450	234,709	234,843	238,444	238,588	239,888	241,256	241,453	240,908	241,402	241,854	242,519	243,495	244,377	244,787	245,103	245,071	245,483	246,992
1986	115,312	179,101	210,039	229,789	242,755	251,508	255,107	259,868	261,073	263,165	264,370	266,897	267,387	269,903	268,946	269,699	269,935	270,920	271,459	272,839	273,326	274,417	274,694	276,147
1987	153,071	229,809	265,403	288,714	303,083	313,386	318,916	320,773	323,933	323,788	325,703	328,054	328,712	329,931	331,954	334,364	336,135	339,509	340,557	340,387	339,966	341,255	341,956	342,322
1988	172,285	250,329	291,201	316,810	326,992	339,034	341,737	345,491	346,211	350,056	352,832	354,777	357,077	357,541	359,698	359,704	361,925	362,470	362,641	362,196	362,843	364,078	364,923	365,475
1989	205,070	296,584	348,143	375,466	393,343	402,773	408,201	410,652	414,899	416,216	416,528	418,060	423,129	425,431	429,160	430,691	430,817	431,879	431,965	432,826	434,090	434,214	433,218	
1990	258,099	395,125	461,272	496,594	515,555	530,041 524,828	532,447	541,208 540,200	545,445 545,800	549,466 552 104	556,256	555,280 562,831	556,442	558,949	565,259 575,108	505,695	506,947	580 868	583.005	575,079	5/2,419	5/3,151		
1992	267 109	379 514	433,677	470 549	487 858	501 490	514 740	521 979	524 357	530.675	537 403	540 104	543 736	546 854	547 509	548 221	551 248	555 922	556 771	557 741	504,172			
1993	248.825	350.528	402.007	430,971	451.008	467.779	477.243	482.312	488.679	495,928	497,956	502.129	505,586	506,815	507,888	509.185	511.592	511.734	514.434	557,711				
1994	203,252	282,904	323,971	348,442	359,893	372,048	380,416	386,565	390,456	396,179	403,838	406,218	406,137	408,444	409,954	412,657	412,608	415,009	,					
1995	166,635	238,120	276,730	298,749	312,707	321,102	330,764	338,618	345,250	353,216	355,804	357,883	361,289	365,019	367,674	368,974	370,240							
1996	164,572	247,277	288,690	312,847	325,988	337,591	349,357	354,920	360,528	364,162	367,846	371,960	377,295	381,735	383,045	385,757								
1997	165,013	246,269	286,469	309,655	328,281	340,547	348,444	358,696	364,932	369,173	371,127	374,810	379,110	378,862	381,371									
1998	159,920	242,264	282,545	305,350	321,863	333,434	342,643	348,377	352,987	354,252	356,890	361,645	361,926	365,311										
1999	163,200	249,407	300,628	333,573	353,553	368,480	3/7,893	384,832	392,837	399,236	407,979	410,088	411,068											
2000	190,961	336,615	580,206 400 244	416,422	441,616	457,529	465,589	4/4,154	484,678	494,961 500 758	497,657	500,804												
2001	223 946	382,870	460 340	501 359	523 480	541 461	559 748	576 621	581 722	586 697	514,255													
2003	249,448	430.618	511.358	555,402	587.784	606.541	626,538	634,355	639,746	,														
2004	287,421	471,359	544,407	596,895	625,177	655,340	668,587	681,559	,															
2005	284,053	450,965	532,285	576,256	611,879	634,333	652,997																	
2006	259,204	407,272	479,310	531,283	558,470	584,658																		
2007	265,317	429,055	518,971	563,493	593,976																			
2008	260,688	447,775	525,973	575,568																				
2009	246,970	405,817	485,574																					
2010	245,560	400,950																						
	222,100																							
	222,150																							
Age-to-Age Factors	222,150																							
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
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
Age-to-Age Factors Accident Yr	12 - 24 1.341	24 - 36 1.126 1.140	36 - 48 1.061 1.078	48 - 60 1.045 1.043	60 - 72 1.020 1.033	72 - 84	84 - 96 1.017 1.010	96 - 108 1.013 1.006	108 - 120 1.016 1.014	120 - 132 1.007 1.001	132 - 144 1.009 1.004	144 - 156 1.010 1.008	156 - 168 1.000 1.001	168 - 180 0.999 1.000	180 - 192 1.005 1.004	192 - 204 1.003 0.999	204 - 216 1.003 1.003	216 - 228 1.000 0.999	228 - 240 1.001 1.000	240 - 252 1.002 1.001	252 - 264 1.005 1.003	264 - 276 1.002 1.005	276 - 288 1.006 1.002	288 - 300
Age-to-Age Factors Accident Yr 1981 1982 1983	12 - 24 1.341 1.357 1.402	24 - 36 1.126 1.140 1.178	36 - 48 1.061 1.078 1.092	48 - 60 1.045 1.043 1.051	60 - 72 1.020 1.033 1.047	72 - 84 1.019 1.046 1.025	84 - 96 1.017 1.010 1.028	96 - 108 1.013 1.006 1.014	108 - 120 1.016 1.014 1.002	120 - 132 1.007 1.001 1.005	132 - 144 1.009 1.004 1.006	144 - 156 1.010 1.008 1.001	156 - 168 1.000 1.001 0.999	168 - 180 0.999 1.000 1.004	180 - 192 1.005 1.004 1.003	192 - 204 1.003 0.999 1.002	204 - 216 1.003 1.003 1.002	216 - 228 1.000 0.999 0.998	228 - 240 1.001 1.000 1.002	240 - 252 1.002 1.001 1.002	252 - 264 1.005 1.003 1.005	264 - 276 1.002 1.005 1.002	276 - 288 1.006 1.002 0.999	288 - 300 1.002 1.000 1.000
Age-to-Age Factors Accident Yr 1981 1982 1983 1984	12 - 24 1.341 1.357 1.402 1.424	24 - 36 1.126 1.140 1.178 1.195	36 - 48 1.061 1.078 1.092 1.109	48 - 60 1.045 1.043 1.051 1.055	60 - 72 1.020 1.033 1.047 1.034	72 - 84 1.019 1.046 1.025 1.020	84 - 96 1.017 1.010 1.028 1.017	96 - 108 1.013 1.006 1.014 0.997	108 - 120 1.016 1.014 1.002 1.015	120 - 132 1.007 1.001 1.005 1.007	132 - 144 1.009 1.004 1.006 1.000	144 - 156 1.010 1.008 1.001 1.003	156 - 168 1.000 1.001 0.999 1.006	168 - 180 0.999 1.000 1.004 1.003	180 - 192 1.005 1.004 1.003 1.001	192 - 204 1.003 0.999 1.002 1.000	204 - 216 1.003 1.003 1.002 1.001	216 - 228 1.000 0.999 0.998 0.999	228 - 240 1.001 1.000 1.002 1.004	240 - 252 1.002 1.001 1.002 1.004	252 - 264 1.005 1.003 1.005 1.000	264 - 276 1.002 1.005 1.002 1.001	276 - 288 1.006 1.002 0.999 1.001	288 - 300 1.002 1.000 1.000 1.004
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985	12 - 24 1.341 1.357 1.402 1.424 1.469	24 - 36 1.126 1.140 1.178 1.195 1.206	36 - 48 1.061 1.078 1.092 1.109 1.098	48 - 60 1.045 1.043 1.051 1.055 1.052	60 - 72 1.020 1.033 1.047 1.034 1.042	72 - 84 1.019 1.046 1.025 1.020 1.018	84 - 96 1.017 1.010 1.028 1.017 1.001	96 - 108 1.013 1.006 1.014 0.997 1.015	108 - 120 1.016 1.014 1.002 1.015 1.001	120 - 132 1.007 1.001 1.005 1.007 1.005	132 - 144 1.009 1.004 1.006 1.000 1.006	144 - 156 1.010 1.008 1.001 1.003 1.001	156 - 168 1.000 1.001 0.999 1.006 0.998	168 - 180 0.999 1.000 1.004 1.003 1.002	180 - 192 1.005 1.004 1.003 1.001 1.002	192 - 204 1.003 0.999 1.002 1.000 1.003	204 - 216 1.003 1.003 1.002 1.001 1.004	216 - 228 1.000 0.999 0.998 0.999 1.004	228 - 240 1.001 1.000 1.002 1.004 1.002	240 - 252 1.002 1.001 1.002 1.004 1.001	252 - 264 1.005 1.003 1.005 1.000 1.000	264 - 276 1.002 1.005 1.002 1.001 1.002	276 - 288 1.006 1.002 0.999 1.001 1.006	288 - 300 1.002 1.000 1.000 1.004 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986	12 - 24 1.341 1.357 1.402 1.424 1.469 1.553	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173	36 - 48 1.061 1.078 1.092 1.109 1.098 1.094	48 - 60 1.045 1.043 1.051 1.055 1.052 1.056	60 - 72 1.020 1.033 1.047 1.034 1.034 1.032	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019	96 - 108 1.013 1.006 1.014 0.997 1.015 1.005	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008	120 - 132 1.007 1.001 1.005 1.007 1.005 1.005	132 - 144 1.009 1.004 1.006 1.000 1.006 1.010	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001	204 - 216 1.003 1.003 1.002 1.001 1.004 1.004	216 - 228 1.000 0.999 0.998 0.999 1.004 1.002	228 - 240 1.001 1.000 1.002 1.004 1.002 1.005	240 - 252 1.002 1.001 1.002 1.004 1.001 1.002	252 - 264 1.005 1.003 1.005 1.000 1.000 1.000 1.004	264 - 276 1.002 1.005 1.002 1.001 1.002 1.001	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005	288 - 300 1.002 1.000 1.000 1.004 1.001 1.002
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987	12 - 24 1.341 1.357 1.402 1.424 1.469 1.553 1.501	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155	36 - 48 1.061 1.078 1.092 1.109 1.098 1.094 1.088	48 - 60 1.045 1.043 1.051 1.055 1.052 1.056 1.050	60 - 72 1.020 1.033 1.047 1.034 1.042 1.036 1.034	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.014	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019 1.006	96 - 108 1.013 1.006 1.014 0.997 1.015 1.005 1.010	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000	120 - 132 1.007 1.001 1.005 1.007 1.005 1.005 1.005 1.006	132 - 144 1.009 1.004 1.006 1.000 1.006 1.010 1.007	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002 1.002	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.004	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.005	204 - 216 1.003 1.003 1.002 1.001 1.004 1.004 1.004 1.010	216 - 228 1.000 0.999 0.998 0.999 1.004 1.002 1.003	228 - 240 1.001 1.000 1.002 1.004 1.002 1.005 0.999	240 - 252 1.002 1.001 1.002 1.004 1.001 1.002 0.999	252 - 264 1.005 1.003 1.005 1.000 1.000 1.000 1.004 1.004	264 - 276 1.002 1.005 1.002 1.001 1.002 1.001 1.002	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005 1.001	288 - 300 1.002 1.000 1.000 1.004 1.001 1.002 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1987 1988	12 - 24 1.341 1.357 1.402 1.424 1.469 1.553 1.501 1.453	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163	36 - 48 1.061 1.078 1.092 1.109 1.098 1.094 1.088 1.088	48 - 60 1.045 1.043 1.051 1.055 1.052 1.056 1.050 1.032 1.042	60 - 72 1.020 1.033 1.047 1.034 1.036 1.034 1.037	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.008	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011	96 - 108 1.013 1.006 1.014 0.997 1.015 1.005 1.010 1.002	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000 1.011	120 - 132 1.007 1.001 1.005 1.005 1.005 1.005 1.006 1.008 1.008	132 - 144 1.009 1.004 1.006 1.000 1.006 1.010 1.007 1.006 1.007	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002 1.002 1.002 1.002	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.004 1.001 1.001	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.006	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007 1.000	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.005 1.006 1.006 1.000	204 - 216 1.003 1.003 1.002 1.001 1.004 1.004 1.010 1.002	216 - 228 1.000 0.999 0.998 0.999 1.004 1.002 1.003 1.000 1.000	228 - 240 1.001 1.000 1.002 1.004 1.002 1.005 0.999 0.999 1.999	240 - 252 1.002 1.001 1.002 1.004 1.001 1.002 0.999 1.002 1.002	252 - 264 1.005 1.003 1.005 1.000 1.000 1.004 1.004 1.004 1.003	264 - 276 1.002 1.005 1.002 1.001 1.002 1.001 1.002 1.002 1.002 1.002 1.002 1.002	276 - 288 1.006 1.002 0.999 1.001 1.005 1.001 1.002	288 - 300 1.002 1.000 1.000 1.004 1.001 1.002 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1900	12 - 24 1.341 1.357 1.402 1.424 1.469 1.553 1.501 1.453 1.446 1.551	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.147	36 - 48 1.061 1.078 1.092 1.109 1.098 1.094 1.088 1.088 1.088 1.078	48 - 60 1.045 1.043 1.051 1.055 1.052 1.056 1.050 1.032 1.048 1.048	60 - 72 1.020 1.033 1.047 1.034 1.034 1.034 1.037 1.024 1.037	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.008 1.013	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011 1.006 1.012	96 - 108 1.013 1.006 1.014 0.997 1.015 1.005 1.010 1.002 1.010 1.002	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000 1.011 1.003 1.007	120 - 132 1.007 1.001 1.005 1.005 1.005 1.005 1.006 1.008 1.008 1.001	132 - 144 1.009 1.004 1.006 1.000 1.006 1.010 1.007 1.006 1.004 1.005	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002 1.002 1.006 1.012 1.006	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.004 1.001 1.005	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.006 1.006 1.009	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007 1.000 1.004 1.004	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.005 1.006 1.000 1.000	204 - 216 1.003 1.003 1.002 1.001 1.004 1.004 1.004 1.002 1.002 1.002 1.002	216 - 228 1.000 0.999 0.998 0.999 1.004 1.002 1.003 1.000 1.000	228 - 240 1.001 1.000 1.002 1.004 1.002 1.005 0.999 0.999 1.002 1.003	240 - 252 1.002 1.001 1.002 1.004 1.001 1.002 0.999 1.002 1.003 0.999	252 - 264 1.005 1.003 1.000 1.000 1.000 1.004 1.003 1.000 1.000	264 - 276 1.002 1.005 1.001 1.002 1.001 1.002 1.001 1.002 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005 1.001 1.002	288 - 300 1.002 1.000 1.004 1.004 1.001 1.002 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1986 1987 1988 1989 1989 1990	12 - 24 1.341 1.557 1.402 1.424 1.469 1.553 1.501 1.453 1.446 1.531 1.442	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.167 1.148	36 - 48 1.061 1.078 1.092 1.109 1.098 1.094 1.088 1.088 1.088 1.078 1.077	48 - 60 1.045 1.043 1.051 1.055 1.052 1.056 1.050 1.032 1.048 1.038 1.050	60 - 72 1.020 1.033 1.047 1.034 1.034 1.034 1.037 1.024 1.029 1.022	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.008 1.013 1.009 1.015	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011 1.006 1.012 1.015	96 - 108 1.013 1.006 1.014 0.997 1.015 1.005 1.010 1.002 1.010 1.008 1.010	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000 1.011 1.003 1.007 1.012	120 - 132 1.007 1.001 1.005 1.005 1.005 1.006 1.008 1.001 1.002 1.007	132 - 144 1.009 1.004 1.006 1.000 1.006 1.010 1.007 1.006 1.004 1.005 1.012	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002 1.006 1.012 1.006 1.012 1.006	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.004 1.005 1.005 1.005 1.012	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.006 1.009 1.008 1.004	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007 1.000 1.004 1.004 1.004	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.005 1.006 1.000 1.002 1.002 1.002	204 - 216 1.003 1.003 1.002 1.001 1.004 1.010 1.002 1.002 1.003 1.002	216 - 228 1.000 0.999 0.999 1.004 1.002 1.003 1.000 1.004 1.004	228 - 240 1.001 1.000 1.002 1.004 1.002 1.005 0.999 0.999 1.002 1.003 1.001	240 - 252 1.002 1.001 1.002 1.004 1.001 1.002 0.999 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.005 1.000 1.000 1.000 1.004 1.004 1.003 1.000 1.001	264 - 276 1.002 1.005 1.002 1.001 1.002 1.001 1.002 1.002 0.098	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005 1.001 1.002	288 - 300 1.002 1.000 1.000 1.004 1.001 1.002 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1987 1988 1989 1990 1991	12 - 24 1.341 1.357 1.402 1.424 1.469 1.553 1.501 1.453 1.446 1.531 1.442 1.421	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.167 1.148	36 - 48 1.061 1.078 1.092 1.099 1.098 1.094 1.088 1.078 1.077 1.086 1.077	48 - 60 1.045 1.043 1.051 1.055 1.052 1.056 1.050 1.032 1.048 1.038 1.057	60 - 72 1.020 1.033 1.047 1.034 1.036 1.034 1.037 1.024 1.029 1.022 1.028	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.008 1.013 1.009 1.015 1.026	84-96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011 1.006 1.012 1.015 1.014	96 - 108 1.013 1.006 1.014 0.997 1.015 1.005 1.010 1.002 1.010 1.008 1.010 1.008 1.010 1.005	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000 1.011 1.003 1.007 1.012 1.012	120 - 132 1.007 1.001 1.005 1.005 1.005 1.006 1.008 1.001 1.002 1.007 1.013	132 - 144 1.009 1.004 1.006 1.000 1.000 1.010 1.007 1.006 1.004 1.005 1.012 1.005	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002 1.002 1.002 1.006 1.012 1.006 1.006 1.007	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.004 1.001 1.005 1.005 1.005 1.012 1.006	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.006 1.009 1.008 1.004 1.001	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007 1.000 1.004 1.004 1.004 1.002 1.001	192 - 204 1.003 0.999 1.000 1.003 1.001 1.005 1.006 1.000 1.002 1.002	204 - 216 1.003 1.003 1.002 1.001 1.004 1.010 1.002 1.002 1.002 1.003 1.006 1.008	216 - 228 1.000 0.999 0.998 0.999 1.004 1.002 1.003 1.000 1.000 1.004 1.004 1.004	228 - 240 1.001 1.002 1.002 1.004 1.002 1.005 0.999 0.999 0.999 1.002 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.004 1.004 1.002 0.999 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.005 1.000 1.000 1.004 1.004 1.003 1.000 1.001	264 - 276 1.002 1.005 1.002 1.001 1.002 1.001 1.002 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005 1.001 1.002	288 - 300 1.002 1.000 1.000 1.000 1.001 1.002 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1989 1990 1991 1991 1993	12 - 24 1.341 1.357 1.402 1.424 1.453 1.553 1.553 1.456 1.351 1.453 1.442 1.422 1.424 1.424 1.424	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.167 1.148 1.143	36 - 48 1.061 1.078 1.092 1.109 1.098 1.094 1.088 1.078 1.078 1.078 1.078 1.078 1.078	48 - 60 1.045 1.043 1.051 1.055 1.056 1.050 1.032 1.048 1.038 1.038 1.037 1.046	60 - 72 1.020 1.033 1.047 1.034 1.034 1.034 1.034 1.037 1.024 1.029 1.022 1.028 1.038	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.018 1.013 1.008 1.013 1.009 1.015 1.026	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011 1.006 1.012 1.015 1.014 1.014	96 - 108 1.013 1.006 1.014 0.997 1.015 1.005 1.010 1.002 1.010 1.008 1.010 1.005 1.015	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000 1.011 1.003 1.007 1.012 1.012 1.012	120 - 132 1.007 1.001 1.005 1.005 1.005 1.006 1.008 1.006 1.008 1.001 1.002 1.007 1.013	132 - 144 1.009 1.004 1.006 1.000 1.010 1.007 1.006 1.001 1.005 1.012 1.005 1.005 1.005	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002 1.002 1.006 1.006 1.006 1.007	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.004 1.001 1.005 1.012 1.006 1.002	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.006 1.006 1.008 1.004 1.001	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007 1.000 1.004 1.004 1.001 1.001	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.005 1.006 1.0002 1.002 1.002 1.006 1.002	204 - 216 1.003 1.003 1.001 1.004 1.004 1.000 1.002 1.002 1.003 1.006 1.008 1.008	216 - 228 1.000 0.999 0.998 0.999 1.004 1.002 1.000 1.000 1.000 1.004 1.002 1.002	228 - 240 1.001 1.000 1.002 1.004 1.002 0.099 0.999 1.002 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.004 1.002 0.999 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.000 1.000 1.004 1.004 1.003 1.000 1.001	264 - 276 1.002 1.005 1.001 1.002 1.001 1.002 1.002 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005 1.001 1.002	288 - 300 1.002 1.000 1.004 1.004 1.001 1.002 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1990 1991 1992 1993	12 - 24 1.341 1.357 1.402 1.421 1.469 1.553 1.409 1.553 1.446 1.531 1.446 1.531 1.442 1.422 1.421 1.409 1.392	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.167 1.148 1.143 1.147 1.145	36 - 48 1.061 1.078 1.092 1.098 1.094 1.088 1.088 1.088 1.078 1.078 1.085 1.072 1.076	48 - 60 1.045 1.043 1.051 1.055 1.052 1.056 1.050 1.032 1.048 1.038 1.050 1.037 1.046	60 - 72 1.020 1.033 1.047 1.034 1.042 1.036 1.034 1.037 1.024 1.029 1.022 1.028 1.037	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.018 1.013 1.009 1.015 1.026 1.020	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011 1.012 1.015 1.014 1.011 1.011	96 - 108 1.013 1.006 1.014 0.997 1.015 1.005 1.010 1.002 1.010 1.008 1.010 1.005 1.013 1.013	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000 1.011 1.003 1.007 1.012 1.012 1.015 1.015	120 - 132 1.007 1.001 1.005 1.005 1.005 1.005 1.006 1.008 1.001 1.002 1.007 1.013 1.004 1.014	132 - 144 1.009 1.004 1.006 1.000 1.006 1.010 1.006 1.004 1.005 1.012 1.005 1.008 1.008	144 - 156 1.010 1.008 1.001 1.002 1.002 1.006 1.012 1.006 1.006 1.007 1.007 1.007	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.004 1.001 1.005 1.012 1.006 1.002 1.006 1.002 1.006	168 - 180 0.999 1.000 1.004 1.002 0.996 1.006 1.006 1.006 1.008 1.008 1.004 1.001	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.000 1.004 1.004 1.004 1.004 1.001 1.003	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.005 1.006 1.006 1.005 1.006	204 - 216 1.003 1.003 1.002 1.001 1.004 1.010 1.002 1.002 1.003 1.000 1.000 1.000 1.000	216 - 228 1.000 0.999 0.999 1.004 1.002 1.003 1.000 1.000 1.004 1.004 1.002 1.005	228 - 240 1.001 1.000 1.002 1.002 1.005 0.999 1.002 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.004 1.001 1.002 0.999 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.000 1.000 1.000 1.004 1.004 1.000 1.001	264 - 276 1.002 1.005 1.002 1.001 1.002 1.001 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005 1.001 1.002	1.002 1.000 1.000 1.001 1.001 1.001 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1990 1991 1992 1993 1994 1995	12 - 24 1.341 1.357 1.402 1.424 1.453 1.501 1.453 1.444 1.453 1.442 1.421 1.423 1.442 1.423 1.442 1.423 1.442 1.424 1.424 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.442 1.453 1.442 1.453 1.442 1.442 1.453 1.442 1.453 1.442 1.442 1.453 1.442 1.453 1.442 1.442 1.442 1.442 1.442 1.442 1.445 1.442 1.444 1.442 1.4444 1.4444 1.444 1.4444 1.444 1.444 1.444 1.444 1.44	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.147 1.143 1.143 1.147 1.145	36 - 48 1.061 1.078 1.092 1.098 1.094 1.098 1.098 1.078 1.088 1.078 1.088 1.077 1.086 1.085 1.072 1.076	48 - 60 1.045 1.043 1.051 1.055 1.052 1.050 1.032 1.048 1.038 1.050 1.037 1.046 1.033 1.047	60 - 72 1.020 1.033 1.047 1.034 1.042 1.034 1.024 1.029 1.022 1.022 1.028 1.037 1.034 1.034	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.009 1.015 1.026 1.020 1.022 1.030	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019 1.019 1.016 1.011 1.012 1.015 1.014 1.011 1.014 1.011	96 - 108 1.013 1.006 1.014 0.997 1.015 1.010 1.005 1.010 1.010 1.010 1.010 1.010 1.013 1.010 1.020	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000 1.011 1.003 1.017 1.012 1.012 1.015 1.015 1.023	120 - 132 1.007 1.001 1.005 1.005 1.005 1.006 1.008 1.001 1.002 1.007 1.013 1.004 1.019 1.007	132 - 144 1.009 1.004 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002 1.006 1.012 1.006 1.007 1.007 1.007 1.000 1.010	156 - 168 1.000 1.001 0.998 1.006 0.998 1.009 1.004 1.005 1.005 1.005 1.005 1.002 1.006 1.000	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.006 1.009 1.008 1.004 1.001 1.002	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007 1.000 1.004 1.004 1.002 1.001 1.003 1.007 1.007	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.005 1.000 1.002 1.002 1.000 1.005 1.000 1.005 1.000 1.003	204 - 216 1.003 1.003 1.002 1.001 1.004 1.004 1.000 1.002 1.003 1.006	216 - 228 1.000 0.999 0.998 0.999 1.004 1.002 1.003 1.000 1.000 1.004 1.004 1.005	228 - 240 1.001 1.000 1.002 1.004 1.005 0.999 0.999 1.002 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.004 1.001 1.002 0.999 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.006 1.000 1.000 1.004 1.004 1.003 1.000 1.001	264 - 276 1.002 1.005 1.001 1.001 1.002 1.001 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005 1.001 1.002	1.002 1.000 1.000 1.004 1.004 1.001 1.002 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1989 1990 1991 1990 1991 1992 1993 1994 1995 1996	12 - 24 1.341 1.357 1.402 1.424 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.421 1.421 1.422 1.422 1.422 1.424 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.442 1.453 1.453 1.442 1.453 1.453 1.453 1.453 1.453 1.453 1.453 1.453 1.453 1.453 1.453 1.453 1.453 1.453 1.4555 1.4555 1.4555 1.4555 1.4555 1.4555 1.4555 1.4555	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.148 1.143 1.147 1.148 1.143 1.145 1.162	36 - 48 1.061 1.078 1.092 1.099 1.098 1.098 1.088 1.078 1.078 1.078 1.078 1.078 1.072 1.076 1.076 1.084	48 - 60 1.045 1.043 1.051 1.055 1.052 1.056 1.050 1.032 1.048 1.038 1.037 1.046 1.033 1.047	60 - 72 1.020 1.033 1.047 1.034 1.042 1.036 1.034 1.024 1.029 1.022 1.028 1.037 1.034 1.034 1.037 1.034	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.013 1.008 1.015 1.026 1.020 1.022 1.030 1.035	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011 1.015 1.014 1.014 1.014 1.014 1.016 1.024	96 - 108 1.013 1.006 1.014 0.997 1.015 1.010 1.002 1.010 1.008 1.010 1.005 1.010 1.000 1.010 1.000 1.010 1.000 1.010 1.000 1.010 1.000 1.010 1.000 1.010 1.000 1.010 1.010 1.000 1.010 1.010 1.010 1.010 1.000 1.010	108 - 120 1.016 1.014 1.002 1.015 1.001 1.000 1.011 1.003 1.007 1.012 1.012 1.015 1.015 1.015 1.015 1.015 1.015	120 - 132 1.007 1.001 1.005 1.005 1.005 1.006 1.008 1.001 1.001 1.001 1.001 1.001 1.007 1.013 1.004 1.019 1.007 1.010 1.011 1.011 1.011 1.011 1.011 1.011 1.011 1.011 1.011 1.011 1.011 1.011 1.011 1.011 1.011 1.011 1.015 1.005 1.005 1.005 1.005 1.005 1.005 1.005 1.005 1.007 1.001 1.005 1.007 1.001 1.005 1.001 1.005 1.001 1.001 1.001 1.005 1.005 1.001 1.001 1.001 1.005 1.001	132 - 144 1.009 1.004 1.006 1.000 1.006 1.010 1.007 1.005 1.012 1.005 1.012 1.008 1.008 1.008 1.006 1.008 1.008 1.008 1.008 1.008 1.009 1.004 1.009 1.004 1.006 1.001 1.006 1.001 1.006 1.001 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.007 1.006 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.008 1.007 1.008 1.007 1.008 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.007 1.008 1.0018 1.008 1.008 1.0018 1.008 1.008 1.0018 1.008 1.0018 1.008 1.0018 1.008 1.0018 1.008 1.0018 1.008 1.0018 1.008 1.0018 1.008 1.008 1.0018 1.008 1.008 1.0018 1.008 1	144 - 156 1.010 1.008 1.001 1.002 1.002 1.002 1.006 1.012 1.006 1.012 1.006 1.007 1.007 1.000 1.010 1.010 1.011 1.002 1.001 1.012 1.005 1.001 1.012 1.005 1.001 1.012 1.005 1.005 1.001 1.001 1.002 1.002 1.001 1.002 1.002 1.002 1.002 1.002 1.005 1.001 1.002 1.002 1.006 1.005 1.001 1.002 1.006 1.002 1.006 1.007 1.002 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.007 1.006 1.007 1.006 1.007	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.004 1.005 1.005 1.012 1.006 1.006 1.006 1.006 1.006 1.006 1.001	168 - 180 0.999 1.000 1.004 1.003 0.996 1.006 1.006 1.006 1.009 1.008 1.004 1.004 1.002	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007 1.004 1.004 1.004 1.002 1.003 1.007 1.003 1.007 1.003 1.007 1.003 1.007 1.003 1.007 1.003 1.003 1.003 1.004 1.004 1.005 1.007 1.005 1.007	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.005 1.006 1.002 1.006 1.002 1.006 1.000 1.003	204 - 216 1.003 1.003 1.001 1.004 1.010 1.004 1.010 1.002 1.003 1.006 1.000 1.000	216 - 228 1.000 0.999 0.098 0.099 1.004 1.002 1.003 1.000 1.000 1.000 1.004 1.004 1.004 1.005	228 - 240 1.001 1.000 1.002 1.004 1.005 0.999 0.999 1.002 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.004 1.001 1.002 0.999 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.000 1.000 1.004 1.004 1.004 1.000 1.001	264 - 276 1.002 1.005 1.001 1.001 1.002 1.001 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005 1.001 1.002	288 - 300 1.002 1.000 1.000 1.004 1.001 1.002 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1986 1987 1980 1989 1990 1990 1991 1992 1993 1994 1995 1996 1997	12 - 24 1.341 1.357 1.402 1.424 1.469 1.553 1.501 1.453 1.446 1.531 1.442 1.422 1.422 1.422 1.422 1.429 1.393 1.424 1.426 1.424 1.426 1.424 1.426 1.429	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.163 1.144 1.143 1.147 1.145 1.162 1.162 1.162	36-48 1.061 1.078 1.092 1.098 1.094 1.088 1.098 1.098 1.078 1.078 1.078 1.085 1.072 1.076 1.080 1.080 1.081	48 - 60 1.045 1.043 1.051 1.052 1.056 1.050 1.052 1.048 1.033 1.048 1.033 1.047 1.047 1.047 1.047 1.045	60 - 72 1.020 1.033 1.047 1.034 1.042 1.036 1.034 1.022 1.028 1.037 1.034 1.037 1.034 1.037 1.034	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.013 1.008 1.013 1.009 1.015 1.026 1.022 1.030 1.032 1.022 1.030 1.032 1.022	84 - 96 1.017 1.010 1.028 1.011 1.001 1.019 1.006 1.011 1.015 1.014 1.014 1.014 1.016 1.024 1.016 1.024 1.024 1.029 1.024 1.029 1.024 1.017 1.010 1.025 1.017 1.010 1.028 1.017 1.010 1.028 1.017 1.028 1.017 1.001 1.028 1.017 1.001 1.028 1.017 1.001 1.028 1.017 1.001 1.019 1.006 1.011 1.019 1.006 1.011 1.015 1.015 1.014 1.014 1.014 1.014 1.015 1.014 1.014 1.014 1.014 1.015 1.014 1.014 1.014 1.014 1.014 1.015 1.014 1.014 1.016 1.014 1.016 1.014 1.016 1.014 1.016 1.014 1.016 1.016 1.017 1.016 1.017 1.016 1.017 1.016 1.017 1.016 1.017 1.016 1.017 1.016 1.017 1.016 1.017 1.016 1.017 1.016 1.017 1.016 1.017 1.016 1.016 1.012 1.016	96 - 108 1.013 1.006 1.014 0.997 1.015 1.010 1.002 1.010 1.002 1.010 1.005 1.010 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	108 - 120 1.016 1.014 1.002 1.015 1.001 1.010 1.010 1.010 1.012 1.012 1.015 1.012 1.015 1.015 1.015 1.012 1.010 1.011 1.012 1.012 1.012 1.012 1.012 1.012 1.012 1.012 1.012 1.012 1.012 1.012 1.012 1.012 1.013 1.014 1.002 1.015 1.014 1.002 1.015 1.001 1.003 1.015 1.001 1.012 1.015 1.012 1.015 1.012 1.015 1.012 1.015 1.012 1.015 1.012 1.015 1.012 1.015 1.012 1.015 1.012 1.012 1.015 1.012 1.012 1.015 1.012 1.012 1.015 1.012 1.012 1.015 1.012 1.015 1.012 1.015 1.012 1.015 1.012 1.015 1.015 1.012 1.015	120 - 132 1.007 1.001 1.005 1.005 1.005 1.006 1.006 1.006 1.001 1.002 1.007 1.013 1.004 1.007 1.013 1.007 1.001 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.007 1.005 1.007	132 - 144 1.009 1.004 1.006 1.000 1.006 1.010 1.007 1.006 1.010 1.015 1.010 1.008 1.008 1.008 1.006 1.006 1.001 1.005 1.008 1.008 1.006 1.005 1.008 1.008 1.005 1.008 1.005 1.008 1.005 1.006 1.005 1.005 1.005 1.006 1.005 1.005 1.006 1.005 1.005 1.006 1.005 1.005 1.005 1.006 1.005 1.005 1.005 1.006 1.005 1.005 1.006 1.005 1.005 1.005 1.006 1.005 1.005 1.005 1.006 1.005 1.005 1.006 1.005 1.006 1.005 1.005 1.006 1.005 1.005 1.006 1.006 1.007 1.006 1.005 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.006 1.007 1.007 1.006 1.007 1.007 1.006 1.007	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002 1.006 1.012 1.006 1.007 1.007 1.007 1.000 1.010 1.011 1.011 1.011	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.004 1.005 1.015 1.012 1.006 1.012 1.006 1.010 1.012 1.006 1.012 1.006 1.015 1.005 1.05 1.005	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.006 1.009 1.008 1.001 1.002 1.004 1.001 1.002 1.004	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.004 1.004 1.003 1.007 1.004	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.005 1.006 1.005 1.000 1.003	204 - 216 1.003 1.002 1.001 1.004 1.004 1.002 1.002 1.002 1.002 1.003 1.006	216 - 228 1.000 0.999 0.999 1.004 1.002 1.000 1.000 1.000 1.004 1.002 1.005	228 - 240 1.001 1.000 1.002 1.004 1.002 1.005 0.999 0.999 1.002 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.004 1.002 0.999 1.003 0.999 1.001	252 - 264 1.005 1.003 1.000 1.000 1.004 1.004 1.001	264 - 276 1.002 1.005 1.002 1.001 1.002 1.001 1.002 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.005 1.001 1.002	1.002 1.000 1.000 1.004 1.004 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1990 1991 1992 1993 1994 1995 1996 1997 1998	12 - 24 1.341 1.357 1.402 1.424 1.453 1.501 1.453 1.446 1.531 1.446 1.531 1.442 1.409 1.392 1.429 1.503 1.429 1.505 1.429 1.505 1.429 1.505 1.429 1.505 1.429 1.505 1.429 1.505 1.429 1.505 1.429 1.505 1.429 1.505 1.429 1.505 1.429 1.505 1.429 1.505 1.429 1.505	24 - 36 1.126 1.140 1.178 1.206 1.173 1.155 1.163 1.174 1.167 1.148 1.147 1.145 1.162 1.167 1.162 1.167 1.162 1.167 1.162 1.167 1.162 1.167 1.162 1.167 1.162 1.167 1.162 1.167 1.162 1.167 1.162 1.167 1.167 1.166 1.175 1.167 1.166 1.175 1.167 1.167 1.167 1.167 1.167 1.166 1.166 1	36-48 1.061 1.078 1.092 1.098 1.098 1.098 1.098 1.078 1.088 1.077 1.086 1.085 1.072 1.076 1.080 1.084 1.081	48 - 60 1.045 1.043 1.055 1.052 1.056 1.050 1.050 1.032 1.048 1.038 1.050 1.037 1.046 1.037 1.046 1.047 1.042 1.064 1.045 1.045 1.045 1.045 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.056 1.057 1.046 1.037 1.046 1.047 1.046 1.047 1.046 1.057 1.056 1.057 1.056 1.057 1.056 1.056 1.056 1.056 1.056 1.056 1.056 1.056 1.056 1.056 1.056 1.056 1.056 1.056 1.056 1.057 1.046 1.047 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.046 1.057 1.056 1.057 1.056 1.057 1.056 1.057 1.056 1.057 1.057 1.056 1.057 1.057 1.056 1.057	60 - 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Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1990 1991 1992 1992 1993 1994 1995 1996 1997 1998 1998	12 - 24 1.341 1.357 1.402 1.531 1.453 1.444 1.531 1.442 1.531 1.442 1.531 1.442 1.531 1.442 1.531 1.442 1.531 1.424 1.532 1.424 1.531 1.424 1.531 1.424 1.532 1.424 1.532 1.532 1.424 1.533 1.424 1.533 1.424 1.533 1.424 1.533 1.424 1.533 1.424 1.533 1.424 1.535 1.424 1.535 1.424 1.535 1.424 1.535 1.424 1.535 1.424 1.535 1.425 1.535 1.425 1.535 1.425 1.535 1.425 1.535 1.425 1.535 1.425 1.535 1.425 1.535 1.425 1.535 1.425 1.535 1.535 1.535 1.535 1.535 1.535 1.535 1.535 1.535 1.535 1.535 1.535 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.538 1.5588 1.5588 1.5588 1.5588 1.5588 1.5588 1.5588 1.5588	24 - 36 1.126 1.140 1.178 1.206 1.175 1.206 1.175 1.163 1.174 1.145 1.145 1.145 1.145 1.145 1.167 1.163 1.166 1.205 1.205	36 - 48 1.061 1.078 1.092 1.099 1.098 1.098 1.098 1.088 1.088 1.077 1.086 1.085 1.072 1.076 1.080 1.084 1.081 1.081 1.081 1.081	48 - 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84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.018 1.014 1.018 1.009 1.015 1.020 1.022 1.030 1.023 1.023 1.023 1.024 1.026 1.025 1.020 1.020 1.025 1.020 1.025 1.020 1.025	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011 1.006 1.011 1.015 1.014 1.015 1.014 1.015 1.014 1.015 1.017 1.016 1.029 1.017 1.019 1.028 1.017 1.019 1.019 1.019 1.019 1.019 1.019 1.019 1.019 1.019 1.019 1.019 1.019 1.019 1.019 1.010 1.019 1.010 1.019 1.010 1.011 1.019 1.010 1.011 1.019 1.010 1.011 1.010 1.011 1.015 1.011 1.015 1.011 1.015 1.011 1.015 1.011 1.016 1.012 1.015 1.011 1.016 1.012 1.015 1.011 1.016 1.012 1.015 1.016 1.029 1.016 1.011 1.016 1.029 1.016 1.011 1.016 1.029 1.016 1.012 1.016 1.029 1.016 1.029 1.016 1.029 1.016 1.029 1.016 1.029 1.016 1.029 1.016 1.029 1.016 1.029 1.016 1.029 1.018 1	96 - 108 1.013 1.006 1.014 0.997 1.015 1.010 1.005 1.010 1.002 1.010 1.008 1.010 1.013 1.010 1.020 1.0113 1.010 1.021 1.021 1.013 1.021	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000 1.011 1.003 1.007 1.012 1.015 1.015 1.015 1.015 1.015 1.015 1.010 1.012 1.010 1.012 1.016 1.028 1.010 1.028 1.011 1.028 1.011 1.008 1.001 1.011 1.008 1.001 1.007 1.012 1.015 1.001 1.015 1.015 1.010 1.028 1.015 1.015 1.010 1.015 1.015 1.010 1.015 1.010 1.015 1.010 1.028 1.015 1.028 1.028 1.015 1.028 1.0098 1.02	120 - 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180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.006 1.009 1.008 1.004 1.001 1.002 1.004 1.007	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007 1.000 1.004 1.004 1.003 1.007 1.003 1.007	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.005 1.000 1.002 1.000 1.002 1.000 1.003	204 - 216 1.003 1.003 1.002 1.001 1.004 1.004 1.000 1.002 1.003 1.006 1.006	216 - 228 1.000 0.999 0.998 0.999 1.004 1.002 1.003 1.000 1.000 1.004 1.002 1.005	228 - 240 1.001 1.000 1.002 1.004 1.002 1.003 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.002 1.002 1.003 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.000 1.000 1.000 1.004 1.003 1.000 1.001	264 - 276 1.002 1.005 1.001 1.001 1.002 1.001 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005 1.001 1.002	288 - 300 1.002 1.000 1.000 1.004 1.001 1.002 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001	12 - 24 1.341 1.357 1.402 1.424 1.469 1.551 1.453 1.464 1.531 1.442 1.422 1.422 1.422 1.422 1.422 1.422 1.422 1.515 1.525 1.525 1.555	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.143 1.143 1.145 1.162 1.162 1.163 1.163 1.163 1.163 1.163 1.163 1.163 1.205 1.205 1.205 1.205	36 - 48 1.061 1.078 1.092 1.109 1.098 1.098 1.088 1.078 1.088 1.078 1.085 1.072 1.076 1.085 1.072 1.076 1.080 1.080 1.081 1.081 1.081 1.081 1.091 1.095 1.092	48 - 60 1.045 1.045 1.051 1.055 1.052 1.056 1.050 1.032 1.048 1.033 1.048 1.033 1.042 1.042 1.060 1.042 1.060 1.061 1.050	60 - 72 1.020 1.033 1.047 1.034 1.042 1.036 1.037 1.024 1.029 1.022 1.028 1.037 1.034 1.027 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.027 1.034 1.028 1.037 1.034 1.037 1.034 1.029 1.035 1.037 1.034 1.029 1.035 1.034 1.029 1.035 1.034 1.029 1.034 1.029 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.034 1.035 1.034 1.034 1.036 1.034 1.034 1.037 1.034 1.034 1.036 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.034 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.036 1.037 1.036 1.036 1.042 1.036 1.037 1.036 1.036 1.042 1.036 1.036 1.036 1.036 1.042 1.036 1.045	72 - 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144 1.009 1.004 1.000 1.000 1.000 1.000 1.005 1.005 1.005 1.005 1.005 1.005 1.006 1.011 1.010 1.011 1.010 1.013 1.005 1.006	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002 1.006 1.012 1.006 1.007 1.000 1.010 1.010 1.011 1.001 1.001 1.002	$\begin{array}{c} 156-168\\ 1.000\\ 1.001\\ 0.999\\ 1.006\\ 0.998\\ 1.009\\ 1.004\\ 1.005\\ 1.005\\ 1.012\\ 1.006\\ 1.001\\ 1.012\\ 1.006\\ 1.010\\ 1.012\\ 0.999\\ 1.009\\ \end{array}$	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.006 1.009 1.008 1.004 1.001 1.007 1.003 1.007	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007 1.004 1.004 1.007	192 - 204 1.003 0.999 1.002 1.000 1.003 1.003 1.000 1.002 1.000 1.002 1.000 1.000 1.000 1.000	204 - 216 1.003 1.003 1.002 1.001 1.004 1.002 1.002 1.003 1.006 1.008 1.000	216 - 228 1.000 0.999 0.999 1.004 1.002 1.000 1.000 1.004 1.002 1.005	228 - 240 1.001 1.000 1.002 1.004 1.005 0.999 1.002 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.004 1.001 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.000 1.000 1.004 1.004 1.001	264 - 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Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1994 1995 1996 1997 1998 1997 1998 1999 2000 2001	12 - 24 1.341 1.357 1.402 1.424 1.453 1.501 1.453 1.501 1.453 1.446 1.531 1.442 1.421 1.409 1.532 1.422 1.422 1.422 1.422 1.422 1.422 1.423 1.424 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.444 1.453 1.442 1.425 1.442 1.425 1.445 1.442 1.425 1.442 1.425 1.442 1.453 1.446 1.531 1.442 1.425 1.425 1.446 1.535 1.446 1.531 1.445 1.425 1.425 1.425 1.425 1.425 1.425 1.426 1.535 1.446 1.535 1.446 1.535 1.426 1.535 1.426 1.535 1.426 1.535 1.427 1.535 1.426 1.555 1.747 1.555 1.747 1.555 1.747 1.555 1.747 1.555 1.747 1.555 1.747 1.555 1.747 1.555 1.747 1.555 1.747 1.555 1.747 1.555 1.747 1.555 1.747 1.555 1.555 1.747 1.555	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.143 1.147 1.145 1.162 1.167 1.163 1.166 1.203 1.166 1.203 1.189 1.203 1.203	36 - 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108 1.013 1.006 1.014 0.997 1.015 1.005 1.010 1.000 1.010 1.005 1.013 1.010 1.020 1.016 1.017 1.013 1.021 1.016 1.015 1.013 1.021 1.016 1.015 1.016 1.016 1.017 1.015 1.015 1.015 1.015 1.015 1.016 1.015 1.022 1.025	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000 1.011 1.003 1.012 1.015 1.015 1.015 1.015 1.015 1.015 1.015 1.015 1.012 1.015 1.012 1.016 1.012 1.010 1.012 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.002 1.015 1.012 1.015 1.011 1.002 1.015 1.011 1.012 1.015 1.012 1.015 1.012 1.015 1.011 1.012 1.015 1.010 1.012 1.015 1.010 1.011 1.012 1.012 1.010 1.010 1.012 1.010 1.010 1.010 1.012 1.010 1.0000 1.0000 1.0000 1.000 1.000 1.000 1.000 1.	120 - 132 1.007 1.001 1.005 1.005 1.006 1.008 1.001 1.002 1.007 1.013 1.004 1.019 1.007 1.010 1.007 1.000 1.007 1.005 1.007 1.005 1.007 1.005 1.008 1.007 1.008 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007	132 - 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Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1990 1991 1992 1993 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003	12 - 24 1.341 1.357 1.402 1.537 1.424 1.453 1.501 1.446 1.531 1.442 1.453 1.444 1.531 1.442 1.429 1.503 1.429 1.503 1.429 1.503 1.429 1.503 1.429 1.515 1.528 1.655 1.747 1.770 1.720	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.148 1.147 1.145 1.167 1.162 1.167 1.166 1.205 1.167 1.166 1.205 1	36 - 48 1.061 1.078 1.092 1.098 1.098 1.098 1.098 1.098 1.077 1.086 1.088 1.077 1.086 1.085 1.072 1.076 1.084 1.084 1.081 1.110 1.081 1.110 1.092 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.084 1.085 1.092 1.086 1.085 1.092 1.096 1.086 1.092 1.095 1.092 1.086 1.086 1.086 1.086 1.086 1.086 1.086 1.086 1.092 1.095 1.086	48 - 60 1.045 1.045 1.051 1.055 1.052 1.056 1.050 1.032 1.046 1.033 1.047 1.046 1.033 1.047 1.042 1.060 1.054 1.050 1.054 1.055 1.052 1.045 1.056 1.055 1.056 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.056 1.055 1.056 1.055 1.056 1.055 1.056 1.057 1.046 1.055 1.045 1.045 1.045 1.056 1.055 1.045 1.055 1.045 1.055 1.045 1.055 1.045 1.055 1.045 1.055 1.045 1.055 1.045 1.055 1.045 1.055 1.055 1.045 1.055 1.055 1.045 1.055	60 - 72 1.020 1.033 1.047 1.034 1.042 1.034 1.024 1.029 1.022 1.028 1.034 1.037 1.034 1.037 1.034 1.036 1.036 1.036 1.036 1.036 1.035 1.034 1.036 1.036 1.034 1.036 1.036 1.034 1.036 1.036 1.034 1.036 1.034 1.036 1.034 1.037 1.034 1.034 1.037 1.034 1.034 1.037 1.034 1.034 1.037 1.034 1.034 1.037 1.022 1.034 1.034 1.022 1.034 1.034 1.025 1.034 1.036 1.036 1.034 1.037 1.034 1.025 1.036 1.036 1.036 1.036 1.036 1.037 1.034 1.025 1.036 1.036 1.036 1.036 1.036 1.036 1.036 1.036 1.036 1.036 1.036 1.037 1.036 1.037 1.036 1.036 1.036 1.037 1.036 1.036 1.035 1.035 1.036 1.035	72 - 84 1.019 1.046 1.025 1.020 1.018 1.018 1.018 1.018 1.018 1.013 1.009 1.015 1.020 1.022 1.030 1.035 1.022 1.035 1.028 1.026 1.020 1.035 1.020 1.035 1.020 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.022 1.035 1.025 1.025 1.022 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.036 1.035 1.026 1.036 1.035 1.036 1.036 1.036 1.035 1.036	84-96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011 1.006 1.011 1.016 1.021 1.016 1.021 1.017 1.018 1.017 1.018 1.017 1.018 1.017	96 - 108 1.013 1.006 1.014 0.997 1.015 1.010 1.010 1.010 1.010 1.010 1.010 1.013 1.010 1.022 1.010 1.010 1.022 1.010 1.013 1.011 1.021 1.021 1.013 1.021 1.022 1.020 1.015 1.021 1.022 1.020 1.015 1.010 1.022 1.015 1.010 1.015 1.010 1.015 1.010 1.015 1.010 1.015 1.010 1.015 1.010 1.015 1.010 1.015 1.010 1.010 1.002 1.010 1.015 1.010 1.002 1.010 1.015 1.010 1.002 1.010 1.015 1.010 1.002 1.010 1.015 1.010 1.022 1.021 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.020 1.022 1.020	108 - 120 1.016 1.014 1.002 1.015 1.000 1.011 1.000 1.011 1.003 1.007 1.012 1.015 1.015 1.015 1.015 1.015 1.015 1.015 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.015 1.015 1.010 1.015 1.010 1.000 1.010 1.010 1.000 1.010 1.010 1.010 1.000 1.010 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.000	120 - 132 1.007 1.001 1.005 1.007 1.005 1.006 1.008 1.001 1.002 1.017 1.010 1.019 1.007 1.010 1.007 1.010 1.007 1.009 1.007 1.009	132 - 144 1.009 1.004 1.000 1.000 1.000 1.000 1.001 1.005 1.002 1.005 1.008 1.008 1.006 1.011 1.0105 1.005 1.005 1.005 1.006	144 - 156 1.010 1.008 1.001 1.002 1.002 1.002 1.006 1.012 1.006 1.010 1.007 1.007 1.007 1.007 1.001 1.014 1.014 1.001 1.002	$\begin{array}{c} 156-168\\ 1.000\\ 1.001\\ 0.998\\ 1.009\\ 1.004\\ 1.001\\ 1.005\\ 1.005\\ 1.005\\ 1.012\\ 1.006\\ 1.002\\ 1.006\\ 1.010\\ 0.099\\ 1.009\end{array}$	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.009 1.008 1.004 1.001 1.002 1.004 1.007	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.007 1.004 1.004 1.004 1.003 1.007	192 - 204 1.003 0.999 1.002 1.000 1.003 1.001 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000	204 - 216 1.003 1.003 1.002 1.001 1.004 1.004 1.000 1.002 1.003 1.006 1.006	216 - 228 1.000 0.999 0.998 0.999 1.004 1.002 1.000 1.000 1.000 1.004 1.002 1.005	228 - 240 1.001 1.000 1.002 1.004 1.005 0.999 0.999 1.002 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.004 1.002 0.999 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.000 1.000 1.000 1.004 1.003 1.000 1.001	264 - 276 1.002 1.005 1.000 1.001 1.002 1.001 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.006 1.005 1.001 1.002	288 - 300 1.000 1.000 1.004 1.001 1.002 1.001
Age-to-Age Factors Accident Yr 1981 1983 1984 1985 1986 1987 1986 1987 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1996 1997 1998 1999 2000 2001 2002 2003	12 - 24 1.341 1.357 1.402 1.424 1.424 1.424 1.423 1.501 1.453 1.446 1.531 1.442 1.422 1.422 1.422 1.422 1.422 1.422 1.425 1.533 1.446 1.531 1.442 1.442 1.442 1.442 1.442 1.442 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.453 1.402 1.424 1.425 1.402 1.425 1.402 1.453 1.405 1.425 1.528 1.548	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.163 1.148 1.143 1.147 1.145 1.163 1.167 1.163 1.166 1.163 1.167 1.205 1.203 1.187 1.187	36 - 48 1.061 1.078 1.092 1.099 1.098 1.094 1.088 1.078 1.078 1.086 1.085 1.072 1.076 1.086 1.084 1.081 1.110 1.095 1.089 1.089 1.086	48 - 60 1.045 1.045 1.051 1.055 1.052 1.056 1.050 1.032 1.048 1.033 1.048 1.033 1.044 1.060 1.051 1.044 1.060 1.051 1.055 1.052 1.055 1.046 1.055 1.046 1.055 1.045 1.045 1.056 1.055 1.045 1.056 1.055 1.045 1.056 1.055 1.045 1.056 1.055 1.056 1.055 1.045 1.056 1.055 1.056 1.055 1.056 1.055 1.045 1.056 1.055 1.056	60 - 72 1.020 1.033 1.047 1.034 1.035 1.037 1.024 1.037 1.022 1.038 1.037 1.034 1.037 1.036 1.037 1.036 1.036 1.036 1.036 1.036 1.032 1.034	72 - 84 1.019 1.046 1.025 1.020 1.018 1.014 1.018 1.013 1.008 1.015 1.020 1.021 1.035 1.022 1.030 1.035 1.023 1.026 1.026 1.021 1.020 1.035 1.022 1.035 1.023 1.026 1.035 1.026 1.035 1.022 1.035 1.022 1.035 1.023 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.027 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.036 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035 1.026 1.035	84-96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011 1.016 1.012 1.015 1.014 1.015 1.014 1.016 1.029 1.017 1.018 1.019 1.021 1.019 1.021 1.019 1.021 1.010 1.021 1.021 1.030 1.021 1.030 1.021 1.030 1.021 1.030 1.021 1.030 1.021 1.030 1.021 1.030 1.021 1.030 1.021 1.030 1.022 1.	96 - 108 1.013 1.006 1.017 1.015 1.015 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.021 1.011 1.021 1.021 1.022 1.020 1.009 1.008	108 - 120 1.016 1.014 1.002 1.015 1.001 1.000 1.011 1.003 1.007 1.012 1.015 1.015 1.015 1.015 1.015 1.015 1.015 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.000 1.011 1.010 1.011 1.010 1.011 1.010 1.011 1.010 1.011 1.010 1.011 1.012 1.015 1.011 1.015 1.015 1.010 1.015 1.015 1.010 1.015 1.010 1.015 1.010 1.010 1.015 1.010 1.010 1.010 1.012 1.015 1.010 1.0000 1.0000 1.0	120 - 132 1.007 1.001 1.005 1.005 1.005 1.006 1.008 1.001 1.002 1.007 1.013 1.001 1.007 1.013 1.007 1.010 1.007 1.013 1.007 1.013 1.007 1.011 1.002 1.005 1.007 1.005 1.005 1.005 1.007 1.005 1.005 1.007 1.005 1.005 1.007 1.005 1.007 1.007 1.001 1.007	132 - 144 1.009 1.004 1.000 1.000 1.000 1.001 1.005 1.002 1.005 1.005 1.005 1.006 1.011 1.006 1.011 1.006 1.001 1.005 1.006 1.005 1.006 1.006 1.006 1.006 1.006 1.005 1.006 1.005 1.006 1.005 1.006 1.005 1.006 1.005 1.006 1.005 1.005 1.006 1.005 1.005 1.006 1.005 1.005 1.006 1.005 1.005 1.006 1.005 1.005 1.006 1.005 1.005 1.006 1.005 1.006 1.005 1.006 1.005 1.006	144 - 156 1.010 1.008 1.001 1.003 1.001 1.002 1.006 1.012 1.006 1.007 1.000 1.010 1.010 1.011 1.001 1.002	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.004 1.005 1.012 1.005 1.012 1.006 1.012 1.006 1.010 1.012 0.999 1.009	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.006 1.006 1.009 1.008 1.004 1.001 1.007 1.003 1.007	180 - 192 1.005 1.004 1.003 1.001 1.002 1.002 1.000 1.004 1.001 1.007 1.007	192 - 204 1.003 0.999 1.002 1.000 1.003 1.006 1.000 1.002 1.000 1.002 1.000 1.000 1.000 1.000	204 - 216 1.003 1.003 1.001 1.001 1.004 1.002 1.003 1.006 1.008 1.000	216 - 228 1.000 0.999 0.999 1.004 1.002 1.000 1.000 1.000 1.000 1.000 1.005	228 - 240 1.001 1.000 1.002 1.004 1.005 0.999 1.002 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.004 1.001 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.000 1.000 1.004 1.004 1.003 1.000 1.001	264 - 276 1.002 1.005 1.001 1.002 1.001 1.002 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.005 1.001 1.002	1.002 1.000 1.000 1.004 1.004 1.001
Age-to-Age Factors Accident Yr 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1990 1991 1992 1993 1994 1995 1994 1995 1996 1997 1998 1997 1998 1999 2000 2001 2002 2003 2005	12 - 24 1.341 1.357 1.402 1.424 1.469 1.533 1.501 1.446 1.531 1.446 1.531 1.442 1.422 1.422 1.422 1.422 1.422 1.515 1.525 1.515 1.525 1.555 1.555 1.555 1.555	24 - 36 1.126 1.140 1.178 1.195 1.206 1.173 1.155 1.163 1.174 1.143 1.147 1.145 1.162 1.167 1.163 1.167 1.163 1.167 1.163 1.167 1.163 1.167 1.163 1.167 1.163 1.167 1.163 1.167 1.165 1.205 1.203 1.189 1.203 1.189 1.203 1.189 1.203 1.189 1.203 1.189 1.203 1.189 1.203 1.189 1.203 1.189 1.203 1.189 1.203 1.155 1.163 1.167 1.165 1.167 1.166 1.205 1.205 1.177 1.189 1.203 1.187 1.155 1.187	36 - 48 1.061 1.078 1.092 1.098 1.098 1.098 1.098 1.088 1.077 1.086 1.085 1.072 1.076 1.085 1.072 1.072 1.076 1.084 1.081 1.110 1.095 1.092 1.092 1.086 1.093 1.085	48 - 60 1.045 1.043 1.051 1.055 1.052 1.056 1.050 1.032 1.048 1.038 1.037 1.046 1.033 1.047 1.042 1.061 1.054 1.050 1.054 1.055 1.054 1.055 1.054 1.055 1.055 1.052 1.055 1.052 1.055 1.052 1.055 1.052 1.055 1.052 1.055 1.052 1.055 1.052 1.055 1.052 1.055 1.052 1.055 1.052 1.055 1.052 1.055 1.052 1.055 1.052 1.043 1.055 1.055 1.052 1.045 1.055 1.052 1.055 1.052 1.045 1.055 1.055 1.052 1.045 1.055 1.052 1.045 1.055 1.052 1.045 1.055 1.056 1.055 1.052 1.046 1.037 1.046 1.055 1.055 1.055 1.055 1.056 1.057 1.046 1.055 1.055 1.055 1.047 1.055 1.055 1.055 1.056 1.057 1.046 1.055 1.055 1.056 1.055 1.056 1.057 1.046 1.055 1.056 1.055 1.056 1.057 1.064 1.055 1.061 1.055 1.061 1.055 1.046 1.055 1.046 1.055 1.046 1.055 1.046 1.055 1.046 1.055 1.047 1.046 1.055 1.047 1.047 1.046 1.050 1.047 1.047 1.047 1.046 1.055 1.047	60 - 72 1.020 1.033 1.047 1.034 1.034 1.034 1.034 1.037 1.024 1.029 1.022 1.028 1.037 1.036 1.037 1.036 1.042 1.036 1.042 1.036 1.042 1.036 1.042 1.036 1.025 1.036 1.032 1.036 1.032 1.036 1.032 1.036 1.032 1.036 1.035 1.036 1.037 1.036 1.037 1.037 1.037 1.037 1.038 1.037 1.029 1.038 1.037 1.029 1.038 1.037 1.028 1.037 1.036 1.027 1.036 1.037 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.036 1.037 1.036 1.036 1.036 1.036 1.036 1.036 1.036 1.037 1.036 1.037 1.036 1.036 1.037 1.036 1.036 1.037 1.036 1.036 1.037 1.036 1.037 1.036 1.036 1.032 1.036 1.037 1.036 1.036 1.032 1.036 1.032 1.036 1.032 1.036 1.032 1.036 1.037 1.036 1.032 1.036 1.032 1.036 1.032 1.036 1.032 1.036 1.032 1.036 1.032 1.036 1.037 1.036 1.032 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.036 1.037 1.037 1.036 1.037	$\begin{array}{r} 72 - 84 \\ 1.019 \\ 1.046 \\ 1.025 \\ 1.020 \\ 1.018 \\ 1.018 \\ 1.018 \\ 1.018 \\ 1.013 \\ 1.009 \\ 1.015 \\ 1.026 \\ 1.022 \\ 1.030 \\ 1.023 \\ 1.028 \\ 1.028 \\ 1.028 \\ 1.028 \\ 1.028 \\ 1.030 \\ 1.031 \\ 1.031 \\ 1.031 \\ 1.030 \\ 1.033 \\ 1.020 \\ 1.029 \end{array}$	84 - 96 1.017 1.010 1.028 1.017 1.001 1.019 1.006 1.011 1.006 1.012 1.015 1.014 1.014 1.016 1.024 1.016 1.029 1.017 1.018 1.019 1.019	96 - 108 1.013 1.006 1.014 0.997 1.015 1.005 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.011 1.022 1.011 1.022 1.020 1.016 1.021 1.021 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.022 1.020 1.022 1.022 1.020 1.022 1.022 1.020 1.022 1.022 1.020 1.022 1.022 1.020 1.022 1.022 1.020 1.022 1.020 1.022 1.020 1.022 1.022 1.020 1.022 1.020 1.022 1.022 1.020 1.022 1.020 1.022 1.020	108 - 120 1.016 1.014 1.002 1.015 1.001 1.008 1.000 1.011 1.003 1.007 1.012 1.015 1.015 1.015 1.015 1.015 1.015 1.012 1.016 1.021 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.000 1.011 1.000 1.011 1.000 1.015 1.001 1.000 1.015 1.001 1.000 1.015 1.001 1.000 1.015 1.001 1.000 1.015 1.001 1.000 1.015 1.001 1.002 1.015 1.012 1.015 1.015 1.015 1.015 1.001 1.012 1.015 1.015 1.015 1.015 1.015 1.015 1.015 1.012 1.015 1.012 1.015 1.015 1.012 1.015 1.010 1.012 1.010 1.010 1.012 1.010 1.0000 1.0000 1.000 1.0000 1.000 1.000 1.000 1.000 1.	120 - 132 1.007 1.001 1.005 1.005 1.006 1.006 1.008 1.001 1.001 1.001 1.007 1.013 1.004 1.019 1.007 1.0105 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.006 1.006 1.006 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.005 1.007 1.007 1.005 1.007 1.00	132 - 144 1.009 1.004 1.006 1.000 1.006 1.010 1.007 1.006 1.012 1.005 1.012 1.008 1.006 1.006 1.010 1.010 1.010 1.010 1.010 1.010 1.010 1.006 1.000 1.006 1.000 1.005 1.008 1.006 1.000 1.005 1.008 1.005 1.008 1.006 1.000 1.005 1.005 1.008 1.005 1.008 1.006 1.000 1.005 1.005 1.008 1.005 1.008 1.006 1.000 1.005 1.005 1.005 1.008 1.006 1.005 1.008 1.006 1.006 1.005 1.008 1.006 1.006 1.006 1.005 1.005 1.008 1.006 1.006 1.006 1.006 1.005 1.008 1.006 1.006 1.006 1.006 1.007 1.006 1.007 1.005 1.002 1.005 1.002 1.006 1.006 1.006 1.006 1.006 1.006 1.006 1.007 1.008 1.006	144 - 156 1.010 1.008 1.001 1.003 1.002 1.002 1.006 1.012 1.006 1.007 1.007 1.007 1.000 1.014 1.011 1.001 1.002	156 - 168 1.000 1.001 0.999 1.006 0.998 1.009 1.005 1.015 1.015 1.015 1.010 1.006 1.010 1.010 1.010 1.010 1.009 1.009	168 - 180 0.999 1.000 1.004 1.003 1.002 0.996 1.006 1.009 1.008 1.004 1.001 1.002 1.004 1.007	180 - 192 1.005 1.004 1.003 1.001 1.002 1.003 1.004 1.004 1.003 1.007 1.000 1.004 1.007	192 - 204 1.003 0.999 1.002 1.000 1.005 1.006 1.000 1.002 1.002 1.000 1.003	204 - 216 1.003 1.003 1.002 1.001 1.004 1.004 1.002 1.002 1.003 1.006 1.008 1.000 1.006	216 - 228 1.000 0.999 0.999 1.004 1.002 1.000 1.000 1.000 1.000 1.000 1.005	228 - 240 1.001 1.000 1.002 1.004 1.002 1.005 0.999 0.999 1.002 1.003 1.001 1.002	240 - 252 1.002 1.001 1.002 1.004 1.002 0.999 1.002 1.003 0.999 1.001	252 - 264 1.005 1.003 1.000 1.000 1.004 1.004 1.000 1.001	264 - 276 1.002 1.005 1.002 1.001 1.002 1.001 1.002 1.002 0.998	276 - 288 1.006 1.002 0.999 1.001 1.005 1.001 1.002	288 - 300 1.002 1.000 1.004 1.001 1.002 1.001

2008 2009 2010 2011

2007

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
Volume Wtd All	1.546	1.174	1.088	1.049	1.034	1.023	1.016	1.012	1.011	1.008	1.007	1.006	1.005	1.004	1.003	1.003	1.004	1.002	1.002	1.001	1.002	1.001	1.003	1.002
Volume Wtd All	2.423	1.567	1.335	1.227	1.170	1.131	1.105	1.087	1.075	1.063	1.055	1.048	1.041	1.036	1.032	1.028	1.025	1.021	1.019	1.017	1.016	1.014	1.013	1.010

1.086

1.094

1.054

1.617

1.718

1.635

1.647

1.210

1.175

1.198

Limited to 1000k

Accident Yr	300	312	324	336	348	360	372	Ultimate	ELF
1091	107 151	107 202	107 172	107 (22	107.025	100.074	100.052	109.052	0.025
1981	197,151	216 254	197,165	216.827	197,935	196,074	198,055	196,055	0.035
1982	210,010	210,354	210,004	210,627	217,125	217,204		217,241	0.035
1983	254,109	255,154	255,405	235,665	230,555			250,070	0.021
1005	203,342	204,490	249,517	203,797				200,404	0.027
1985	247,511	247,625	246,079					249,642	0.028
1980	2/0,779	277,030						2/9,387	0.034
1988	342,700							369 124	0.017
1988								429 652	0.040
1989								438,032	0.040
1990								503.610	0.019
1992								567 447	0.050
1992								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
1091	1.000	1.000	1.002	1.002	1.001	1.000	
1981	0.000	1.000	1.002	1.002	1.001	1.000	
1982	0.999	1.001	1.001	1.001	1.001		
1985	1.004	1.001	1.002	1.005			
1984	1.004	1.002	1.005				
1985	1.002	1.003					
1986	1.005						
1987							
1988							
1989							
1990							
1991							
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2005							
2006							
2007							
2008							
2009							
2010							
2011							
verages							
	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	1.0
	- · · · · · · · · · · · · · · · · · · ·						

Excess of 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	3,264	3,937	3,896	2,490	3,181	2,887	2,125	1,815	2,465	3,556	3,729	4,779	6,030	6,649	6,//3	/,041	7,385	7,722	7,917	9,414	9,630	11,183	12,311	12,166
1982	3,984	4,605	4,905	5,054	5,589	7,057	8,298	9,397	0.442	10,001	9,841	10,560	7 080	7.810	11,980	12,591	12,125	14,235	14,196	14,468	16,915	10,/21	16,288	15,998
1983	1,208	2,318	3,433	5,281	5,752	7 509	5,619	0,704	9,442	9,762	0,617	11 596	11 774	12 767	9,636	12,374	11,223	14,679	11,550	14,557	12,032	15,116	15,095	16,151
1904	1,445	2,299	4,000	3.546	3 422	5.534	6,034	5,504	9,528	6 590	6 417	7 221	9 4 45	0.222	10.026	0.160	0.376	0.700	10,103	10,470	10,528	11 249	11,112	14 645
1985	874	3 273	4 581	5 909	7 869	10.619	10,129	13,130	13 206	13 720	14 156	17.482	16 103	20.385	10,020	18 988	19,570	21 380	21 501	22.045	22 483	23.072	23 780	25 181
1987	660	2 206	5 521	6.075	6 565	7 983	8 231	9 1 3 8	9 290	8 860	9 230	9.965	9 952	10 546	11 359	12 491	13.052	14 318	14 559	14 873	16.048	18 630	18 321	18 825
1988	1 186	3.071	7 419	8 763	5 445	8 341	7 890	8 959	8 293	9.057	9 513	11 117	12.030	11 948	12.674	12,343	12,938	13 122	13 209	13 399	13 746	14 472	14 900	15 049
1989	4 380	8 682	10.773	10 761	13 169	14 455	14 772	14 323	20.057	18 533	18 220	18 204	20 528	20.885	23 7 30	23 506	23,863	24 327	26.176	26.612	27 254	28 313	27 875	
1990	5 641	8 788	9 283	10,881	12,050	12,424	13 341	14 485	14 678	15,061	14 511	15,666	16 473	18 200	19 598	20,300	21,082	22,309	23 423	24 564	24 472	25 168	21,015	
1991	6,383	7,587	9,975	14.062	15.887	15,440	15,448	16.298	19,388	20,859	22,720	22.970	23,449	26,606	27,904	28,200	28,210	31,566	34,207	35.912	36,360			
1992	3,341	4,564	4,988	6,498	7.241	8,504	10,165	12.340	11.686	14,952	17.065	17.057	17,393	18,552	18,451	18,384	20,361	23,165	23,320	23,777				
1993	8,183	11,903	15,421	15,996	15,330	24,886	26,559	23,874	24,729	26,982	29,814	30,403	31,842	32,437	33,878	35,741	37,089	36,538	38,303	,				
1994	6,685	7,887	7,448	10,104	9,726	10,058	10,388	12,149	12,328	17,965	22,419	23,603	21,591	24,102	25,932	27,144	27,212	29,623	,					
1995	6,681	13,864	23,241	23,049	23,667	18,969	24,383	24,810	27,987	31,378	31,343	31,749	36,936	48,828	52,040	53,761	52,850							
1996	2,295	5,930	7,897	8,443	9,147	9,588	10,455	10,473	10,787	11,401	14,131	15,902	21,358	22,890	22,313	25,519								
1997	2,222	11,709	12,708	13,456	14,518	12,768	11,127	13,549	15,337	16,626	17,815	20,213	21,574	22,636	24,155									
1998	2,800	9,183	10,151	14,724	17,451	21,745	20,229	18,106	20,033	21,861	22,700	24,267	24,699	27,123										
1999	5,949	8,789	10,527	9,692	12,325	14,286	16,996	19,143	23,995	27,528	31,411	34,989	35,513											
2000	7,418	17,883	13,052	18,605	21,295	24,892	26,903	28,972	38,935	43,479	44,310	44,962												
2001	1,852	5,915	10,016	10,821	11,455	11,895	17,693	19,810	26,603	28,508	31,785													
2002	2,473	7,786	12,568	18,470	19,677	22,695	29,018	36,882	40,051	43,011														
2003	892	3,981	6,682	11,296	18,437	21,841	30,935	33,051	36,701															
2004	5,364	8,063	16,240	20,681	24,987	33,933	38,793	42,081																
2005	3,521	7,733	17,999	29,760	38,563	43,072	50,050																	
2006	8,287	12,160	27,034	35,717	41,656	47,857																		
2007	4,123	11,307	20,631	25,158	27,588																			
2008	2,765	11,024	20,335	24,509																				
2009	7,110	17,304	20,666																					
2010	3,416	10,534																						
2011	3,069																							
Ass to Ass Essters																								
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	1.206	0.990	0.639	1.277	0.907	0.736	0.854	1.359	1.442	1.049	1.282	1.262	1.103	1.019	1.040	1.049	1.046	1.025	1.189	1.023	1.161	1.101	0.988	1.028
1982	1.156	1.065	1.030	1.106	1.263	1.176	1.133	1.182	0.900	0.984	1.053	1.084	1.014	1.052	1.051	0.963	1.174	0.997	1.019	1.169	0.989	0.974	0.982	1.000
1983	1.919	1.481	1.538	1.085	0.954	1.064	1.496	1.085	1.034	0.698	1.099	1.065	0.979	1.260	1.116	1.022	1.058	0.971	0.983	1.114	1.038	1.044	0.960	1.027
1984	2.283	1.329	1.506	1.059	1.074	1.177	1.017	0.994	1.124	1.153	1.001	1.016	1.084	1.019	1.028	0.997	1.093	0.974	1.041	1.037	1.017	0.999	1.036	1.042
1985	1.659	1.135	1.244	0.968	1.612	1.108	0.922	1.434	0.812	0.975	1.142	1.152	1.092	1.087	0.914	1.024	1.045	1.031	1.037	1.018	1.054	0.988	1.318	1.009
1986	3.744	1.399	1.290	1.332	1.349	0.958	1.290	1.013	1.032	1.032	1.235	0.921	1.266	0.973	0.957	1.006	1.120	1.005	1.025	1.020	1.066	0.992	1.059	1.111
1987	3.343	2.503	1.100	1.081	1.216	1.031	1.110	1.017	0.954	1.042	1.080	0.999	1.060	1.077	1.100	1.045	1.097	1.017	1.022	1.079	1.161	0.983	1.027	1.021
1988	2.590	2.416	1.181	0.621	1.532	0.946	1.135	0.926	1.092	1.050	1.169	1.082	0.993	1.061	0.974	1.048	1.014	1.007	1.014	1.026	1.053	1.030	1.010	

1705	1.057	1.155	1.244	0.200	1.012	1.100	0.722	1.4.54	0.012	0.775	1.142	1.1.52	1.072	1.007	0.714	1.024	1.045	1.0.01	1.0.57	1.010	1.054	0.200	1.510	1.002
1986	3.744	1.399	1.290	1.332	1.349	0.958	1.290	1.013	1.032	1.032	1.235	0.921	1.266	0.973	0.957	1.006	1.120	1.005	1.025	1.020	1.066	0.992	1.059	1.111
1987	3.343	2.503	1.100	1.081	1.216	1.031	1.110	1.017	0.954	1.042	1.080	0.999	1.060	1.077	1.100	1.045	1.097	1.017	1.022	1.079	1.161	0.983	1.027	1.021
1988	2.590	2.416	1.181	0.621	1.532	0.946	1.135	0.926	1.092	1.050	1.169	1.082	0.993	1.061	0.974	1.048	1.014	1.007	1.014	1.026	1.053	1.030	1.010	
1989	1.982	1.241	0.999	1.224	1.098	1.022	0.970	1.400	0.924	0.983	0.999	1.128	1.017	1.136	0.991	1.015	1.019	1.076	1.017	1.024	1.039	0.985		
1990	1.558	1.056	1.172	1.107	1.031	1.074	1.086	1.013	1.026	0.964	1.080	1.052	1.105	1.077	1.031	1.043	1.058	1.050	1.049	0.996	1.028			
1991	1.189	1.315	1.410	1.130	0.972	1.001	1.055	1.190	1.076	1.089	1.011	1.021	1.135	1.049	1.011	1.000	1.119	1.084	1.050	1.012				
1992	1.366	1.093	1.303	1.114	1.174	1.195	1.214	0.947	1.279	1.141	1.000	1.020	1.067	0.995	0.996	1.108	1.138	1.007	1.020					
1993	1.455	1.296	1.037	0.958	1.623	1.067	0.899	1.036	1.091	1.105	1.020	1.047	1.019	1.044	1.055	1.038	0.985	1.048						
1994	1.180	0.944	1.357	0.963	1.034	1.033	1.169	1.015	1.457	1.248	1.053	0.915	1.116	1.076	1.047	1.003	1.089							
1995	2.075	1.676	0.992	1.027	0.802	1.285	1.018	1.128	1.121	0.999	1.013	1.163	1.322	1.066	1.033	0.983								
1996	2.584	1.332	1.069	1.083	1.048	1.090	1.002	1.030	1.057	1.239	1.125	1.343	1.072	0.975	1.144									
1997	5.270	1.085	1.059	1.079	0.879	0.871	1.218	1.132	1.084	1.072	1.135	1.067	1.049	1.067										
1998	3.279	1.105	1.451	1.185	1.246	0.930	0.895	1.106	1.091	1.038	1.069	1.018	1.098											
1999	1.478	1.198	0.921	1.272	1.159	1.190	1.126	1.253	1.147	1.141	1.114	1.015												
2000	2.411	0.730	1.425	1.145	1.169	1.081	1.077	1.344	1.117	1.019	1.015													
2001	3.195	1.693	1.080	1.059	1.038	1.487	1.120	1.343	1.072	1.115														
2002	3.148	1.614	1.470	1.065	1.153	1.279	1.271	1.086	1.074															
2003	4.464	1.679	1.690	1.632	1.185	1.416	1.068	1.110																
2004	1.503	2.014	1.273	1.208	1.358	1.143	1.085																	
2005	2.196	2.327	1.653	1.296	1.117	1.162																		
2006	1.467	2.223	1.321	1.166	1.149																			
2007	2.742	1.825	1.219	1.097																				
2008	3.986	1.845	1.205																					
2009	2.434	1.194																						
2010	3.084																							
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
RAA Tail (Range 2)																								
Volume Wtd All	2.051	1.428	1.238	1.134	1.144	1.127	1.084	1.138	1.085	1.062	1.063	1.059	1.105	1.054	1.032	1.017	1.071	1.031	1.034	1.039	1.055	1.004	1.041	1.041
Volume Wtd All	16.872	8.225	5.758	4.650	4.101	3.586	3.182	2.936	2.580	2.377	2.238	2.106	1.989	1.800	1.707	1.655	1.627	1.519	1.472	1.424	1.371	1.300	1.295	1.244
Method	15.350	5.584	3.269	2.877	2.535	1.835	1.783	1.865	1.804	1.581	1.619	1.405	1.379	1.362	1.367	1.324	1.162	1.237	1.205	1.299	1.178	1.177	1.123	1.124

Excess of 500K										Ultim	ate	
Accident Yr	300	312	324	336	348	360	372	-	Factors	Difference	No Tail	Method
1981	12,513	12,009	12,077	12,779	12,608	13,329	13,592		15,641	13,592	13,592	13,592
1982	15,994	16,055	16,333	14,658	15,115	15,047			17,657	15,335	15,344	15,335
1983	13,502	13,992	13,509	13,523	12,558				15,083	13,234	13,107	13,234
1984	16,798	16,749	16,939	17,352					20,496	17,842	17,811	17,842
1985	14,781	15,259	15,908						18,616	16,219	16,177	16,219
1986	27,976	28,709							33,914	29,290	29,471	29,290
1987	19,224								22,980	20,120	19,969	20,120
1988									18,718	16,915	16,266	16,915
1989									36,090	31,300	31,362	31,300
1990									32,715	29,634	28,429	29,634
1991									49,044	42,626	45,515	42,620
1992									56 399	46 170	49.010	46.170
1994									44 992	36 648	39.097	36.648
1995									85.971	61.393	74,707	61.393
1996									42,234	33,789	36,700	33,789
1997									41,240	33,010	35,837	33,010
1998									48,815	36,935	42,419	36,935
1999									70,637	48,956	61,382	48,950
2000									94,702	63,162	82,294	63,162
2001									71,133	51,469	61,813	51,469
2002									102,245	67,994	88,848	67,994
2003									94,685	66,207	82,280	66,207
2004									123,531	78,462	107,346	78,462
2005									159,244	89,255	138,379	89,255
2006									1/1,622	87,820	149,136	87,820
2007									113,138	69,935	98,315	69,935
2008									115,957	/0,516	99,026	/0,516
2009									96 642	59 926	75 201	59 926
2010									51 785	47 111	45 000	47 111
2011									2.007.571	1.392.406	1.744.535	1.392.406
Age-to-Age Factors								Above Diff	44.18%		25.29%	0.00%
Accident Yr	300 - 312	312 - 324	324 - 336	336 - 348	348 - 360	360 - 372	To Ult	-				
1081	0.960	1.006	1.058	0.987	1.057	1.020						
1982	1.004	1.000	0.807	1.031	0.995	1.020						
1983	1.036	0.965	1.001	0.929	0.775							
1984	0.997	1.011	1.024	0.727								
1985	1.032	1.043										
1986	1.026											
1987												
1988												
1989												
1990												
1991												
1992												
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2004												
2005												
2006												
2007												
2008												
2009												
2010												
2011												
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

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
1091	1 109	1 300	996	60	156	240	220	220	408	759	0.08	1 903	2 5 4 2	2 212	3 220	3 365	2 494	2.620	3 770	4 990	5.055	6 322	7 102	6 501
1981	1,108	1,300	1 502	1.072	1 400	240	2 2 2 5	3 507	5 954	2 052	3 010	4,090	4 209	4 21 2	4.056	5,305	5 242	6.067	7 122	7 210	9,600	0,522	9.067	0,591
1982	1,250	1,576	1,502	2 429	2,714	2,111	2,365	5,507	3,634	3,955	2 1 2 9	4,069	4,298	4,512	4,956	5,525	3,342	4 202	1,122	7,510	5,090	5,031	5,907	5,992
1985	306	454	962	2,436	2,714	2,050	2,054	3,097	4,007	2,005	2,136	2,120	2,211	2,224	3,300	4,524	4,242	4,292	4,200	5,942	5,105	5,079	5,392	5,590
1984	13	1,021	521	2,404	2,738	2,034	3,120	2,655	1,702	2,995	1,102	1,000	3,280	4,280	4,393	4,525	4,707	2,007	2,001	2,102	2,150	2,401	2,469	6,400
1985	44/	448	521	289	291	/68	81/	912	1,/85	1,082	1,102	1,088	2,220	3,459	4,040	2,964	2,955	3,02/	3,065	5,102	3,152	3,658	3,468	6,490
1980	15	931	1,797	2,200	5,014	4,580	4,405	0,082	0,076	5,915	5,949	1,747	0,391	9,235	9,477	6,544	0,002	2.072	10,840	2 402	2 409	12,341	11,890	12,008
1987	15	235	1,405	1,425	1,195	1,021	1,291	1,009	1,457	1,479	1,554	1,056	2,010	1,636	1,624	1,900	2,069	2,072	1,995	2,403	3,408	2,345	4,987	3,210
1988	15	192	5,194	5,299	592	1,110	1,005	1,290	954	1,060	501	1,801	2,105	2,12/	2,217	2,205	2,455	2,518	2,377	2,030	2,635	5,154	5,511	5,525
1989	1,479	5,151	6,226	5,595	6,129	0,4/3	6,189	6,114	10,815	10,717	10,775	10,789	11,813	7.440	14,118	13,5/3	15,620	15,857	15,185	15,624	15,405	16,465	16,420	
1990	1,620	4,081	3,276	3,418	5,425	3,513	5,690	4,6/3	4,641	4,889	4,587	5,542	5,/88	/,449	/,/5/	/,881	8,078	8,079	/,96/	8,555	8,//2	9,121		
1991	1,5/1	1,881	3,558	4,942	5,129	5,515	6,504	7,005	8,685	8,284	8,985	/,961	8,255	8,857	8,937	9,052	8,500	10,485	12,486	13,972	14,515			
1992	5/4	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	11,52/	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,/94	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	16,3/3	17,204	12,62/	16,528	16,409	18,188	19,078	19,041	18,866	22,449	32,200	34,099	35,261	33,645							
1996	/88	3,002	3,743	3,857	4,140	4,210	3,934	3,689	2,966	2,6/1	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,//3	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																							
Ago to Ago Eactors																								
Accident Vr	12 24	24 26	26 49	49 60	60 72	72 84	84 06	06 108	109 120	120 122	122 144	144 156	156 169	169 190	180 102	102 204	204 216	216 229	228 240	240 252	252 264	264 276	276 200	200 200
Accident 11	12 - 24	24 - 30	30 - 40	48 - 00	00 - 72	/2 - 04	84 - 90	90 - 108	108 - 120	120 - 132	132 - 144	144 - 150	150 - 108	108 - 180	180 - 192	192 - 204	204 - 210	210 - 228	220 - 240	240 - 232	232 - 204	204 - 270	2/0 - 200	200 - 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	0.501								
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	1.027									
1998	7 478	1.018	1.844	1 178	1 226	0.857	0.761	0.986	1.162	1.032	0.903	1.041	1 118	1.023										
1990	1 537	1 181	0.870	1.036	1.038	1.081	1.016	1 160	1.102	1.025	1 21/	1.020	1.110											
2000	2 985	0.505	1 457	1.0.50	1.050	0.991	1.073	1 350	1.044	0.967	0.987	1.021												
2000	3 264	1.626	0.916	0.980	0.800	1.940	0.918	1 449	0.808	1 210	0.207													
2001	13 610	1.020	1 424	0.260	1 157	1.076	1 162	1 107	1.065	1.219														
2002	50 804	2 282	1.424	2 5 2 9	1.1.57	1 439	1.102	1.197	1.005															
2003	1 236	5.015	1.045	1 258	1.14/	1.430	1.114	1.10/																
2007	1.2.00	0.010	1.1.4.4.4	1.2.30	1.10.0	1.111	1.0.32																	

Casualty Actuarial Society E-Forum, Fall 2013

1.213

8.028

2.779

36 - 48

2.157

1.339

1.090

1.060

1.279

1.142

0.887

48 - 60

1.097

6.620

3.019

1.072

1.103

60 - 72

1.098

6.037

3.215

1.107

72 - 84

1.077

5.497

1.715

84 - 96

1.046

5.104

1.731

96 - 108

1.155

4.879

2.058

108 - 120 120 - 132

1.041

3.990

1.762

1.059

4.223

2.190

132 - 144 144 - 156

1.053

3.654

1.538

1.049

3.833

2.124

156 - 168

1.173

3.472

1.599

168 - 180 180 - 192 192 - 204

1.028

2.777

1.630

1.066

2.959

1.428

204 - 216

1.087

2.710

1.155

0.997

2.702

1.579

216 - 228

1.042

2.493

1.331

228 - 240 240 - 252

1.075

2.252

1.977

1.062

2.392

1.273

2005

2006

2007

2008

2009

2010

2011

RAA Tail (Range 3) Volume Wtd All

Volume Wtd All

Method

Averages

5.037

2.134

24.830

15.214

3.698

5.785

2.972

37.214

28.366

12 - 24

3.923

3.735

2.125

3.347

1.060

24 - 36

1.560

12.523

5.470

1.077

1.933

1.118

288 - 300

1.058

1.795

1.238

252 - 264 264 - 276 276 - 288

0.994

1.921

1.247

1.090

2.094

1.249
Excess of 1000K	

Excess of 1000K									Ultimate			
Accident Yr	300	312	324	336	348	360	372		Factors	Difference	No Tail	Method
1981	6.689	6.154	6.324	6.819	6.544	6.978	7.264		12.200	7.264	7.264	7.26
1982	8,900	9,011	9,299	7,540	7,712	7,625	-,=		13,331	7,939	7,938	7,93
1983	5,434	5,727	5,562	5,486	4,658	.,			8,341	5,188	4,967	5,18
1984	6,843	6,748	6,815	7,042					12,019	7,261	7,157	7,20
1985	6,647	6,748	7,224						11,839	7,127	7,050	7,12
1986	15,035	15,702							26,362	15,844	15,697	15,84
1987	5,650								9,588	5,852	5,709	5,8
1988									5,964	4,114	3,551	4,1
1989									31,737	18,351	18,897	18,3
1990									17,525	11,374	10,435	11,3
1991									30,391	18,123	18,096	18,1
1992									9,542	8,377	5,681	8,3
1993									41,975	22,341	24,993	22,3
1994									31,544	16,849	18,783	16,8
1995									91,179	38,861	54,291	
1996									20,615	12,049	12,275	12,0
1997									20,560	17 435	21 514	11,9
1999									42 193	19 432	25 123	19.4
2000									42,175	27.668	30 1/1	27.6
2000									33,662	18 658	20.044	18.6
2002									64 434	28 465	38 366	28.4
2003									48 967	25 394	29 157	25.3
2004									79,085	33,350	47.090	33.3
2005									129,689	43,970	77,221	43,9
2006									143,490	44,757	85,439	44,7
2007									48,068	25,599	28,621	25,5
2008									63,311	28,875	37,697	28,8
2009									93,885	32,504	55,902	32,5
2010									59,761	26,106	35,584	26,1
2011									26,987	20,570	16,069	20,5
re to Age Factors								Ab Diff	1,329,909	611,650	791,877	611,6
Accident Yr	300 - 312	312 - 324	324 - 336	336 - 348	348 - 360	360 - 372	To Ult	Above Diff	11/.4370		29.4770	0.00
	500 512	512 521	521 550	550 510	510 500	500 572	10 011	-				
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	1.033									
1985	1.015	1.070										
1986	1.044											
1987												
1988												
1989												
1990												
1991												
1992												
1995												
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1998												
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2006												
2007												
2008												
2009												
2010												
2011												
verages								_				
	300 312	312 324	224 226	226 249	348 360	260 272	To Ille					

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