

RULES – IMPLEMENTATION

SEPTEMBER 28, 2022

COMMERCIAL MULTIPLE LINE

LI-ML-2022-036

**TENNESSEE COMMERCIAL PACKAGE POLICY REVISED
PACKAGE MODIFICATION FACTOR REVISION TO BE
IMPLEMENTED; EXHIBITS PRESENTED IN EXCEL**

KEY MESSAGE

Revised Commercial Package Policy package modification factors for an overall statewide change of -2.1% to be implemented.

BACKGROUND

In circular [LI-ML-2022-015](#), we provided you with information about the Commercial Package Policy modification factor experience review.

CONSIDERATION OF COVID-19

ISO has considered whether any adjustments need to be made to prospective loss costs or rating factors, which are based on historical experience (pre-COVID-19), to reflect the conditions in which these loss costs or rating factors will be effective (post-COVID-19). Commercial Package Policy Modification Factors are applied to separate underlying coverages that are then combined to create a package policy. Any adjustment that is made to the underlying coverage loss costs to reflect the potential impact of COVID-19 will, therefore, also be reflected in commercial package policy rating. While there will almost certainly be long-term behavioral, social and economic changes as a result of COVID-19, we expect, based on the information currently available, that those changes will have negligible effects on Commercial Package Policy Modification Factors. Therefore, ISO is not making any explicit adjustment to those factors due to COVID-19.

ISO ACTION

We are implementing ML-2022-RLA1, which presents a review of Commercial Package Policy modification factors experience. Refer to the attachment(s) for complete details.

IMPORTANT NOTE

Change in Format

This circular offers several enhancements for customers. In addition to the PDF version, exhibits and loss cost tables are now available in user-friendly Excel format rather than Word. Where possible, exhibits are linked together formulaically to clarify how calculations flow through the entire ratemaking process and to enable customers to test the effects of different assumptions on the results.

To facilitate this change, the filing has been restructured. All explanatory text, for all sections of the filing, appears first; all exhibits and tables are grouped together and appear thereafter. Exhibits have been relabeled (Exhibit A1, Exhibit A2, etc.).

We invite customers to share feedback on this revised format and suggestions for further enhancements by contacting the individuals listed in the Contact Information block.

EFFECTIVE DATE

The ISO revision is subject to the following rule of application:

These changes are applicable to all policies written on or after March 1, 2023.

COMPANY ACTION

If you have authorized us to file on your behalf and decide:

- To use our revision and effective date, you are not required to file anything with the Insurance Department.
- To use our revision with a different effective date, to use our revision with modification, or to not use our revision, you must make an appropriate submission with the Insurance Department.

For guidance on submission requirements, consult the ISO State Filing Handbook.

WE WILL SUBMIT THIS REVISION TO THE INSURANCE DEPARTMENT ON FEBRUARY 1, 2023. IF STATE FILING REQUIREMENTS DICTATE THAT YOU MAKE A SUBMISSION WITH THE INSURANCE DEPARTMENT, DO NOT SUBMIT IT PRIOR TO THIS DATE.

In all correspondence with the Insurance Department on this revision, you should refer to ISO Filing Number [ML-2022-RLA1](#) and SERFF Tracking Number [ISOF-133402036](#), NOT this circular number. Communications with the regulator concerning a filing affecting multiple lines of business (i.e., CL, PL, AL filing designation) should specify the line(s) of business that you are addressing.

RATING SOFTWARE IMPACT

No new attributes are being introduced with this revision.

POLICYHOLDER NOTIFICATION

If you decide to implement this revision, you should check all applicable laws for the state(s) to which this revision applies, to determine whether or not a specific policyholder notice requirement may apply. Please note that circular [LI-CL-2022-006](#) contains the ISO Guide To Renewals With Changed Conditions For Commercial Lines, which is available only as a guide to assist participating companies in complying with various conditional renewal statutes or regulations, for the major commercial lines of insurance serviced by ISO. The information in the Guide does not necessarily reflect all requirements or exceptions that may apply, and it is not intended as a substitute for your review of all applicable statutes and regulations concerning policyholder notification.

REVISION DISTRIBUTION

We will issue a Notice to Manualholders with an edition date of 3-23 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

REFERENCE(S)

- [LI-ML-2022-015](#) (06/30/2022) Commercial Package Policy Experience Reviewed By Staff
 - [LI-CL-2022-006](#) (02/22/2022) Revised Lead Time Requirements Listing
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ATTACHMENT(S)

Filing [ML-2022-RLA1](#)

FILES AVAILABLE FOR DOWNLOAD

To download all files associated with this circular, including attachments in the full circular PDF and/or any additional files not included in the PDF, search for the circular number on [ISOnet Circulars](#). Then click the Word/Excel link under the Full Circular column on the Search Results screen.

Please note that in some instances, not all files listed in the Attachment(s) block (if applicable) are included in the PDF.

DATA QUALITY

Statistical plan data reported to ISO is first processed through a system of rigorous automated data verification procedures so that only valid data would be used for ratemaking. Subsequent to this initial data submission review, additional analyses on the statistical plan data involving an even more customized data review for this line were performed by staff. During these processes, various data records were excluded from the review. The ISO staff responsible for this circular also reviewed the data for reasonableness.

ACKNOWLEDGMENT OF ACTUARIAL QUALIFICATIONS

The American Academy of Actuaries' "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" requires that an actuary issuing a Statement of Actuarial Opinion should include an acknowledgment with the opinion that he/she has met the qualification standards of the AAA. ISO considers this rule revision a Statement of Actuarial Opinion; therefore, we are including the following acknowledgment:

I, Nancy Narisi, am a Senior Actuarial Associate in Actuarial Operations for ISO, and I, Bei Zhou, am an Actuarial Product Director for Commercial Property for ISO. We are jointly responsible for the content of this Statement of Actuarial Opinion. We are both members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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Callers outside the United States, Canada, and the Caribbean may contact us using our global toll-free number (International Access Code + 800 48977489). For information on all ISO products, visit us at www.verisk.com/iso. To keep abreast of the latest Insurance Lines Services updates, view www.verisk.com/ils.

TENNESSEE
 ADVISORY PACKAGE MODIFICATION FACTOR REVIEW
 COMMERCIAL PACKAGE POLICY
 ML-2022-RLA1
 EXECUTIVE SUMMARY

PURPOSE

This document:

- presents a review of advisory Package Modification Factors (PMFs). PMFs are relativity factors used to adjust monoline loss costs as appropriate for multiline risks.
- provides the analyses used to derive these advisory PMFs.

CONSIDERATION OF COVID-19

ISO has considered whether any adjustments need to be made to prospective loss costs or rating factors, which are based on historical experience (pre-COVID-19), to reflect the conditions in which these loss costs or rating factors will be effective (post-COVID-19). Commercial Package Policy Modification Factors are applied to separate underlying coverages that are then combined to create a package policy. Any adjustment that is made to the underlying coverage loss costs to reflect the potential impact of COVID-19 will therefore also be reflected in commercial package policy rating. While there will almost certainly be long-term behavioral, social and economic changes as a result of COVID-19, we expect, based on the information currently available, that those changes will have negligible effects on Commercial Package Policy Modification Factors. Therefore, ISO is not making any explicit adjustment to those factors due to COVID-19.

PMF CHANGES

The proposed Commercial Package Policy (CPP) Package Modification Factor changes are:

<u>Type of Policy</u>	<u>Property</u>	<u>Liability</u>	<u>Prop. & Liab. Total</u>
Motel/Hotel	0.0%	0.0%	0.0%
Apartment	1.0%	0.0%	0.9%
Office	-5.6%	-5.0%	-5.3%
Mercantile	-2.2%	-1.1%	-1.7%
Institutional	-5.1%	-3.7%	-4.9%
Services	2.1%	-5.1%	-0.5%
Indust./Proc.	-5.0%	0.0%	-3.0%
Contractors	<u>-2.2%</u>	<u>-1.2%</u>	<u>-1.4%</u>
Statewide	-2.2%	-2.1%	-2.1%

TENNESSEE

ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

ML-2022-RLA1

EXECUTIVE SUMMARY

INDICATED VS. CAPPED Indicated PMF changes are based on standard ISO methodology. Differences between indicated and capped PMF changes are caused by rounding each indicated PMF to the nearest one percent and applying an upper cap of 1.00, where necessary.

HISTORICAL SOURCE DATA The data used in this review is from ISO reporting companies for:

- Basic Group I: five fiscal accident years ending 06/30/20.
- Basic Group II: ten fiscal accident years ending 06/30/20.
- Special Causes of Loss: five fiscal accident years ending 06/30/20.
- Crime: calendar year ending 06/30/16.
- Inland Marine: five calendar accident years ending 12/31/16.
- Fidelity: policy year ending 12/31/15.
- Owners, Landlords, and Tenants: five fiscal accident years ending 06/30/20.
- Manufacturers and Contractors: five fiscal accident years ending 06/30/20.
- Products: three calendar accident years ending 12/31/19.
- Local Products and Completed Operations: three calendar accident years ending 12/31/19.

PRIOR ISO REVISIONS The latest revisions in this state are:

<u>Filing</u>	ML-18-RLA1	ML-17-RLA1	ML-12-RLA1
<u>Dates</u>			
Implemented	10/1/2019	6/1/2018	12/1/2010
<u>Changes</u>			
Indicated	-1.3%	-2.8%	5.0%
Filed	-1.3%	-2.8%	4.8%
Implemented	-1.3%	-2.8%	4.8%

TENNESSEE

ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

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EXECUTIVE SUMMARY

ADJUSTMENTS
TO REPORTED
EXPERIENCE

Standard actuarial procedures have been used in the reviews underlying the calculation of the PMFs, including adjusting the fire and liability losses to ultimate settlement level and, for all coverages, reflecting all loss adjustment expenses and trend. Specific procedures vary by subline.

TEN LARGEST
GROUPS IN
ISO DATA BASE

Insurers are listed in descending order based on the percent of statewide written premium volume from Annual Statement Page 15 for the year ending 12/31/18 for the Annual Statement Line of Business (ASLOB) indicated.

COMMERCIAL MULTI PERIL (ASLOB 51 & 52)

1. Cincinnati Insurance Company
 2. Travelers Indemnity Company
 3. Nationwide Mutual Insurance Company
 4. Tokio Marine Companies
 5. Liberty Mutual Insurance Company
 6. Westfield Insurance Company
 7. Hanover Insurance Company
 8. Insurance Company Of North America
 9. Continental Casualty Company
 10. Frankenmuth Mutual Insurance Company
-

SIZE OF ISO
DATA BASE

The market share of ISO participating insurers as measured by Annual Statement Page 15 written premium for the year ending 12/31/18 is:

Commercial Multi Peril (ASLOB 51 & 52). 44.7%.

ADDITIONAL
SUPPORTING
MATERIAL

Additional supporting material underlying the calculation of the experience review indications used in this PMF analysis may be found in the respective monoline experience review documents for each line.

TENNESSEE

ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

ML-2022-RLA1

EXECUTIVE SUMMARY

COMPANY DECISION

We encourage each insurer to decide independently whether the judgments made and the procedures or data used by ISO in developing the PMFs contained herein are appropriate for your use. We have included within this document the information upon which ISO relied in order to enable companies to make such independent judgments. The data underlying the enclosed material comes from companies reporting to Insurance Services Office, Inc. Therefore, the ISO experience permits the establishment of a much broader statistical ratemaking base than could be employed by using any individual company's data. A broader data base enhances the validity of ratemaking analysis derived therefrom.

At the same time, however, an individual company may benefit from a comparison of its own experience to the aggregate ISO experience, and may reach valid conclusions with respect to the manner in which its own costs can be expected to differ from ISO's projection based on the aggregate data.

Some calculations included in this document involve areas of ISO staff judgment. Each company should carefully review and evaluate whether the ISO selected PMFs are appropriate for its use.

The material has been developed exclusively by the staff of Insurance Services Office, Inc.

COMMERCIAL PACKAGE POLICY

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COMMERCIAL PACKAGE POLICY

SECTION A: SCOPE OF REVISION METHODOLOGY OVERVIEW

OBJECTIVE

A Commercial Package Policy (CPP) is essentially a combination of monoline coverages. CPP pricing employs monoline loss costs modified by Package Modification Factors (PMFs). These factors vary by the eight CPP types of policy and are reviewed annually. Monoline and multiline experience are combined and reviewed via a monoline/multiline relativity analysis. The resulting indicated PMFs represent the loss cost for a CPP relative to that for monoline policies providing the same coverages.

STEP 1: THE RELATIVITY ANALYSES

Each line of insurance develops indicated changes to monoline and multiline aggregate loss costs based on an experience ratio relativity analysis for that coverage. The monoline indication represents the needed change to monoline loss costs. The multiline indication represents the needed change to multiline aggregate loss costs, which is implemented through changes to the PMFs. For this PMF analysis, multiline indications are developed for each line of insurance and Type of Policy. Relativity analyses are explained in Section B.

STEP 2: CALCULATION OF THE PMFs

The procedure described above generates indicated Implicit PMFs (IPMFs) which vary by the various lines of insurance and by type of policy. IPMFs represent what the PMF would be for the CPP risk if only a single coverage were written. For each Type of Policy, IPMFs are weighted by CPP aggregate loss costs to determine the indicated property and liability PMFs. These PMFs may be capped, or rounded to the nearest one percent, and certain component IPMFs appropriately adjusted for this change. These calculations are explained in the remainder of Section A.

COMMERCIAL PACKAGE POLICY

SECTION A: SCOPE OF REVISION

CALCULATION OF REVISED PACKAGE MODIFICATION FACTORS (EXHIBIT A2)

OBJECTIVE Commercial package policies were introduced in the 1960's as a convenient tool for both insurer and insured to have the many types of insurance needed by commercial risks packaged under one cover. Thus fire, extended coverage, crime, liability insurance, etc. could be written using a single policy instead of several. Today, virtually any type of monoline coverage can also be purchased as part of a package policy such as the CPP.

The types of insured which can be written under a CPP are generally categorized into the following Types of Policy:

- . Motels and Hotels (TOP 31)
- . Apartments (TOP 32)
- . Offices (TOP 33)
- . Mercantile Operations (TOP 34)
- . Institutions (TOP 35)
- . Service Operations (TOP 36)
- . Industrial and Processing Operations (TOP 37)
- . Contractors (TOP 38)

PRICING OF POLICIES Since a CPP is essentially a combination of monoline coverages, CPP pricing employs monoline loss costs modified by PMFs (Package Modification Factors). These factors vary by the categories shown above and are reviewed annually.

CPP PMF REVIEW PROCEDURE The CPP review of Package Modification Factors, which appears in Table 2 of this document, determines the appropriate PMF loss cost level for each of the eight CPP categories. This is done by combining the indications of the simultaneous reviews of monoline and multiline experience for the various lines (or coverages).

A detailed explanation of the calculation of the revised PMFs follows.

COMMERCIAL PACKAGE POLICY

SECTION A: SCOPE OF REVISION

CALCULATION OF REVISED PACKAGE MODIFICATION FACTORS (EXHIBIT A2)

LINES OF INSURANCE (COVERAGES) INCLUDED

The CPP review reflects the contribution from each significant coverage which can be written on a CPP. Included are:

Property Coverages

- . Basic Group I (BGI) - the predominant property coverage included.
- . Basic Group II (BGII) - both Basic Group I and Basic Group II must be purchased under a CPP contract.
- . Special Causes of Loss (SCL) - typically a type of insurance which is purchased in addition to Basic Group I and Basic Group II in order to provide "all risk" property coverage for the insured.
- . Crime (CRIME) - Crime insurance is a commonly purchased CPP coverage.
- . Inland Marine (INL. MAR.) - A highly specialized line of property insurance, Inland Marine coverages can be purchased as part of a package policy.
- . Fidelity (FIDELITY) - Certain forms of fidelity insurance can be part of the CPP package. Various forms of employee dishonesty coverage are available.

Liability Coverages

- . Owners, Landlords and Tenants (OL&T) Liability - this is the prevalent type of Premises/Operations liability for CPP insureds.
- . Manufacturers and Contractors Liability (M&C) - this is the type of Premises/Operations liability insurance for risks whose liability exposure is more heavily off-premises than on.
- . Products/Completed Operations Liability (PROD) - this type of insurance protects against claims for damages arising from products/completed operations in conjunction with an insured's business. For review purposes, this line of insurance is split into the following two categories:
 - Products: experience for this category is reviewed on a multistate basis.
 - Local Products/ Completed Operations: experience for this category reflects an exposure to loss which is local in nature; therefore, individual state experience is used.

COMMERCIAL PACKAGE POLICY

SECTION A: SCOPE OF REVISION

CALCULATION OF REVISED PACKAGE MODIFICATION FACTORS (EXHIBIT A2)

THE IMPLICIT PACKAGE MODIFICATION FACTOR

For each applicable coverage listed under each of the eight (8) CPP categories, a "current implicit PMF" is shown in column (2). The definition of this factor follows:

For a given CPP category (e.g., apartments) the published Package Modification Factor (PMF) represents the loss cost for a CPP relative to that for monoline policies providing the same coverages. Thus a property (liability) PMF of .80 represents a 20% lower aggregate loss cost for a CPP than for the comparable monoline policies. This PMF, however, represents the CPP "loss cost" for all property (liability) coverages combined. Based on CPP experience, it has been determined that this CPP "loss cost" can differ significantly if it is determined for each property (liability) coverage individually. The IPMF represents what the PMF would be for that CPP risk if only a single coverage were written. The use of the IPMF in monoline/ multiline ratemaking and in the determination of revised CPP Package Modification Factors is significant in that it appropriately identifies how different the component parts of the multiline "loss cost" are.

THE MULTILINE INDICATION

Under the CPP ratemaking procedures, monoline and multiline experience are combined for each coverage. The results of these coverage analyses are indicated changes to monoline loss costs and also indicated CPP aggregate loss cost level changes. The CPP indications by coverage are then incorporated in the CPP PMF review. These indications (shown in column (3)) represent the needed adjustments to the IPMFs (shown in column (2)) described above.

The development of these indications is detailed in Section B.

THE INDICATED PMF

For each CPP category (and for property vs. liability), the indicated PMF is calculated as follows:

Each of the current IPMFs in column (2) is multiplied by the indicated percent change shown in column (3). A weighted average of the indicated IPMFs, using weights based on latest year aggregate loss costs at current ISO loss cost level (column (1) divided by column (2)), yields the indicated PMF at the bottom of column (4).

THE CAPPED PMF

The indicated PMF for each category (and for property vs. liability) shown at the bottom of column (4) is limited to a maximum of 1.00 in arriving at the proposed PMF (bottom of column (5)). All indicated PMFs which are below 1.00 are rounded to the nearest .01 in determining the proposed PMF. To the extent that any indicated PMFs are capped at 1.00, indicated PMFs below this value are adjusted in order to minimize any revenue changes which would result from capping.

In addition to the adjustments just described, the IPMFs (for property and liability) in column (4) are subject to minimum and maximum values and adjusted in column (5) so that they average to the proposed PMF shown at the bottom of column (5).

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE
BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS (EXHIBIT B1-B2)

OBJECTIVE

The explanations which follow clarify Exhibits B1 and B2, the Basic Group I Relativity Analysis and the Special Causes of Loss Relativity Analysis, respectively. The purpose of these analyses is to:

- (1) determine monoline classification and territorial loss cost level needs for Basic Group I;
- (2) determine monoline category loss cost level need for Special Causes of Loss;
- (3) determine indicated changes to the eight property CPP Package Modification Factors based on Basic Group I/Special Causes of Loss experience.

COLUMN (1)

LEAST SQUARES FORMULA RELATIVITIES

The Least Squares Formula Relativities are the marginal relativities which result from the application of the simultaneous review procedure to the raw experience (where marginal refers to the relativities for a given rating variable, e.g. type of policy, across all subsets of any other rating variables, i.e. territory for Basic Group I, and category for Special Causes of Loss).

The purpose of such a simultaneous review procedure is to arrive at a set of type of policy relativities (which will serve to price CPP policies relative to monoline policies via the PMF); a set of territory relativities for Basic Group I; and a set of category relativities for Special Causes of Loss that best represent the experience. This procedure is in contrast to a review of each rating variable's experience separately. Such one-way types of review do not take into account differing percentages of monoline and multiline experience in each rating variable, or differing percentages of a particular rating variable's experience in the monoline and multiline types of policy. The simultaneous relativity procedure accounts for these different distributions in generating relativities for the various rating variables.

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE
BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS (EXHIBIT B1-B2)

COLUMN (1)
(Cont'd)

The procedure uses an iterative technique to determine a set of marginal relativities by rating variable that is a best fit to the individual cell relativities, with each cell being defined as the cross-section of specific values of each rating variable. The process uses the relativity of the five year experience ratios by rating cell to the overall statewide experience ratio and the latest year aggregate loss costs for each rating cell. (This experience is shown in Exhibit B3 for Basic Group I and Exhibit B4 for Special Causes of Loss). Specifically, the iteration procedure uses the following formulas:

BASIC GROUP I:

$$TOP_i = \frac{\sum_{k=1}^t W_{ik}^2 R_{ik} TER_k}{\sum_{k=1}^t W_{ik}^2 TER_k^2}, \quad \text{where } 1 \leq i \leq m;$$

$$TER_i = \frac{\sum_{k=1}^m W_{ik}^2 R_{ik} TOP_k}{\sum_{k=1}^m W_{ik}^2 TOP_k^2}, \quad \text{where } 1 \leq k \leq t;$$

SPECIAL CAUSES OF LOSS:

$$TER_i = \frac{\sum_{k=1}^m W_{ik}^2 R_{ik} TOP_k}{\sum_{k=1}^m W_{ik}^2 TOP_k^2}, \quad \text{where } 1 \leq k \leq t;$$

$$CAT_j = \frac{\sum_{i=1}^m W_{ij}^2 R_{ij} TOP_i}{\sum_{i=1}^m W_{ij}^2 TOP_i^2}, \quad \text{where } 1 \leq j \leq n;$$

- TOP_i is the relativity for the i th Type of Policy;
- CAT_j is the relativity for the j th Category;
- TER_k is the relativity for the k th Territory;

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE
BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS (EXHIBIT B1-B2)

COLUMN (1)
(Cont'd)

- W_{ik} is the loss cost volume at current level for the i th Type of Policy and k th Territory;
- R_{ik} is the experience ratio relativity for the i th Type of Policy, k th Territory (Basic Group I);
- R_{ij} is the experience ratio relativity for the i th Type of Policy, j th Category (Special Causes of Loss);
- m is the number of Types of Policy in the analysis;
- n is the number of Rating Groups or Categories in the analysis;
- t is the number of Territories in the analysis.

The procedure determines m Type of Policy relativities using the above formulas. Then, using those results, a set of t Territory relativities (BG1) or a set of n category relativities (SCL) are determined. These steps form an iterative process which continues until there is no appreciable difference in results from one iteration to the next.

COLUMN (2)

CREDIBILITY

The credibility of the experience for each rating variable is determined from the formula:

$$Z = \frac{P}{P + K}$$

where P presents the five-year adjusted aggregate loss costs for a given rating variable, and K is a constant value. For Basic Group I, K equals an aggregate loss cost volume of \$55,000,000 for territory, and \$100,000,000 for type of policy. For Special Causes of Loss, K equals an aggregate loss cost volume of \$15,000,000 for category and \$40,000,000 for type of policy.

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE
BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS (EXHIBIT B1-B2)

COLUMN (3) CREDIBILITY-WEIGHTED RELATIVITIES

Credibility-weighted relativities are calculated based on the formula

$$W = R^Z$$

where Z is the credibility, R is the least squares formula relativity and W is the credibility-weighted relativity for a given rating variable.

This formula implicitly assigns the complement of credibility to a relativity of unity.

COLUMN (4) BALANCED RELATIVITIES

The credibility-weighted relativities are balanced to assure that the average relativity across all rating variables remains at unity.

COLUMN (5) INDICATED CHANGES

The indicated changes by Type of Policy is calculated as follows:

$$\text{Indicated Change} = \frac{\text{Balanced Relativity for TOP}}{\text{Monoline Relativity}} - 1$$

MULTILINE
CONSIDERATIONS

The type of policy (TOP) relativities are used to generate multiline indications which apply to the current Implicit Package Modification Factors (IPMFs). The indicated IPMFs are calculated as follows:

$$\text{TOP y Indicated IPMF} = \frac{(\text{TOP y Current IPMF}) \times (\text{TOP y Relativity})}{\text{Monoline Relativity}}$$

For each CPP Type of Policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that Type of Policy are adjusted to the capped IPMF level, and the entire relativity review as described above is re-performed to take this into account. If an IPMF has been capped it is so noted at the bottom of Exhibits B1 and B2.

Loss cost changes for each TOP are calculated as described on Exhibits B1-B2.

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE
BASIC GROUP I RELATIVITY ANALYSIS
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW (EXHIBIT B3)

INTRODUCTION The experience used in the relativity analysis and displayed in Exhibits B3 is the latest five years of accident year data as reported under the Commercial Statistical Plan. As in the overall review, loss costs have been adjusted to current ISO loss cost and prospective amount of insurance levels (with multiline aggregate loss costs adjusted additionally by the current implicit package modification factors). Incurred losses are adjusted to prospective cost levels, and are further adjusted by the Basic Group I large loss procedure. Losses have also been developed to their ultimate settlement value by application of loss development factors.

COLUMN (1) AGGREGATE LOSS COSTS

The latest year adjusted aggregate loss costs (adjusted as described above) are used as weights both in the calculation of any totals shown in this table and in the iterative formulae used in the simultaneous review procedure.

COLUMN (2) 5 - YEAR AGGREGATE LOSS COSTS

The combined five-year adjusted aggregate loss costs (adjusted as described above) are used to calculate the experience ratios in column (3).

COLUMN (3) FIVE-YEAR EXPERIENCE RATIOS

These are the ratio of the combined five-year adjusted incurred losses (adjusted as described above) to the combined five-year adjusted aggregate loss costs as shown in Column (2). Any totals which are shown are weighted averages using the adjusted aggregate loss costs in Column (1).

COLUMN (4) RELATIVITIES

The relativities are the ratios of the five-year experience ratios shown in column (3) to the average five-year experience ratio for all TOP's and territories (where applicable) combined. These relativities represent how much better or worse than average the experience for a given cell is. They are used along with the aggregate loss costs in column (1) as input for the simultaneous review procedure.

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
PROPERTY COVERAGES: COMMERCIAL FIRE AND ALLIED LINES

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW (EXHIBIT B4)

INTRODUCTION	<p>The experience used in the relativity analysis and displayed on Exhibit B4 is the latest five accident years of data reported under the Commercial Statistical Plan. As in the overall review, loss costs have been adjusted to current ISO loss cost and prospective amount of insurance levels (with multiline aggregate loss costs adjusted additionally by the current implicit package modification factors). Incurred losses are adjusted to prospective cost levels, and are further adjusted by the Special Causes of Loss excess procedure. Losses have also been developed to their ultimate settlement value by application of loss development factors.</p>
COLUMN (1)	<p><u>AGGREGATE LOSS COSTS</u></p> <p>The latest accident year aggregate loss costs (adjusted as described above) are used as weights both in the calculation of any totals shown in this table and in the iterative formulas used in the simultaneous review procedure.</p>
COLUMN (2)	<p><u>5 - YEAR AGGREGATE LOSS COSTS</u></p> <p>The combined five-year adjusted aggregate loss costs (adjusted as described above) are used to calculate the experience ratios in column (3).</p>
COLUMN (3)	<p><u>FIVE-YEAR EXPERIENCE RATIOS</u></p> <p>These are the ratios of the combined five-year adjusted incurred losses (adjusted as described above) to the combined five-year adjusted aggregate loss costs as shown in column (2). Any totals which are shown are weighted averages using the adjusted aggregate loss costs in column (1).</p>
COLUMN (4)	<p><u>CREDIBILITY (Z) WEIGHTED EXPERIENCE RATIO</u></p> <p>A credibility procedure is applied to the initial experience ratios in column (3) on a cell-by-cell basis prior to the simultaneous review procedure. The credibility values are calculated using an empirical Bayesian credibility procedure. In the following discussion, cell refers to an individual combination of TOP and category.</p>

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
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SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW (EXHIBIT B4)

COLUMN (4)
(cont'd)

The important concept underlying empirical Bayesian credibility is that credibility should depend both on the overall variation of the group of which the cell is a member and the variation of the yearly experience ratios for the cell. Therefore, if a cell's data is very stable then a relatively high credibility value is assigned, and vice versa.

The empirical Bayesian credibility formula for individual cell credibility is $Z = ((C-3)/C) (P/(P+K)) + (3/C)$. P equals the cell's five-year adjusted aggregate loss costs and C equals the number of unique combinations of rating variables (TOP and Category) within a class group. The K value is estimated from the underlying data using the empirical Bayes method and varies by TOP group. The three TOP groups used in this analysis are: Monoline (TOP 10), Premises (TOP's 31-35), and Operations (TOP's 36-38). The 3/C term corrects for the statistical bias associated with the credibility process. The minimum credibility that is possible is 3/C.

COLUMN (5)

Z-WEIGHTED RELATIVITIES

The relativities are the ratios of the five-year credibility-weighted experience ratios shown in column (4) to the average five-year credibility-weighted experience ratio for all TOP's and categories combined. These relativities represent how much better or worse than average the experience for a given cell is. They are used along with the aggregate loss costs in column (1) as input for the simultaneous review procedure.

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
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DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE
BASIC GROUP II RELATIVITY ANALYSIS (EXHIBIT B5)

COLUMN (3)
(Cont'd) Unlike the BGI and SCL relativity analyses, the BGII analysis does not employ a simultaneous review procedure since a one way review is involved. That is, the overall loss cost change is only distributed across type of policy; no other rating variables are considered.

COLUMN (4) CREDIBILITY

The credibility of the experience for each type of policy is determined from the formula:

$$Z = \frac{P}{P + K}$$

where P is the ten year adjusted aggregate loss costs for a given type of policy, and K is a constant loss cost volume of \$45,000,000.

COLUMN (5) Z - WEIGHTED RELATIVITY

The weighted relativity is a weighted average of the individual TOP formula relativity and the overall (coverage) formula relativity using credibility and its complement as the respective weights. Therefore, to the extent that the indication for a type of policy is not fully credible, the complement of credibility is assigned to the statewide coverage level change.

COLUMN (6) BALANCED FORMULA RELATIVITY

The individual multiline weighted relativities are balanced to the multiline weighted relativity level by applying a factor equal to the overall multiline relativity (i.e. the weighted relativity for all multiline combined which is shown on the top of the exhibit directly under the corresponding monoline relativity) divided by the average multiline relativity (i.e. the weighted average of the individual multiline weighted relativities which is shown on the bottom of the exhibit). When the indicated IPMF for a type of policy is capped, the balanced relativity is set equal to the product of the capped IPMF and the monoline balanced formula relativity, divided by the current IPMF.

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
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DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE
BASIC GROUP II RELATIVITY ANALYSIS (EXHIBIT B5)

COLUMN (7)

NORMALIZED FORMULA RELATIVITY

The normalized relativity is equal to the balanced formula relativity divided by the average monoline/multiline combined relativity. This balances the average monoline/multiline relativity to unity.

COLUMN (8)

INDICATED LOSS COST CHANGES

The indicated multiline (by TOP) changes are calculated by taking the ratio of the TOP relativity (Column 7) to the monoline relativity.

For each type of policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that type of policy are adjusted to the capped IPMF level, and the entire relativity review as described above is redone to take this into account. If an IPMF has been capped it is so noted in footnote A.

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES PROPERTY COVERAGES: CRIME AND FIDELITY

The reviews for Burglary and Theft and for Fidelity are done on a multistate basis, combining both multiline and monoline experience. However, unlike other coverages included in a Commercial Package Policy, there is no simultaneous review procedure for either Burglary and Theft or for Fidelity in which separate loss cost level changes can be determined for multiline and monoline experience. In the absence of a simultaneous review procedure, we are unable to determine Type of Policy relativities with which to price CPP policies relative to monoline policies and therefore have assumed a multiline change of 0.0% and thus no change to the historic Crime or Fidelity IPMFs.

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
PROPERTY COVERAGES: COMMERCIAL INLAND MARINE

EXHIBITS B6 AND B7

Exhibits B6 and B7 are not applicable this year. Commercial Inland Marine relativities are not being reviewed in 2021.

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-B17)

OBJECTIVES	<p>The objectives of this procedure are to:</p> <ol style="list-style-type: none">1) determine monoline loss cost level needs for the appropriate rating variables;2) determine indicated changes to the eight liability Commercial Package Policy (CPP) Package Modification Factors (PMFs) based on Premises/Operations and Products/Completed Operations data.
EXPERIENCE BASE	<p>The experience used in this relativity analysis is the latest five (5) years of accident year data, as reported under the Commercial Statistical Plan with aggregate loss costs adjusted to current loss cost level (multiline aggregate loss costs adjusted additionally by the current Implicit Package Modification Factors). Losses have been trended and developed in the Relativity Analysis. ALCCL have been trended.</p>
SIMULTANEOUS DETERMINATION OF RATING VARIABLE RELATIVITIES	<p>Once the aggregate loss costs at current level and incurred losses used in the analysis have been appropriately adjusted, the 5-year experience ratios are calculated for each combination of the appropriate rating variables. From these ratios, relativities to the statewide 5-year experience ratio are calculated. These relativities are then used in a minimum bias iterative review procedure, which simultaneously determines the relativities for each rating variable.</p> <p>The purpose of a simultaneous review procedure is to arrive at a set of relativities for each rating variable that best represent the experience. For example, the type of policy relativities will serve to derive the relationship of CPP policies relative to monoline policies, via the PMF, while the class group and territory (if applicable) relativities will serve to derive the relationship of the various classification and territories relative to one another. An iterative technique is used to derive relativities for each rating variable. This procedure is in contrast to a one-way type of review, wherein relativities for each rating variable would each be reviewed separately.</p> <p>Such one-way types of review do not take into account differing percentages of experience of each rating variable within the other rating variables. The simultaneous review procedure accounts for these different distributions in generating relativities for each rating variable.</p>
RATING VARIABLES USED	<p>For Premises/Operations and Products/Completed Operations, the rating variables used in the relativity analysis are as follows:</p>

Manufacturers and Contractors -
Owners, Landlords and Tenants -
Products -
Local Products/Completed Operations-

Type of policy and Class group
Type of policy, Territory and Class group
Type of policy and Class group
Type of policy, State and Class group

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-B17)

ITERATIVE
PROCEDURE

The iterative technique referred to in the previous paragraph solves for a set of relativities for each rating variable based on the experience for the cells; that is, based on the experience ratio and latest year adjusted aggregate loss cost volume for each combination of rating variables relative to the experience ratio and adjusted aggregate loss cost volume for all combinations of rating variables combined. Specifically, the iterative procedure uses the following formulas:

For Owners, Landlords and Tenants:

$$TOP_i = \frac{\sum_j \sum_k W_{ijk} r_{ijk}}{\sum_j \sum_k W_{ijk} CG_j TER_k} \quad \text{where } 1 \leq i \leq m$$

$$CG_j = \frac{\sum_i \sum_k W_{ijk} r_{ijk}}{\sum_i \sum_k W_{ijk} TOP_i TER_k} \quad \text{where } 1 \leq j \leq n$$

$$TER_k = \frac{\sum_i \sum_j W_{ijk} r_{ijk}}{\sum_i \sum_j W_{ijk} TOP_i CG_j} \quad \text{where } 1 \leq k \leq p$$

TOP_i is the relative change for the i^{th} type of policy;

CG_j is the relative change for the j^{th} class group;

TER_k is the relative change for the k^{th} territory;

W_{ijk} is the aggregate loss costs at current level for the i^{th} type of policy,

j^{th} class group, and k^{th} territory;

r_{ijk} is the relative change for the i^{th} type of policy, j^{th} class group, and k^{th} territory;

m is the number of types of policy in the analysis;

n is the number of class groups in the analysis;

p is the number of territories in the analysis;

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-B17)

For Manufacturers and Contractors, and Products:

$$TOP_i = \frac{\sum_j W_{ij} r_{ij}}{\sum_j W_{ij} CG_j} \quad \text{where } 1 \leq i \leq m$$

$$CG_j = \frac{\sum_i W_{ij} r_{ij}}{\sum_i W_{ij} TOP_i} \quad \text{where } 1 \leq j \leq n$$

TOP_i is the relative change for the i^{th} type of policy;

CG_j is the relative change for the j^{th} class group;

W_{ij} is the aggregate loss costs at current level for the i^{th} type of policy,
and j^{th} class group;

r_{ij} is the relative change for the i^{th} type of policy and j^{th} class group;

m is the number of types of policy in the analysis;

n is the number of class groups in the analysis;

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-B17)

For Local Products/Completed Operations:

$$TOP_i = \frac{\sum_j \sum_k W_{ijk} r_{ijk}}{\sum_j \sum_k W_{ijk} CG_j ST_k} \quad \text{where } 1 \leq i \leq m$$

$$CG_j = \frac{\sum_i \sum_k W_{ijk} r_{ijk}}{\sum_i \sum_k W_{ijk} TOP_i ST_k} \quad \text{where } 1 \leq j \leq n$$

$$ST_k = \frac{\sum_i \sum_j W_{ijk} r_{ijk}}{\sum_i \sum_j W_{ijk} TOP_i CG_j} \quad \text{where } 1 \leq k \leq p$$

TOP_i is the relative change for the i^{th} type of policy;

CG_j is the relative change for the j^{th} class group;

ST_k is the relative change for the k^{th} state;

W_{ijk} is the aggregate loss costs at current level for the i^{th} type of policy,

j^{th} class group and k^{th} state;

r_{ijk} is the relative change for the i^{th} type of policy, j^{th} class group and k^{th} state;

m is the number of types of policy in the analysis;

n is the number of class groups in the analysis;

p is the number of states in the analysis;

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-B17)

ITERATIVE
PROCEDURE
(Cont'd)

For example, for Owners, Landlords and Tenants, the procedure starts by inserting the actual relativities for type of policy and class group into the third formula to get a territory relativity. This result is then used with the class group relativity in the first formula to get a new type of policy relativity, which in turn is substituted along with the territory relativity into the second formula to get a new class group relativity. The process continues on in that fashion until there is no appreciable difference from one iteration to the next.

APPLICATION OF
CREDIBILITY

Consideration is then given to the credibility of the experience for each rating variable. The credibility of each of these categories is based on the formula $Z = \sqrt{P/18,000}$ for Owners, Landlords and Tenants, $Z = \sqrt{P/18,000}$ for Manufacturers and Contractors and $Z = \sqrt{P/20,000}$ for Products, where P is the 5 year occurrence total for a given class group, territory or type of policy. For Local Products/Completed Operations, separate formulas are used to calculate the credibility of the experience for each type of policy and class group versus the credibility of the experience for each state, namely $Z = \sqrt{P/15,000}$ for type of policy and class group, and $Z = \sqrt{P/5,500}$ for state (in this case, P is the 5 year occurrence total for a given state). Credibility-weighted relativities are then calculated as follows:

$$W = RZ \quad \text{where:}$$

Z is the class group, territory, state or type of policy credibility;
R is the class group, territory, state or type of policy relativity;
W is the credibility-weighted relativity.

The resulting credibility-weighted relativities are then balanced to assure that the average relativity remains at unity.

INDICATED
CHANGES

The indicated changes by Type of Policy is calculated as follows:

$$\text{Indicated Change} = \frac{\text{Balanced Relativity for TOP}}{\text{Monoline Relativity}} - 1$$

COMMERCIAL PACKAGE POLICY

SECTION B: CALCULATION OF PROPOSED CHANGES
LIABILITY COVERAGES: GENERAL LIABILITY

DISTRIBUTION OF ADVISORY LOSS COST LEVEL CHANGE (EXHIBIT B8-B17)

MULTILINE
CONSIDERATIONS

The monoline relativities and the class group, territory (if applicable) and state relativities which result from the aforementioned procedures are then used to generate indicated monoline classification loss cost changes. The multiline relativities are used to generate multiline indications that apply to the current Implicit Package Modification Factors. The indicated IPMFs are calculated as follows:

$$\text{TOP y Indicated IPMF} = \frac{(\text{TOP y Current IPMF}) \times (\text{TOP y Relativity})}{\text{Monoline relativity}}$$

For each CPP Type of Policy the indicated IPMF is subject to a minimum value of 0.50 and a maximum value of 1.50. If an indicated IPMF falls outside one of those limits, it is capped at that amount, the aggregate loss costs for that Type of Policy are adjusted to the capped IPMF level, and the entire relativity review as described above is re-performed to take this into account.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE

COMMERCIAL PACKAGE POLICY
SUMMARY OF THIS REVIEW

TYPE OF POLICY	PROPERTY PMFS			LIABILITY PMFS			PROP. & LIAB. TOTAL
	CURRENT	CAPPED	% CHANGE	CURRENT	CAPPED	% CHANGE	% CHANGE
MOTEL/HOTEL(31)	1.00	1.00	0.0%	1.00	1.00	0.0%	0.0%
APARTMENT (32)	0.99	1.00	1.0%	1.00	1.00	0.0%	0.9%
OFFICE (33)	0.89	0.84	-5.6%	1.00	0.95	-5.0%	-5.3%
MERCANTILE (34)	0.93	0.91	-2.2%	0.92	0.91	-1.1%	-1.7%
INSTITUTION(35)	0.98	0.93	-5.1%	0.81	0.78	-3.7%	-4.9%
SERVICES (36)	0.95	0.97	2.1%	0.98	0.93	-5.1%	-0.5%
IND/PROC (37)	1.00	0.95	-5.0%	1.00	1.00	0.0%	-3.0%
CONTRACTORS(38)	0.91	0.89	-2.2%	0.81	0.80	-1.2%	-1.4%
STATEWIDE			-2.2%			-2.1%	-2.1%

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
COMMERCIAL PACKAGE POLICY
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

MOTEL/HOTEL(31) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	1,541,382	0.853	13.2%	0.966	0.912
BASIC GRP II	1,081,840	1.157	-4.9%	1.100	1.040
SP CAUSE/LOSS	712,585	1.283	0.9%	1.295	1.223
* CRIME	6,017	0.910	0.0%	0.910	0.910
* INL. MAR.	21,204	0.910	0.0%	0.910	0.910
* FIDELITY	23,953	1.000	0.0%	1.000	1.000
TOTAL	3,386,981	1.000	5.7%	1.057	1.000
LIABILITY- OL&T	1,894,501	1.000	11.2%	1.112	1.000
TOTAL	1,894,501	1.000	11.2%	1.112	1.000
----- PROP. & LIAB. TOTAL	5,281,482		7.7%		0.0%

APARTMENT (32) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	4,199,787	0.997	14.6%	1.143	1.078
BASIC GRP II	2,400,084	0.920	-0.9%	0.912	0.860
SP CAUSE/LOSS	1,330,977	1.100	-0.5%	1.095	1.032
* CRIME	556	0.910	0.0%	0.910	0.910
* INL. MAR.	1,287	0.910	0.0%	0.910	0.910
* FIDELITY	7,957	1.000	0.0%	1.000	1.000
TOTAL	7,940,648	0.990	7.1%	1.060	1.000
LIABILITY- OL&T	1,481,196	0.996	0.0%	0.996	1.000
TOTAL	1,481,196	1.000	-0.4%	0.996	1.000
----- PROP. & LIAB. TOTAL	9,421,844		5.9%		0.9%

* indicates coverage for which reviews are on a MULTISTATE basis.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
COMMERCIAL PACKAGE POLICY
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

OFFICE (33) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	1,703,023	0.967	2.0%	0.986	0.999
BASIC GRP II	1,727,091	0.713	-13.5%	0.617	0.624
SP CAUSE/LOSS	1,341,814	1.030	-0.5%	1.025	1.038
* CRIME	6,333	0.910	0.0%	0.910	0.910
* INL. MAR.	53,569	0.910	0.0%	0.910	0.910
* FIDELITY	24,912	1.000	0.0%	1.000	1.000
TOTAL	4,856,742	0.890	-6.3%	0.834	0.840
LIABILITY-					
OL&T	4,953,659	1.051	-6.1%	0.987	0.992
M&C	279,718	0.535	-0.7%	0.531	0.534
TOTAL	5,233,377	1.000	-5.9%	0.941	0.950

PROP. & LIAB. TOTAL	10,090,119		-6.1%		-5.3%
MERCANTILE (34) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	6,610,687	1.030	-1.4%	1.016	1.028
BASIC GRP II	6,813,055	0.894	-7.3%	0.829	0.839
SP CAUSE/LOSS	3,319,967	0.803	4.3%	0.838	0.848
* CRIME	36,549	0.910	0.0%	0.910	0.910
* INL. MAR.	221,436	0.910	0.0%	0.910	0.910
* FIDELITY	160,678	1.000	0.0%	1.000	1.000
TOTAL	17,162,372	0.930	-3.5%	0.898	0.910
LIABILITY-					
OL&T	7,709,079	0.934	-1.3%	0.922	0.927
M&C	1,247,335	0.785	-2.4%	0.766	0.770
LOCAL PRODUCT	587,090	1.026	1.9%	1.045	1.051
* MULTI PRODUCT	1,077,952	0.862	3.1%	0.889	0.889
TOTAL	10,621,456	0.920	-1.8%	0.903	0.910

PROP. & LIAB. TOTAL	27,783,828		-2.8%		-1.7%

* indicates coverage for which reviews are on a MULTISTATE basis.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
COMMERCIAL PACKAGE POLICY
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

INSTITUTION(35) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	4,392,076	0.958	2.0%	0.977	0.989
BASIC GRP II	7,283,622	0.990	-11.0%	0.881	0.892
SP CAUSE/LOSS	3,005,131	0.977	-3.9%	0.939	0.950
* CRIME	27,356	0.910	0.0%	0.910	0.910
* INL. MAR.	33,942	0.910	0.0%	0.910	0.910
* FIDELITY	131,546	1.000	0.0%	1.000	1.000
TOTAL	14,873,673	0.980	-5.8%	0.923	0.930
LIABILITY-					
OL&T	2,825,506	0.836	-4.5%	0.798	0.803
M&C	344,539	0.678	-2.4%	0.662	0.665
TOTAL	3,170,045	0.810	-3.6%	0.781	0.780

PROP. & LIAB. TOTAL	18,043,718		-5.4%		-4.9%

SERVICES (36) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	3,798,168	1.004	4.9%	1.053	1.066
BASIC GRP II	3,904,973	0.884	-3.5%	0.853	0.864
SP CAUSE/LOSS	2,275,032	0.964	3.5%	0.998	1.010
* CRIME	19,741	0.910	0.0%	0.910	0.910
* INL. MAR.	38,672	0.910	0.0%	0.910	0.910
* FIDELITY	160,069	1.000	0.0%	1.000	1.000
TOTAL	10,196,655	0.950	0.8%	0.957	0.970
LIABILITY-					
OL&T	2,399,496	0.922	-5.6%	0.870	0.875
M&C	2,615,580	1.025	-5.3%	0.971	0.976
LOCAL PRODUCT	579,375	1.042	-5.4%	0.986	0.991
* MULTI PRODUCT	117,987	0.914	5.4%	0.963	0.963
TOTAL	5,712,438	0.980	-5.4%	0.927	0.930

PROP. & LIAB. TOTAL	15,909,093		-1.4%		-0.5%

* indicates coverage for which reviews are on a MULTISTATE basis.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
COMMERCIAL PACKAGE POLICY
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

IND/PROC (37) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	3,749,615	1.241	-6.4%	1.162	1.205
BASIC GRP II	2,175,313	0.740	-6.2%	0.694	0.720
SP CAUSE/LOSS	1,458,967	0.872	-1.6%	0.858	0.890
* CRIME	4,712	0.910	0.0%	0.910	0.910
* INL. MAR.	2,220	0.910	0.0%	0.910	0.910
* FIDELITY	67,449	1.000	0.0%	1.000	1.000
TOTAL	7,458,276	1.000	-8.4%	0.916	0.950
LIABILITY-					
M&C	2,979,078	1.180	-0.5%	1.174	1.107
LOCAL PRODUCT	80,123	0.620	-0.1%	0.619	0.584
* MULTI PRODUCT	1,812,313	0.860	4.3%	0.897	0.897
TOTAL	4,871,514	1.000	3.7%	1.037	1.000

PROP. & LIAB.	12,329,790		-3.6%		-3.0%
TOTAL					

CONTRACTORS(38) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	982,431	1.072	4.6%	1.121	1.135
BASIC GRP II	721,501	0.654	-6.8%	0.610	0.617
SP CAUSE/LOSS	843,580	0.972	-1.4%	0.958	0.970
* CRIME	3,316	0.910	0.0%	0.910	0.910
* INL. MAR.	5,811	0.910	0.0%	0.910	0.910
* FIDELITY	89,150	1.000	0.0%	1.000	1.000
TOTAL	2,645,789	0.910	-3.2%	0.881	0.890
LIABILITY-					
M&C	10,708,472	0.841	-2.6%	0.819	0.824
LOCAL PRODUCT	6,074,824	0.780	-1.4%	0.769	0.773
TOTAL	16,783,296	0.810	-1.2%	0.800	0.800

PROP. & LIAB.	19,429,085		-1.5%		-1.4%
TOTAL					

* indicates coverage for which reviews are on a MULTISTATE basis.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
COMMERCIAL PACKAGE POLICY
CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

STATEWIDE *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	26,977,169	1.018	3.1%	1.050	1.049
BASIC GRP II	26,107,479	0.888	-7.4%	0.822	0.826
SP CAUSE/LOSS	14,288,053	0.941	0.4%	0.945	0.950
* CRIME	104,580	0.910	0.0%	0.910	0.910
* INL. MAR.	378,141	0.910	0.0%	0.910	0.910
* FIDELITY	665,714	1.000	0.0%	1.000	1.000
TOTAL	68,521,136	0.957	-2.4%	0.934	0.936
LIABILITY-					
OL&T	21,263,437	0.952	-2.1%	0.932	0.927
M&C	18,174,722	0.890	-2.6%	0.867	0.862
LOCAL PRODUCT	7,321,412	0.809	-1.4%	0.798	0.802
* MULTI PRODUCT	3,008,252	0.863	3.9%	0.897	0.897
TOTAL	49,767,823	0.899	-1.7%	0.884	0.881

PROP. & LIAB. TOTAL	118,288,959		-2.1%		-2.1%

* indicates coverage for which reviews are on a MULTISTATE basis.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE

COMMERCIAL PACKAGE POLICY

CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

COMBINED PMFs

TYPE OF POLICY	CURRENT COMBINED	INDICATED COMBINED	CAPPED COMBINED
MOTEL/HOTEL(31)	1.000	1.077	1.000
APARTMENT (32)	0.990	1.050	1.000
OFFICE (33)	0.950	0.886	0.890
MERCANTILE (34)	0.930	0.900	0.910
INSTITUTION(35)	0.940	0.894	0.900
SERVICES (36)	0.960	0.947	0.960
IND/PROC (37)	1.000	0.962	0.970
CONTRACTORS(38)	0.820	0.810	0.820

NOTE: Combined PMFs are provided for informational purposes only.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE

BASIC GROUP I RELATIVITY ANALYSIS

TYPE OF POLICY	(1)	(2)	(3)	(4)	(5)
	LEAST SQUARES FORMULA RELATIVITY	CREDIBILITY RELATIVITY	WEIGHTED CREDIBILITY RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE
10	0.699	0.137	0.952	0.973	
31	2.684	0.075	1.077	1.101	13.2%
32	1.690	0.166	1.091	1.115	14.6%
33	0.682	0.077	0.971	0.992	2.0%
34	0.781	0.257	0.938	0.959	-1.4%
35	0.855	0.193	0.970	0.992	2.0%
36	0.997	0.169	0.999	1.021	4.9%
37	0.499	0.166	0.891	0.911	-6.4%
38	0.915	0.046	0.996	1.018	4.6%
Memphis	1.291	0.163	1.043	1.040	
Nashville	0.730	0.199	0.939	0.937	
Balance of State	1.010	0.704	1.007	1.005	

INSURANCE SERVICES OFFICE, INC.

TENNESSEE

SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

TYPE OF POLICY	(1)	(2)	(3)	(4)	(5)
	LEAST SQUARES FORMULA RELATIVITY	CREDIBILITY	CREDIBILITY WEIGHTED RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE
10	0.988	0.181	0.998	0.996	
31	1.092	0.077	1.007	1.005	0.9%
32	0.941	0.130	0.992	0.991	-0.5%
33	0.946	0.140	0.992	0.991	-0.5%
34	1.144	0.295	1.040	1.039	4.3%
35	0.863	0.285	0.959	0.957	-3.9%
36	1.149	0.232	1.033	1.031	3.5%
37	0.889	0.160	0.981	0.980	-1.6%
38	0.837	0.093	0.984	0.982	-1.4%
CATEGORY					
1	1.063	0.781	1.049	1.024	
2	0.900	0.077	0.992	0.969	
3	0.792	0.171	0.961	0.938	
4	0.640	0.192	0.918	0.896	
5	0.829	0.119	0.978	0.955	
6	0.788	0.079	0.981	0.958	
7	0.792	0.045	0.990	0.966	
8	1.317	0.114	1.032	1.008	
9	0.829	0.197	0.964	0.941	
10	1.025	0.040	1.001	0.978	
11	0.973	0.157	0.996	0.972	
12	0.898	0.164	0.983	0.959	
13	0.858	0.086	0.987	0.964	
14	1.030	0.128	1.004	0.980	

INSURANCE SERVICES OFFICE, INC.

TENNESSEE

BASIC GROUP I RELATIVITY ANALYSIS

SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	(1)	(2)	(3)	(4)
	ACCIDENT YEAR			RELATIVITY
	ENDING 12/31/19	5 - YEAR	5 - YEAR	
	AGGREGATE LOSS COSTS	AGGREGATE LOSS COSTS	EXPERIENCE RATIO	

ENTIRE STATE				
10 MONOLINE	2,976,519	15,868,986	0.736	0.624
31 MULTILINE MOTEL/HOTEL	1,541,382	8,058,324	2.861	2.427
32 MULTILINE APARTMENT	4,199,787	19,838,400	1.646	1.396
33 MULTILINE OFFICE	1,703,023	8,365,620	0.725	0.615
34 MULTILINE MERCANTILE	6,610,687	34,505,618	1.172	0.994
35 MULTILINE INSTITUTIONAL	4,392,076	23,853,266	0.968	0.821
36 MULTILINE SERVICES	3,798,168	20,268,255	1.210	1.026
37 MULTILINE INDUST/PROCESS	3,749,615	19,842,444	0.814	0.690
38 MULTILINE CONTRACTORS	<u>982,431</u>	<u>4,815,539</u>	<u>0.936</u>	<u>0.794</u>
TOTAL ALL TOPS*	29,953,688	155,416,452	1.179	1.000

* TOTALS IN COLUMNS (3) & (4) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/20 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) CREDIBILITY WEIGHTED EXPERIENCE RATIO	(5) CREDIBILITY WEIGHTED RELATIVITY
10 MONOLINE	01 BUILDINGS	1,078,724	5,565,403	1.062	1.052	1.059
	02 RES. APTS. AND COND	14,661	65,655	0.488	0.772	0.777
	03 OFFICES	120,309	607,861	0.437	0.598	0.602
	04 MERCANTILE - HIGH	170,759	792,776	0.251	0.445	0.448
	05 MERCANTILE - MEDIUM	39,081	220,802	0.433	0.685	0.690
	06 MERCANTILE - LOW	34,081	165,977	0.677	0.807	0.813
	07 MOTELS AND HOTELS	6,759	48,236	0.190	0.697	0.702
	08 INSTITUTIONAL - HIG	37,223	235,212	1.053	0.971	0.978
	09 INSTITUTIONAL - LOW	49,295	168,667	1.991	1.353	1.363
	10 INDUST-PROC - HIGH	14,375	73,061	0.438	0.753	0.758
	11 INDUST-PROC - LOW	46,629	294,929	0.592	0.742	0.747
	12 SERVICE - HIGH	39,166	195,912	0.519	0.732	0.737
	13 SERVICE - LOW	54,007	295,351	1.332	1.120	1.128
	14 CONTRACTORS	14,823	83,321	0.101	0.636	0.640
	TOTAL*	1,719,892	8,813,163	0.904	0.930	0.937
31 MULTILINE	01 BUILDINGS	580,099	2,658,716	1.430	1.158	1.166
MOTEL/HOTEL	07 MOTELS AND HOTELS	132,486	665,737	0.479	0.863	0.869
	TOTAL*	712,585	3,324,453	1.253	1.103	1.111
32 MULTILINE	01 BUILDINGS	1,048,540	4,796,872	1.024	0.998	1.005
APARTMENT	02 RES. APTS. AND COND	282,437	1,182,040	0.529	0.845	0.851
	TOTAL*	1,330,977	5,978,912	0.919	0.965	0.972
33 MULTILINE	01 BUILDINGS	883,673	4,248,546	1.034	1.001	1.008
OFFICE	03 OFFICES	455,709	2,266,832	0.424	0.759	0.764
	04 MERCANTILE - HIGH	541	1,139	0.000	0.859	0.865
	08 INSTITUTIONAL - HIG	385	1,341	0.000	0.859	0.865
	12 SERVICE - HIGH	1,398	4,026	0.000	0.858	0.864
	14 CONTRACTORS	108	108	0.000	0.859	0.865
	TOTAL*	1,341,814	6,521,992	0.825	0.919	0.925

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 06/30/20 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) CREDIBILITY WEIGHTED EXPERIENCE RATIO	(5) CREDIBILITY WEIGHTED RELATIVITY
34 MULTILINE MERCANTILE	01 BUILDINGS	2,262,463	11,213,397	1.307	1.212	1.221
	03 OFFICES	4,629	28,779	2.291	1.120	1.128
	04 MERCANTILE - HIGH	466,802	2,475,220	0.421	0.749	0.754
	05 MERCANTILE - MEDIUM	347,936	1,759,088	0.910	0.947	0.954
	06 MERCANTILE - LOW	189,022	1,083,670	0.708	0.898	0.904
	08 INSTITUTIONAL - HIG	95	661	0.000	0.859	0.865
	11 INDUST-PROC - LOW	679	3,821	0.000	0.858	0.864
	12 SERVICE - HIGH	12,356	78,579	1.595	1.045	1.052
	13 SERVICE - LOW	15,496	46,492	0.666	0.931	0.938
	14 CONTRACTORS	20,489	65,948	0.000	0.848	0.854
	TOTAL*	3,319,967	16,755,655	1.098	1.097	1.105
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	1,934,813	10,858,554	0.894	0.915	0.921
	03 OFFICES	6,179	20,192	0.641	0.929	0.936
	08 INSTITUTIONAL - HIG	326,067	1,613,837	1.504	1.140	1.148
	09 INSTITUTIONAL - LOW	731,856	3,396,658	0.416	0.711	0.716
	12 SERVICE - HIGH	1,074	3,355	0.000	0.859	0.865
	13 SERVICE - LOW		11,326	0.000	0.857	0.863
	14 CONTRACTORS	682	4,948	0.000	0.858	0.864
	TOTAL*	3,005,131	15,908,870	0.841	0.889	0.896
36 MULTILINE SERVICES	01 BUILDINGS	1,480,161	7,950,483	1.436	1.218	1.227
	03 OFFICES	6,284	33,807	0.397	0.930	0.937
	04 MERCANTILE - HIGH	11,635	73,431	1.279	1.015	1.022
	05 MERCANTILE - MEDIUM	9,509	30,565	0.000	0.893	0.899
	06 MERCANTILE - LOW	4,560	13,212	0.000	0.895	0.901
	08 INSTITUTIONAL - HIG	15,750	76,757	0.000	0.889	0.895
	09 INSTITUTIONAL - LOW	17,257	103,928	0.000	0.886	0.892
	10 INDUST-PROC - HIGH	2,160	11,658	0.000	0.895	0.901
	11 INDUST-PROC - LOW	9,813	37,016	0.726	0.961	0.968
	12 SERVICE - HIGH	500,622	2,643,119	1.131	1.029	1.036
	13 SERVICE - LOW	207,481	1,051,336	0.883	0.967	0.974
	14 CONTRACTORS	9,800	50,165	0.000	0.891	0.897
	TOTAL*	2,275,032	12,075,477	1.274	1.142	1.150

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	CATEGORY	(1)	(2)	(3)	(4)	(5)	
		ACCIDENT YEAR ENDING 06/30/20 AGGREGATE LOSS COSTS	5 - YEAR AGGREGATE LOSS COSTS	5 - YEAR EXPERIENCE RATIO	CREDIBILITY WEIGHTED EXPERIENCE RATIO	CREDIBILITY WEIGHTED RELATIVITY	
37 MULTILINE INDUST/PROC	01 BUILDINGS	871,188	4,499,329	0.873	0.942	0.949	
	03 OFFICES	1,982	10,251	0.000	0.895	0.901	
	04 MERCANTILE - HIGH	9,073	52,167	0.046	0.896	0.902	
	05 MERCANTILE - MEDIUM	428	4,443	0.000	0.896	0.902	
	06 MERCANTILE - LOW	-	333	0.000	1.000	1.000	
	08 INSTITUTIONAL - HIG	61	61	0.000	0.896	0.902	
	10 INDUST-PROC - HIGH	112,212	539,859	0.478	0.914	0.920	
	11 INDUST-PROC - LOW	458,583	2,461,577	0.562	0.865	0.871	
	12 SERVICE - HIGH	464	5,339	0.000	0.896	0.902	
	13 SERVICE - LOW	777	4,641	0.000	0.896	0.902	
	14 CONTRACTORS	4,199	17,019	0.741	0.963	0.970	
	TOTAL*	1,458,967	7,595,019	0.737	0.915	0.922	
	38 MULTILINE CONTRACTORS	01 BUILDINGS	373,639	1,777,613	0.549	0.881	0.887
		03 OFFICES	23,980	117,582	2.223	1.113	1.121
04 MERCANTILE - HIGH		37,928	180,704	0.431	0.926	0.933	
05 MERCANTILE - MEDIUM		442	1,593	0.000	0.896	0.902	
06 MERCANTILE - LOW		4,098	23,817	2.643	1.140	1.148	
08 INSTITUTIONAL - HIG		857	2,333	0.000	0.896	0.902	
11 INDUST-PROC - LOW		700	1,507	19.370	2.657	2.676	
12 SERVICE - HIGH		2,283	9,433	0.000	0.895	0.901	
13 SERVICE - LOW		1,471	7,013	0.728	0.962	0.969	
14 CONTRACTORS		398,182	1,973,176	0.492	0.861	0.867	
TOTAL*		843,580	4,094,771	0.588	0.883	0.889	
TOTAL ALL TOPS*		01 BUILDINGS	10,513,300	53,568,913	1.117	1.065	1.073
		02 RES. APTS. AND COND	297,098	1,247,695	0.527	0.842	0.847
		03 OFFICES	619,072	3,085,304	0.511	0.748	0.753
	04 MERCANTILE - HIGH	696,738	3,575,437	0.389	0.690	0.695	
	05 MERCANTILE - MEDIUM	397,396	2,016,491	0.839	0.920	0.926	
	06 MERCANTILE - LOW	231,761	1,287,009	0.724	0.889	0.895	
	07 MOTELS AND HOTELS	139,245	713,973	0.465	0.855	0.861	
	08 INSTITUTIONAL - HIG	380,438	1,930,202	1.392	1.112	1.120	
	09 INSTITUTIONAL - LOW	798,408	3,669,253	0.504	0.754	0.760	
	10 INDUST-PROC - HIGH	128,747	624,578	0.466	0.896	0.902	
	11 INDUST-PROC - LOW	516,404	2,798,850	0.593	0.858	0.864	
	12 SERVICE - HIGH	557,363	2,939,763	1.088	1.007	1.014	
	13 SERVICE - LOW	283,692	1,416,159	0.940	0.992	0.999	
	14 CONTRACTORS	448,283	2,194,685	0.447	0.854	0.861	
TOTAL*	16,007,945	81,068,312	0.963	0.993	1.000		

* TOTALS IN COLUMNS (3), (4) & (5) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE

BASIC GROUP II RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ACCIDENT YEAR ENDING 06/30/20 AGGR. LOSS COSTS AT CURRENT IMPLICIT PMF	ACCIDENT YEARS 2011 - 2020 EXPER. RATIO AT CURRENT PMF	FORMULA RELATIVITY (2) / 1.08	CREDIBILITY C	CREDIBILITY WEIGHTED RELATIVITY D	BALANCED FORMULA RELATIVITY E	NORMALIZED FORMULA RELATIVITY F	INDICATED CHANGE
MONOLINE	3,404,715	1.2380	1.1460	0.4300	1.063	1.0630	1.0704	
MULTILINE	26,107,479	1.0590	0.9810	0.8550	0.984	0.9840	0.9913	
COVERAGE MULTILINE TOP	29,512,194	1.0800	1.0000			0.9931	1.0004	
31 MOTEL/HOTEL	1,081,840	1.1710	1.0840	0.1820	1.015	1.0110	1.0180	-4.9%
32 APARTMENT	2,400,084	1.2680	1.1740	0.3290	1.057	1.0530	1.0603	-0.9%
33 OFFICE	1,727,091	0.7390	0.6840	0.2390	0.924	0.9200	0.9264	-13.5%
34 MERCANTILE	6,813,055	1.0600	0.9810	0.5870	0.989	0.9850	0.9918	-7.3%
35 INSTITUTIONAL	7,283,622	0.9970	0.9230	0.6550	0.950	0.9460	0.9526	-11.0%
36 SERVICES	3,904,973	1.1490	1.0640	0.4720	1.030	1.0260	1.0331	-3.5%
37 INDUST/PROCESS	2,175,313	1.0820	1.0020	0.3290	1.001	0.9970	1.0039	-6.2%
38 CONTRACTORS	721,501	1.0370	0.9600	0.1320	0.995	0.9910	0.9979	-6.8%
	26,107,479	1.0590	0.9810		0.9880	0.9840	0.9913	

C - CREDIBILITY = P/(P+K) WHERE P REPRESENTS THE TOTAL 10 YEAR ADJUSTED LOSS COSTS AND K = 45,000,000

D - (5) = (3) * (4) + (1.000 - (4))

E - (6) = (5) * (0.984/0.988)

F - (7) = (6) / 0.9931

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
OWNERS, LANDLORDS AND TENANTS
BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	(1)	(2)	(3)	(4)	(5)
	BAILEY FORMULA RELATIVITY	CREDIBILITY	WEIGHTED RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE
10	1.050	0.289	1.014	1.016	
31	1.970	0.179	1.129	1.130	11.2%
32	1.144	0.106	1.014	1.016	0.0%
33	0.757	0.173	0.953	0.954	-6.1%
34	1.004	0.272	1.001	1.003	-1.3%
35	0.831	0.175	0.968	0.970	-4.5%
36	0.736	0.143	0.957	0.959	-5.6%
CLASS GROUP					
1	1.249	0.170	1.039	1.039	
2	1.008	0.224	1.002	1.003	
3	0.795	0.115	0.974	0.975	
4	0.947	0.036	0.998	0.999	
5	0.953	0.049	0.998	0.999	
6	0.702	0.060	0.979	0.980	
7	1.366	0.128	1.041	1.042	
8	0.942	0.037	0.998	0.999	
9	0.816	0.221	0.956	0.957	
10	1.186	0.178	1.031	1.032	
11	0.939	0.119	0.993	0.994	
12	0.970	0.248	0.992	0.994	
13	1.162	0.087	1.013	1.014	
16	0.969	0.022	0.999	1.000	
TERRITORY					
501	1.166	0.207	1.032	1.034	
503	0.971	0.284	0.992	0.994	
504	0.912	0.112	0.990	0.992	
505	0.979	0.380	0.992	0.994	

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
 MANUFACTURERS AND CONTRACTORS
 BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	(1)	(2)	(3)	(4)	(5)
	BAILEY FORMULA RELATIVITY	CREDIBILITY	CREDIBILITY WEIGHTED RELATIVITY	BALANCED RELATIVITY	INDICATED CHANGE
10	1.077	0.267	1.020	1.016	
33	1.505	0.032	1.013	1.009	-0.7%
34	0.953	0.089	0.996	0.992	-2.4%
35	0.926	0.048	0.996	0.992	-2.4%
36	0.754	0.125	0.965	0.962	-5.3%
37	1.169	0.093	1.015	1.011	-0.5%
38	0.976	0.249	0.994	0.990	-2.6%
CLASS GROUP					
30	0.985	0.109	0.998	0.994	
31	1.240	0.208	1.046	1.041	
32	1.024	0.242	1.006	1.001	
33	1.199	0.136	1.025	1.020	
34	0.945	0.128	0.993	0.988	
35	0.234	0.032	0.955	0.950	
36	0.570	0.077	0.958	0.954	
37	0.473	0.052	0.962	0.957	
38	0.774	0.101	0.974	0.970	

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
OWNERS, LANDLORDS, AND TENANTS
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TERRITORY ALL		(1)	(2)	(3)	(4)	(5)	(6)
TYPE OF POLICY	CLASS GROUP	CALENDAR A.Y.E. 06/30/20 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2016-2020 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIVITY	NUMBER OF OCCURRENCES	BAL CELL RELATIVITY
10 MONOLINE	01 FOOD&BEV.(RETAIL)	\$503,853	\$3,284,995	1.171		283	
	02 RESTAURANTS	\$608,905	\$3,808,505	1.019		234	
	03 STORES	\$341,072	\$1,532,848	0.884		38	
	04 VENDING & RENTAL	\$14,282	\$144,502	0.171		2	
	05 FOOD & BEV. DIST.	\$28,867	\$211,328	0.443		2	
	06 NON-FOOD&BEV.DIST	\$92,698	\$488,942	0.375		15	
	07 CLUBS,AMSMT&SPRSTS	\$432,484	\$1,868,377	2.003		111	
	08 HEALTH CARE FACIL	\$31,315	\$150,475	2.187		8	
	09 HOTELS AND MOTELS	\$542,947	\$4,034,573	0.868		302	
	10 SCHLS & CHURCHES	\$418,649	\$1,942,427	1.187		76	
	11 APARTMENTS	\$653,283	\$3,982,463	1.049		85	
	12 BUILDINGS&OFFICES	\$1,293,865	\$7,627,927	0.903		270	
	13 MISC. PREMISES	\$189,680	\$1,658,261	0.698		76	
	TOTAL *	\$5,151,900	\$30,735,623	1.058		1,502	
31 MULT MOTEL/HOTEL	09 HOTELS AND MOTELS	\$1,198,293	\$5,545,780	1.564		576	
	TOTAL *	\$1,198,293	\$5,545,780	1.564		576	
32 MULT APARTMENT	11 APARTMENTS	\$804,304	\$3,333,733	0.984		170	
	12 BUILDINGS&OFFICES	\$132,569	\$516,316	1.391		32	
	TOTAL *	\$936,873	\$3,850,049	1.041		202	
33 MULT OFFICE	12 BUILDINGS&OFFICES	\$3,111,664	\$15,717,546	0.721		540	
	13 MISC. PREMISES	\$21,580	\$102,324	0.03		1	
	TOTAL *	\$3,133,244	\$15,819,870	0.717		541	
34 MULT MERCANTILE	01 FOOD&BEV.(RETAIL)	\$635,119	\$4,398,552	1.274		235	
	02 RESTAURANTS	\$2,064,292	\$10,994,051	0.981		668	
	03 STORES	\$875,007	\$4,353,323	0.752		184	
	04 VENDING & RENTAL	\$10,472	\$59,524	0.368		1	
	05 FOOD & BEV. DIST.	\$175,230	\$808,543	1.013		42	
	06 NON-FOOD&BEV.DIST	\$375,253	\$1,943,325	0.771		50	
	12 BUILDINGS&OFFICES	\$740,705	\$4,010,963	0.871		151	
	TOTAL *	\$4,876,078	\$26,568,281	0.945		1331	
35 MULT INSTITUT.	07 CLUBS,AMSMT&SPRSTS	\$71,520	\$282,906	1.344		19	
	08 HEALTH CARE FACIL	\$137,165	\$747,198	0.504		17	
	10 SCHLS & CHURCHES	\$1,540,434	\$7,637,724	0.979		492	
	12 BUILDINGS&OFFICES	\$15,665	\$79,078	0.458		12	
	13 MISC. PREMISES	\$508	\$2,286	0		0	
	16 GOVT SUBDIVISIONS	\$21,872	\$885,335	0.769		9	
TOTAL *	\$1,787,164	\$9,634,527	0.949		549		

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
OWNERS, LANDLORDS, AND TENANTS
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TERRITORY ALL		(1)	(2)	(3)	(4)	(5)	(6)
TYPE OF POLICY	CLASS GROUP	CALENDAR A.Y.E. 06/30/20 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2016-2020 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIVITY	NUMBER OF OCCURRENCES	BAL CELL RELATIVITY
36 MULT SERVICES	03 STORES	\$107,542	\$455,441	0.448		15	
	04 VENDING & RENTAL	\$84,723	\$542,361	0.875		20	
	07 CLUBS,AMSMT&SPRTS	\$825,238	\$3,789,514	0.633		166	
	08 HEALTH CARE FACIL	\$5,993	\$38,945	0		0	
	09 HOTELS AND MOTELS	\$16,277	\$133,555	0.194		0	
	10 SCHLS & CHURCHES	\$8,781	\$33,551	0.482		5	
	12 BUILDINGS&OFFICES	\$250,421	\$1,430,693	1.387		103	
	13 MISC. PREMISES		\$1,053,687	1.372		58	
	TOTAL *	\$1,517,708	\$7,477,747	0.856		367	
	TOTAL ALL TOP	01 FOOD&BEV.(RETAIL)	\$1,138,972	\$7,683,547	1.229		518
02 RESTAURANTS		\$2,673,197	\$14,802,556	0.99		902	
03 STORES		\$1,323,621	\$6,341,612	0.762		237	
04 VENDING & RENTAL		\$109,477	\$746,387	0.734		23	
05 FOOD & BEV. DIST.		\$204,097	\$1,019,871	0.932		44	
06 NON-FOOD&BEV.DIST		\$467,951	\$2,432,267	0.692		65	
07 CLUBS,AMSMT&SPRTS		\$1,329,242	\$5,940,797	1.117		296	
08 HEALTH CARE FACIL		\$174,473	\$936,618	0.789		25	
09 HOTELS AND MOTELS		\$1,757,517	\$9,713,908	1.336		878	
10 SCHLS & CHURCHES		\$1,967,864	\$9,613,702	1.021		573	
11 APARTMENTS		\$1,457,587	\$7,316,196	1.013		255	
12 BUILDINGS&OFFICES		\$5,544,889	\$29,382,523	0.829		1,108	
13 MISC. PREMISES		\$430,501	\$2,816,558	1.006		135	
16 GOVT SUBDIVISIONS		\$21,872	\$885,335	0.769		9	
TOTAL *		\$18,601,260	\$99,631,877	0.976		5,068	

* TOTALS IN COLUMNS (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
 MANUFACTURERS AND CONTRACTORS
 SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 06/30/20 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2016-2020 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIVITY	NUMBER OF OCCURRENCES	BAL CELL RELATIVITY
10 MONOLINE	30 SERVICE	\$466,449	\$2,352,570	0.896	0.995	66	1.009
	31 LIGHT CONTRACTING	\$996,162	\$4,218,776	1.653	1.835	347	1.057
	32 MEDIUM CONTRACTING	\$3,533,728	\$16,411,832	0.918	1.019	615	1.017
	33 HEAVY CONTRACTING	\$1,033,138	\$4,322,391	1.099	1.22	97	1.036
	34 DEALER OR DISTRIB	\$258,636	\$1,507,597	0.826	0.917	54	1.004
	35 LGT. MANUFACTURER	\$127,145	\$655,381	0.227	0.252	4	0.965
	36 MED. MANUFACTURER	\$416,387	\$2,084,594	0.452	0.502	25	0.969
	37 HVY. MANUFACTURER	\$200,801	\$1,127,926	0.314	0.349	11	0.973
	38 MISC. OPERATION	\$422,476	\$1,932,993	0.761	0.845	60	0.985
	TOTAL *	\$7,454,922	\$34,614,060	0.974		1,279	
33 MULT OFFICE	31 LIGHT CONTRACTING	\$10,461	\$52,514	1.035	1.149	3	1.05
	32 MEDIUM CONTRACTING	\$3,810	\$15,087	0	0	0	1.01
	33 HEAVY CONTRACTING	\$64,849	\$377,884	3.112	3.455	9	1.029
	38 MISC. OPERATION	\$97,805	\$462,852	0.187	0.207	6	0.979
	TOTAL *	\$176,925	\$908,337	1.305		18	
34 MULT MERCANTILE	30 SERVICE	\$47,089	\$219,331	0.306	0.339	2	0.986
	32 MEDIUM CONTRACTING	\$159,342	\$643,668	1.119	1.242	13	0.993
	34 DEALER OR DISTRIB	\$535,078	\$2,733,071	0.708	0.786	115	0.98
	36 MED. MANUFACTURER	\$27	\$218	0	0	0	0.946
	38 MISC. OPERATION	\$47,417	\$211,900	1.562	1.734	14	0.962
	TOTAL *	\$788,953	\$3,808,188	0.818		144	
35 MULT INSTITUT.	31 LIGHT CONTRACTING	\$6,263	\$39,524	0	0	0	1.033
	32 MEDIUM CONTRACTING	\$211,662	\$1,246,979	0.884	0.982	42	0.993
	TOTAL *	\$217,925	\$1,286,503	0.859		42	
36 MULT SERVICES	30 SERVICE	\$68,646	\$283,968	0.618	0.685	15	0.956
	31 LIGHT CONTRACTING	\$216,555	\$953,269	0.749	0.832	37	1.001
	32 MEDIUM CONTRACTING	\$167,165	\$694,384	0.099	0.11	8	0.963
	33 HEAVY CONTRACTING	\$22,238	\$96,557	2.579	2.863	5	0.981
	34 DEALER OR DISTRIB	\$582,425	\$3,313,586	0.703	0.78	124	0.95
	36 MED. MANUFACTURER	\$981	\$7,494	0	0	0	0.917
	38 MISC. OPERATION	\$596,373	\$2,833,568	0.607	0.674	91	0.933
	TOTAL *	\$1,654,383	\$8,182,826	0.635		280	

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
MANUFACTURERS AND CONTRACTORS
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 06/30/20 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2016-2020 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIVITY	NUMBER OF OCCURRENCES	BAL CELL RELATIVITY
37 MULT INDUST/PROC	31 LIGHT CONTRACTING	\$535	\$1,021	0	0	0	1.052
	32 MEDIUM CONTRACTING	\$131,322	\$605,223	0.686	0.762	13	1.012
	33 HEAVY CONTRACTING	\$39,544	\$216,921	0.105	0.116	6	1.031
	34 DEALER OR DISTRIB	\$5,606	\$36,640	8.618	9.567	2	0.999
	35 LGT. MANUFACTURER	\$132,771	\$754,491	0.246	0.273	15	0.96
	36 MED. MANUFACTURER	\$973,326	\$5,325,652	0.643	0.714	81	0.964
	37 HVY. MANUFACTURER	\$580,820	\$2,993,913	0.548	0.608	38	0.968
	38 MISC. OPERATION	\$20,376	\$124,879	0.022	0.025	1	0.98
	TOTAL *	\$1,884,300	\$10,058,740	0.594		156	
	38 MULT CONTRACTORS	30 SERVICE	\$1,024,150	\$5,177,396	0.921	1.023	132
31 LIGHT CONTRACTING		\$1,502,028	\$7,574,399	0.814	0.904	392	1.031
32 MEDIUM CONTRACTING		\$2,565,455	\$12,703,272	1.047	1.162	367	0.991
33 HEAVY CONTRACTING			\$7,715,793	1.039	1.153	215	1.01
38 MISC. OPERATION		\$78,667	\$480,944	0.752	0.834	13	0.96
TOTAL *		\$6,773,227	\$33,651,804	0.971		1,119	
TOTAL ALL TOP	30 SERVICE	\$1,606,334	\$8,033,265	0.883		215	
	31 LIGHT CONTRACTING	\$2,732,004	\$12,839,503	1.114		779	
	32 MEDIUM CONTRACTING	\$6,772,484	\$32,320,445	0.946		1,058	
	33 HEAVY CONTRACTING	\$2,762,696	\$12,729,546	1.109		332	
	34 DEALER OR DISTRIB	\$1,381,745	\$7,590,894	0.76		295	
	35 LGT. MANUFACTURER	\$259,916	\$1,409,872	0.237		19	
	36 MED. MANUFACTURER	\$1,390,721	\$7,417,958	0.586		106	
	37 HVY. MANUFACTURER	\$781,621	\$4,121,839	0.488		49	
	38 MISC. OPERATION	\$1,263,114	\$6,047,136	0.661		185	
	TOTAL *	\$18,950,635	\$92,510,458	0.901		3,038	

* TOTALS IN COLUMNS (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
PRODUCTS
BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	(1) BAILEY FORMULA RELATIVITY	(2) CREDIBILITY	(3) CREDIBILITY WEIGHTED RELATIVITY	(4) BALANCED RELATIVITY	(5) INDICATED CHANGE
10	0.928	0.343	0.975	0.975	
34	1.065	0.358	1.023	1.023	4.9%
36	1.147	0.179	1.025	1.025	5.1%
37	1.002	0.474	1.001	1.001	2.7%
CLASS GROUP					
3	1.020	0.457	1.009	1.013	
4	0.934	0.390	0.974	0.977	
5	1.299	0.127	1.034	1.037	
6	1.020	0.312	1.006	1.010	
7	0.986	0.168	0.998	1.001	

NOTE: THE INDICATED CHANGES BY TOP WERE FURTHER ADJUSTED BY THE FOLLOWING
DIFFERENTIALS: TOP 34: 0.983
TOP 36: 1.003
TOP 37: 1.016

INSURANCE SERVICES OFFICE, INC.

MULTISTATE
PRODUCTS
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 12/31/2019 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2015 - 2019 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIVITY	NUMBER OF OCCURRENCES	BAL CELL RELATIVITY
10 MONOLINE	03 MAN.DLR.DSTFD/DRG	13,750,935	66,100,554	0.988	0.977	1,263	0.987
	04 DLR.DST-NOTFD/DRG	8,477,615	41,310,448	0.911	0.900	460	0.952
	05 MAN.NTFD/DRG(LOW)	1,472,878	6,420,923	1.025	1.013	73	1.011
	06 MAN.NTFD/DRG(MED)	9,010,398	41,539,850	0.977	0.966	500	0.984
	07 MAN.NTFD/DRG(HGH)	2,241,335	11,290,085	0.650	0.643	59	0.976
	TOTAL *	34,953,161	166,661,860	0.947		2,355	
34 MULT MERCANTILE	03 MAN.DLR.DSTFD/DRG	4,329,151	22,382,753	1.183	1.169	619	1.036
	04 DLR.DST-NOTFD/DRG	27,418,064	130,792,947	0.993	0.982	1,940	1.000
	06 MAN.NTFD/DRG(MED)	8,530	45,329	0.000	0.000	-	1.033
		TOTAL *	31,755,745	153,221,029	1.019		2,559
36 MULT SERVICES	04 DLR.DST-NOTFD/DRG	3,121,637	14,216,143	1.102	1.090	644	1.002
	06 MAN.NTFD/DRG(MED)	48,702	226,631	0.000	0.000	-	1.035
		TOTAL *	3,170,339	14,442,774	1.085		644
37 MULT INDUST/PROC.	03 MAN.DLR.DSTFD/DRG	12,807,039	61,610,215	0.973	0.962	2,291	1.014
	05 MAN.NTFD/DRG(LOW)	3,340,860	17,802,968	1.402	1.386	250	1.039
	06 MAN.NTFD/DRG(MED)	26,492,844	125,759,189	1.030	1.018	1,448	1.011
	07 MAN.NTFD/DRG(HGH)	6,306,324	31,298,086	1.098	1.085	508	1.002
		TOTAL *	48,947,067	236,470,458	1.049		4,497
TOTAL ALL TOP	03 MAN.DLR.DSTFD/DRG	30,887,125	150,093,522	1.009		4,173	
	04 DLR.DST-NOTFD/DRG	39,017,316	186,319,538	0.984		3,044	
	05 MAN.NTFD/DRG(LOW)	4,813,738	24,223,891	1.287		323	
	06 MAN.NTFD/DRG(MED)	35,560,474	167,570,999	1.015		1,948	
	07 MAN.NTFD/DRG(HGH)	8,547,659	42,588,171	0.980		567	
	TOTAL *	118,826,312	570,796,121	1.012		10,055	

* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
 LOCAL PRODUCTS/COMPLETED OPERATIONS
 BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	(1) BAILEY FORMULA RELATIVITY	(2) CREDIBILITY CREDIBILITY	(3) CREDIBILITY WEIGHTED RELATIVITY	(4) BALANCED RELATIVITY	(5) INDICATED CHANGE
10	1.013	0.781	1.010	1.009	
34	1.059	0.502	1.029	1.028	1.9%
36	0.919	0.535	0.956	0.955	-5.4%
37	1.063	0.143	1.009	1.008	-0.1%
38	0.996	0.991	0.996	0.995	-1.4%
CLASS					
GROUP					
1	0.808	0.501	0.899	0.894	
2	0.989	0.512	0.994	0.989	
11	1.091	0.353	1.031	1.026	
12	1.018	1.000	1.018	1.012	
13	0.822	0.264	0.950	0.945	

INSURANCE SERVICES OFFICE, INC.

MULTISTATE
 LOCAL PRODUCTS/COMPLETED OPERATIONS
 BASIC LIMIT RELATIVE CHANGE ANALYSIS *

STATE	(1)	(2)	(3)	(4)
	BAILEY FORMULA RELATIVITY	CREDIBILITY	CREDIBILITY WEIGHTED RELATIVITY	BALANCED RELATIVITY
	1.280	0.407	1.106	1.105
	1.227	0.480	1.103	1.103
	1.218	0.458	1.094	1.094
	1.437	0.240	1.091	1.091
	1.303	0.278	1.076	1.076
	1.118	0.581	1.067	1.067
	1.360	0.161	1.051	1.050
	1.190	0.265	1.047	1.047
	1.208	0.202	1.039	1.039
	1.077	0.482	1.036	1.036
	1.362	0.116	1.036	1.036
	1.171	0.145	1.023	1.023
	1.102	0.196	1.019	1.019
	1.048	0.380	1.018	1.018
	1.052	0.299	1.015	1.015
	1.047	0.330	1.015	1.015
	1.077	0.174	1.013	1.013
	1.035	0.362	1.012	1.012
	1.048	0.250	1.012	1.011
	1.031	0.324	1.010	1.009
	1.049	0.135	1.006	1.006
	1.010	0.415	1.004	1.004
	1.020	0.177	1.004	1.003
	1.007	0.567	1.004	1.003
	1.020	0.155	1.003	1.003
	1.025	0.098	1.002	1.002
	0.992	0.454	0.997	0.996
	0.990	0.469	0.995	0.995
Tennessee	0.975	0.380	0.990	0.990
	0.935	0.230	0.985	0.984
	0.888	0.133	0.984	0.984
	0.926	0.238	0.982	0.982
	0.971	0.595	0.983	0.982
	0.895	0.190	0.979	0.979
	0.684	0.055	0.979	0.979
	0.931	0.383	0.973	0.972
	0.812	0.165	0.966	0.966
	0.867	0.237	0.967	0.966
	0.734	0.160	0.952	0.951
	0.859	0.336	0.950	0.950
	0.896	0.470	0.950	0.949
	0.876	0.406	0.948	0.947
	0.918	0.645	0.946	0.946
	0.887	0.489	0.943	0.943
	0.776	0.230	0.943	0.943
	0.822	0.300	0.943	0.943
	0.796	0.267	0.941	0.941
	0.088	0.035	0.919	0.918
	0.800	0.387	0.917	0.917
	0.644	0.196	0.917	0.917
	0.757	0.314	0.916	0.916
	0.619	0.293	0.869	0.869

* Sorted by balanced relative change

INSURANCE SERVICES OFFICE, INC.

TENNESSEE
LOCAL PRODUCTS/COMPLETED OPERATIONS
SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 06/30/20 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2016-2020 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIV.	NUMBER OF OCCURRENCES	BAL CELL RELATIV.
10 MONOLINE	01 RET.STRS-FOOD/DRG	\$37,457	\$179,623	1.249	1.149	15	0.893
	02 RET.STRS-NTFD/DRG	\$54,669	\$195,897	0.488	0.449	5	0.988
	11 COMP. OPS. (LOW)	\$184,965	\$704,443	0.988	0.91	10	1.025
	12 COMP. OPS. (MED)	\$2,171,555	\$9,838,960	1.211	1.115	200	1.011
	13 COMP. OPS. (HGH)	\$193,259	\$782,056	0.131	0.12	6	0.944
	TOTAL *	\$2,641,905	\$11,700,979	1.102		236	
34 MULT MERCANTILE	01 RET.STRS-FOOD/DRG	\$175,146	\$811,603	1.691	1.556	123	0.91
	02 RET.STRS-NTFD/DRG	\$116,234	\$564,663	1.141	1.05	20	1.007
	12 COMP. OPS. (MED)	\$51,146	\$227,184	2.038	1.876	2	1.03
	TOTAL *	\$342,526	\$1,603,450	1.556		145	
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	\$25,030	\$186,009	0.347	0.32	14	0.845
	02 RET.STRS-NTFD/DRG	\$217,771	\$973,912	0.764	0.703	45	0.935
	11 COMP. OPS. (LOW)	\$21,796	\$132,583	1.126	1.036	6	0.97
	12 COMP. OPS. (MED)	\$64,202	\$389,223	1.647	1.516	31	0.957
	13 COMP. OPS. (HGH)	\$9,226	\$49,340	0.545	0.502	1	0.893
	TOTAL *	\$338,025	\$1,731,067	0.918		97	
37 MULT INDUST/PROC.	11 COMP. OPS. (LOW)	\$281	\$1,248	0	0	0	1.023
	12 COMP. OPS. (MED)	\$46,465	\$269,364	0.896	0.825	5	1.01
	13 COMP. OPS. (HGH)	\$0	\$1	0	0	0	0.942
	TOTAL *	\$46,746	\$270,613	0.89		5	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$173,365	\$1,034,558	0.836	0.769	19	1.011
	12 COMP. OPS. (MED)	\$3,093,538	\$15,470,845	1.02	0.939	281	0.997
	13 COMP. OPS. (HGH)	\$277,335	\$1,426,678	0.853	0.785	12	0.931
	TOTAL *	\$3,544,238	\$17,932,081	0.998		312	
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	\$237,633	\$1,177,235	1.48		152	
	02 RET.STRS-NTFD/DRG	\$388,674	\$1,734,472	0.838		70	
	11 COMP. OPS. (LOW)	\$380,407	\$1,872,832	0.926		35	
	12 COMP. OPS. (MED)	\$5,426,906	\$26,195,576	1.112		519	
	13 COMP. OPS. (HGH)	\$479,820	\$2,258,075	0.556		19	
	TOTAL *	\$6,913,440	\$33,238,190	1.061		795	

* TOTALS IN COLUMNS (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

INSURANCE SERVICES OFFICE, INC.

MULTISTATE
 LOCAL PRODUCTS/COMPLETED OPERATIONS
 SUMMARY OF EXPERIENCE USED IN BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	CLASS GROUP	(1)	(2)	(3)	(4)	(5)	(6)
		CALENDAR A.Y.E. 12/31/2019 AGGREGATE LOSS COSTS AT CURRENT LEVEL	CALENDAR A.Y.E. 2015 - 2019 AGG LOSS COST CURRENT LEVEL	FIVE YEAR EXPERIENCE RATIO	RELATIV.	NUMBER OF OCCURRENCES	BAL CELL RELATIV.
10 MONOLINE	01 RET.STRS-FOOD/DRG	2,438,315	11,481,124	0.912		601	
	02 RET.STRS-NTFD/DRG	2,987,973	14,421,548	1.083		495	
	11 COMP. OPS. (LOW)	5,121,852	24,832,256	1.466		645	
	12 COMP. OPS. (MED)	99,545,324	453,611,463	1.119		7,145	
	13 COMP. OPS. (HGH)	7,985,186	36,362,548	0.800		270	
	TOTAL *	118,078,650	540,708,939	1.107		9,156	
34 MULT MERCANTILE	01 RET.STRS-FOOD/DRG	8,420,906	39,991,609	0.851		2,982	
	02 RET.STRS-NTFD/DRG	5,561,155	26,343,265	1.248		672	
	12 COMP. OPS. (MED)	2,449,900	11,651,099	1.126		132	
		TOTAL *	16,431,961	77,985,973	1.026		3,786
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	850,649	4,343,160	1.305		191	
	02 RET.STRS-NTFD/DRG	14,223,267	58,971,026	0.948		2,767	
	11 COMP. OPS. (LOW)	3,234,837	15,453,155	1.070		482	
	12 COMP. OPS. (MED)	4,907,590	24,453,606	1.095		800	
	13 COMP. OPS. (HGH)	1,071,672	5,500,146	0.778		63	
	TOTAL *	24,288,015	108,721,093	0.999		4,303	
37 MULT INDUST/PROC.	01 RET.STRS-FOOD/DRG	18,708	99,534	0.356		1	
	11 COMP. OPS. (LOW)	112,124	572,337	1.066		19	
	12 COMP. OPS. (MED)	3,755,205	19,337,637	1.171		289	
	13 COMP. OPS. (HGH)	42,569	250,290	0.000		0	
		TOTAL *	3,928,606	20,259,798	1.151		309
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	10,088,973	48,995,253	1.071		731	
	12 COMP. OPS. (MED)	164,618,861	819,998,075	1.102		13,301	
	13 COMP. OPS. (HGH)	14,387,568	69,459,681	0.947		720	
		TOTAL *	189,095,402	938,453,009	1.089		14,752
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	11728578	55915427	0.896		3,775	
	02 RET.STRS-NTFD/DRG	22,772,395	99,735,839	1.039		3,934	
	11 COMP. OPS. (LOW)	18,557,786	89,853,001	1.180		1,877	
	12 COMP. OPS. (MED)	275,276,880	1,329,051,880	1.109		21,667	
	13 COMP. OPS. (HGH)	23,486,995	111,572,665	0.887		1,053	
	TOTAL *	351,822,634	1,686,128,812	1.086		32,306	

* TOTALS IN COLUMN (3) ARE AVERAGES USING COLUMN (1) AS WEIGHTS.

COMMERCIAL PACKAGE POLICY

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SECTION C - REVISED CLM DIVISION NINE

Commercial Package Policy Package Modification Factors (Revised MLCP-PMF-1) C-2

**COMMERCIAL LINES MANUAL
DIVISION NINE – MULTIPLE LINE
COMMERCIAL PACKAGE POLICY
PACKAGE MODIFICATION FACTORS**

TENNESSEE (41)

PACKAGE MODIFICATION FACTORS

Package Modification Assignment (PMA)	Premium From CLM Division			
	Two	Three, Four, Five, Eight Property	Four, Six Liability	All Other Divisions
Apartment House	.90	1.00	1.00	1.00
Contractors	.90	.89	.80	1.00
Industrial & Processing	.90	.95	1.00	1.00
Institutional	.90	.93	.78	1.00
Mercantile	.90	.91	.91	1.00
Motel/Hotel	.90	1.00	1.00	1.00
Office	.90	.84	.95	1.00
Service	.90	.97	.93	1.00

Table 1. Package Modification Factors