

RULES – IMPLEMENTATION

NOVEMBER 24, 2021

COMMERCIAL MULTIPLE LINE

LI-ML-2021-038

MISSOURI COMMERCIAL PACKAGE POLICY REVISED PACKAGE MODIFICATION FACTOR REVISION TO BE IMPLEMENTED; EXHIBITS NEWLY PRESENTED IN EXCEL

KEY MESSAGE

Revised Commercial Package Policy package modification factors for an overall statewide change of -3.5% to be implemented.

UPGRADE TO WORD AND EXCEL DOCUMENTS

As previously noted, ISO is implementing changes to our authoring and delivery systems so that **newly created** documents will be delivered in Office 365 .docx/.xlsx format to be phased in by product/service. In addition to **form** documents, we are pleased to announce that during the third quarter 2021, you will be receiving **circular cover letter** and **Notice To Manualholders (NTM)** documents in .docx format delivered/accessed via Circulars, CLM, EFD, ERC, Filings, FIRST, Forms Library, PRM and Suite +. Changes continue for other document types to be phased in by product/service. Products impacted include, but are not limited to, documents delivered/accessed via Circulars, CLM, EFD, ERC, Filings, FIRST, Forms Library (including PolicyWriting Support Forms Instructional Supplement), PRM, Statistical Plans and Suite +.

BACKGROUND

In circular [LI-ML-2021-026](#), 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-2021-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 May 1, 2022.

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 APRIL 11, 2022. 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-2021-RLA1, 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-2021-004](#) 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 5-22 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

REFERENCE(S)

- [LI-ML-2021-026](#) (09/10/2021) Commercial Package Policy Experience Reviewed By Staff
- [LI-CL-2021-004](#) (02/17/2021) Revised Lead Time Requirements Listing

ATTACHMENT(S)

Filing [ML-2021-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.

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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, Rimma Maasbach, am an Actuarial Consultant 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.

CONTACT INFORMATION

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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.

MISSOURI
ADVISORY PACKAGE MODIFICATION FACTOR REVIEW
COMMERCIAL PACKAGE POLICY
ML-2021-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.
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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%	2.0%	1.0%
Apartment	-8.9%	2.0%	-7.0%
Office	-5.6%	1.2%	-1.0%
Mercantile	-5.3%	0.0%	-3.1%
Institutional	-9.5%	-6.4%	-8.9%
Services	-3.5%	-1.1%	-2.5%
Indust./Proc.	-10.0%	-1.0%	-6.7%
Contractors	<u>7.5%</u>	<u>0.0%</u>	<u>1.2%</u>
Statewide	-5.8%	-0.7%	-3.5%

MISSOURI
ADVISORY PACKAGE MODIFICATION FACTOR REVIEW

COMMERCIAL PACKAGE POLICY

ML-2021-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.
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HISTORICAL SOURCE DATA	<p>The data used in this review is from ISO reporting companies for:</p> <ul style="list-style-type: none">• Basic Group I: five fiscal accident years ending 12/31/19.• Basic Group II: ten fiscal accident years ending 12/31/19.• Special Causes of Loss: five fiscal accident years ending 12/31/19.• 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 12/31/19.• Manufacturers and Contractors: five fiscal accident years ending 12/31/19.• Products: three calendar accident years ending 12/31/19.• Local Products and Completed Operations: three calendar accident years ending 12/31/19.
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PRIOR ISO REVISIONS	The latest revisions in this state are:
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<u>Filing</u>	ML-20-RLA1	ML-19-RLA1	ML-18-RLA1
<u>Dates</u>			
Implemented	12/1/2020	11/1/2019	10/1/2018
<u>Changes</u>			
Indicated	-2.5%	-0.7%	3.2%
Filed	-2.5%	-0.7%	3.2%
Implemented	-2.5%	-0.7%	3.2%

MISSOURI
ADVISORY PACKAGE MODIFICATION FACTOR REVIEW
COMMERCIAL PACKAGE POLICY
ML-2021-RLA1
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. Tokio Marine Companies
 4. Liberty Mutual Insurance Company
 5. Nationwide Mutual Insurance Company
 6. Continental Casualty Company
 7. Star Insurance Company (Meadowbrook Insurance Group)
 8. Columbia Insurance Group
 9. Insurance Company Of North America
 10. Admiral 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). 43.9%.

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.

MISSOURI
ADVISORY PACKAGE MODIFICATION FACTOR REVIEW
COMMERCIAL PACKAGE POLICY
ML-2021-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

TABLE OF CONTENTS

	<u>Explanatory Pages</u>	<u>Corresponding Exhibits</u>
<u>SECTION A</u> – SCOPE OF REVISION		
Methodology Overview	Page 6	--
Summary of Package Modification Factor (PMF) Review	--	Exhibit A1
Calculation of Revised Package Modification Factors	Page 7-9	Exhibit A2
<u>SECTION B</u> – CALCULATION OF PROPOSED CHANGES		
PROPERTY COVERAGES		
Commercial Fire and Allied Lines Distribution of Advisory Loss Cost Level Change	Page 10-19	Exhibits B1-B5
Crime and Fidelity	Page 20	--
Commercial Inland Marine	Page 21	Exhibits B6-B7
LIABILITY COVERAGES		
Distribution of Advisory Loss Cost Level Change	Page 22-27	Exhibits B8-B17
SECTION C- REVISED CLM DIVISION NINE		
Commercial Package Policy Package Modification Factors (Revised MLCP-PMF-1)	--	C-2

COMMERCIAL PACKAGE POLICY 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.

EXPLANATORY NOTES TO EXHIBIT A2

CALCULATION OF REVISED PACKAGE MODIFICATION FACTORS

OBJECTIVE	<p>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.</p> <p>The types of insured which can be written under a CPP are generally categorized into the following Types of Policy:</p> <ul style="list-style-type: none">. 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	<p>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.</p>
CPP PMF REVIEW PROCEDURE	<p>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).</p> <p>A detailed explanation of the calculation of the revised PMFs follows.</p>

EXPLANATORY NOTES TO EXHIBIT A2 (Cont'd)

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.

EXPLANATORY NOTES TO EXHIBIT A2 (Cont'd)

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) shown 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).

EXPLANATORY NOTES TO EXHIBITS B1 AND B2

BASIC GROUP I AND SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

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.

EXPLANATORY NOTES TO EXHIBITS B1 AND B2 (Cont'd)

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;

EXPLANATORY NOTES TO EXHIBITS B1 AND B2 (Cont'd)

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.

EXPLANATORY NOTES TO EXHIBITS B1 AND B2 (Cont'd)

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 and B2.

EXPLANATORY NOTES TO EXHIBITS B3

BASIC GROUP I RELATIVITY ANALYSIS
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

INTRODUCTION	<p>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.</p>
COLUMN (1)	<p><u>AGGREGATE LOSS COSTS</u></p> <p>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.</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 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).</p>
COLUMN (4)	<p><u>RELATIVITIES</u></p> <p>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.</p>

EXPLANATORY NOTES TO EXHIBITS B4

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

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>

EXPLANATORY NOTES TO EXHIBITS B4 (cont'd)

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.

EXPLANATORY NOTES TO EXHIBIT B5

BASIC GROUP II RELATIVITY ANALYSIS

OBJECTIVE

The explanations which follow clarify Exhibit B5, the Basic Group II (BG II) relativity analysis. The purpose of this analysis is to:

- (1) determine the monoline loss cost level need;
- (2) determine indicated changes to the eight property Commercial Package Policy (CPP) Package Modification Factors (PMFs) based on Basic Group II experience.

COLUMN (1)

AGGREGATE LOSS COSTS

The latest accident year adjusted aggregate loss costs (adjusted in the same manner as in the overall review, i.e. to current manual loss cost and prospective amount of insurance levels, with multiline aggregate loss costs further adjusted to current IPMF level) are used as weights in the calculation of any totals shown in this table.

COLUMN (2)

10 - YEAR EXPERIENCE RATIO

These experience ratios are the ratio of the combined ten year CSP adjusted incurred losses (adjusted to current deductible and prospective cost levels including loss development, and also adjusted to reflect the BGII excess loss procedure) to the combined ten year CSP adjusted aggregate loss costs. Any totals which are shown are weighted averages using the aggregate loss costs in Column (1). When a dash is displayed in the column, it indicates that the indicated IPMF which resulted from this procedure was capped. The procedure which follows when capping occurs is described below.

COLUMN (3)

FORMULA RELATIVITY

The formula relativities are the ratios of the ten year experience ratios for the type of policy (either monoline vs. multiline or individual multiline programs) to the average ten year experience ratio for monoline and multiline combined. These relativities represent how much better or worse than average the experience for a given type of policy is. Again, any totals which are shown are weighted averages and the display of a dash indicates that the resulting IPMF was capped.

EXPLANATORY NOTES TO EXHIBIT B5 (Cont'd)

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.

EXPLANATORY NOTES TO EXHIBIT B5 (Cont'd)

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.

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.

EXHIBITS B6 AND B7

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

EXPLANATORY NOTES TO GENERAL LIABILITY
RELATIVITY ANALYSIS - EXHIBITS B8 THROUGH B17.

OBJECTIVES

The objectives of this procedure are to:

- 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

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.

SIMULTANEOUS
DETERMINATION
OF RATING
VARIABLE
RELATIVITIES

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.

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.

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.

RATING
VARIABLES
USED

For Premises/Operations and Products/Completed Operations, the rating variables used in the relativity analysis are as follows:

Manufacturers and Contractors -	type of policy and class group
Owners, Landlords and Tenants -	type of policy, territory and class group
Products -	type of policy and class group
Local Products/Completed Operations-	type of policy, state and class group

EXPLANATORY NOTES TO GENERAL LIABILITY
RELATIVITY ANALYSIS - EXHIBITS B8 THROUGH 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;

EXPLANATORY NOTES TO GENERAL LIABILITY
RELATIVITY ANALYSIS - EXHIBITS B8 THROUGH 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;

EXPLANATORY NOTES TO GENERAL LIABILITY
RELATIVITY ANALYSIS - EXHIBITS B8 THROUGH 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;

EXPLANATORY NOTES TO GENERAL LIABILITY
RELATIVITY ANALYSIS - EXHIBITS B8 THROUGH 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

$$Z = \sqrt{P/18,000} \text{ for Owners, Landlords and Tenants, } Z = \sqrt{P/18,000} \text{ for}$$

$$\text{Manufacturers and Contractors and } Z = \sqrt{P/20,000} \text{ for Products, where P is the 5}$$

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:

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

EXPLANATORY NOTES TO GENERAL LIABILITY
RELATIVITY ANALYSIS - EXHIBITS B8 THROUGH 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.

MISSOURI

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%	0.98	1.00	2.0%	1.0%
APARTMENT (32)	0.79	0.72	-8.9%	0.98	1.00	2.0%	-7.0%
OFFICE (33)	0.72	0.68	-5.6%	0.83	0.84	1.2%	-1.0%
MERCANTILE (34)	0.75	0.71	-5.3%	0.90	0.90	0.0%	-3.1%
INSTITUTION(35)	0.84	0.76	-9.5%	0.94	0.88	-6.4%	-8.9%
SERVICES (36)	0.85	0.82	-3.5%	0.94	0.93	-1.1%	-2.5%
IND/PROC (37)	0.80	0.72	-10.0%	1.00	0.99	-1.0%	-6.7%
CONTRACTORS(38)	0.93	1.00	7.5%	1.00	1.00	0.0%	1.2%
STATEWIDE			-5.8%			-0.7%	-3.5%

INSURANCE SERVICES OFFICE, INC.

MISSOURI
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
<u>COVERAGE</u>					
PROPERTY-					
BASIC GRP I	916,226	0.882	-4.6%	0.841	0.875
BASIC GRP II	664,685	1.477	1.5%	1.499	1.500
SP CAUSE/LOSS	212,451	0.705	-6.7%	0.658	0.684
* CRIME	886	0.911	0.0%	0.911	0.911
* INL. MAR.	4,291	0.968	0.0%	0.968	0.968
* FIDELITY	3,843	1.000	0.0%	1.000	1.000
<u>TOTAL</u>	<u>1,802,382</u>	<u>1.000</u>	<u>-2.4%</u>	<u>0.976</u>	<u>1.000</u>
LIABILITY-					
OL&T	1,706,247	0.978	5.4%	1.031	1.000
<u>TOTAL</u>	<u>1,706,247</u>	<u>0.980</u>	<u>5.2%</u>	<u>1.031</u>	<u>1.000</u>

PROP. & LIAB. TOTAL	3,508,629		1.3%		1.0%

APARTMENT (32) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
<u>COVERAGE</u>					
PROPERTY-					
BASIC GRP I	3,399,166	0.656	-9.8%	0.592	0.592
BASIC GRP II	3,134,655	1.063	-7.6%	0.982	0.982
SP CAUSE/LOSS	1,207,197	0.710	-6.9%	0.661	0.661
* CRIME	516	0.911	0.0%	0.911	0.911
* INL. MAR.	1,608	0.968	0.0%	0.968	0.968
* FIDELITY	8,747	1.000	0.0%	1.000	1.000
<u>TOTAL</u>	<u>7,751,889</u>	<u>0.790</u>	<u>-8.7%</u>	<u>0.721</u>	<u>0.720</u>
LIABILITY-					
OL&T	1,619,083	0.975	2.3%	0.997	1.000
<u>TOTAL</u>	<u>1,619,083</u>	<u>0.980</u>	<u>1.8%</u>	<u>0.997</u>	<u>1.000</u>

PROP. & LIAB. TOTAL	9,370,972		-6.9%		-7.0%

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

INSURANCE SERVICES OFFICE, INC.

MISSOURI
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	1,190,591	1.001	-2.5%	0.976	0.976
BASIC GRP II	1,084,936	0.574	-3.6%	0.553	0.553
SP CAUSE/LOSS	720,968	0.599	-6.4%	0.561	0.561
* CRIME	2,836	0.911	0.0%	0.911	0.911
* INL. MAR.	37,164	0.968	0.0%	0.968	0.968
* FIDELITY	20,164	1.000	0.0%	1.000	1.000
TOTAL	3,056,659	0.720	-6.0%	0.677	0.680
LIABILITY-					
OL&T	6,027,016	0.829	-0.4%	0.826	0.832
M&C	350,041	0.905	2.8%	0.930	0.938
TOTAL	6,377,057	0.830	0.1%	0.831	0.840

PROP. & LIAB.	9,433,716		-1.9%		-1.0%
TOTAL					

MERCANTILE (34) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	4,650,797	0.605	-6.3%	0.567	0.567
BASIC GRP II	6,498,905	0.923	-2.0%	0.905	0.905
SP CAUSE/LOSS	3,136,202	0.656	-5.3%	0.621	0.621
* CRIME	26,696	0.911	0.0%	0.911	0.911
* INL. MAR.	637,403	0.968	0.0%	0.968	0.968
* FIDELITY	258,796	1.000	0.0%	1.000	1.000
TOTAL	15,208,799	0.750	-4.7%	0.715	0.710
LIABILITY-					
OL&T	7,956,092	0.888	-0.5%	0.884	0.890
M&C	1,513,189	1.026	1.9%	1.045	1.054
LOCAL PRODUCT	227,293	0.603	1.9%	0.614	0.619
* MULTI PRODUCT	992,962	0.870	2.2%	0.889	0.889
TOTAL	10,689,536	0.900	-0.5%	0.896	0.900

PROP. & LIAB.	25,898,335		-3.0%		-3.1%
TOTAL					

INSURANCE SERVICES OFFICE, INC.

MISSOURI
COMMERCIAL PACKAGE POLICY

CALCULATION OF REVISED CPP PACKAGE MODIFICATION FACTORS(PMF)

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

INSTITUTION(35) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	5,582,810	0.881	-9.4%	0.798	0.798
BASIC GRP II	7,980,640	0.851	-9.9%	0.767	0.767
SP CAUSE/LOSS	3,815,013	0.743	-5.5%	0.702	0.702
* CRIME	18,890	0.911	0.0%	0.911	0.911
* INL. MAR.	42,200	0.968	0.0%	0.968	0.968
* FIDELITY	138,298	1.000	0.0%	1.000	1.000
TOTAL	17,577,851	0.840	-9.2%	0.763	0.760
LIABILITY-					
OL&T	3,879,738	0.934	-8.9%	0.851	0.857
M&C	423,387	0.963	13.8%	1.096	1.104
TOTAL	4,303,125	0.940	-7.0%	0.874	0.880

PROP. & LIAB. TOTAL	21,880,976		-8.8%		-8.9%

SERVICES (36) *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	3,662,325	0.941	-0.8%	0.933	0.933
BASIC GRP II	3,683,675	0.876	-3.0%	0.850	0.850
SP CAUSE/LOSS	1,582,312	0.625	-9.1%	0.568	0.568
* CRIME	12,118	0.911	0.0%	0.911	0.911
* INL. MAR.	72,610	0.968	0.0%	0.968	0.968
* FIDELITY	103,776	1.000	0.0%	1.000	1.000
TOTAL	9,116,816	0.850	-4.0%	0.816	0.820
LIABILITY-					
OL&T	3,520,121	0.874	-3.9%	0.840	0.846
M&C	2,858,413	1.039	3.5%	1.075	1.084
LOCAL PRODUCT	466,905	0.843	-5.3%	0.798	0.804
* MULTI PRODUCT	132,248	0.950	1.4%	0.964	0.964
TOTAL	6,977,687	0.940	-1.5%	0.926	0.930

PROP. & LIAB. TOTAL	16,094,503		-2.9%		-2.5%

INSURANCE SERVICES OFFICE, INC.

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

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

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	2,723,223	1.017	-6.3%	0.953	0.953
BASIC GRP II	1,819,927	0.671	-3.4%	0.648	0.648
SP CAUSE/LOSS	1,438,580	0.607	-12.7%	0.530	0.530
* CRIME	3,918	0.911	0.0%	0.911	0.911
* INL. MAR.	4,118	0.968	0.0%	0.968	0.968
* FIDELITY	72,482	1.000	0.0%	1.000	1.000
TOTAL	6,062,248	0.800	-10.0%	0.720	0.720
LIABILITY-					
M&C	2,242,358	1.057	0.5%	1.062	1.071
LOCAL PRODUCT	79,178	0.570	-0.1%	0.569	0.574
* MULTI PRODUCT	1,175,343	0.937	-4.2%	0.898	0.898
TOTAL	3,496,879	1.000	-1.6%	0.984	0.990

PROP. & LIAB.	9,559,127		-6.9%		-6.7%
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	1,038,077	1.030	-6.2%	0.966	1.146
BASIC GRP II	1,034,936	0.902	-8.6%	0.824	0.978
SP CAUSE/LOSS	737,370	0.830	-12.3%	0.728	0.863
* CRIME	1,088	0.911	0.0%	0.911	0.911
* INL. MAR.	5,311	0.968	0.0%	0.968	0.968
* FIDELITY	56,353	1.000	0.0%	1.000	1.000
TOTAL	2,873,135	0.930	-9.0%	0.846	1.000
LIABILITY-					
M&C	10,026,703	1.070	8.3%	1.159	1.108
LOCAL PRODUCT	5,084,806	0.876	-1.4%	0.864	0.826
TOTAL	15,111,509	1.000	4.6%	1.046	1.000

PROP. & LIAB.	17,984,644		2.4%		1.2%
TOTAL					

INSURANCE SERVICES OFFICE, INC.

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

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

STATEWIDE *****	(1) AGGREGATE LOSS COSTS	(2) CURRENT IMPLICIT PMF	(3) NET INDICATION	(4) INDIC. PMF	(5) CAPPED PMF
COVERAGE					
PROPERTY-					
BASIC GRP I	23,163,215	0.798	-6.4%	0.747	0.755
BASIC GRP II	25,902,359	0.870	-5.6%	0.821	0.827
SP CAUSE/LOSS	12,850,093	0.680	-7.3%	0.630	0.637
* CRIME	66,948	0.911	0.0%	0.911	0.911
* INL. MAR.	804,705	0.968	0.0%	0.968	0.968
* FIDELITY	662,459	1.000	0.0%	1.000	1.000
TOTAL	63,449,779	0.805	-6.6%	0.752	0.758
LIABILITY-					
OL&T	24,708,297	0.888	-1.7%	0.873	0.877
M&C	17,414,091	1.053	6.0%	1.116	1.090
LOCAL PRODUCT	5,858,182	0.852	-1.6%	0.838	0.808
* MULTI PRODUCT	2,300,553	0.908	-1.1%	0.898	0.897
TOTAL	50,281,123	0.941	0.4%	0.945	0.935

PROP. & LIAB.	113,730,902		-3.5%		-3.5%
TOTAL					

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

INSURANCE SERVICES OFFICE, INC.

MISSOURI
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)	0.990	1.003	1.000
APARTMENT (32)	0.810	0.761	0.760
OFFICE (33)	0.790	0.775	0.780
MERCANTILE (34)	0.800	0.781	0.780
INSTITUTION(35)	0.850	0.783	0.780
SERVICES (36)	0.880	0.861	0.860
IND/PROC (37)	0.870	0.802	0.800
CONTRACTORS(38)	0.990	1.012	1.000

NOTE: Combined PMFs are provided for informational purposes only.

INSURANCE SERVICES OFFICE, INC.

MISSOURI
BASIC GROUP I RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)
	LEAST SQUARES		CREDIBILITY		
TYPE OF	FORMULA		WEIGHTED	BALANCED	INDICATED
POLICY	RELATIVITY	CREDIBILITY	RELATIVITY	RELATIVITY	CHANGE
10	1.442	0.142	1.053	1.061	
31	1.117	0.038	1.004	1.012	-4.6%
32	0.675	0.131	0.950	0.957	-9.8%
33	1.570	0.058	1.027	1.034	-2.5%
34	0.928	0.182	0.986	0.994	-6.3%
35	0.780	0.191	0.954	0.961	-9.4%
36	1.311	0.158	1.044	1.052	-0.8%
37	0.897	0.128	0.986	0.994	-6.3%
38	0.779	0.050	0.988	0.995	-6.2%
TERRITORY					
Kansas City	0.862	0.146	0.979	0.958	
Saint Louis City	0.551	0.156	0.911	0.892	
Balance of State	1.053	0.660	1.035	1.013	

INSURANCE SERVICES OFFICE, INC.

MISSOURI
SPECIAL CAUSES OF LOSS RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)
	LEAST SQUARES		CREDIBILITY		
TYPE OF	FORMULA		WEIGHTED	BALANCED	INDICATED
POLICY	RELATIVITY	CREDIBILITY	RELATIVITY	RELATIVITY	CHANGE
10	1.404	0.205	1.072	1.068	
31	1.006	0.022	1.000	0.996	-6.7%
32	0.983	0.121	0.998	0.994	-6.9%
33	1.047	0.084	1.004	1.000	-6.4%
34	1.056	0.278	1.015	1.011	-5.3%
35	1.046	0.297	1.013	1.009	-5.5%
36	0.859	0.166	0.975	0.971	-9.1%
37	0.633	0.145	0.936	0.932	-12.7%
38	0.499	0.088	0.941	0.937	-12.3%
CATEGORY					
1	1.060	0.760	1.045	1.023	
2	1.020	0.073	1.001	0.980	
3	0.770	0.095	0.975	0.954	
4	0.837	0.165	0.971	0.950	
5	0.914	0.095	0.991	0.970	
6	1.376	0.080	1.026	1.004	
7	1.353	0.018	1.005	0.984	
8	0.909	0.134	0.987	0.966	
9	0.927	0.143	0.989	0.968	
10	0.879	0.031	0.996	0.974	
11	0.656	0.207	0.916	0.897	
12	0.611	0.136	0.935	0.915	
13	1.039	0.067	1.003	0.981	
14	1.005	0.128	1.001	0.979	

INSURANCE SERVICES OFFICE, INC.

MISSOURI
BASIC GROUP I RELATIVITY ANALYSIS
SUMMARY OF EXPERIENCE USED IN SIMULTANEOUS REVIEW

TYPE OF POLICY	(1) ACCIDENT YEAR ENDING 12/31/19 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) RELATIVITY
ENTIRE STATE				
10 MONOLINE	2,832,192	16,540,484	1.487	1.387
31 MULTILINE MOTEL/HOTEL	916,226	3,897,654	1.214	1.132
32 MULTILINE APARTMENT	3,399,166	15,128,767	0.774	0.722
33 MULTILINE OFFICE	1,190,591	6,107,474	1.600	1.493
34 MULTILINE MERCANTILE	4,650,797	22,269,095	1.040	0.970
35 MULTILINE INSTITUTIONAL	5,582,810	23,594,371	0.872	0.813
36 MULTILINE SERVICES	3,662,325	18,722,759	1.358	1.267
37 MULTILINE INDUST/PROCESS	2,723,223	14,672,228	0.930	0.868
38 MULTILINE CONTRACTORS	<u>1,038,077</u>	<u>5,248,274</u>	<u>0.776</u>	<u>0.724</u>
TOTAL ALL TOPS*	25,995,407	126,181,106	1.072	1.000

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

INSURANCE SERVICES OFFICE, INC.

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/19 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	1,207,156	6,521,698	1.459	1.439	1.502
	02 RES. APTS. AND COND	13,351	126,506	0.163	0.864	0.902
	03 OFFICES	94,303	624,679	0.203	0.632	0.660
	04 MERCANTILE - HIGH	171,245	945,346	0.195	0.545	0.569
	05 MERCANTILE - MEDIUM	22,133	123,563	0.365	0.933	0.974
	06 MERCANTILE - LOW	27,707	148,658	0.061	0.812	0.848
	07 MOTELS AND HOTELS	16,157	98,186	7.876	3.248	3.390
	08 INSTITUTIONAL - HIG	16,947	118,430	0.802	1.077	1.124
	09 INSTITUTIONAL - LOW	47,585	223,410	0.821	1.054	1.100
	10 INDUST-PROC - HIGH	10,130	62,710	0.242	0.941	0.982
	11 INDUST-PROC - LOW	109,065	543,308	0.091	0.598	0.624
	12 SERVICE - HIGH	57,371	317,403	0.235	0.770	0.804
	13 SERVICE - LOW	52,083	296,353	4.233	2.533	2.644
	14 CONTRACTORS	27,646	139,846	0.542	0.982	1.025
	TOTAL*	1,872,879	10,290,096	1.210	1.251	1.306
31 MULTILINE	01 BUILDINGS	174,441	743,960	1.131	1.045	1.091
MOTEL/HOTEL	07 MOTELS AND HOTELS	38,010	176,737	0.270	0.946	0.987
	TOTAL*	212,451	920,697	0.977	1.027	1.072
32 MULTILINE	01 BUILDINGS	981,642	4,464,514	0.917	0.999	1.043
APARTMENT	02 RES. APTS. AND COND	225,555	1,050,281	0.592	0.964	1.006
	TOTAL*	1,207,197	5,514,795	0.856	0.993	1.036
33 MULTILINE	01 BUILDINGS	562,773	2,767,704	1.134	1.054	1.100
OFFICE	03 OFFICES	157,352	887,731	0.598	0.968	1.010
	04 MERCANTILE - HIGH	143	1,352	0.000	0.924	0.965
	08 INSTITUTIONAL - HIG	649	5,335	0.000	0.924	0.965
	11 INDUST-PROC - LOW	-	140	0.000	1.000	1.000
	12 SERVICE - HIGH	28	532	0.000	0.924	0.965
	14 CONTRACTORS	23	80	0.000	0.924	0.965
	TOTAL*	720,968	3,662,874	1.016	1.035	1.080

INSURANCE SERVICES OFFICE, INC.

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/19 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	2,235,020	10,701,919	1.121	1.070	1.117
	03 OFFICES	565	9,230	0.000	0.924	0.965
	04 MERCANTILE - HIGH	377,231	1,983,972	0.906	1.007	1.051
	05 MERCANTILE - MEDIUM	268,319	1,429,803	0.417	0.928	0.969
	06 MERCANTILE - LOW	225,211	1,160,550	3.484	1.414	1.476
	08 INSTITUTIONAL - HIGH	679	1,645	0.000	0.924	0.965
	11 INDUST-PROC - LOW	2,549	15,475	0.000	0.923	0.963
	12 SERVICE - HIGH	3,708	25,839	0.000	0.923	0.963
	13 SERVICE - LOW	5,033	23,506	0.000	0.923	0.963
	14 CONTRACTORS	17,887	72,681	2.034	1.138	1.188
	TOTAL*	3,136,202	15,424,620	1.205	1.075	1.122
35 MULTILINE INSTITUTIONAL	01 BUILDINGS	2,848,116	12,457,532	1.100	1.063	1.110
	03 OFFICES	2,951	5,373	0.000	0.924	0.965
	04 MERCANTILE - HIGH	2	2	0.000	0.924	0.965
	08 INSTITUTIONAL - HIGH	435,716	2,142,739	0.426	0.912	0.952
	09 INSTITUTIONAL - LOW	525,775	2,243,071	0.540	0.932	0.973
	12 SERVICE - HIGH	198	1,219	0.000	0.924	0.965
	13 SERVICE - LOW	630	632	0.000	0.924	0.965
	14 CONTRACTORS	1,625	8,933	0.000	0.924	0.965
	TOTAL*	3,815,013	16,859,501	0.944	1.027	1.073
36 MULTILINE SERVICES	01 BUILDINGS	1,024,035	4,975,966	0.912	0.878	0.916
	03 OFFICES	4,122	14,675	0.332	0.572	0.597
	04 MERCANTILE - HIGH	3,086	17,774	0.000	0.531	0.554
	05 MERCANTILE - MEDIUM	4,597	23,357	4.266	1.067	1.114
	06 MERCANTILE - LOW	1,275	2,518	0.000	0.543	0.567
	08 INSTITUTIONAL - HIGH	10,077	57,247	0.000	0.503	0.525
	09 INSTITUTIONAL - LOW	9,055	43,251	0.000	0.512	0.534
	10 INDUST-PROC - HIGH	324	1,088	0.000	0.544	0.568
	11 INDUST-PROC - LOW	364	801	0.000	0.544	0.568
	12 SERVICE - HIGH	363,737	1,994,206	0.476	0.505	0.527
	13 SERVICE - LOW	146,261	747,836	0.634	0.621	0.648
	14 CONTRACTORS	15,379	61,455	0.000	0.500	0.522
	TOTAL*	1,582,312	7,940,174	0.772	0.759	0.792

INSURANCE SERVICES OFFICE, INC.

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

TYPE OF POLICY	CATEGORY	(1) ACCIDENT YEAR ENDING 12/31/19 AGGREGATE LOSS COSTS	(2) 5 - YEAR AGGREGATE LOSS COSTS	(3) 5 - YEAR EXPERIENCE RATIO	(4) CREDIBILITY WEIGHTED EXPERIENCE RATIO	(5) CREDIBILITY WEIGHTED RELATIVITY
-----	-----	-----	-----	-----	-----	-----
37 MULTILINE INDUST/PROC	01 BUILDINGS	609,131	2,988,338	0.637	0.631	0.659
	03 OFFICES	71	2,901	8.659	1.402	1.463
	04 MERCANTILE - HIGH	7,880	12,589	0.000	0.535	0.558
	05 MERCANTILE - MEDIUM	-	177	0.000	1.000	1.000
	06 MERCANTILE - LOW	82	428	0.000	0.545	0.569
	10 INDUST-PROC - HIGH	73,696	422,389	0.470	0.544	0.568
	11 INDUST-PROC - LOW	743,933	3,353,805	0.378	0.412	0.430
	12 SERVICE - HIGH	1,838	7,593	0.000	0.539	0.563
	13 SERVICE - LOW	294	1,828	0.000	0.543	0.567
	14 CONTRACTORS	1,655	10,053	0.000	0.537	0.561
	TOTAL*	1,438,580	6,800,101	0.490	0.513	0.535
38 MULTILINE CONTRACTORS	01 BUILDINGS	369,324	1,886,740	0.469	0.501	0.523
	03 OFFICES	6,367	28,995	0.280	0.560	0.585
	04 MERCANTILE - HIGH	1,120	5,555	0.243	0.566	0.591
	05 MERCANTILE - MEDIUM	393	393	0.000	0.545	0.569
	08 INSTITUTIONAL - HIG	1,503	3,735	0.000	0.542	0.566
	11 INDUST-PROC - LOW	1,201	3,806	0.000	0.542	0.566
	12 SERVICE - HIGH	1,018	6,177	0.000	0.540	0.564
	13 SERVICE - LOW	127	1,498	0.000	0.544	0.568
	14 CONTRACTORS	356,317	1,909,546	0.451	0.487	0.508
	TOTAL*	737,370	3,846,445	0.456	0.495	0.517
TOTAL ALL TOPS*	01 BUILDINGS	10,011,638	47,508,371	1.062	1.037	1.082
	02 RES. APTS. AND COND	238,906	1,176,787	0.568	0.959	1.000
	03 OFFICES	265,731	1,573,584	0.440	0.832	0.869
	04 MERCANTILE - HIGH	560,707	2,966,590	0.670	0.856	0.893
	05 MERCANTILE - MEDIUM	295,442	1,577,293	0.472	0.930	0.971
	06 MERCANTILE - LOW	254,275	1,312,154	3.092	1.344	1.403
	07 MOTELS AND HOTELS	54,167	274,923	2.539	1.632	1.704
	08 INSTITUTIONAL - HIG	465,571	2,329,131	0.428	0.908	0.948
	09 INSTITUTIONAL - LOW	582,415	2,509,732	0.555	0.936	0.976
	10 INDUST-PROC - HIGH	84,150	486,187	0.441	0.592	0.618
	11 INDUST-PROC - LOW	857,112	3,917,335	0.340	0.438	0.457
	12 SERVICE - HIGH	427,898	2,352,969	0.436	0.545	0.568
	13 SERVICE - LOW	204,428	1,071,653	1.532	1.116	1.165
	14 CONTRACTORS	420,532	2,202,594	0.504	0.550	0.574
	TOTAL*	14,722,972	71,259,303	0.943	0.958	1.000

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

INSURANCE SERVICES OFFICE, INC.

MISSOURI

BASIC GROUP II RELATIVITY ANALYSIS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ACCIDENT YEAR ENDING 12/31/19 AGGR. LOSS COSTS AT CURRENT IMPLICIT PMF	ACCIDENT YEARS 2010 - 2019 EXPER. RATIO AT CURRENT PMF	FORMULA RELATIVITY (2)/ 1.257	CREDIBILITY C	CREDIBILITY WEIGHTED RELATIVITY D	BALANCED FORMULA RELATIVITY E	NORMALIZED FORMULA RELATIVITY F	INDICATED CHANGE
	-----	-----	-----	-----	-----	-----	-----	-----
MONOLINE	2,849,607	1.386	1.103	0.478	1.049	1.049	1.0534	
MULTILINE	25,902,359	1.239	0.986	0.845	0.988	0.990	0.9943	
	-----	-----	-----	-----	-----	-----	-----	
COVERAGE	28,751,966	1.257	1.000			0.9958	1.0002	
MULTILINE TOP								
31 MOTEL/HOTEL	664,685	*****	*****	*****	*****	1.065	1.0695	1.5%
32 APARTMENT	3,134,655	1.170	0.931	0.412	0.972	0.969	0.9731	-7.6%
33 OFFICE	1,084,936	1.357	1.080	0.180	1.014	1.011	1.0153	-3.6%
34 MERCANTILE	6,498,905	1.325	1.054	0.569	1.031	1.028	1.0323	-2.0%
35 INSTITUTIONAL	7,980,640	1.153	0.917	0.632	0.948	0.945	0.9490	-9.9%
36 SERVICES	3,683,675	1.314	1.045	0.455	1.020	1.017	1.0213	-3.0%
37 INDUST/PROCESS	1,819,927	1.328	1.056	0.292	1.016	1.013	1.0173	-3.4%
38 CONTRACTORS	1,034,936	1.027	0.817	0.206	0.962	0.959	0.9630	-8.6%
	-----	-----	-----	-----	-----	-----	-----	
	25,902,359	1.239 B	0.986		0.991	0.990	0.9943	

A - TOP 31 IMPLICIT PMF CAPPED AT 1.500.

FOR COLUMNS (2) THROUGH (5), MONOLINE INCLUDES TOPS 31

AT THESE CAPPED LEVELS AND MULTILINE EXCLUDES TOPS 31

B - AVERAGE WEIGHTED BY COLUMN (1)

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 - FOR UNCAPPED MULTILINE TOPS: $(6) = (5) * (0.988/0.991)$

FOR CAPPED MULTILINE TOPS: $(6) = (5) * (1.049) / (8)$

F - $(7) = (6) / 0.9958$

INSURANCE SERVICES OFFICE, INC.

MISSOURI
OWNERS, LANDLORDS AND TENANTS
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	1.049	0.283	1.014	1.014	
31	1.670	0.129	1.068	1.069	5.4%
32	1.374	0.112	1.036	1.037	2.3%
33	1.049	0.192	1.009	1.010	-0.4%
34	1.032	0.245	1.008	1.009	-0.5%
35	0.637	0.178	0.923	0.924	-8.9%
36	0.835	0.149	0.973	0.974	-3.9%
CLASS GROUP					
1	0.740	0.116	0.966	0.972	
2	0.993	0.186	0.999	1.005	
3	0.860	0.122	0.982	0.988	
4	0.518	0.015	0.990	0.997	
5	0.594	0.039	0.980	0.986	
6	1.617	0.060	1.029	1.036	
7	1.104	0.137	1.014	1.020	
8	2.019	0.050	1.036	1.042	
9	0.661	0.169	0.932	0.938	
10	1.577	0.162	1.077	1.083	
11	0.944	0.122	0.993	0.999	
12	0.899	0.296	0.969	0.975	
13	1.331	0.096	1.028	1.034	
16	1.870	0.067	1.043	1.049	
TERRITORY					
501	0.993	0.212	0.999	0.998	
502	0.915	0.272	0.976	0.976	
503	1.050	0.375	1.018	1.018	

INSURANCE SERVICES OFFICE, INC.

MISSOURI

MANUFACTURERS AND CONTRACTORS
BASIC LIMIT RELATIVE CHANGE ANALYSIS

TYPE OF POLICY	(1) BAILEY FORMULA	(2) CREDIBILITY	(3) CREDIBILITY WEIGHTED RELATIVITY	(4) BALANCED RELATIVITY	(5) INDICATED CHANGE
	RELATIVITY				
10	0.870	0.233	0.968	0.967	
33	0.855	0.033	0.995	0.994	2.8%
34	0.844	0.081	0.986	0.985	1.9%
35	2.733	0.096	1.101	1.100	13.8%
36	1.015	0.133	1.002	1.001	3.5%
37	0.707	0.080	0.973	0.972	0.5%
38	1.190	0.270	1.048	1.047	8.3%
CLASS GROUP					
30	0.836	0.118	0.979	0.979	
31	0.963	0.178	0.993	0.993	
32	1.056	0.274	1.015	1.015	
33	0.915	0.115	0.990	0.990	
34	0.854	0.127	0.980	0.980	
35	3.032	0.030	1.034	1.033	
36	1.176	0.070	1.011	1.011	
37	0.871	0.037	0.995	0.995	
38	1.061	0.104	1.006	1.006	

INSURANCE SERVICES OFFICE, INC.

MISSOURI
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. 12/31/19 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	01 FOOD&BEV.(RETAIL)	\$257,525	\$1,459,042	0.55		62	
	02 RESTAURANTS	\$295,441	\$2,378,149	0.849		139	
	03 STORES	\$230,237	\$945,114	1.656		60	
	04 VENDING & RENTAL	\$26,826	\$97,821	0		0	
	05 FOOD & BEV. DIST.	\$83,808	\$282,165	0.383		8	
	06 NON-FOOD&BEV.DIST	\$151,391	\$635,024	2.287		17	
	07 CLUBS,AMSMT&SPRTS	\$505,344	\$2,561,413	1.918		161	
	08 HEALTH CARE FACIL	\$19,518	\$76,567	3.388		9	
	09 HOTELS AND MOTELS	\$551,410	\$4,379,979	0.758		212	
	10 SCHLS & CHURCHES	\$308,010	\$1,528,321	1.836		81	
	11 APARTMENTS	\$858,251	\$3,426,207	1.286		97	
	12 BUILDINGS&OFFICES	\$2,722,926	\$13,500,098	0.857		528	
	13 MISC. PREMISES	\$157,432	\$974,238	1.441		58	
	16 GOVT SUBDIVISIONS	\$10,090	\$55,541	3.458		5	
	TOTAL *	\$6,178,209	\$32,299,679	1.112		1,437	
31 MULT MOTEL/HOTEL	09 HOTELS AND MOTELS	\$996,058	\$4,286,452	1.236		299	
	TOTAL *	\$996,058	\$4,286,452	1.236		299	
32 MULT APARTMENT	11 APARTMENTS	\$757,252	\$3,816,285	1.2		169	
	12 BUILDINGS&OFFICES	\$187,922	\$791,441	2.256		58	
	TOTAL *	\$945,174	\$4,607,726	1.41		227	
33 MULT OFFICE	12 BUILDINGS&OFFICES	\$3,471,685	\$16,534,769	1.036		662	
	13 MISC. PREMISES	\$46,713	\$232,476	1.567		5	
	TOTAL *	\$3,518,398	\$16,767,245	1.043		667	
34 MULT MERCANTILE	01 FOOD&BEV.(RETAIL)	\$668,506	\$4,006,008	1.015		182	
	02 RESTAURANTS	\$2,062,287	\$8,397,642	1.189		485	
	03 STORES	\$701,160	\$3,356,415	0.827		182	
	04 VENDING & RENTAL	\$14,669	\$47,685	0.814		1	
	05 FOOD & BEV. DIST.	\$136,479	\$665,003	0.869		20	
	06 NON-FOOD&BEV.DIST	\$315,927	\$1,655,943	1.64		48	
	12 BUILDINGS&OFFICES	\$745,509	\$4,096,188	1.006		166	
	TOTAL *	\$4,644,537	\$22,224,884	1.1		1,084	

INSURANCE SERVICES OFFICE, INC.

MISSOURI
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. 12/31/19 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
35 MULT INSTITUT.	07 CLUBS,AMSMT&SPRTS	\$127,667	\$428,648	0.53		15	
	08 HEALTH CARE FACIL	\$235,494	\$1,248,719	1.44		35	
	10 SCHLS & CHURCHES	\$1,417,077	\$6,568,408	1.131		389	
	12 BUILDINGS&OFFICES	\$56,351	\$261,845	1.694		53	
	13 MISC. PREMISES	\$36,542	\$192,980	0.981		5	
	16 GOVT SUBDIVISIONS	\$391,748	\$1,691,454	1.362		76	
	TOTAL *	\$2,264,879	\$10,392,054	1.18		573	
36 MULT SERVICES	03 STORES	\$102,765	\$488,988	0.618		26	
	04 VENDING & RENTAL	\$33,977	\$186,540	0.904		3	
	07 CLUBS,AMSMT&SPRTS	\$1,198,959	\$5,491,065	0.791		161	
	08 HEALTH CARE FACIL	\$6,655	\$47,913	0.127		1	
	09 HOTELS AND MOTELS	\$53,503	\$283,797	0.779		6	
	10 SCHLS & CHURCHES	\$2,866	\$12,994	0		0	
	12 BUILDINGS&OFFICES	\$329,900	\$1,727,745	1.652		105	
	13 MISC. PREMISES	\$326,320	\$1,530,855	1.278		98	
	TOTAL *	\$2,054,945	\$9,769,897	0.996		400	
TOTAL ALL TOP	01 FOOD&BEV.(RETAIL)	\$926,031	\$5,465,050	0.886		244	
	02 RESTAURANTS	\$2,357,728	\$10,775,791	1.147		624	
	03 STORES	\$1,034,162	\$4,790,517	0.99		268	
	04 VENDING & RENTAL	\$75,472	\$332,046	0.565		4	
	05 FOOD & BEV. DIST.	\$220,287	\$947,168	0.684		28	
	06 NON-FOOD&BEV.DIST	\$467,318	\$2,290,967	1.849		65	
	07 CLUBS,AMSMT&SPRTS	\$1,831,970	\$8,481,126	1.083		337	
	08 HEALTH CARE FACIL	\$261,667	\$1,373,199	1.552		45	
	09 HOTELS AND MOTELS	\$1,600,971	\$8,950,228	1.056		517	
	10 SCHLS & CHURCHES	\$1,727,953	\$8,109,723	1.254		470	
	11 APARTMENTS	\$1,615,503	\$7,242,492	1.246		266	
	12 BUILDINGS&OFFICES	\$7,514,293	\$36,912,086	1.031		1,572	
	13 MISC. PREMISES	\$567,007	\$2,930,549	1.328		166	
	16 GOVT SUBDIVISIONS	\$401,838	\$1,746,995	1.414		81	
	TOTAL *	\$20,602,200	\$100,347,937	1.113		4,687	

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

INSURANCE SERVICES OFFICE, INC.

MISSOURI
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. 12/31/19 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	30 SERVICE	\$1,110,168	\$3,821,655	0.590	0.588	56	0.947
	31 LIGHT CONTRACTING	\$558,801	\$2,800,914	0.756	0.754	148	0.961
	32 MEDIUM CONTRCTING	\$3,169,709	\$14,888,776	0.908	0.905	525	0.982
	33 HEAVY CONTRACTING	\$926,656	\$4,900,270	0.947	0.944	71	0.957
	34 DEALER OR DISTRIB	\$631,882	\$2,772,520	0.636	0.634	59	0.948
	35 LGT. MANUFACTURER	\$85,483	\$448,843	5.034	5.019	10	0.999
	36 MED. MANUFACTURER	\$305,105	\$1,601,127	0.853	0.850	29	0.978
	37 HVY. MANUFACTURER	\$210,958	\$900,395	0.812	0.810	6	0.962
	38 MISC. OPERATION	\$501,901	\$2,126,293	0.963	0.960	73	0.973
	TOTAL *	\$7,500,663	\$34,260,793	0.877		977	
33 MULT OFFICE	31 LIGHT CONTRACTING	\$1,774	\$6,535	0.165	0.165	1	0.987
	32 MEDIUM CONTRCTING	\$5,838	\$29,888	0.000	0.000	0	1.008
	33 HEAVY CONTRACTING	\$68,867	\$312,128	0.500	0.498	4	0.983
	38 MISC. OPERATION	\$127,865	\$460,006	1.114	1.111	15	1.000
	TOTAL *	\$204,344	\$808,557	0.867		20	
34 MULT MERCANTILE	30 SERVICE	\$23,752	\$101,524	0.702	0.699	1	0.965
	32 MEDIUM CONTRCTING	\$115,036	\$447,773	0.280	0.280	10	1.000
	34 DEALER OR DISTRIB	\$663,180	\$3,168,783	0.709	0.707	90	0.966
	36 MED. MANUFACTURER	\$2,573	\$14,750	0.000	0.000	0	0.996
	38 MISC. OPERATION	\$78,815	\$236,923	1.953	1.947	16	0.991
	TOTAL *	\$883,356	\$3,969,753	0.762		117	
35 MULT INSTITUT.	31 LIGHT CONTRACTING	\$16,729	\$53,524	0.778	0.775	4	1.093
	32 MEDIUM CONTRCTING	\$230,432	\$1,110,802	3.030	3.021	163	1.116
	TOTAL *	\$247,161	\$1,164,326	2.878		167	
36 MULT SERVICES	30 SERVICE	\$40,933	\$232,004	1.281	1.277	22	0.980
	31 LIGHT CONTRACTING	\$60,501	\$440,050	0.955	0.952	29	0.994
	32 MEDIUM CONTRCTING	\$181,280	\$641,508	0.551	0.549	25	1.016
	33 HEAVY CONTRACTING	\$35,657	\$223,512	1.308	1.304	10	0.990
	34 DEALER OR DISTRIB	\$815,315	\$4,077,597	0.983	0.980	141	0.981
	36 MED. MANUFACTURER	\$33,285	\$71,784	1.385	1.381	2	1.012
	38 MISC. OPERATION	\$501,688	\$2,189,439	1.014	1.011	89	1.007
	TOTAL *	\$1,668,659	\$7,875,894	0.967		318	

INSURANCE SERVICES OFFICE, INC.

MISSOURI
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. 12/31/19 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
37 MULT INDUST/PROC	31 LIGHT CONTRACTING	\$252	\$2,164	0.000	0.000	0	0.965
	32 MEDIUM CONTRCTING	\$154,187	\$823,446	2.172	2.166	20	0.986
	33 HEAVY CONTRACTING	\$48,136	\$213,444	0.247	0.246	8	0.962
	34 DEALER OR DISTRIB	\$24,641	\$95,662	0.070	0.069	2	0.953
	35 LGT. MANUFACTURER	\$122,776	\$492,762	0.489	0.487	6	1.003
	36 MED. MANUFACTURER	\$511,575	\$2,920,363	0.930	0.927	57	0.983
	37 HVY. MANUFACTURER	\$418,379	\$2,170,142	0.592	0.590	19	0.967
	38 MISC. OPERATION	\$29,078	\$112,635	0.029	0.029	2	0.978
	TOTAL *	\$1,309,024	\$6,830,618	0.865		114	
38 MULT CONTRACTORS	30 SERVICE	\$781,333	\$4,021,126	1.174	1.170	171	1.025
	31 LIGHT CONTRACTING	\$1,221,569	\$5,706,899	1.216	1.212	390	1.040
	32 MEDIUM CONTRCTING	\$2,581,153	\$12,861,814	1.247	1.244	608	1.062
	33 HEAVY CONTRACTING	\$1,211,561	\$5,345,134	1.000	0.997	147	1.036
	38 MISC. OPERATION	\$57,684	\$182,032	0.000	0.000	0	1.053
	TOTAL *	\$5,853,300	\$28,117,005	1.168		1,316	
TOTAL ALL TOP	30 SERVICE	\$1,956,186	\$8,176,309	0.839		250	
	31 LIGHT CONTRACTING	\$1,859,626	\$9,010,086	1.064		572	
	32 MEDIUM CONTRCTING	\$6,437,635	\$30,804,007	1.128		1,351	
	33 HEAVY CONTRACTING	\$2,290,877	\$10,994,488	0.952		240	
	34 DEALER OR DISTRIB	\$2,135,018	\$10,114,562	0.785		292	
	35 LGT. MANUFACTURER	\$208,259	\$941,605	2.354		16	
	36 MED. MANUFACTURER	\$852,538	\$4,608,024	0.917		88	
	37 HVY. MANUFACTURER	\$629,337	\$3,070,537	0.666		25	
	38 MISC. OPERATION	\$1,297,031	\$5,307,328	0.994		195	
	TOTAL *	\$17,666,507	\$83,026,946	1.003		3,029	

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

INSURANCE SERVICES OFFICE, INC.

MISSOURI
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: 0.974

TOP 36: 0.965

TOP 37: 0.933

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.

MISSOURI
LOCAL PRODUCTS/COMPLETED OPERATIONS
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	1.013	0.781	1.010	1.009	
34	1.059	0.502	1.029	1.028	1.9%
36	0.921	0.535	0.957	0.956	-5.3%
37	1.062	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	0.823	0.264	0.950	0.945	

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
	1.226	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
	1.362	0.116	1.036	1.036
	1.077	0.482	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
	1.050	0.362	1.018	1.017
	1.051	0.299	1.015	1.015
	1.047	0.330	1.015	1.015
	1.077	0.174	1.013	1.013
	1.048	0.250	1.012	1.011
Missouri	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	1.003	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	0.996	0.996
	0.989	0.469	0.995	0.995
	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
	0.684	0.055	0.979	0.979
	0.895	0.190	0.979	0.979
	0.930	0.383	0.973	0.972
	0.812	0.165	0.966	0.966
	0.866	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
	0.644	0.196	0.917	0.917
	0.757	0.314	0.916	0.916
	0.796	0.387	0.916	0.915
	0.619	0.293	0.869	0.869

* Sorted by balanced relative change

INSURANCE SERVICES OFFICE, INC.

MISSOURI
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. 12/31/19 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	\$20,399	\$107,871	0.257	0.236	4	0.911
	02 RET.STRS-NTFD/DRG	\$29,748	\$123,240	0.418	0.385	2	1.007
	11 COMP. OPS. (LOW)	\$95,112	\$381,698	0.706	0.650	8	1.045
	12 COMP. OPS. (MED)	\$1,573,586	\$8,291,430	0.750	0.690	121	1.031
	13 COMP. OPS. (HGH)	\$135,666	\$740,241	1.587	1.460	5	0.962
	TOTAL *	\$1,854,511	\$9,644,480	0.798		140	
34 MULT MERCANTILE	01 RET.STRS-FOOD/DRG	\$74,367	\$336,093	1.028	0.946	46	0.928
	02 RET.STRS-NTFD/DRG	\$44,297	\$220,063	2.164	1.992	14	1.027
	12 COMP. OPS. (MED)	\$11,441	\$48,233	0.416	0.383	2	1.051
	TOTAL *	\$130,105	\$604,389	1.361		62	
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	\$10,989	\$58,073	5.963	5.488	4	0.863
	02 RET.STRS-NTFD/DRG	\$149,709	\$690,054	1.669	1.536	59	0.954
	11 COMP. OPS. (LOW)	\$15,147	\$65,152	0.407	0.375	3	0.990
	12 COMP. OPS. (MED)	\$81,463	\$390,276	1.418	1.305	9	0.977
	13 COMP. OPS. (HGH)	\$9,953	\$53,799	15.425	14.196	3	0.912
	TOTAL *	\$267,261	\$1,257,354	2.210		78	
37 MULT INDUST/PROC.	01 RET.STRS-FOOD/DRG	\$774	\$3,888	0.000	0.000	0	0.909
	11 COMP. OPS. (LOW)	\$329	\$1,708	4.610	4.243	1	1.043
	12 COMP. OPS. (MED)	\$44,218	\$193,826	1.926	1.773	4	1.030
	13 COMP. OPS. (HGH)	\$1	\$2	0.000	0.000	0	0.961
	TOTAL *	\$45,322	\$199,424	1.913		5	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	\$169,988	\$877,060	0.874	0.805	15	1.031
	12 COMP. OPS. (MED)	\$2,496,601	\$12,567,250	1.209	1.113	258	1.017
	13 COMP. OPS. (HGH)	\$244,004	\$1,175,637	1.397	1.286	20	0.949
	TOTAL *	\$2,910,593	\$14,619,947	1.206		293	
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	\$106,529	\$505,925	1.382		54	
	02 RET.STRS-NTFD/DRG	\$223,754	\$1,033,357	1.601		75	
	11 COMP. OPS. (LOW)	\$280,576	\$1,325,618	0.797		27	
	12 COMP. OPS. (MED)	\$4,207,309	\$21,491,015	1.047		394	
	13 COMP. OPS. (HGH)	\$389,624	\$1,969,679	1.822		28	
	TOTAL *	\$5,207,792	\$26,325,594	1.122		578	

* 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	8,416,670	39,973,133	0.852		2,982	
	02 RET.STRS-NTFD/DRG	5,558,740	26,332,002	1.248		672	
	12 COMP. OPS. (MED)	2,448,906	11,647,654	1.126		132	
	TOTAL *	16,424,316	77,952,789	1.027		3,786	
36 MULT SERVICES	01 RET.STRS-FOOD/DRG	848,644	4,334,228	1.308		191	
	02 RET.STRS-NTFD/DRG	14,186,650	58,805,129	0.951		2,767	
	11 COMP. OPS. (LOW)	3,222,726	15,414,850	1.074		482	
	12 COMP. OPS. (MED)	4,896,101	24,401,807	1.098		800	
	13 COMP. OPS. (HGH)	1,067,475	5,473,142	0.781		63	
	TOTAL *	24,221,596	108,429,156	1.002		4,303	
37 MULT INDUST/PROC.	01 RET.STRS-FOOD/DRG	18,708	99,531	0.356		1	
	11 COMP. OPS. (LOW)	112,068	571,925	1.066		19	
	12 COMP. OPS. (MED)	3,758,700	19,361,968	1.170		289	
	13 COMP. OPS. (HGH)	42,554	250,368	0.000		0	
	TOTAL *	3,932,030	20,283,792	1.150		309	
38 MULT CONTRACTORS	11 COMP. OPS. (LOW)	10,091,456	49,007,588	1.071		731	
	12 COMP. OPS. (MED)	164,631,197	819,983,232	1.102		13,301	
	13 COMP. OPS. (HGH)	14,387,699	69,460,015	0.947		720	
	TOTAL *	189,110,352	938,450,835	1.089		14,752	
TOTAL ALL TOP	01 RET.STRS-FOOD/DRG	11722337	55888016	0.896		3,775	
	02 RET.STRS-NTFD/DRG	22,733,363	99,558,679	1.041		3,934	
	11 COMP. OPS. (LOW)	18,548,102	89,826,619	1.180		1,877	
	12 COMP. OPS. (MED)	275,280,228	1,329,006,124	1.109		21,667	
	13 COMP. OPS. (HGH)	23,482,914	111,546,073	0.888		1,053	
	TOTAL *	351,766,944	1,685,825,511	1.087		32,306	

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

COMMERCIAL PACKAGE POLICY

TABLE OF CONTENTS

SECTION C - REVISED CLM DIVISION NINE

Commercial Package Policy Package Modification Factors (Revised MLCP-PMF-1)	C-2
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**COMMERCIAL LINES MANUAL
DIVISION NINE – MULTIPLE LINE
COMMERCIAL PACKAGE POLICY
PACKAGE MODIFICATION FACTORS**

MISSOURI (24)

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	.72	1.00	1.00
Contractors	.90	1.00	1.00	1.00
Industrial & Processing	.90	.72	.99	1.00
Institutional	.90	.76	.88	1.00
Mercantile	.90	.71	.90	1.00
Motel/Hotel	.90	1.00	1.00	1.00
Office	.90	.68	.84	1.00
Service	.90	.82	.93	1.00

Table 1. Package Modification Factors