Harvey Rosenfield, SBN 123082
Pamela Pressley, SBN 180362
CONSUMER WATCHDOG
6330 San Vicente Blvd., Suite 250
Los Angeles, CA 90048
Tel. (310) 392-0522
Fax (310) 392-8874
harvey@consumerwatchdog.org
pam@consumerwatchdog.org

Attorneys for Intervenor, Consumer Watchdog

BEFORE THE INSURANCE COMMISSIONER
OF THE STATE OF CALIFORNIA

In the Matter of the Rating Practices of
FARMERS INSURANCE EXCHANGE
and MID-CENTURY INSURANCE
COMPANY.

FILE NO.: NC-2017-0003

PRE-FILED DIRECT TESTIMONY OF
ALLAN I. SCHWARTZ

PUBLIC - REDACTED VERSION
# TABLE OF CONTENTS

I. QUALIFICATIONS .......................................................................................................................... 1

II. SUMMARY ..................................................................................................................................... 4

III. FARMERS USED PRICE OPTIMIZATION ...................................................................................... 7

IV. FARMERS’ IMPLEMENTATION OF PRICE OPTIMIZATION ............................................................ 12

V. IMPACT ON POLICYHOLDERS FROM FARMERS’ USE OF PRICE OPTIMIZATION ....................... 20

VI. CONCLUSION ............................................................................................................................... 22
I. QUALIFICATIONS

Q. Please state your name and address?
A. My name is Allan I. Schwartz. My address is 4400 Route 9 South, Freehold, New Jersey.

Q. By whom are you employed and in what capacity?
A. I am President of AIS Risk Consultants, an actuarial consulting firm which I started in November 1984. In that capacity I have performed consulting work for a variety of clients covering a wide spectrum of actuarial projects.

Q. What was your previous employment history?
A. From May 1988 to January 1990, I was Assistant Commissioner with the New Jersey Department of Insurance (NJDOI). In that position, I was responsible for all property/liability filings, excluding workers’ compensation, submitted to the NJDOI in addition to other responsibilities. From June 1986 until April 1988, I was Chief Actuary for the North Carolina Department of Insurance (NCDOI). I was responsible for all the actuarial work at the NCDOI, both property/liability and life/accident/health. From August 1977 to November 1984, I worked for the actuarial consulting firm of Woodward and Fondiller. My last position at that firm was Senior Actuary. Prior to that, from March 1976 to August 1977, I was employed by the National Council on Compensation Insurance (NCCI). While there, I worked on rate level analyses, benefit factor evaluations, and special projects. Before that, I attended college where I received a B.S. degree in physics from Cooper Union.

Q. Are you a member of any actuarial societies?
A. I am a Fellow of the Casualty Actuarial Society, an Associate in the Society of Actuaries and a Member of the American Academy of Actuaries. I have belonged to various regional actuarial organizations and professional actuarial committees. In addition, I have served on the Property/Casualty and Life/Accident/Health Actuarial Task Forces of the National Association of Insurance Commissioners (NAIC). I was also Chairperson of a subcommittee for the NAIC
statistical task force. This subcommittee developed NAIC standard private passenger automobile insurance statistical data reporting requirements.

Q. Do you have any professional designations related to insurance other than your actuarial credentials?
A. Yes. I have received various professional designations from the Insurance Institute of America. Those are:

- Associate in Reinsurance
- Associate in Claims
- Associate in Premium Auditing
- Associate in Underwriting
- Associate in Insurance Accounting and Finance
- Associate in Risk Management
- Associate in Personal Insurance

In addition, I have a professional designation from LOMA in partnership with the American Institute for Chartered Property Casualty Underwriters / Insurance Institute of America. That is:

- Associate, Customer Service

I also have the professional designation of Certified Rate of Return Analyst (CRRA) from the Society of Utility and Regulatory Financial Analysts. This designation is awarded based upon experience and successful completion of a written examination.

Q. Have you received any awards in connection with your professional work?
A. Yes.

I received a Research Excellence Award from Farmers Insurance Group in connection with the paper I wrote entitled, “Actuarial Issues to be Addressed in Pricing Excess of Loss Reinsurance.”
I received the Reinsurance Association of America Award for Academic Excellence in connection with my Associate in Reinsurance designation.

I received the National Association of Mutual Insurance Companies Award for Academic Excellence in connection with my Associate in Insurance Accounting and Finance designation.

My designation of Associate, Customer Service was awarded “With Honors.”

Q: Have you met the requirements for continuing education of the actuarial profession?
A: Yes, I have.

Q. In the course of your professional work have you dealt with issues of insurance ratemaking, accounting and finance?
A. Yes, I have.

Q. Would you please describe some of your additional professional activities?
A. I have written several papers dealing with various aspects of actuarial work. These have included topics on ratemaking, reserving, and reinsurance. I have also presented lectures and taught classes on these subjects. In addition, I was editor of Fresh Air Magazine, a newsletter published by Actuaries in Regulation. This is a special interest group of the Casualty Actuarial Society composed of actuaries who work for State Insurance Departments.

Q. Have you previously testified in regulatory proceedings and court proceedings regarding insurance rates?
A. Yes. I have testified in proceedings involving rates in Arkansas, California, Connecticut, Delaware, District of Columbia, Florida, Georgia, Maine, Massachusetts, Nevada, New Jersey,
Q. Have you prepared insurance rate filings on behalf of insurance companies?
A. Yes. I have prepared insurance rate filings for a number of insurance companies for submission to the New Jersey Department of Banking and Insurance.

Q. Do you have a resume setting forth your professional background?
A. Yes. It is attached as Exhibit C1.

II. SUMMARY

Q. On what issues will you be offering testimony in this proceeding?
A. I will be discussing from an actuarial perspective the issues set forth in the Notice of Hearing issued by the Commissioner dated April 14, 2017. Those issues are:

   (1) whether Farmers has violated California insurance law by using illegal price optimization;
   (2) how Farmers implemented any such illegal price optimization in its rate and/or class plans;
   (3) how any such illegal price optimization impacted Farmers’ policyholders.

While I will discuss factual items related to the above issues, I will not testify about whether Farmers activities were legal or illegal.

Q. What did your analysis reveal?
A. It is my conclusion that:

1 In several of these jurisdictions, I have testified on behalf of the Department of Insurance, including in California. Other entities that I have provided testimony on behalf of include, but are not limited to, Attorneys General and the state Consumer (or Public) Advocate.

2 The Notice was signed by John Finston, General Counsel.
(1) Farmers\(^3\) did engage in price optimization by taking into account an individual’s or class’s willingness to pay a higher premium relative to other individuals or classes, as well as not seeking to arrive at an actuarially sound estimate of the risk of loss and other future costs of a risk transfer.

(2) The price optimization was implemented by charging certain policyholders’ premiums higher than the actuarially indicated values for the “persistency” rating factor (or rating variable).

(3) Certain Farmers policyholders were impacted by being charged premiums higher than appropriate, because of Farmers’ use of a value for the persistency rating factor higher than the actuarially indicated value.\(^4\)

Q. Can you explain what a rating factor (or variable) is?

A. A rating factor is a characteristic that impacts the premium charged to policyholders.

In California, for private passenger automobile insurance, there are three mandatory rating factors—those being (i) the insured’s driving safety record, (ii) the number of miles he or she drives annually and (iii) the number of years of driving experience the insured has.\(^5\) There are also sixteen optional rating factors, with one of those optional factors being persistency.\(^6,7\)

Q. Can you provide more explanation of the persistency rating factor?

\(^3\) References to Farmers also include Mid-Century Insurance Company.

\(^4\) Morgan Bugbee testified that: (i) California regulations require insurance companies to use the indicated costs, (ii) California requires insurance companies to use the actuarial cost estimate and (iii) the actuarial point estimate is the best actuarial estimate. Exhibit H-47, Bugbee deposition, July 12, 2018; 45:19-22, 56:2-6, 63:13-16.

\(^5\) 10 CCR § 2632.5(c).

\(^6\) 10 CCR § 2632.5(d).

\(^7\) Exhibit C9 shows the different rating factors used by Farmers, and the categories or classes within each rating factor.
A. Persistency is a measure of how long the policyholder has had insurance coverage from the insurance company (or an affiliate).  

Q. How do rating factors, and the values assigned to those factors, impact the premium paid by a policyholder?  
A. For each rating factor used by the insurance company, a value is assigned for each policyholder. Those rating factor values are then combined to arrive at the premium charge for the policyholder.  
This can be seen from the enclosed California Auto Premium Calculation Worksheet used by Farmers. The Semi Annual Premium is the Base Rate multiplied by the values for each of the rating factors. Therefore, if the value assigned to a particular rating factor is excessive, the resulting Premium will also be excessive. This example shows a policyholder with persistency class 9, with a persistency rating factor value of 0.97. This is the group of policyholders who were overcharged because the actuarially indicated persistency factor was less than 0.97. A lower value for the persistency rating factor would result in a lower premium. This was also the class of policyholders that was subject to price optimization, since these policyholders have a lower elasticity of demand.  

Q. What sources of information did you use in your analysis?  
A. I used various sources of information including discovery documents, deposition transcripts and exhibits, Farmers’ filings, as well as other generally accepted sources of information including, but not necessarily limited to, various actuarial publications.  

8 A more detailed explanation is contained in 10 CCR § 2632.5(d)(11).  
9 Exhibit C19, Bates Farmers 000001, 001210.  
10 Farmers class plan defines Persistency 9 policyholders as follows: “9 or more years of Farmers persistency.” (see Exhibit C9.)
Q. Are the data and information you relied upon in this testimony the type reasonably relied upon by actuaries working in the field of property casualty insurance?
A. Yes.

III. FARMERS USED PRICE OPTIMIZATION

Q. In evaluating whether Farmers used price optimization, what criteria did you use?
A. I relied on the California Department of Insurance NOTICE REGARDING UNFAIR DISCRIMINATION IN RATING: PRICE OPTIMIZATION, dated February 18, 2015. (Exhibit C2).

That Notice states in part:

For purposes of this Notice, “Price Optimization” is defined as any method of taking into account an individual’s or class’s willingness to pay a higher premium relative to other individuals or classes.

Price Optimization does not seek to arrive at an actuarially sound estimate of the risk of loss and other future costs of a risk transfer. Therefore, any use of Price Optimization in the ratemaking/pricing process or in a rating plan is unfairly discriminatory in violation of California law. [Footnote omitted.]

Q. Is elasticity of demand related to price optimization?
A. Yes.

Q. Can you explain what is meant by elasticity of demand?
A. Yes. One definition related to this follows:¹¹

Elasticity is a measure of a variable’s sensitivity to a change in another variable. In business and economics, elasticity refers the degree to which individuals, consumers or producers change their demand or the amount supplied in response to price or income changes. It is predominantly used to assess the change in consumer demand as a result of a change in a good or service’s price.

¹¹ https://www.investopedia.com/terms/e/elasticity.asp; accessed October 1, 2018
Q. How is elasticity of demand related to companies, such as Farmers, being able to overcharge certain customers?

A. The same definition also discusses that issue as follows:  

   Beyond prices, the elasticity of a good or service directly affects the customer retention rates of a company. Businesses often strive to sell goods and services that have inelastic demand; doing so means the customers will remain loyal and continue to purchase the good or service even in the face of a price increase.

   Farmers, by identifying which customers have a low elasticity of demand (i.e., inelastic demand), could charge those policyholders higher prices, while still having a high retention of the business.

Q. How is elasticity of demand related to price optimization?

A. Elasticity of demand is used in implementing price optimization.

   By evaluating the elasticity of demand for various customers, an insurance company can implement price optimization by charging higher rates to policyholders with a low elasticity of demand.

   That is what Farmers did—charge higher than actuarially indicated rates to policyholders who Farmers expected would remain as policyholders despite the inflated premiums.

Q. Prior to Farmers making the class plan filing that is currently in effect, were the issues of price optimization and elasticity of demand well known in the actuarial and insurance fields?

A. Yes. Prior to Farmers making the class plan filing that is currently in effect, the issue of price optimization and elasticity of demand were well known in the actuarial and insurance fields.

Q. Can you give an example of that?

12 Ibid.
A. A paper by Sholom Feldblum entitled “Personal Auto Premiums: An Asset Share Pricing Approach For Property/Casualty Insurance,” which was published in the 1996 Proceedings of the Casualty Actuarial Society, discussed these issues. (Exhibit C3.) See for example the following statement in that paper:

Traditional ratemaking procedures are cost-based. The pricing actuary equates premiums with anticipated losses and expenses, so economic profits are eliminated. In practice, insurers seek to optimize certain goals, such as profits or market share. The price elasticity of demand becomes a crucial determinant of optimal strategy. That is, premium rates and relativities affect consumer demand and the mix of insureds, thereby affecting insurer profitability. (Page 242.)

Q. Prior to Farmers making the class plan filing that is currently in effect, were the issues of price optimization and elasticity of demand well known to Farmers?
A. Yes. Prior to Farmers making the class plan filing that is currently in effect, the issues of price optimization and elasticity of demand were well known to Farmers.

This is confirmed by various documents produced by Farmers.

Q. Can you cite to some of the documents that demonstrates that prior to Farmers making the class plan filing that is currently in effect, the issues of price optimization and elasticity of demand were well known to Farmers?
A. Yes. Some of those documents are as follows:

1) A September 19, 2017 e mail from Bill Martin; Senior Vice President – Farmers Personal Auto Insurance; to various people, including Russina Sgoureva, with a Subject Line “2008 Plan Analysis.” (Exhibit C4, Bates Farmers 063176 – 063181.)

An excerpt from that e mail follows:
As will be discussed later, that is what Farmers did in its Class Plan, subsidizing newer business by charging excessive rates to longer tenured policyholders.\(^{13}\)

2) An April 11, 2008 e-mail from Bill Martin to various people, including Russina Sgoureva, with subject line “Another article on Pricing Strategy in Insurance,” with an attachment “priceOpt article [1].pdf.” (Exhibit C5, Bates Farmers 061756 – 061757.) An excerpt from that e-mail follows:

3) A January 18, 2017 e-mail from Chris Maydak to Morgan Bugbee with a subject line of “Policyholder Tenure Indications.”\(^{14}\) (Exhibit C6, Bates Farmers 031511 – 031513.) An excerpt from that e-mail follows:

This shows clearly that Farmers was aware that long tenured policyholders (i.e., those with a long/high persistency) could be overcharged and would likely renew anyway.

\(^{13}\) Long tenure and long persistency policyholders refer to the same issue.

\(^{14}\) Other people included in the e-mail trail included Steve Norling-Christensen, CPCU; Director – Product Management, California Auto.
4) A Multidimensional Auto Pricing (MAP 2 – revisited) memo.\footnote{While the memo is not dated, it contains the following statement, \textit{"California Auto is proposing to implement these factors in 2007R1, however, they will not be fully utilized in this state."} Hence the memo was written prior to 2007R1.} (Exhibit C7, Bates Farmers 053153 – 053156.) An excerpt from that memo follows:

This memo is consistent with what Farmers did in its California Auto Class Plan, where the long term tenured (i.e. long persistency) business was charged a rate higher than the indicated rate in order to subsidize the rate charged to newer business. This shows the use of price optimization by Farmers.

5) A May 2007 Presentation entitled “Retention-Elasticity Modeling.” (Exhibit C8, Bates Farmers 053062 – 053086.) This showed for a Multivariate Rank of Auto Retention Model Variables that the most important variable was \textbf{Policy Tenure}, with the Higher Retaining Segment being Older Policies. (page 16.)
Q. Can you explain what is meant by Multivariate Rank of Auto Retention Model Variables?

A. Multivariate means that the different factors that impact retention were analyzed together instead of one at a time separately. This takes into account possible interactions and overlaps between the variables being used to evaluate retention.

Rank means ordering the variables considered from high to low in terms of its importance in explaining retention rates.

Policy Tenure was ranked first, meaning that the tenure of the policy had the most significant impact on the retention of the policy.

The Higher Retaining Segment was identified by Farmers as Older Policies. This means that these older longer tenured (i.e., higher persistency) policies had a higher retention.

Q. How does this relate to the issue of whether Farmers engaged in price optimization?

A. This is again consistent with what Farmers did in its California Auto Class Plan, where the older tenured business was charged a rate higher than the indicated rate in order to subsidize the rate charged to newer business.

Documents produced by Farmers show that Farmers was aware that long tenured/high persistency policyholders were more likely to renew, even if those policyholders were being overcharged.

IV. FARMERS’ IMPLEMENTATION OF PRICE OPTIMIZATION

Q. How did Farmers implement Price Optimization?

A. Farmers implemented Price Optimization by selecting higher rate relativities for certain policyholders than the indicated rate relativities.

16 Farmers model included eleven different factors in trying to evaluate or explain retention. (see Exhibit C8, Bates Farmers 053077.)

17
Q. What is a rate relativity?
A. A rate relativity is the value assigned to a policyholder (or group of policyholders) for a particular rating factor. For example, within the first mandatory rating factor of driver safety record, there will be different categories of policyholders grouped together. Each group of policyholders is assigned a numerical value for the rating factor depending on the characteristics. As an example, using the Farmers California Auto Premium Calculation Worksheet (Exhibit C19, Bates Farmers 000001, 001210), for safety record the driver class category value was (7/N) and the rate relativity values were 1.32 for the liability coverages and 1.41 for the physical damage coverages.

A rate relativity higher than average results in a higher premium based upon that rating factor. Conversely, a rate relativity lower than average results in a lower premium based upon that rating factor.

Q. How are the rate relativity values derived?
A. The rate relativities would be derived based upon the applicable regulations in conjunction with actuarial procedures.

Q. Are you contending that Farmers did not properly derive actuarially sound indicated rate relativities?
A. No.

For the purpose of this proceeding we are not contending that Farmers used incorrect procedures in deriving actuarially sound indicated rate relativities. Instead, Farmers chose not to use its own calculations of the indicated rate relativities and selected higher rate relativities for those policyholders with a persistency rating factor category of 9.

Q. Were the rate relativities selected by Farmers in excess of Farmers’ calculation of the actuarially sound indicated rate relativities?
A. Yes. Farmers selected rate relativities that were in excess of Farmers’ calculation of the
actuarially sound indicated rate relativities.

Q. How did Farmers’ use of rate relativities in excess of the actuarially sound indicated values impact policyholders with a persistency rating factor category of 9?
A. Those policyholders were known by Farmers to have a lower elasticity of demand and were likely to renew with Farmers even though they were charged inflated premiums in excess of those based upon an actuarially sound estimate of the cost of risk transfer. Hence, Farmers chose to charge those policyholders excessive premiums. That constitutes the use of price optimization by Farmers.

Q. Can you further explain the basis for your conclusion that Farmers engaged in Price Optimization by overcharging policyholders with a Persistency of 9 or more years with Farmers?
A. Yes.

First it should be documented that Farmers overcharged that group of policyholders. That can be seen from comparing the indicated rate relativities derived by Farmers to the rate relativities selected by Farmers for its persistency rating factor—category 9, which is shown in the following table.

Persistency Rating Factor - Category 9

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Balanced Cred Wght Indication</th>
<th>Selected Ratio Selected to Indication</th>
<th>Percent Excess Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodily Injury / Property Damage</td>
<td>0.94</td>
<td>0.98</td>
<td>1.043</td>
</tr>
<tr>
<td>Uninsured Motorists</td>
<td>0.90</td>
<td>0.98</td>
<td>1.089</td>
</tr>
<tr>
<td>Medical Payments</td>
<td>0.87</td>
<td>0.98</td>
<td>1.126</td>
</tr>
<tr>
<td>Comprehensive</td>
<td>0.91</td>
<td>0.98</td>
<td>1.077</td>
</tr>
<tr>
<td>Collision</td>
<td>0.89</td>
<td>0.98</td>
<td>1.101</td>
</tr>
</tbody>
</table>

Source: Mid-Century Class Plan Filing, Exhibits 4 and 5 ( Exhibit C9, Bates Farmers 000001, 001310, 001311, 000328, 000339, 000351, 000363, 000375, 000386, 000740, 000751, 000763, 000764,
This shows that Farmers overcharged these policyholders from about 4% to 13% depending upon the coverage involved. As previously discussed, a higher rate relativity means a higher premium. Farmers’ higher selected rate relativities compared to Farmers’ actuarially sound indicated rate relativities means that these policyholders were overcharged. The percent overcharge by coverage is given in the previous table.

Q. Why did you conclude that Farmers used Price Optimization in overcharging these policyholders?

A. Persistency category 9 are long term tenured policyholders with Farmers. As discussed previously, these are the types of policyholders that Farmers concluded it could overcharge because their low elasticity of demand meant those policyholders were less price sensitive than other policyholders. And in fact, Farmers did charge those persistency category 9 policyholders more than the actuarially sound premium.

The Multidimensional Auto Pricing (MAP 2 – revisited) memo stated in part,

(Exhibit C7, Bates Farmers 053155.)

The e-mails from Bill Martin also reference Price Optimization, elasticity and subsidies.

(Exhibit C5, Bates Farmers 061756 – 061757.) This is clearly what was happening with regard to the persistency rating factor, wherein Farmers used the Persistency 9 policyholders to subsidize other policyholders because the Persistency 9 policyholders had a low elasticity of demand.

Farmers’ decision not to use the actuarially indicated rating factor for Persistency 9 policyholders was set out in a June 26, 2018 e-mail from Chris Maydak to various people,
including Matt Antol, Alissa Vreman and Matt Laitner. (Exhibit C10, Bates Farmers 014748 – 014749.) That e mail states in part:

This makes it clear that Farmers was not selecting the persistency rating factor based on the actuarially indicated rate. Instead, Farmers wanted to use a higher value for the persistency rating factor (i.e., lower discount) on more tenured business (those in persistency category 9), thereby inflating the rate for those policyholders, in order to include a subsidy on new business rates in order to be more competitive in the marketplace.

Q. How is a higher persistency factor and a lower discount related?
A. A discount essentially means a reduction in rates or the rate relativity. So, if the average rate relativity was 1.00, a 7% discount would result in a rate relativity of 0.93. If the discount was lowered from 7% to 3%, the rate relativity would then be 0.97. This is an increase of 4.3%. So lowering the discount from 7% to 3%, is equivalent to a premium increase of 4.3%.

Q. Does Proposition 103 address the issue of giving consideration to competition in setting rates?
A. Yes. Proposition 103 states in part:

1861.05. (a) No rate shall be approved or remain in effect which is excessive, inadequate, unfairly discriminatory or otherwise in violation of this chapter. In considering whether a rate is excessive, inadequate or unfairly discriminatory, no consideration shall be given to the degree of competition and the commissioner shall consider whether the rate mathematically reflects the insurance company's investment income. (Emphasis added.)

Without giving a legal opinion, it appears that it is possible that Farmers’ consideration of competition in setting the persistency discount is contrary to the provisions of Proposition 103.

19

20 4.3% = [ 0.97 / 0.93 – 1 ] X 100%
Q. Are there other documents which indicate the basis for why Farmers is overcharging long term policyholders?
A. Yes. A June 5, 2018 e-mail (Exhibit C11, Bates Farmers 027926) distributed a work in progress presentation for the CA Auto HOPC (Exhibit C12, Bates Farmers 027927-027991) in connection with a conference call with CA SEDs. A page in that draft presentation dealt with the persistency discount indications as derived by Farmers. (Bates Farmers 027959.) That stated in part, [redacted].

That page also stated, [redacted] a revised document was prepared. (Exhibit C13, Bates Farmers 017288–017350.) The revised page dealing with the persistency discount then stated, [redacted] (Bates Farmers 017317.)

No explanation was provided as to what the discussion with SEDs involved, or why it resulted in the decision not to implement the deeper persistency discounts that were indicated.

However, it appears that Farmers decided to subsidize new business by overcharging long persistency business, by not giving that long persistency business the discounts that were indicated. In doing that, Farmers was aware that long term persistency policyholders had a lower elasticity of demand and would be more willing to pay a higher price. The actions by Farmers appear to be a clear case of price optimization.

Q. You previously mentioned SEDs. Can you explain what that is?
A. SED is short for State Executive Director.21

21 Exhibit H-50, Alissa Vreman deposition, July 30, 2018; 32:1.
In California there were four SED’s covering different regions.\textsuperscript{22} SEDs oversaw the Farmers agents.\textsuperscript{23}

Q. Is it well known in the insurance industry that long term policyholders with an insurance company tend to have better experience and also lower elasticity of demand?

A. Yes.

Q. Can you give examples showing that it is well known in the insurance industry that long term policyholders with an insurance company tend to have better experience and also lower elasticity of demand?

A. Yes.

One example is the paper \textit{Optimal Growth for P&C Insurance Companies}\textsuperscript{24} (Exhibit C14), which states in part:

\begin{quote}
It is generally well established that new business produces higher loss and expense ratios and lower retention ratios than renewal business.\textsuperscript{25}
\end{quote}

Another example is the paper \textit{The Aging Phenomenon and Insurance Prices}\textsuperscript{26} (Exhibit C15), which states in part:

\begin{quote}
Insurers typically earn greater profits on policies that have been with the insurer for a number of renewal cycles than on newer business. This tendency is known as the aging phenomenon and is believed to occur on all lines of business.\textsuperscript{27}
\end{quote}

An additional example is the paper \textit{Large Scale Analysis of Persistency and Renewal}.

\textsuperscript{22} \textit{Ibid.}, 32:9-16.

\textsuperscript{23} Exhibit H-49, Russina Sgoureva deposition, July 31, 2018; 59:1-14.

\textsuperscript{24} This paper was in the Casualty Actuarial Society publication \textit{Variance – Volume 6, Issue 1}.

\textsuperscript{25} New business having higher loss ratios (i.e., worse experience) and lower retention is equivalent to stating that long term business has better experience and higher retention ratios.

\textsuperscript{26} This paper was in the Casualty Actuarial Society publication \textit{Proceedings – 1989}.

\textsuperscript{27} The higher profits on renewal business is because of the more favorable experience.
Discounts for Property and Casualty Insurance\textsuperscript{28} (Exhibit C16) which states in part:

The data do indicate that new business universally has a higher loss ratio and a lower retention rate than renewal business across all the 25 books of business.

In summary, it is well known in the insurance industry that long term persistency business has more favorable experience and a lower elasticity of demand than new business.

The documents provided in discovery show clearly that Farmers also knew about this. Furthermore, the pricing by Farmers for long term persistency policyholders took this into account. By doing this, Farmers used price optimization to determine the rates, prices and premiums to charge long term persistency policyholders.

Q. Are there actuarial standards of practice that are relevant to Farmers use of price optimization to overcharge policyholders?
A. Yes.

Actuarial Standard of Practice No. 12, Risk Classification (Exhibit C17), states in part:

Rates within a risk classification system would be considered equitable if differences in rates reflect material differences in expected cost for risk characteristics. In the context of rates, the word \textit{fair} is often used in place of the word \textit{equitable}. (Section 3.2.1)

Farmers use of selected rate relativities for persistency class 9 that are higher than Farmers calculation of the actuarially sound indicated rate relativities results in rates that are not fair or equitable, in that those policyholders were overcharged.

Actuarial Standard of Practice No. 41, Actuarial Communications (Exhibit C18), states in part:

\textit{Actuarial Report—}In addition to the actuarial findings, an actuarial report should identify the data, assumptions, and methods used by the actuary with sufficient clarity that another actuary qualified in the same practice area could make an objective appraisal of the reasonableness of the actuary’s work as presented in the actuary’s report. (Section 3.3.3)

Farmers did not adequately document the basis for its decision to charge persistency class 9 policyholders’ rates higher than those based upon Farmers indicated rate relativities. Farmers

\textsuperscript{28} This paper was in the Casualty Actuarial Society publication E-Forum, Winter 2009.
has not supported its use of an inflated excessive rate relativity factors.

Q. Are actuaries required to follow the applicable Actuarial Standards of Practice?
A. Yes. Actuaries are professionally required to follow the applicable Actuarial Standards of Practice.

V. IMPACT ON POLICYHOLDERS FROM FARMERS’ USE OF PRICE OPTIMIZATION

Q. Were Farmers’ policyholders impacted by Farmers’ use of Price Optimization?
A. Yes.

Q. How were Farmers’ policyholders impacted by Farmers’ use of Price Optimization?
A. As previously discussed, all policyholders with a persistency category of 9 were overcharged by Farmers. The amount of overcharge varied by coverage, as shown in the following table.

Persistency Rating Factor - Category 9

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Balanced Cred Wght Indication</th>
<th>Selected Cred Wght Relativity</th>
<th>Ratio Selected to Indication</th>
<th>Percent Excess Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodily Injury / Property Damage</td>
<td>0.94</td>
<td>0.98</td>
<td>1.043</td>
<td>4.3%</td>
</tr>
<tr>
<td>Uninsured Motorists</td>
<td>0.90</td>
<td>0.98</td>
<td>1.089</td>
<td>8.9%</td>
</tr>
<tr>
<td>Medical Payments</td>
<td>0.87</td>
<td>0.98</td>
<td>1.126</td>
<td>12.6%</td>
</tr>
<tr>
<td>Comprehensive</td>
<td>0.91</td>
<td>0.98</td>
<td>1.077</td>
<td>7.7%</td>
</tr>
<tr>
<td>Collision</td>
<td>0.89</td>
<td>0.98</td>
<td>1.101</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

Source: Mid-Century Class Plan Filing, Exhibits 4 and 5 (Exhibit C9, Bates Farmers 000001, 001310, 001311, 000328, 000339, 000351, 000363, 000375, 000386, 000740, 000751, 000763, 000775, 000787, 000798).29

29 From filing dated August 6, 2008, SERFF Tracking #: FARM-125764656 State Tracking #: 08-11149 Company Tracking #: ACA0801-405120.
Q. How can the amount of premium overcharges to those Farmers’ policyholders be calculated?
A. The premiums for the Farmers policyholders that were overcharged can be recalculated using Farmers values for the actuarially sound indicated rate relativities for persistency, as opposed to the Farmers’ selected rate relativities. This can be done for every year that Farmers overcharged its policyholders. The difference between these premium values, compared to the actual amounts charged by Farmers, would constitute the premium overcharges to the policyholders.

Q. Where would the information needed to recalculate the premiums in this manner be available?
A. The information needed to recalculate the premium overcharges in this manner should be available from Farmers.

Q. Can you give a rough estimate of the amount of overcharges based upon information that you have available?
A. It is possible to do a very rough calculation of the aggregate amount of overcharges.

   During 2015, Farmers Insurance Exchange and Mid-Century Insurance Company had a combined private passenger automobile insurance written premiums of about $1.1 billion for liability and $0.81 billion for physical damage.\(^{30}\)

   Using information from Farmers in discovery, about \(\boxed{20}\)% of premium falls into persistency category 9.\(^{31}\)

\(^{30}\) CDI market share reports (Exhibit C20).
\(^{31}\) Bates Farmers 028687 (Exhibit C21).
Based upon the previous table, the overcharges are roughly in the range of 5% to 6% for liability and 9% to 10% for physical damage.\(^{32}\)

Combined these values (using the lower end of the range for the percent overcharges) gives a rough estimate for annual overcharges of amount $26 million, as shown in the following table.\(^{33,34}\)

### Rough Calculation of Overcharge to Persistency Class 9
(Amounts in Millions)

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Annual Premium</th>
<th>Percent in Persistency Class 9</th>
<th>Overcharge Percent</th>
<th>Dollar Overcharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liability</td>
<td>$1,100</td>
<td>20%</td>
<td>5%</td>
<td>$11</td>
</tr>
<tr>
<td>Physical Damage</td>
<td>$810</td>
<td>20%</td>
<td>9%</td>
<td>$15</td>
</tr>
<tr>
<td>Combined</td>
<td>$1,910</td>
<td></td>
<td></td>
<td>$26</td>
</tr>
</tbody>
</table>

**VI. CONCLUSION**

Q. Can you summarize your testimony?

A. Yes.

Farmers used price optimization in charging premiums to some portion of its policyholders. Farmers did this by overcharging policyholders in the persistency rating factor category 9, taking into account the willingness of those policyholders to pay inflated premiums.

This was implemented by Farmers using rate relativity values for persistency category 9 that were higher than Farmers’ calculation of the actuarially sound indicated values.

The impact on these Farmers policyholders was that they were overcharged.

\(^{32}\) BI/PD premiums are much higher than for uninsured motorists or medical payment, so the overall average will be closer to the BI/PD value. Collision premiums are higher than that for comprehensive.

\(^{33}\) Using the higher end of the range for the percent overcharges gives an annual dollar value of $29 million.

\(^{34}\) When more detailed information is provided by Farmers, a more accurate calculation of amount of overcharges can be calculated.
The amount of overcharges to these policyholders can determined by recalculating the premiums using the indicated relativities for each year there was an overcharge, and then comparing that to the premiums actually charged by Farmers to those policyholders.

A rough estimate of the annual amount of overcharges is about $26 million to $29 million a year.

Q. Does this complete your pre-filed direct testimony?
A. Yes, it completes my pre-filed testimony at this time.

I, Allan I. Schwartz, declare under penalty of perjury as prescribed by California law that the statements contained herein are true and correct to the best of my knowledge.

Executed on October 4, 2018 in Freehold, New Jersey.

______________________________
Allan I. Schwartz