

LIFE INSURANCE (C3) SUBCOMMITTEE

Reference:

1980 Proc. II p. 663

1981 Proc. I p. 515

J. Richard Barnes, Chairman — Colorado

Lyndon Olson, Jr., Vice-Chairman — Texas

AGENDA

1. Report of the Task Force on Manipulation, Lapsation, Dividend Practices and Annuity Disclosure.
2. Report of the Task Force on Model Group Life Insurance Law.
3. Report of the Task Force on Life Insurance Cost Disclosure.
4. Report of the (C4) Technical Subcommittee.
5. Any other matters brought before the subcommittee.

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The Life Insurance (C3) Subcommittee convened in the Columbus Room, Detroit Plaza Hotel in Detroit, Michigan, on June 10, 1981, at 9:10 a.m. Committee members present: Colorado, Texas, Arkansas, Georgia, Indiana, Illinois, and Nevada. Absent: South Carolina and Utah.

1. Report of the Task Force on Manipulation, Lapsation, Dividend Practices and Annuity Disclosure

The detailed report of the task force had been produced and was available for review by all interested persons (Attachment One). It was received. The Advisory Committee on Policy Lapsation has proposed a disclosure system and a computer program which will make it possible to determine when a company's lapsation rate is getting out line, and provide a warning sign to indicate where special attention is needed.

The Advisory Committee on Dividend Practices reported that the Academy of Actuaries has developed standards and suggested disclosure procedures. The process of exposure of the proposal will soon begin with adoption to be considered at a later time.

The Advisory Committee on Manipulation has accomplished its purpose and has asked to be discharged. It is recommended that the successor committee to the (C3) Subcommittee bring the subject up at a later date to determine whether further review is needed at that time.

The Advisory Committee on Annuity Disclosure has completed its reports and will have an exposure draft ready for the December, 1981, meeting.

2. Report of the Task Force on Model Group Life Insurance Law

The model law proposed by this task force was adopted by the NAIC at the December, 1980, meeting. The further study relating to payment of fees, dividends, and portions of premiums to group policyholders, and without the knowledge of members, was then assigned to the Group Accident and Health Task Force for further consideration.

3. Report of the Task Force on Life Insurance Cost Disclosure

Commissioner Lyndon Olson reports that this task force has been reorganized at its meeting in San Antonio on May 26, and met again in Detroit on June 7. A two-day working session is planned for some time in July or August. A suggestion was made that it might meet at the same time as the Illinois Department hearings in Chicago on July 20 through 25, on the subjects of replacements, solicitation, and deposit term.

James Hunt of the National Insurance Consumers Organization indicated that he had prepared documents for review on replacements and the efficiency of the present regulation. He made the statement that it's "worse than nothing." He further indicated that his organization supports the rate of return cost disclosure system and the new product "universal life" creates new problems.

Richard Minck of the American Council of Life Insurance spoke endorsing the procedure being taken by the Task Force on Life Insurance Cost Disclosure. He offered his organization's full support.

[Editor's Note — Attachment Two is a statement submitted to this task force by the Center for Public Representation.]

4. Report of the (C4) Technical Subcommittee

John Montgomery, vice-chairman of the Life, Accident and Health Insurance (C4) Technical Subcommittee, presented the report on behalf of this subcommittee.

Distributed were copies of the June, 1981, semi-annual report of the (C4) Subcommittee, along with an outline of that report and copies of an instrument entitled, "Review of Sex Distinct Pricing in Individually Marketed Insurance."

Brief comments were made about eleven different life insurance topics which the (C4) Subcommittee is still working on. These topics are listed in the outline to the semi-annual report. The report gives further information about them.

He called attention to three matters which were being recommended to the Life Insurance (C3) Subcommittee:

- (1) Housekeeping changes to the revision of the Standard Valuation and Nonforfeiture Law for Life Insurance adopted in December, 1980.
- (2) Addition of a paragraph to the existing Actuarial Guideline II in the NAIC Financial Condition Examiners Handbook stating that it applies at once and not only after the December, 1980, revision of the Standard Valuation Law becomes effective in a state.
- (3) Addition of a new actuarial guideline to the handbook dealing with the application of the Standard Nonforfeiture Law for Individual Deferred Annuities and relating to nonguaranteed payments such as dividends or excess interest credits. The title of this guideline should be amended to remove the words "The Proposed."

Copies of pertinent materials were mailed to the commissioners of all states thirty days before this meeting. The (C4) Technical Subcommittee is recommending adoption in June, 1981, on all three of these matters, including revision of the title of recommendation #3. [Editor's Note – The report was amended by the (C) Committee to indicate that the recommendations were unanimously adopted. See p. 559.]

Also noted was the fact that the (C4) Subcommittee had developed the statement on sex-distinct pricing after considerable discussion at its meeting on Sunday, June 7, 1981, and Tuesday, June 9, 1981. Mr. Montgomery mentioned that the work on this topic grew out of a specific charge from the Accident and Health (C1) Subcommittee in December, 1979.

Commissioner Barnes asked whether Mr. Montgomery would recommend adoption of the statement at this meeting. Mr. Montgomery noted that the statement had not been distributed in advance of the June, 1981, meeting and that it had been received by the Accident and Health (C1) Subcommittee but not adopted, and that it was the intent of the (C4) Technical Subcommittee to bring this subject up again at the meeting of the parent (C) Committee.

5. Progress of Model Bill on Variable Interest Loan Rates

Maureen McGrath of the American Council of Life Insurance read a report on the subject. It is attached and made a part of this report (Attachment Three).

James Hunt of NICO indicated that his organization is basically in favor of the concept, but feels that there are some serious problems as a result of continuing high prime rates. He further indicated that he feels the variable loan interest rate should be tied into the Moody index.

6. Other Business

It was reported that both houses of 13 states have passed the new Model Standard Valuation and Nonforfeiture Law. It has been signed by the governor in some of them. The model bill has been passed in one house in three other states, and was introduced for consideration in 11 other states. It has died without action in some of those states.

The chairman called to the subcommittee's attention that a certain organization from California is anticipating seminars on methods of using the "retired lives reserve" concept in sales procedures. No one offered more information on the subject.

The chairman also called attention to the fact that the recent Colorado Supreme Court decision relating to Colorado Replacement Regulation, "which is the NAIC Model," supported the regulation, but did provide that if an insured indicated in writing that the comparison form was not to be provided to the replaced company, it may not be provided without violating the Privacy Act. That does not preclude filing the form with the insurance department, the staff of which can review the form.

There being no further business, the meeting was adjourned at 10:15 a.m.

J. Richard Barnes, Chairman, Colorado; Lyndon Olson, Jr., Vice-Chairman, Texas; William H. L. Woodyard III, Arkansas; Joseph C. Mike, Connecticut; James R. Montgomery III, Acting, D.C.; Johnnie L. Caldwell, Georgia; Philip R. O'Connor, Illinois; Donald H. Miller, Indiana; Nancy A. Baerwaldt, Michigan; Patsy Redmond, Acting, Nevada; John W. Lindsay, South Carolina; Roger C. Day, Utah.

ATTACHMENT ONE

MANIPULATION, LAPSATION, DIVIDEND PRACTICES AND ANNUITY DISCLOSURE TASK FORCE

Detroit, Michigan
June 6, 1981

The Manipulation, Lapsation, Dividend Practices and Annuity Disclosure Task Force met Sunday afternoon, June 6, 1981, in the Brule Room of the Detroit Plaza Hotel. The task force received reports from the following advisory committees.

1. Report of the Advisory Committee on Policy Lapsation

Helen Noniewicz, LIMRA, chairman of the advisory committee, gave the report. Ms. Noniewicz presented a report on the proposed lapse disclosure system (Attachment One-A). This report will be the final report of this committee subject to some editing changes. The report includes the committee's recommendations on administrative procedures for the proposed system as well as background material on the formation of the advisory committee, its initial assignment and the results of the 1978 report on lapsation, which included the proposed lapse disclosure system. The report responds to the committee's second assignment of testing the technical adequacy of the proposed lapse disclosure system.

The major findings and committee recommendations may be summarized as follows:

- a. The proposed disclosure system, which subdivides the calculations into a two-dimensional breakdown (by type of business and duration) was found to provide a method of determining atypical lapse situations in a manner that is superior to utilizing a single over-all lapse rate.
- b. The average cost per company of developing the proposed system is \$20,000, with the median cost at \$9,000. Subsequent annual costs average \$3,000.
- c. A three-year introduction period is recommended during which companies would submit either the required report or a progress report concerning the installation of the system.
- d. The committee recommends that companies use the proposed form (designed by the committee) for reporting lapse results in the form of ratios of actual experience to standard experience based on industry norms. It is further recommended that this lapse report be submitted to the insurance commissioner of the state of domicile by September of each year.
- e. The standard lapse rates, developed from the test data, are recommended for use in the calculation of lapse ratios. The committee recommends that standards be held constant for a period of years and updated only as the need arises. In addition, the committee recommends that, in the calculation of standards, the exposure of any company in any one cell be limited to 10 percent of the total observed.

- f. The committee recommends that under this system, companies be considered for lapse review when the total lapse ratio for any line of business is 200 percent or more, i.e., the company's actual experience is twice the standard.

2. Report of the Committee on Dividend Principles and Practices

The report of the Committee on Dividend Principles and Practices of the American Academy of Actuaries was presented by Paul Overberg on behalf of John Harding, chairman. The report constitutes the formal presentation of the Academy Committee to the NAIC of suggested modifications to various regulations which relate to dividend practices and reporting (Attachment One-B).

The American Academy of Actuaries has formally adopted standards of practice for both dividend payment and dividend illustration. Under these standards, the actuary responsible for dividends will be required to disclose to the company in the actuary's report all relevant considerations and methods used in determining dividends.

The Academy Committee recommended that the NAIC use extracts of the actuary's report to support appropriate disclosures for insurance departments and consumers. Suggestions have been made for modifications to the annual statement, to the buyer's guide and to explanations of dividend illustrations.

The committee believes that the actuary's report would be too long and that it would contain too much detail to be useful to state insurance departments. Therefore, a suggestion has been made for a modification of Schedule M of the annual statement. The modification would be an extract of the actuary's report which is intended to focus on the issues of importance to state regulators. It would include a summary of practices used, highlighting any changes in practice, a quantification of any change in dividend scales and a certification by the actuary that the dividends have been determined, except as disclosed, in accordance with the standards of practice.

The suggested changes to the buyer's guide identify the difference in illustrated costs, not only for participating and non-participating policies, but also for products more recently introduced. These changes also identify the difference between investment generation and portfolio average methods for determining dividends. Finally, the changes recognize the existence of the dividend standards and warn the prospective insured to be aware of any exception language on the illustration.

The suggested language for the dividend illustration is necessarily brief. But because of the significant difference in illustrative result, there should be an identification of the method of investment income allocation. Also, there should be reference to any exception to standard practices identified in Schedule M.

The Academy Committee believes that there has been sufficient progress with the adoption of actuarial standards and suggested public disclosure that the NAIC could now begin the process of exposure and adoption.

3. Report of the Advisory Committee on Manipulation

Paul Overberg, also a member of the Advisory Committee on Manipulation, discussed the report from that committee dated June, 1981 (Attachment One-C). Thomas Kelly, chairman of this advisory committee, was unable to attend. Mr. Overberg referred to the June, 1980, report of this advisory committee together with the accompanying minority statements. This earlier material is to be found on pages 828-857 of Volume II of the 1980 Proceedings of the NAIC. Mr. Overberg's and Dr. Scheel's statements were inadvertently omitted from that publication and are attached hereto (Attachments One-C1 and C2). There are also attached copies of pages 831, 834, 835 and 839 of the 1980 Proceedings amended to show certain numerical information that was inadvertently omitted from the report as originally printed (Attachment One-C3).

The work of this advisory committee is concerned with detecting discontinuities in life insurance policies and trying to recommend a proper course of action when they do exist. A discontinuity is a manipulation of policy values unfavorable to certain policyholders. Previously, the advisory committee had developed a mechanical formula for use in determining such discontinuities. However, up to this time, no state has adopted the formula.

The advisory committee felt that proper regulatory language was what had been lacking. The June, 1981, report does include regulatory language in the form of an attached draft regulation which could be incorporated into the life insurance solicitation regulation by the states.

The emphasis in the draft regulation is disclosure to the prospective purchaser of the life insurance. There would also be special notice requirements in the event of discontinuities in the dividends in life insurance policies that were already in force.

Most of the discontinuities observed by the advisory committee were in the area of terminal dividends. Some life insurance policies of the deposit term type were observed to have discontinuities in their cash values. Often, a discontinuity can be noted by inspection of policy premiums and values, but the mathematical formula does provide a standard for use in verifying conclusively that the discontinuity exists.

Mr. Overberg noted the report of the Academy Committee on Dividend Practices was compatible with this June, 1981, report from the Advisory Committee on Manipulation. He also noted that while this report reflects a compromise, there was agreement among members.

The Advisory Committee on Manipulation believes it has accomplished its purpose and asked to be discharged. A smaller committee on this subject may be needed later.

4. Report of the Advisory Committee on Annuity Disclosure

This report was given by William Snell, chairman of the committee (Attachment One-D). Mr. Snell reported that his committee has been meeting approximately every six weeks and is working on a proposed buyer's guide and a broadened policy summary for annuities. A proposed regulation encompassing these suggestions is expected to be ready as an exposure draft by the December, 1981, meeting.

The full reports of the advisory committees are attached to this report as Attachments One-A to One-D. The lapsation study is included as Attachment One-A1. The attachments contain proposed amendments to the life solicitation regulation, buyer's guide, Schedule M, and a proposed lapse disclosure system.

Having no further business, the task force adjourned at 4:15 p.m.

ATTACHMENT ONE-A

To: Manipulation, Lapsation, Dividend Practices and Annuity Disclosure Task Force

From: Advisory Committee on Policy Lapsation

Date: June 7, 1981

I am very proud to present, on behalf of the Advisory Committee on Policy Lapsation, the report concerning the feasibility test of the proposed lapse disclosure system and suggested administrative procedures for the system.

This report includes some background material on the formation of the advisory committee, its initial assignment and the resulting December, 1978, report on lapsation which included a proposed lapse disclosure system. The body of the current report responds to the committee's second assignment, i.e., testing the technical adequacy of the proposed lapse disclosure system. In addition, this report includes the committee's recommended administrative procedures for the proposed system.

The major findings and committee recommendations may be summarized as follows:

1. The proposed disclosure system, which subdivides the calculations into a two-dimensional breakdown (by type of business and duration) was found to provide a method of determining atypical lapse situations in a manner that is superior to utilizing a single over-all lapse rate.
2. The average cost of developing the proposed system is \$20,000, with the median cost at \$9,000. Subsequent annual costs average \$3,000.
3. A three-year introduction period is recommended during which companies would submit either the required report or a progress report concerning the installation of the system.
4. The committee recommends that companies use the proposed form (designed by the committee) for reporting lapse results in the form of ratios of actual experience to standard experience based on industry norms. It is further recommended that this lapse report be submitted to the insurance commissioner of the state of domicile by September of each year.

5. The standard lapse rates, developed from the test data, are recommended for use in the calculation of lapse ratios. The committee recommends that standards be held constant for a period of years and updated only as the need arises. In addition, the committee recommends that, in the calculation of standards, the exposure of any company in any one cell be limited to 10 percent of the total observed.
6. The advisory committee recommends that under this system, companies be considered for lapse review when the total lapse ratio for any line of business is 200 percent or more; i.e., the company's actual experience is twice the standard.

The remainder of the report provides a perspective to the types of operations and the diverse persistency practices in the industry. Appendices to the report serve to tie the current report with its predecessor report and to provide supplementary information concerning the feasibility test of the proposed lapse disclosure system. A summary of the report precedes the full report.

The advisory committee will be pleased to entertain any questions concerning the submitted report after due exposure.

Helen T. Noniewiecz, Chairman
Advisory Committee on Policy Lapsation

ATTACHMENT ONE-A1

ADVISORY COMMITTEE ON POLICY LAPSATION

June, 1981

PROPOSED LAPSE DISCLOSURE SYSTEM – FEASIBILITY TEST AND PROCEDURES

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SYNOPSIS

The (C3) Cost Disclosure Task Force accepted the initial report of the NAIC Advisory Committee on Policy Lapsation covering a lapse disclosure system, and then asked the advisory committee to proceed to test the technical adequacy of the proposal. Questionnaires were developed by the advisory committee for the purpose of collecting industry lapse data and auxiliary information. In the fall of 1979, the questionnaires were mailed from the NAIC Central Office to 1,100 life insurance companies.

Following are the main findings and recommendations from the information received and the tests made of the proposed system.

Costs of the Proposal and Time Needed to Implement It

The cost of developing the system for companies that do not have similar lapse monitoring procedures in place averages about \$20,000. For many companies the time needed to develop systems where none exist is about one year. Subsequent ongoing costs average about \$3,000 per year.

A three-year introduction period is recommended to permit adequate time for companies to develop necessary procedures and accustom themselves to the requirements. During this period, companies would submit annually either the required numerical report or a narrative report describing their progress toward installing the system.

Verification of Test Data

Usable lapse data were received from companies that have 72 percent of the total ordinary insurance in force in the United States. Various tests indicated that the data were representative not only of the industry as a whole but also of various segments of the industry.

The effect of subdividing the calculations into a two-dimensional breakdown—by type of business and duration—was tested and compared with the effect of using only a single aggregate lapse rate. Clearly, lapse experience varies for different lines of business and for business with different lengths of time in force. A single rate would not properly recognize this. Additional characteristic breakdowns (e.g., mode, age) would provide further insights, but practical considerations strongly suggest that a tradeoff of accuracy for simplicity is appropriate.

Reporting Forms

The form shown in Exhibit 1 is recommended for reporting lapse results in the form of ratios of actual experience to standard experience based on industry norms. It is further recommended that the report be submitted to the insurance commissioner of the state of domicile separately from the annual statement and be due in September of each year following the year of exposure, e.g., 1981 lapse report due September, 1982.

Standard lapse rates, as shown in Exhibit 2, are recommended for use in calculation of lapse ratios. These standard lapse rates are calculated from data reported by companies for the test purposes, weighted by their respective amounts in force; i.e., standard lapse rates in each report cell are generally determined as if the industry were one giant company. To reduce the possibility of over-representation, however, the exposure of any company in any one cell has been limited to 10 percent of the total observed.

As a practical matter, it is suggested that the standards be held constant for a period of years and updated only periodically as the need arises.

The advisory committee recommends that under this system, companies be considered for lapse review when the "all policy years" lapse ratio for any of the tabular lines of business is 200 percent or more; that is, the company's actual lapse experience is twice the standard. Companies whose critical ratios touch the trigger point may attach to their regular submission additional analyses and/or corrective action plans for consideration.

Insurance Industry Profile

Chapter III provides an industry profile of the companies that submitted responses to the auxiliary questionnaire. These companies represent 99 percent of the ordinary insurance in force in the United States. The profile gives perspective to the types of operations and the diverse persistency practices in the industry.

COMMENTARY

Committee Position on Disclosure

The NAIC Advisory Committee on Policy Lapsation has undertaken this assignment purely as a research function and has accepted the charge as established by the NAIC. This report should not be interpreted as advocating a lapse disclosure system. It should be read from the perspective that "if a lapse disclosure system is to be used, this is the advisory committee's recommendation for the most equitable, useful, and parsimonious system."

INTRODUCTION

A. Background Information

In November, 1977, the Life Insurance (C3) Cost Comparison Task Force¹ formed the Advisory Committee on Policy Lapsation and assigned the following charge to the committee:

1. To develop a lapse rate disclosure system
2. To reply to the following global lapse questions:
 - a. Is there a lapse problem?
 - b. How extensive is the lapse problem?
 - c. What are the factors affecting persistency?
 - d. What effect do lapses have on rates for all other insureds?
 - e. What is the extent of injury to consumers where a high lapse rate exists?
 - f. What possible solutions may we find?

The advisory committee completed its given assignments and submitted a report to the (C3) Cost Disclosure Task Force in December, 1978. A summary of this report may be found in Appendix A, while the report in its entirety may be found in the NAIC Proceedings.²

B. Supplementary Assignment to Advisory Committee

In its December 1978 report, the advisory committee recommended that the National Association of Insurance Commissioners (NAIC) not take action on the report for at least a six-month exposure period and then, if the disclosure system seemed appropriate, ascertain that the system is thoroughly tested before further NAIC action is taken.

Position papers and verbal responses concerning the proposed lapse disclosure system were presented by insurance industry representatives at the June 2, 1979, (C3) Cost Disclosure Task Force meeting. In closed session following this meeting, the task force voted to ask the advisory committee

to test the technical adequacy of its lapse disclosure system by collecting the required data from a broad range of companies using the Life Insurance Marketing and Research Association (LIMRA) as the data collection and analysis center, and to submit the results to the task force along with guidelines for its use.

The (C3) Cost Disclosure Task Force planned, in turn, to circulate this supplementary report to the commissioners and ask their response as to the usefulness of the disclosure information to their departments.

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1. In 1980, following a reallocation of NAIC task force assignments, this task force was renamed the Manipulation, Lapsation, Dividend Practices, and Annuity Disclosure Task Force and is under the continued leadership of Ms. Erma Edwards, CLU, FLMI, of the Nevada Insurance Division.
 2. 1979 Volume I, page 575.

C. Advisory Committee Activities

In order to implement this new charge without delay, the advisory committee held a full-day meeting on June 28, 1979, at the Metropolitan Life Insurance Company to develop procedures to be used in testing the advisory committee's proposed lapse rate disclosure system. The committee decided that each company should receive the following in the testing procedure:

1. A reference description of the lapse disclosure system developed by the advisory committee
2. A questionnaire concerning company information items, persistency practices, and cost and time factors of the proposed lapse disclosure system
3. Reporting forms for the lapse disclosure test data along with a questionnaire for auxiliary information that may be useful in explaining lapse variances.

In the ensuing months, the committee developed these testing vehicles and on September 28, 1979, the NAIC Central Office mailed the material with a cover letter from J. Richard Barnes, CLU,³ Chairman of the NAIC Life Insurance (C3) Subcommittee, to the 1,101⁴ legal reserve life insurance companies actively selling ordinary life insurance in the United States (Appendix B). Commissioner Barnes directed companies to send questionnaire responses and test data to LIMRA within specified time periods.

From October 1979 through May 1980, LIMRA collected and edited company responses, replied to company inquiries, established and programmed the analytical procedures for data tabulations, and made initial observations and interpretations of the questionnaire and test data results. The advisory committee then met on May 27 and 28, 1980, at LIMRA headquarters for a day and a half to interpret the results, to make decisions concerning the proposed disclosure system, and to begin making an outline of the second report to the (C3) Cost Disclosure Task Force.

The committee presented progress reports to the (C3) Cost Disclosure Task Force at the following meetings:

September 25, 1979 – Detroit, Michigan
 March 26, 1980 – Tampa, Florida
 June 15, 1980 – Denver, Colorado
 November 30, 1980 – New York, New York

D. The Current Report

This report begins with a section that lists the highlights of the current report. The body of the report contains the results of the feasibility test and a full report on the recommended administrative procedures. In addition, the report includes one section describing the market characteristics of the insurance industry and another section outlining the current persistency practices within the industry. The report concludes with an appendix of supplementary material.

E. Commentaries

While testing the feasibility of the lapse disclosure system, the advisory committee has continued to serve the NAIC in a purely technical capacity. The committee believes that the system it developed is an equitable and practical response to its charge.

It is an established fact that company lapse⁵ rates will differ according to market characteristics, types of products sold, and the experience of the agency force. The lapse disclosure system developed by the advisory committee is not intended to recognize all of these market, product, and agency force differences but is intended only to assist the NAIC in discerning possible persistency problems within the industry.

3. Commissioner of the Colorado Insurance Division.
4. The total of 1,870 United States legal reserve life insurance companies quoted in the American Council of Life Insurance's 1980 Fact Book (page 89) as being in business at the end of 1979 includes companies writing other than direct-written ordinary life insurance; i.e., reinsurance companies, credit life companies, industrial companies, and group companies.
5. Lapse references in this report pertain to surrenders as well as lapses for no value.

F. Acknowledgements

The committee wishes to note LIMRA's contribution to the feasibility study by acting, in response to the NAIC's request, as the collection and analysis center during the testing period, and to acknowledge the special technical contributions of Joseph R. Brzezinski, ASA, Director—Actuarial Research, LIMRA, during this period.

The committee also wishes to mention the following nonmembers who attended and participated in committee meetings: Eugene W. Bates,⁶ Senior Vice President, Western-Southern Life Insurance Company; John K. Booth, Vice President and Chief Actuary, ACLI; Ronald J. Doane,⁷ Assistant General Counsel, Equitable Life Assurance Society of the United States; Anthony T. Spano, Associate Actuary, ACLI; and Elizabeth Tavian, Assistant Vice President—Financial Research, LIMRA.

G. Advisory Committee to the NAIC on Policy Lapsation

Helen T. Noniewicz—Chairman
Assistant Vice President—Manpower and Market Research
Life Insurance Marketing and Research Association

Howard D. Allen, FSA, MAAA
Senior Vice President—Technical Services
(Alternate member: Jan C. Brown, FSA, MAAA
Associate Actuary)
John Hancock Mutual Life Insurance Company

Wilson L. Forker, CLU
Second Vice President—Marketing
(Alternate member: Thomas J. Young, FSA
Actuarial Vice President)
Equitable Life Insurance Company of Iowa

Bartley L. Munson, FSA, MAAA
Vice President and Actuary—Insurance Products
(Alternate member: Larry Peterson, FSA, MAAA
Associate Actuary)
Aid Association for Lutherans

W. Keith Sloan, FSA, MAAA, FLMI
Assistant Actuary
Lumberman's Mutual Casualty Insurance Company
(Alternate member: James F. Allen, FSA
Associate Actuary
Federal Kemper Life Insurance Company)

William M. Snell, FSA, MAAA
Associate Actuary
The Northwestern Mutual Life Insurance Company

Roger Stroud, CLU
Director, Sales Development
(Alternate member: Alf H. Anderson, ASA
Associate Actuary)
IDS Life Insurance Company

Bert van Uiter, FLMI
Second Vice President, Marketing Research & Planning
(Alternate member: Jon Humphries
Director, Marketing Research & Planning)
New England Mutual Life Insurance Company

Julius Vogel, CLU, FSA, MAAA
Senior Vice President and Chief Actuary
(Alternate member: Harold R. Greenlee, FSA, MAAA
Vice President and Assistant Actuary)
The Prudential Insurance Company of America

Frank Zaret, FSA, MAAA
Actuary
Metropolitan Life Insurance Company

6. Chairman, American Council of Life Insurance (ACLI) Task Force on Lapsation Study.

7. Committee member, ACLI Task Force on Lapsation Study.

CHAPTER I

TESTING THE FEASIBILITY OF THE LAPSE DISCLOSURE SYSTEM

The advisory committee recommended in its December 1978 report to the NAIC that a study be undertaken to test the validity of the proposed lapse disclosure system, as well as to gain insights into the time and cost elements of such a system. In June 1979, the (C3) Cost Disclosure Task Force asked the advisory committee to implement the validity test using LIMRA as the data collection and analysis center. Industry responses to the two questionnaires (Appendix B) developed by the committee for these purposes generated the data base for the feasibility study results.

The 614 companies that responded to the NAIC Lapse Questionnaire (see Appendix B) represent the bulk of the life insurance industry in terms of ordinary life insurance written and in force as well as of total assets held by United States companies. Chapter III discussed the profile of the life insurance industry that emerged from the responses to this questionnaire.

Companies that were already monitoring their lapse experience were asked to submit actual data for testing the proposed lapse disclosure system. One-third of the respondents to the NAIC Lapse Questionnaire supplied data on the second questionnaire, Proposed NAIC Lapse Disclosure System—Test Data (see Appendix B). The resulting validation process was based on 164 usable company reports of lapse experience. These 164 companies represented 72 percent of the total 1978 ordinary face amount of insurance in force in the United States. In addition, the representativeness of the test companies was evident when the proportions of ordinary face amount new business generated by the various distribution systems in the test companies were compared with those of the 614 companies. Table 1 shows this comparison.

TABLE 1

PERCENT OF 1978 ORDINARY NEW BUSINESS (FACE AMOUNT)
ACCORDING TO DISTRIBUTION SYSTEM

	<u>614 Companies Answering First Questionnaire</u>		<u>164 Companies Supplying Test Data</u>	
	<u>Premium Notice Ord.</u>	<u>Debit Ord.</u>	<u>Premium Notice Ord.</u>	<u>Debit Ord.</u>
Multiple Line:				
Managerial	21%	3%	27%	4%
General Agency	3	--	2	--
Life & Health:				
Managerial	23	4	25	4
General Agency	20	--	18	--
PPGA	10	--	8	--
Brokerage	11	--	9	--
Direct Mail	3	--	1	--
Other	2	--	2	--
	<u>93%</u>	<u>7%</u>	<u>92%</u>	<u>8%</u>

Not all companies were willing to estimate the cost and time factors that would be associated with the proposed lapse disclosure system. However, the majority of the companies did provide the requested estimates and the following cost and time information is based on their responses.

Cost Factors of the Proposed System

Companies with long-term lapse monitoring systems already in place were asked to estimate the expected annual cost of providing data for the proposed system. The responses gave the average company cost at \$3,200, with differences in cost according to company size. The median cost (i.e., the middle company in the range of costs) was \$1,200. The difference between the average and median cost reflects the uneven distribution of estimated costs, which are skewed toward the upper end of the range. Table 2 lists the expected costs by size of company.

TABLE 2
 EXPECTED ANNUAL DISCLOSURE COST FOR COMPANIES
 ALREADY MONITORING LONG-TERM PERSISTENCY

<u>Company Size*</u>	<u>Number of Companies</u>	<u>Average Cost**</u>	<u>Median Cost**</u>
Very Large	19	\$3,500	\$1,900
Large	64	\$3,500	\$1,200
Medium	37	\$3,300	\$1,800
Small	22	\$2,200	\$ 600
All Respondents	142	\$3,200	\$1,200

*Company size classifications based on 12/31/78 United States ordinary (face amount) insurance in force:

Very Large companies = more than \$10 billion
 Large companies = \$1-\$10 billion
 Medium companies = \$175 million-\$1 billion
 Small companies = less than \$175 million

**Rounded to nearest \$100

Companies that do not have established systems for monitoring long-term persistency would first have to develop such systems and incur development costs. As a result, these companies were asked to estimate development costs for the proposed disclosure system as well as to estimate annual expected costs after development. The expected development cost per company averaged \$19,800, with the median at \$9,300. Table 3 provides insight into these costs.

TABLE 3
 EXPECTED DEVELOPMENT AND SUBSEQUENT ANNUAL COSTS FOR DISCLOSURE SYSTEM
 (Rounded to nearest \$100)

<u>Company Size</u>	<u>Number of Companies</u>	<u>Development Costs</u>			<u>Subsequent Annual Disclosure Costs</u>
		<u>Data Processing</u>	<u>Programming</u>	<u>Testing</u>	
Very Large:	3				
Average		\$5,500	\$5,300	\$2,600	\$3,400
Median		--	--	--	--
Large:	61				
Average		\$9,200	\$9,600	\$6,700	\$2,800
Median		\$4,300	\$4,900	\$3,300	\$1,000
Medium:	106				
Average		\$7,900	\$9,500	\$5,100	\$2,600
Median		\$4,400	\$6,500	\$2,900	\$1,100
Small:	75				
Average		\$4,500	\$4,600	\$2,300	\$1,800
Median		\$1,900	\$2,200	\$1,000	\$1,000
All Sizes:	245				
Average		\$7,200	\$8,000	\$4,600	\$2,400
Median		\$3,000	\$4,300	\$2,000	\$1,000

The average and median company costs for subsequent annual disclosure reporting were relatively similar between the two groups of responding companies. The slightly lower expected annual costs for the group that had to develop monitoring systems may be attributed to the fact that, within most of the size groups, the smaller companies with the expected smaller costs were the ones that had to develop monitoring systems.

Time Element for the Proposed System

In order to gain some insights into the length of time needed for implementation of the disclosure system, those needing to develop systems were asked some questions aimed at the time required for development. Other questions were asked of those having systems in place to discover how early in the year disclosure data could be available. Table 4 summarizes the responses to these questions.

TABLE 4

Company Size	Companies Needing To Develop Systems		Companies That Have Developed Systems	
	Development Time Needed:		Time Needed to Obtain Data:	
	Working Days	Elapsed Days	Working Days	Elapsed Mos.
Very Large:				
Average	232	343	32	6
Median	216	318	12	6
Large:				
Average	104	196	25	5
Median	59	162	10	4
Medium:				
Average	118	219	20	4
Median	86	173	16	4
Small:				
Average	75	128	16	4
Median	34	66	10	3
All Sizes:				
Average	101	184	23	4
Median	57	124	12	4
Upper Quartile	124	231	30	6

For companies that need to develop lapse disclosure systems, the responses indicate an average of almost nine months (184 elapsed working days) for development purposes. The upper quartile (231 elapsed working days) indicates that 75 percent of the companies can develop the disclosure systems within an 11-month period of time.

Seventy-five percent of the respondents indicated that lapse disclosure data would be available by July 1 of each year.

Analysis of Submitted Test Data

The second questionnaire sent to the industry requested information on recent actual lapse experience subdivided among debit ordinary, pension trust, other cash value, term policies, term riders, and deposit term business within the five duration (policy year) groupings specified in the proposed disclosure method. The extra "lines" of term (i.e., the further breakdown of term between riders and policies) were included to help resolve the question of whether riders should be reported with term or with permanent policies. Deposit term was listed separately at the request of the NAIC.

The companies were also asked to provide information on which of several acceptable methods of calculating exposure and lapses they had used. Virtually all data were submitted with contract-year lapses and were about evenly split between contract-year and calendar-year exposure periods. While differences in lapse rate results can be expected from the use of these two primary methods, investigation indicated that the distributions of results were quite similar in many respects. From this, it was concluded that no serious distortion would result if results were not segregated according to the calculation method used for determining the exposure period.

Phase I—Development and Use of Comparison Standards

The first phase of calculation of results utilized a very tight schedule, and therefore some suspicious data had to be included in the testing of individual company lapse ratios. Other companies submitted data late, and these data were not included in the initial research on comparison standards. Both of these problems were corrected for final results.

Suspicious data were excluded from calculations involving the determination of industry averages. In general, it can be expected that companies with suspicious and probably inaccurate results are more likely to be targeted as having a lapse problem of some sort than are other companies.

The first phase of research using test data checked to see whether the underlying rationale for the proposed disclosure system was defensible. A fundamental difference between the proposed system and other methods considered is that the proposed plan is multidimensional, giving basic subdivisions of information by type and age (policy duration) of business, while other methods considered at various times generally utilize a single over-all lapse rate.

The fallacy of a single over-all rate method is that it does not recognize that lapse experience varies according to type of business, how long the business has been in force, and other characteristics. The proposed method recognizes that lapse experience can be expected to be quite different for various types of business and for business that has been in force various lengths of time. With the proposed method, actual lapse type and duration groupings are compared with lapses that would result if experience were identical to a comparison standard based on industry-wide experience. Actual lapses and standard lapses are each added separately for all durations to produce composites within type. Similarly, actual and standard lapses can be each added separately across types of business to produce composites across types for individual durations and/or for all durations combined. The ratio of actual to standard lapses so calculated is a measure of lapse performance where a low ratio is good and a high ratio is poor.

While the advisory committee recognized that characteristics other than type and duration were important, it also recognized trade-offs between accuracy, cost of obtaining information, and increased complexity of presentation with each additional characteristic subdivision that might be required. A twofold breakdown is adequate to ascertain possible problem situations and avoids adding considerable costs and complexity in preparing the disclosure statement.

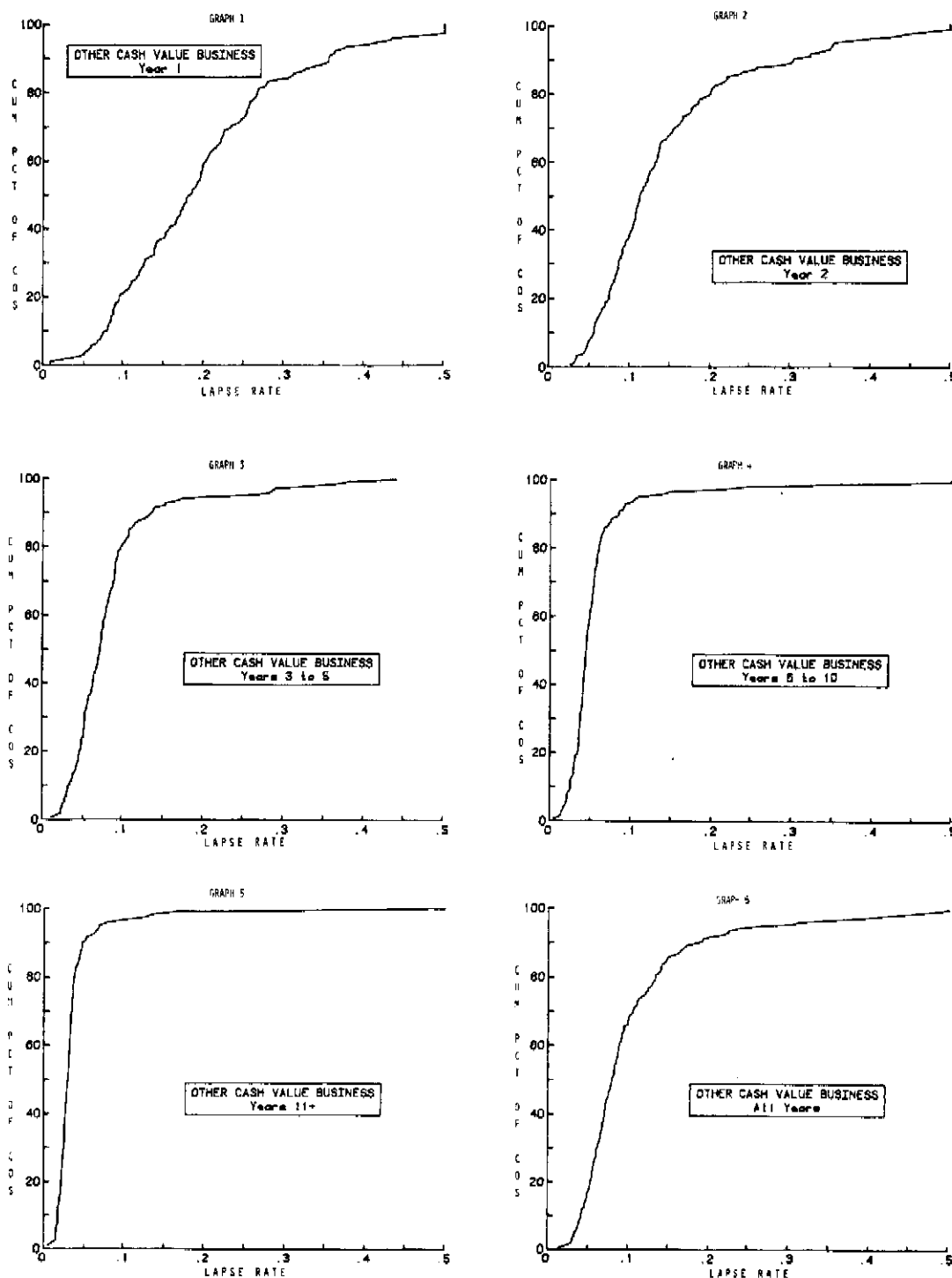
Although several different measures of lapse experience could have been used in the initial investigations and research, LIMRA staff decided to utilize the median result. The median, located at dead center, provides a very convenient benchmark for looking at distributions and checking on the computational accuracy of the work being conducted.

Lapse rates vary considerably within a particular type of business and duration, as illustrated in Table 5.

TABLE 5
MEDIAN COMPANY LAPSE RATE ACCORDING TO
TYPE OF BUSINESS AND DURATION — COMPANIES SUPPLYING TEST DATA

	<u>Debit Ordinary</u>	<u>Pension Trust</u>	<u>Other Cash Value</u>	<u>Term Riders</u>	<u>Term Policies</u>	<u>Deposit Term</u>
Year 1	.361	.155	.192	.220	.180	.150
Year 2	.201	.141	.108	.128	.161	.072
Years 3-5	.095	.110	.068	.085	.115	.036
Years 6-10	.062	.085	.043	.055	.082	.025
Years 11+	.040	.075	.028	.036	.059	.023

LAPSE RATE DISTRIBUTIONS BY POLICY DURATION



Where lapse rates are high, the spread of lapse rates across companies is wide. Conversely, where lapse rates are low, lapse distribution is very tight. Graphs 1 to 6 illustrate this situation for "other cash value" (i.e., excluding pension and debit ordinary) business. These graphs show the cumulative percentage of companies that have a particular lapse rate or lower. As duration increases, an increasing proportion of companies is concentrated at lower lapse rates.

These results illustrate a serious potential for misinterpretation if an overall single lapse rate is used. This potential would be realized when large variances occur in the proportions of types of business sold and/or when in force amounts at different policy durations are unusual, making a company with good lapse experience appear to have a problem. This potential would be particularly great for young companies and companies growing very rapidly.

The statistical measure used for representing the closeness of points to such a line is the correlation coefficient. The correlation coefficient indicating the relationship of first-year experience to experience in years 6-10 for "other cash value" business is .30. Such a value indicates a slight positive relationship between these two policy-year groupings.

Table 6 shows the two-way correlations for every combination of policy-years for "other cash value" business. Note that correlations are greatest in adjacent policy-year groupings as a general rule. The decreasing correlation in lapse rates with increasing difference in duration may indicate that different blocks of business have different persistency characteristics and/or that factors affecting persistency have varying effect by duration.

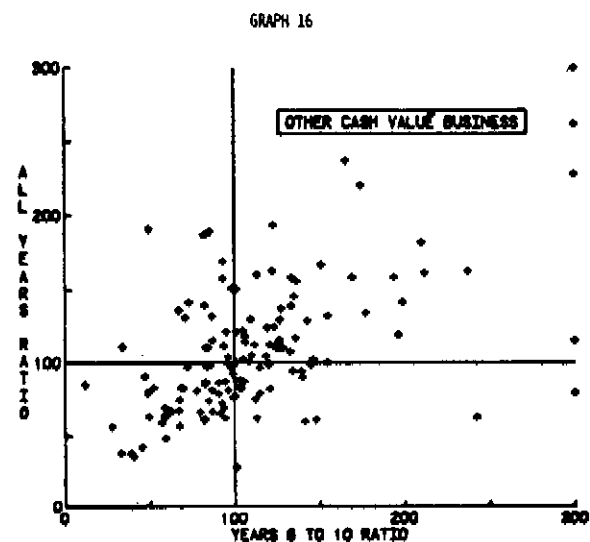
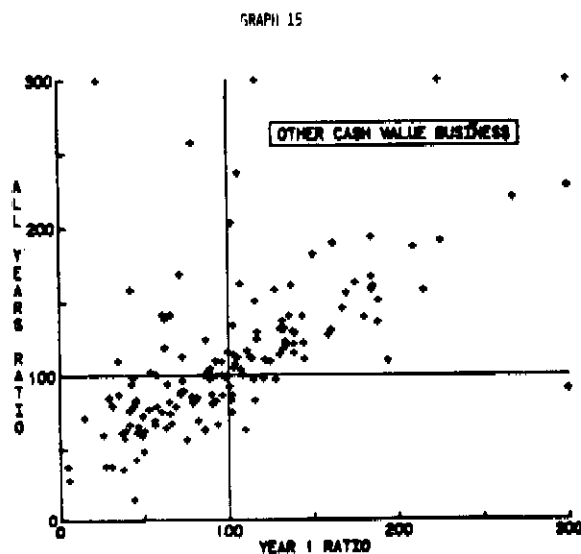
TABLE 6
OTHER CASH VALUE BUSINESS — COMPANIES SUPPLYING TEST DATA

	Correlation Coefficients*						
	Year 1	Year 2	Years 3-5	Years 6-10	Years 11+	All Years Rate	All Years Ratio**
Year 1	1.00	.62	.46	.30	.26	.69	.78
Year 2	.62	1.00	.69	.39	.47	.81	.84
Year 3-5	.46	.69	1.00	.44	.61	.67	.77
Years 6-10	.30	.39	.44	1.00	.55	.44	.63
Years 11+	.26	.47	.61	.55	1.00	.43	.50
All Years	.69	.81	.67	.44	.43	1.00	1.00

*The correlations between individual policy-year groupings (1, 2, 3-5, 6-10, and 11+) were calculated by correlating lapse rate to lapse rate. Since correlations are unaffected by multiplication or division by a constant value, correlations of rates to ratios, ratios to rates, and ratios to ratios would be identical to the ones shown. The correlations of individual years with all years are affected by the normalizing process. Consequently, the last two columns indicate respectively the correlations of lapse rates or ratios to the aggregate (across durations) lapse rate and normalized lapse ratio.

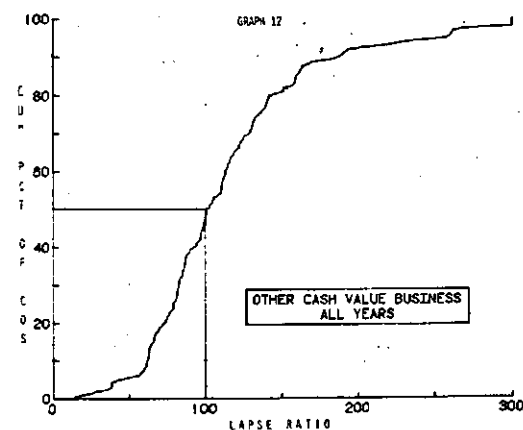
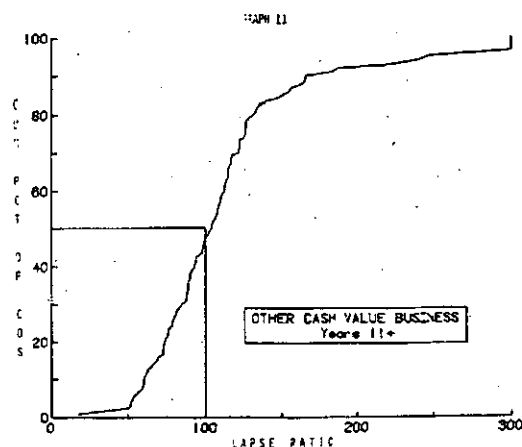
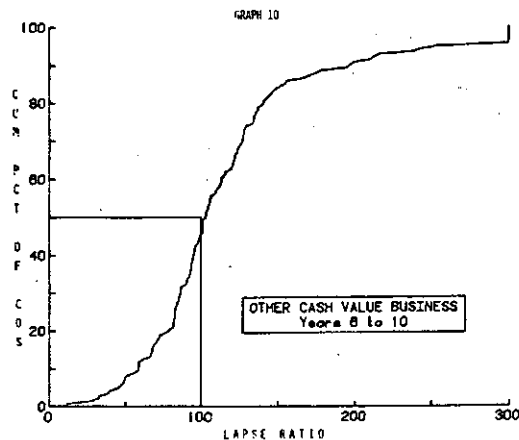
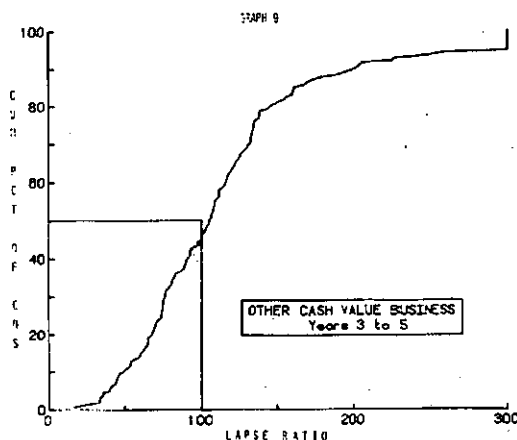
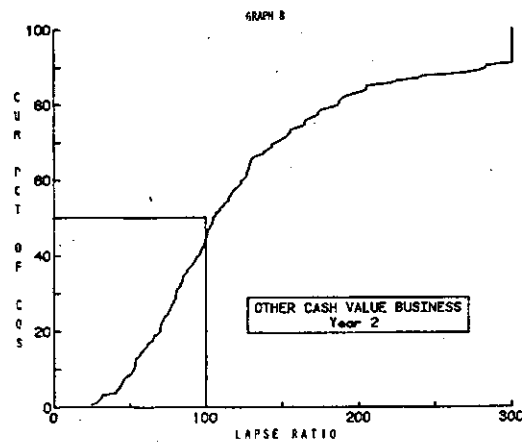
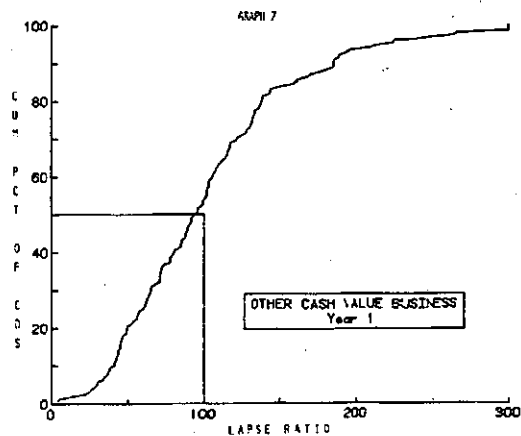
**Based on median results.

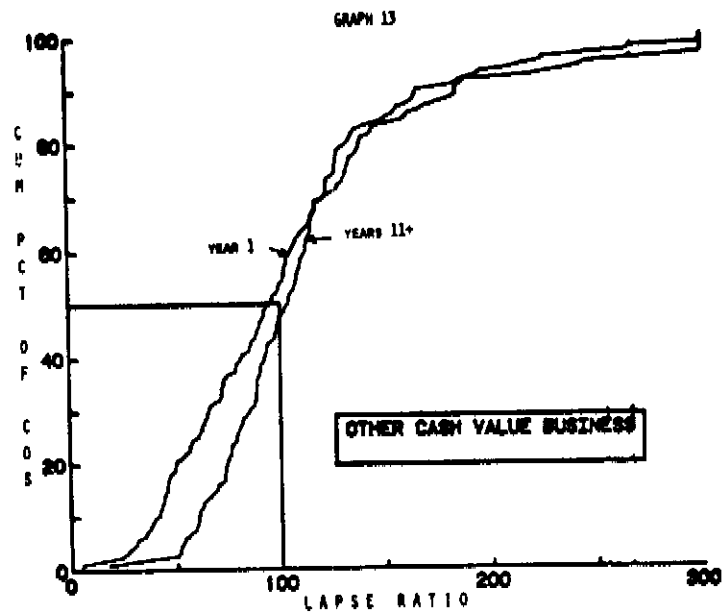
The very low correlations of results for almost all durations do indicate that with an over-all measure, even if based upon actual to standard ratios, good experience at some durations may be reduced or offset by poor performance at other durations. In general, however, the over-all ratio, as defined in the proposed disclosure system, is certainly a better measure than a pure rate. In addition, the over-all ratio does tend to be better correlated to individual policy-year results than the pure over-all rate. The scatter diagrams in graphs 15 and 16 illustrate this for year 1 and years 6-10.



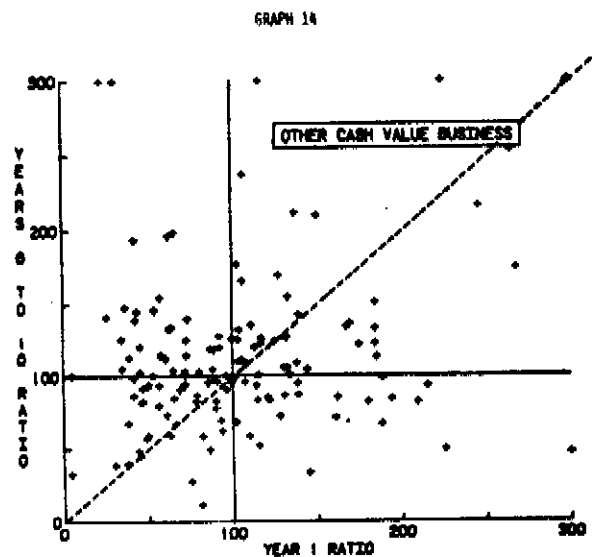
Graphs 7 to 12 illustrate how the proposed method would tend to reduce the potential for misinterpretation due to variations in the mix of business in force by policy duration. By relating each lapse rate to a standard lapse rate for the particular policy-year grouping and forming a ratio, each graph shows approximately the same cumulative distribution of companies about the median ratio (see graph 13). For the sake of convenience, each of these graphs (7-13) have a "median box" inscribed on them. The sides of the box are made up of the x- and y-axes, a line parallel to the x-axis from the 50 percent point and a line parallel to the y-axis from the 100 percent ratio. Each cumulative distribution curve should intersect the box close to the corner of the box in the graph indicating that 50 percent of the companies have a lapse rate below the median standard and the other 50 percent of the companies are above the standard.

LAPSE RATIO DISTRIBUTIONS BY POLICY DURATION





Companies' performance was not uniform across durations and types of business. That is, a company could have a low lapse ratio for new business and a high lapse ratio for business that had been in force 6 to 10 years. Two percent of the companies had such a situation in the "other cash value" type of business. About 3 percent had the opposite situation of high ratio for new business and low ratio for the seasoned 6-to-10-year-old business. Graph 14 is a scatter diagram that illustrates the various circumstances existing in companies between their new business and their seasoned 6-to-10-year business. Uniformity of performance for the two duration groupings would, of course, be achieved if all points were very tightly distributed around the dashed line on the graph.



Similar results would be found within every type of business, except for pension trust. Tables 1 to 4 (Appendix C) show correlation coefficients for debit ordinary, pension trust, term policies, and term riders. There was insufficient information provided to do much analysis with deposit term coverage.

All in all, the first phase of this research did indicate that the disclosure system under consideration provides a method of determining high lapse situations in a manner that is superior to utilizing a single over-all lapse rate. It also shows that recognition should be given to policy-year groupings as well as to type of business.

Phase II—Modification in Standards

The advisory committee met on two occasions (May 27 and 28, 1980 and September 23, 1980) to discuss these early results and make recommendations for further research with these data. Based upon the information provided the committee decided that the proposed system was workable with several modifications.

First, the nature of the comparison standard for determining the denominator for the lapse ratio was a primary concern. The advisory committee felt that a standard based upon the median result or, alternately, upon an unweighted¹ average of individual company results was inappropriate. It was felt that a standard should be a set of rates that would be more representative of buyer experience than would the median; i.e., that the averages used should reflect the likelihood that a policyowner will lapse a policy. Such a statistic would have to reflect the relative market shares of all companies, rather than give inordinate weight to smaller companies. A weighted average was chosen as being the most appropriate measure; that is, the industry standard lapse rates are determined as if the industry were one big company.

Table 7 summarizes the industry standard results according to the three statistical measures. In general, the "weighted mean" produces the lowest lapse rates for use as comparison standards, primarily because the largest companies tend to have the lowest lapse rates. The "unweighted mean" produces the highest lapse rates for use as comparison standards, primarily because results are affected by a small number of companies with extremely high lapse rates. Standards based on a median value generally are between the weighted and unweighted results, with results closer to the unweighted mean at early durations (that is, wherever lapse rates are generally quite high) but more like the weighted mean at later durations (that is, wherever lapse rates are generally low).

Second, the committee recognized that special treatment was needed for results based upon extremely small samples. Lapses based upon exposures of fewer than 100 policies of a type of business in either a single duration group or for all durations could be extremely volatile and would not truly reflect company performance. The 100-policy standard has been used as a basis for all subsequent tabulations involved in this research. However, instead of deleting the small contributions, the committee preferred the practice of placing an asterisk next to any information based upon a small sample (see Appendix D for treatment of data where the number of policies was unknown).

1. That is, each company's lapse rate is weighted equally, irrespective of the amount of its business.

TABLE 7
"INDUSTRY" STANDARD LAPSE RATES

TYPE OF BUSINESS	POLICY YEARS				
	<u>1</u>	<u>2</u>	<u>3-5</u>	<u>6-10</u>	<u>11+</u>
<u>Based on Weighted Mean</u>					
Debit Ordinary	.341	.221	.105	.060	.036
Pension Trust	.149	.139	.105	.082	.080
Other Cash Value	.170	.097	.061	.042	.027
Term Riders	.192	.125	.075	.049	.030
Term Policies	.162	.151	.108	.076	.054
Deposit Term	.137	.120	.035	.030	.021
Permanent + Riders	.173	.100	.062	.043	.027
<u>Based on Unweighted Mean</u>					
Debit Ordinary	.416	.215	.116	.072	.052
Pension Trust	.152	.160	.118	.106	.102
Other Cash Value	.204	.126	.074	.048	.031
Term Riders	.221	.140	.094	.056	.041
Term Policies	.181	.159	.124	.088	.073
Deposit Term	.157	.131	.041	.025	.022
Permanent + Riders	.205	.126	.075	.049	.032
<u>Based on Median</u>					
Debit Ordinary	.404	.197	.101	.068	.039
Pension Trust	.147	.146	.112	.080	.081
Other Cash Value	.186	.107	.067	.043	.028
Term Riders	.207	.123	.081	.054	.035
Term Policies	.178	.156	.115	.082	.058
Deposit Term	.141	.076	.033	.024	.022
Permanent + Riders	.186	.108	.068	.044	.028

Term rider business had been kept separate from either term policy business or permanent policy business in the preliminary research, although a number of companies had submitted their data with riders included with the base policy.

Although rider business has lapse experience that is higher than that of permanent policies but lower than that of term policies, the committee decided that it would be most appropriate to include riders with the base policies to which they are attached. Subsequent research indicates that in general this modification increases the "other cash value" standard table lapse rates by one tenth of 1 percent.

A major area of discussion at the two meetings dealt with the determination of the size of the ratio of actual lapse rate to comparison standard that should be taken as indicating that a company has a lapse problem.

A tentative ratio of 200 percent was established as a working cutoff point. It was later pointed out that large companies with atypically high or low lapse experience could dominate a particular type of business. Consequently, the likelihood of other companies having to explain ratios in excess of 200 percent for that type of business would be lesser or greater than for other lines. The committee considered several alternative methods of recalculating the weighted means to reduce the effects of very large companies. The committee decided that, for the purpose of establishing standard tables, a company's contribution to the total exposure within a cell² should be limited to 10 percent of the total unadjusted exposure in that cell. Table 7 reflects this new basis.

Finally, a small number of companies submitting test data for the feasibility study were unable to submit data based upon volume of life insurance in force and submitted data based upon number of policies and/or amount of premium. The committee felt that although there are slight differences to be expected according to whether number, amount, and/or premium results are reported, valid comparisons of lapse experience can be made ignoring which measure is utilized.

2. A particular line of business within a duration group.

Phase III—Tests of System

After determining the new "comparison standards," various tests were performed to ascertain the feasibility of the disclosure system in practice. For this purpose, two special tabulations were prepared listing individual company results separately for debit ordinary, pension trust, permanent and riders combined, term insurance (excluding deposit term), and deposit term. In each case, the detail listing is ranked in descending order by over-all (combined across durations) lapse rate for each line, numbered to show that the highest ranking is the highest lapse rate. Both show summary statistics—weighted and unweighted means, median, and 75th, 80th, 85th, and 90th percentiles.

1. The first tabulation (Tables 1, 3, 5, 7, and 9 of Appendix E) shows the over-all lapse rates (combined across durations) along with ratio statistics (ratio and ratio rank) by type of insurance and by whether the comparative standard is the weighted average or median.
2. The second tabulation (Tables 2, 4, 6, 8, and 10 of Appendix E) shows statistics by duration grouping similar to those presented in the first tabulation for only one lapse ratio based on the weighted average comparative standard.

Tabulations of this sort could be used by commissioners to see the range of experience for all domiciled companies. They also serve as a means to assist in determining when the comparative standards require updating and in deciding whether special standards would be required in a year characterized by large changes in lapsation throughout the industry.

Table 8 indicates the proportions of companies in the sample with potential problems:

TABLE 8

	Percent of Companies With a Rounded* 200% or Greater Lapse Ratio
Debit Ordinary	4%
Pension Trust	6%
Permanent + Riders	10%
Term (excluding Riders & Deposit Term)	5%
Deposit Term	14%

*Rounded to the nearest 5 percent

At this time, no follow-up work has been undertaken to ascertain the nature of the problems in companies identified as having lapse problems to determine whether factors not considered in the disclosure system would explain the high lapse ratios. Likewise, no analysis of year-to-year differences in results over time has been undertaken. Consequently, the extent to which modifications may be needed to adapt to temporal changes is unknown.

Phase IV—Potential Improvements to the Disclosure System by LIMRA

Some preliminary investigation has been done by LIMRA to see whether additional information generally available in annual statements or other company records could serve as a basis for further "normalizing" company results. The preliminary investigation does indicate that further research with the feasibility data and/or other sources may produce some improvements in the normalizing procedure. LIMRA will continue to work in these areas.

CHAPTER II

RECOMMENDED ADMINISTRATIVE PROCEDURES FOR DISCLOSURE SYSTEM

Chapter I reviewed the analysis and results of data collected for testing the feasibility of the lapse disclosure system. This research indicated that the proposed system provides a valid method for identifying potential lapse problems and in a manner that is superior to one utilizing a single over-all lapse rate. With this in hand, the advisory committee began, in the fall of 1980, to develop administrative procedures for the disclosure system.

The recommended disclosure procedures outlined below are designed to be practical and reasonable for the collection, compilation, and filing of data.

Reporting Instructions

1. *Forms similar to those in Exhibits 1, 2, 3, and 4 (located at the end of this chapter) are recommended for use in the disclosure system.*

A brief description of the exhibits follows:

- a. Exhibit 1, which shows a summary for all products and policy durations, is the actual lapse disclosure reporting form.
- b. Exhibit 2 shows a sample of the worksheet format used to calculate the ratios of actual to standard lapses.
- c. Exhibit 3 contains data definitions and reporting instructions.
- d. Exhibit 4 describes an additional optional procedure that may be used for further analysis of data when the basic disclosure formula produces a high actual to standard lapse ratio.

Tables similar to the table in Exhibit 4 (Basic Disclosure Formula Expanded to Reflect Modal Variations) may be submitted as supplementary information to Exhibit 1 reporting form. Exhibits 2 and 3 are for company use only.

2. *The committee recommends that a report separate from the annual statement be due in September of each year following the year of exposure. Information should be presented as a supplemental report to the annual statement. For example, a report of 1981 actual to standard lapse ratios would be due by September of 1982.*

This recommendation is presented for these reasons:

- a. Time is needed to ascertain that a policy has truly lapsed (e.g., end of grace period, reinstatement period, and administrative lag before lapses are recorded). Data cannot be produced in time for current annual statement preparation. Preparation for a September supplement is realistic, and there are precedents for such supplemental reports.
 - b. Reporting of data could be delayed and reported in the subsequent annual statement. However, an additional six months may be lost where corrective action otherwise could be taken.
 - c. There is no reason why it needs to be added to the annual statement, and burdening of that document with lapse data that is out of phase with all other statement data would be avoided.
3. *It is recommended that the lapse supplement be reported to the insurance commissioner in the state of the company's domicile.*

Standard Lapse Rates

1. *The committee recommends that the standard lapse rates used to evaluate a company's lapses be based on weighted means, modified to limit individual company representation to 10 percent of the total unadjusted exposure in any cell.*

This recommendation is made since weighted means are more representative of policyowner experience than are other measures that might be used, such as a median or unweighted mean of company lapse rates in which company size is ignored.

2. *It is further recommended that the standard lapse rates given in Exhibit 2 be used to evaluate a company's lapses and that these standards be kept constant until changes are necessitated.*

Column 2 in Exhibit 2 contains the modified weighted means of the lapse experience reported by companies participating in the "feasibility test" as described in Chapter I. The reasons why it is recommended that industry standards not be changed every year but held constant for a period of years are:

- a. The use of constant standards gives each company notice in advance of what the performance yardstick is.
- b. Year-to-year changes in standard rates generally would not be large enough to justify the excessive amount of processing needed to be done under time pressures and the resulting delays in reporting, evaluation, and corrective actions.

It would be justified for a company to explain its deteriorating actual to standard ratio, at least in part, on the basis of frozen norms matched against generally deteriorating industry experience due to economic conditions, legitimate replacements, or the like.

3. *The committee recommends that LIMRA, which does periodic long-term lapse studies as one of its services to the insurance industry, be used as the source for updated standards when the need arises.*

Review Process

The committee recommends that the point at which a company be considered for review is when any of its product class ratios of actual to standard lapse rates for all durations combined reaches or exceeds 200 percent, subject to there being a sufficient number of policies (100 minimum) under observation.

This recommendation was based on the following advisory committee observations:

- a. Examination of the test data shows that the 200 percent cutoff level does identify companies with high lapses for each of the product classes and that, by and large, their ratios are outside the main cluster.

The recommended cutoff lapse ratio of 200 percent should not be interpreted to mean that concern with lapse experience should not be expressed by companies until the critical review ratio is approached. As a matter of record, the advisory committee suggests that there be a constant lapse awareness within the industry and that individual companies should become concerned when their lapse ratios reach a much lower level, such as 150 percent.

- b. Use of preestablished standards and a fixed critical ratio of 200 percent permits each company to calculate its own ratios and to determine whether it may be subject to review as soon as the lapse data are available, thus permitting an early start on further analysis and plans for corrective action.

Of practical necessity, the disclosure formula was designed to be simple, giving only a broad overview of persistency. If a company wants to do further analysis of specific factors affecting its persistency, the disclosure method can be expanded to take account of these items. In essence, selected characteristics would be isolated and subjected to a normalization procedure to see whether the company's persistency, excluding unwanted influences, falls within acceptable ranges. Exhibit 4 shows an example of further analysis performed on first-year business using mode of premium payment as the variant under deeper review.

- c. The recommended report form (Exhibit 1) identifies critical ratios and shows whether additional analyses are attached and whether there is an existing corrective plan.

The recommended administrative procedures permit direct and early reporting to the insurance commissioner without the need for an intervening agency to calculate yearly industry standards and company lapse ratios.

Introduction Period

The committee recommends that a three-year introductory period be used to permit the companies to develop whatever procedures are necessary to generate the data needed and to evaluate their own performance.

During this implementation period, a company could either submit the report as called for or issue a narrative report describing its progress towards installing the necessary system. The normal procedure would begin with the first report following the introduction period.

EXHIBIT 1

Company _____	NAIC Group Code _____
Reported by _____	NAIC Company Code _____
Title _____	Federal Employer Identification _____
Date _____	Number _____

SUMMARY FOR YEAR _____

Ratios of Actual to Standard Lapses for
Insurance Products by Policy Duration
 Based on Amounts of Insurance
 in the United States

Policy Years	<u>Type of Product</u>			
	Debit Ordinary (Worksheet A)	Pension Trust (Worksheet B)	Permanent Ordinary (Worksheet C)	Term Ordinary (Worksheet D)
1	_____ %	_____ %	_____ %	_____ %
2	_____	_____	_____	_____
3--5	_____	_____	_____	_____
6--10	_____	_____	_____	_____
11+	_____	_____	_____	_____
All Durations	_____ %	_____ %	_____ %	_____ %

REMINDERS

1. Place an asterisk (*) next to any lapse ratio based on an exposure of less than 100 policies.
2. If a product was combined with another product due to a small (less than 5 percent) representation of the company's total volume in force, please so indicate in the appropriate column.
3. Exhibit 1 is to be mailed to the Commissioner of Insurance in the state of domicile by September 1 of each year.

(PLEASE COMPLETE INTERROGATORIES ON REVERSE SIDE)

INTERROGATORIES

1. a. Reporting basis: ☐ Calendar-Year Exposure
☐ Policy-Year Exposure
b. Has the method of calculating exposures changed since your last report?
☐ Yes ☐ No
2. a. Data basis for your exposures and lapses:
☐ Face Amounts
☐ Premium Amounts
☐ Number of Policies
b. Has your data basis changed since your last report?
☐ Yes ☐ No
3. Is the "All Durations" ratio 200 percent or greater on any type of product for which more than 100 policies are exposed?
☐ Yes ☐ No
4. If the answer to question 3 above is "yes":
 - a. Is any further analysis of additional market characteristics (such as age, occupation, mode of premium payment, etc.) that may affect persistency attached?
☐ Yes ☐ No

Or being prepared? ☐ Yes ☐ No
 - b. Has any plan of corrective action already been undertaken with Insurance Department knowledge?
☐ Yes ☐ No

EXHIBIT 2

LAPSE DISCLOSURE RECORDS

WORKSHEET AUNITED STATES DEBIT ORDINARY BUSINESS

plus _____

(if applicable)

Calculation of Ratios of Actual to Standard Lapses for the Year _____ by
Policy Duration:

	(1)	(2)	(3)	(4)	(5)
Policy Years	Amount Exposed (incl. Riders)	Standard Lapse Rate	Standard Lapses (1) x (2)	Actual Lapses	Actual to Standard Lapse Ratio (4) ÷ (3)
1	\$ _____	.341	\$ _____	\$ _____	_____ %
2	_____	.221	_____	_____	_____
3--5	_____	.105	_____	_____	_____
6--10	_____	.060	_____	_____	_____
11+	_____	.036	_____	_____	_____
All Durations	\$ _____	xxxx	\$ _____	(6) \$ _____	(7) _____ % (8) (7) ÷ (6)

* * * * *

WORKSHEETS B, C, and D follow the same format as WORKSHEET A with a change in the
name of the type of product and the following standard lapse rates:Type of Product*

Policy Years	Pension Trust	Permanent Ordinary	Term Ordinary
1	.149	.173	.162
2	.139	.100	.151
3--4	.105	.062	.108
6--10	.082	.043	.076
11+	.080	.027	.054

*All types of products include attached riders

EXHIBIT 3

INSTRUCTIONS AND DEFINITIONS

Exhibit 1

- a. Mail to the Commissioner of Insurance of your state of domicile by September 1 of each year.
- b. The summary table shows the column 5 entries of worksheets A, B, C, and D from Exhibit 2. If any product category contains less than 5 percent of your total volume in force, you have the option of combining that product with another. If this is done, so indicate on the report form. Also, identify with an asterisk (*) any lapse ratio in any cell where the exposure is based on less than 100 policies.
- c. Enter the year that the report covers.
- d. Complete the interrogatories in every case. A ratio of 200 percent or higher may be eliminated by further analysis, as shown in Exhibit 4. A company may submit the supplementary analysis with the basic summary table.

Exhibit 2

- a. Calculation of Exposure and Lapses

Amounts exposed and lapsed and allocation of exposure and lapses to particular policy year or policy-year grouping should be accomplished using one of several accepted actuarial methods. Techniques described in the Society of Actuaries' syllabus of examinations for measurement of mortality could be adopted for this purpose, substituting lapses for deaths and deaths and other terminations for withdrawals.

Appendix F gives an introduction to long-term lapse measurement based on the assumption that individual policy records are available. If grouped data are to be applied in the calculation process, the following references may be used for the group method:

1. Measurement of Mortality, H. Gershenson (Society of Actuaries)
2. Mortality Table Construction, R. W. Batten (Prentice-Hall, Inc.)

- b. Definitions of Data

Include face amount direct-written (i.e., including reinsurance ceded but excluding reinsurance assumed) ordinary business on residents of the United States. Exclude credit life and industrial life.

- (1) Exposures

Include:

- (a) Premium-paying business only.
- (b) Term rider coverage with the basic policy.

Exclude:

- (a) Policies with preliminary term coverage for less than one year, during the preliminary term period.
- (b) Group conversions.

Scheduled changes in coverage may be leveled by using average amounts.

- (2) Lapses

Lapsation means termination by lapse, surrender, or application of reduced paid-up or extended term options for premium-paying policies only.

Include as lapses:

- (a) The nonrenewal of renewable term insurance.
- (b) The amount of insurance reduced in partial surrenders or in policy plan changes.

Do not include as lapses:

- (a) Policies terminated by death, maturity, expiry, transfer to automatic premium loan status, or the end of the stipulated premium-paying period.
- (b) The lapsation of term policies due to conversion to permanent insurance.

Lapses must be based on the same block of business as defined in the exposures. Reinstatement should be handled in a manner consistent with the treatment of the original lapse; i.e., the amount reinstated should be the same as originally lapsed and should be assigned to the same policy year as the original lapse duration.

- c. Actual to Standard Lapse Ratio (Column 5) is calculated by dividing actual lapses (Column 4) by standard lapses (Column 3). The ratio of actual to standard lapses for the all durations line (Item 8) is found when the total of actual lapses (Item 7) for all durations is divided by the total of standard lapses (Item 6).

EXHIBIT 4

PROCEDURE FOR ADDITIONAL NORMALIZATION OF LAPSE DATA

Suppose that a company's actual to standard lapse ratio under the disclosure formula is 120 percent for policy year 1, an amount that the company may consider to be on the high side.

<u>TYPE OF PRODUCT — POLICY YEAR 1</u>					
	(1)	(2)	(3)	(4)	(5)
Mode of Premium Payment	Amount Exposed (incl. Riders)	Standard Lapse Rate	Standard Lapses (1) x (2)	Actual Lapses	Actual to Standard Lapse Ratio (4) ÷ (3)
<u>Basic Disclosure Formula</u>					
All Modes Combined	1,000	.17	170	204	120% (= a non- normalized ratio as to premium mode)

The company feels that its modal distribution (namely, annual, semiannual, quarterly, and monthly) is different from the industry's, causing its higher than normal actual to standard lapse ratio. In order to study the modal effects on first-year lapse rates, the company may proceed as follows:

Mode of Premium Payment	Amount Exposed (incl. Riders)	Standard Lapse Rate	Standard Lapses (1) x (2)	Actual Lapses	Actual to Standard Lapse Ratio (4) ÷ (3)
<u>Basic Disclosure Formula Expanded to Reflect Modal Variations</u>					
Annual	300	.12	36	30	83%
Semiannual	100	.16	16	14	88%
Quarterly	200	.22	44	40	91%
Monthly	400	.26	104	120	115%
All Modes Combined	1,000	xxx	200	204	102% (= a normalized ratio as to premium mode)

The lapse ratio further normalized for mode of premium payment becomes 102 percent, suggesting that the company's first-year lapse rate is quite normal. The reason for the actual to standard ratio of 120 percent on the nonnormalized premium mode basis is the disparity in distribution of first-year business by mode between the company and the industry, and this is not recognized in the simplified disclosure calculation.

Actually, the components of the calculation show that the company is not "quite normal." Its poorer than average experience on monthly business is balanced by superior performance on the other modes. The place to start to improve persistency in duration 1 is with the monthly mode.

The method described above is equally applicable to other characteristics, individually or in combination. It should be understood that the more factors simultaneously taken into account, the more complex will be the calculation. Also, industry standard lapse rates would have to be available for items under review.

The additional analysis of variables affecting persistency may be submitted with the lapse disclosure report (Exhibit 1) to explain lapse ratios in the critical review range.

CHAPTER III

INSURANCE INDUSTRY PROFILE

The NAIC Lapse Questionnaire (Appendix B) was designed to gain insights into the cost and time elements of the disclosure system, to provide industry data for testing the representativeness of companies providing test data, and to provide a data base for lapse research.

The resulting cost and time responses of the proposed system along with the representation of the test companies were reviewed in Chapter I, and LIMRA already has begun some preliminary research with the available data base. In addition to serving their original purposes, the responses also provided some insights into the characteristics of the insurance industry that the advisory committee found interesting and would like to share. Thus, Chapter III provides an industry profile which may give the lapse observer a better perspective, though not all the information may be directly pertinent to the lapse disclosure system. The 614 companies on which the profile is based represent 93 percent of the 1978 ordinary life new business written in the United States and 99 percent of the ordinary insurance in force.

Market Shares

Table 9 illustrates the market shares of the various types of companies operating in the United States. For example, the size of the mutual segment becomes evident when one observes that fewer than one-fifth of the responding companies produced almost one-half of the volume of ordinary life new business, held over one-half of the ordinary insurance in force, and owned almost two-thirds of total assets. Most of these large mutual companies are licensed in New York and, thus, similarly influence the market shares of the New York registered companies.

TABLE 9

MARKET SHARES

Type of Company	No. of Cos.	%	Ordinary U.S. In Force 12/31/78		Total Assets 12/31/78		1978 Ordinary New Business	
			Volume		Amount		Volume	
			(in millions)		(in millions)		(in millions)	
Stock	900	81%	\$ 617,505	44%	\$135,685	33%	\$136,273	52%
Mutual	108	18	758,883	54	243,847	63	120,549	46
Fraternal*	6	1	35,536	2	5,843	2	5,241	2
Co. Responses	614	100%	\$1,411,924	100%	\$385,375	100%	\$262,063	100%
Industry	1,101		\$1,425,095		\$389,924**		\$283,067	
Ordinary	544	89%	\$1,108,035	78%	\$295,273	77%	\$207,030	79%
Home Service	70	11	303,889	22	90,102	23	55,033	21
	614	100%	\$1,411,924	100%	\$385,375	100%	\$262,063	100%
<u>New York Registered:</u>								
Yes	92	15%	\$ 789,973	56%	\$277,918	72%	\$128,411	49%
No	522	85	621,951	44	107,457	28	133,652	51
	614	100%	\$1,411,924	100%	\$385,375	100%	\$262,063	100%

*LIMRA fraternal member companies used as fraternal universe

**Assets of United States life insurance companies

The home service (debit, combination) companies account for only about one-fifth of the ordinary volume of business sold and in force in the United States (Table 9). However, the significance of the home service companies becomes more apparent when the measure is number of policies (lives) sold: The home service companies account for approximately two-fifths of all newly sold ordinary life policies in the United States and well over one-half of all individual new policies when industrial sales are considered. Furthermore, more than one in three individually purchased policies in the United States is on the home service plan (Table 10).

TABLE 10
1978 INDIVIDUAL SALES IN THE UNITED STATES

	Number of Policies		Ordinary Companies (in thousands)	Home Service Companies (in millions)
	Ordinary Companies	Home Service Companies		
Ordinary Life	8,567	5,420	\$223,623	\$59,444
Industrial Life		5,445		6,015
All Individual Sales	8,567	10,865	\$223,623	\$65,459
% of Individual Sales	44%	56%	77%	23%
Debit Sales (Ord. + Industrial)		7,112		\$26,113
% of Individual Sales		37%		9%

Responding companies were categorized according to size of company within type. Table 11 indicates that the smaller the size of the company, the more apt it is to be a stock company not licensed to operate in New York. These same size classifications were used for subsequent tables.

TABLE 11
SIZE OF COMPANY*

Type of Company	Very Large	Large	Medium	Small
Stock	40%	72%	87%	88%
Mutual	56	25	13	12
Fraternal	4	3	--	--
	100%	100%	100%	100%
Number of Companies	25	179	202	208
Ordinary	80%	87%	93%	87%
Home Service	20	13	7	13
	100%	100%	100%	100%
NY Registered	72%	18%	11%	9%
Non-NY Registered	28	82	89	91
	100%	100%	100%	100%

*Company size classifications based on 12/31/78 United States ordinary (face amount) insurance in force:

Very Large companies = more than \$10 billion
Large companies = \$1--\$10 billion
Medium companies = \$175 million--\$1 billion
Small companies = less than \$175 million

New Product Lines/New Distribution Channels

In recent years, many companies in the industry have either added new product lines to their portfolios or have added new product distribution methods to their traditional "life and health" career agency systems. For example, the very large companies have added property and casualty products to their portfolios. At the same time, the smaller companies are hiring increasing numbers of experienced agents as personal-producing general agents (PPGAs), encouraging brokered business, and reexamining direct-mail distribution systems.

Table 12 shows, according to company size, the proportions of 1978 ordinary new business sold through the various distribution channels. Similar proportions by type of company within size and within type of business may be found in Tables 13, 14, and 15.

TABLE 12

PERCENT OF 1978 ORDINARY LIFE NEW BUSINESS

(Face Amount)

DISTRIBUTION CHANNELS	ALL COMPANIES	COMPANY SIZE			
		Very Large	Large	Medium	Small
Multiple-Line*:					
Managerial	24%	40%	9%	10%	6%
General Agency	3	3	3	2	2
Life & Health:					
Managerial	27	28	29	13	22
General Agency	20	19	19	30	8
PPGA	10	3	15	23	30
Brokerage	11	5	18	16	21
Direct Mail	3	0	5	5	9
Other	2	2	2	1	2
	100%	100%	100%	100%	100%

*Selling life, health and property and casualty products

PERCENT OF 1978 ORDINARY LIFE NEW BUSINESS

(FACE AMOUNT)

TABLE 13

DISTRIBUTION CHANNELS	ALL COMPANIES			COMPANY SIZE									
				Very Large			Large			Medium		Small	
	Mutual	Stock	Fraternal	M*	S*	F*	M	S	F	M	S	M	S
Multiple-Line:													
Managerial	32%	19%	8%	41%	41%	--	1%	11%	9%	8%	10%	0%	7%
General Agency	2	3	--	3	1	--	0	5	--	1	2	--	2
Life & Health:													
Managerial	32	22	43	31	22	--	37	25	54	23	12	51	18
General Agency	24	15	49	21	11	100	35	13	37	21	32	17	7
PPGA	2	17	--	0	10	--	9	18	--	25	23	19	31
Brokerage	5	18	--	2	14	--	12	20	--	16	16	11	22
Direct Mail	1	5	--	--	0	--	4	6	--	2	5	2	10
Other	2	1	--	2	1	--	2	2	--	4	0	--	3
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

* M = Mutual Companies; S = Stock Companies; F = Fraternal Companies

TABLE 14

DISTRIBUTION CHANNELS	ALL COMPANIES		COMPANY SIZE							
	Ordinary	Home Service	Very Large		Large		Medium		Small	
			Ord.	Home Serv.	Ord.	Home Serv.	Ord.	Home Serv.	Ord.	Home Serv.
Multiple-Line:										
Managerial	20%	43%	34%	56%	8%	12%	10%	8%	5%	15%
General Agency	2	5	0	7	4	1	2	--	2	--
Life & Health:										
Managerial	24	40	28	30	23	68	9	56	18	51
General Agency	24	4	26	2	20	9	33	5	8	14
PPGA	12	2	4	--	17	5	24	11	32	14
Brokerage	14	1	7	1	20	0	17	15	22	6
Direct Mail	3	1	0	--	6	2	5	--	10	--
Other	1	4	1	4	2	3	0	5	3	--
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

TABLE 15

DISTRIBUTION CHANNELS	ALL COMPANIES		STOCK		MUTUAL		FRATERNAL	ORD. COS.	HOME SERV. COS.	
	PNO*	Debit	PNO	Debit	PNO	Debit	PNO	PNO	PNO	Debit
Multiple-Line:										
Managerial	21%	3%	18%	1%	27%	6%	8%	20%	29%	14%
General Agency	3	--	3	--	2	--	--	2	5	--
Life & Health:										
Managerial	23	4	16	6	30	2	43	24	21	20
General Agency	20	--	15	--	24	--	49	24	4	0
PPGA	10	--	17	--	2	--	--	12	2	0
Brokerage	11	--	18	--	4	--	--	14	1	--
Direct Mail	3	--	5	--	1	--	--	3	0	--
Other	2	--	1	--	2	--	--	1	4	0
	93%	7%	93%	7%	92%	8%	100%	100%	66%	34%

*Premium Notice Ordinary

Lapse Study Practices

Two out of every three companies surveyed monitored their lapse experience in 1978. The company characteristic most related to the practice of monitoring lapse experience was company size. Table 16 indicates that almost all of the very large companies had some type of lapse monitoring system established in-house, while less than half of the small companies had such systems.

Table 17 reveals that of the companies that monitor lapse experience, two in five use exposures based on policy anniversaries in one 12-month period traced to policy anniversaries in the next 12-month period. A similar proportion of companies use exposures based on all lapses occurring in a calendar 12-month period. Since these two methodologies produce similar results, the majority of the companies that are already monitoring persistency can apply their established methodologies to the lapse disclosure system.

Approximately half of the companies study lapse by individual durations or by grouped durations for their entire in force. The remaining companies study only the early durations, particularly the first one or two policy years. Table 17 shows that the number of durations studied is a function of company size.

In monitoring persistency, the measure most commonly used is face amount, followed by number of policies. Because the use of premiums as a key measure was only recently adopted by the industry, it is not surprising that only half the companies that monitor persistency use annualized premiums as a measure. The surprising fact is that the smaller companies are more apt to do so than are the larger companies.

As expected, the larger the company size, the greater is the use of computerized systems in monitoring lapse experience. Over-all, only one in five companies is using a manual lapse monitoring system.

TABLE 16

IN-HOUSE LAPSE SYSTEMS
(Based on Number of Companies)

<u>Monitoring Lapse Experience</u>	<u>All Cos.</u>	<u>Size of Company</u>			
		<u>Very Large</u>	<u>Large</u>	<u>Medium</u>	<u>Small</u>
Yes	68%	96%	86%	68%	48%
No	<u>32</u>	<u>4</u>	<u>14</u>	<u>32</u>	<u>52</u>
	100%	100%	100%	100%	100%

	<u>Type of Company</u>					
	<u>Stock</u>	<u>Mutual</u>	<u>Fraternal</u>	<u>Ord.</u>	<u>Home Service</u>	<u>Non-NY Cos.</u>
Yes	66%	75%	100%	68%	64%	79%
No	<u>34</u>	<u>25</u>	<u>--</u>	<u>32</u>	<u>36</u>	<u>21</u>
	100%	100%	100%	100%	100%	100%

TABLE 17

COMPANIES THAT MONITOR LAPSES

	All Cos.	Size of Company			
		Very Large	Large	Medium	Small
<u>EXPOSURE PERIOD USED</u>					
Anniv. to Anniv.	40%	79%	47%	38%	24%
Calendar Year	40	38	45	32	43
Other	30	12	21	38	37
<u>POLICY DURATIONS</u>					
All Durations	48%	75%	55%	32%	53%
Other	54	33	48	70	49
<u>MEASURE USED</u>					
Face Amount	69%	92%	73%	66%	63%
Annualized Prem.	50	42	42	57	56
No. of Policies	63	79	65	60	60
Other	12	17	12	14	9
<u>PROCESSING SYSTEM</u>					
Computerized	86%	100%	97%	82%	69%
Manual	22	4	11	26	40

Note: Percentages do not add to 100% because of multiple responses.

Agent Rewards for High Persistency

It has been said on many occasions that the most certain way to improve persistency is to pay for persistent business and/or to give recognition to persistent business. Table 18 indicates that slightly over half of the responding companies have such persistency practices. As in the other areas surveyed, size of company is the determinant concerning these practices. For example, slightly less than two in five small companies include persistency factors in their agent's compensation plans, while three in four very large companies do so. Similarly, only one in three small companies includes a persistency factor in its club and/or convention requirements, compared with almost nine in 10 very large companies. A notable exception to these relationships within company size is in the compensation plans for brokers: The smaller the company size, the more apt there is to be a persistency factor included in the broker's compensation plans.

TABLE 18

PERSISTENCY FACTOR INCLUDED IN:

<u>COMPENSATION PLANS FOR:</u>	<u>ALL COS.</u>	<u>Size of Company</u>			
		<u>Very Large</u>	<u>Large</u>	<u>Medium</u>	<u>Small</u>
Agents	55%	75%	68%	52%	38%
PPGAs	56	100	74	53	44
Brokers	28	13	24	38	27
Supervisors	32	59	37	32	20
GAs & Managers	51	88	64	48	31

	<u>Type of Company</u>						
	<u>Stock</u>	<u>Mutual</u>	<u>Fraternal</u>	<u>Ord.</u>	<u>Home Service</u>	<u>NY</u>	<u>Non- NY</u>
Agents	51%	70%	67%	53%	66%	56%	55%
PPGAs	55	66	--	55	68	40	58
Brokers	29	26	--	29	24	15	31
Supervisors	29	41	75	27	61	31	32
GAs & Managers	49	58	83	50	62	59	50

CLUB REQUIREMENTS:

<u>Size of Company</u>		<u>Type of Company</u>					
Very Large	88%	Stock	51%	Ordinary	54%	NY	64%
Large	71	Mutual	71	Home Serv.	64	Non-NY	54
Medium	56	Fraternal	83				
Small	35						
All Cos.	55%						

Lapse Rates

Since so many of the observed variables are functions of company size, it is of interest to study lapse rates accordingly. Table 19 lists the weighted average lapse rates by duration and by company size within four major product lines.

TABLE 19

WEIGHTED AVERAGE LAPSE RATES

(Face Amount)

		<u>DURATION OF BUSINESS (Policy Years)</u>				
	<u>ALL DURATIONS</u>	<u>1</u>	<u>2</u>	<u>3-5</u>	<u>6-10</u>	<u>11+</u>
<u>PERMANENT POLICIES</u> (incl. term riders)						
Very Large Cos.	.065	.166	.098	.062	.043	.027
Large Cos.	.074	.183	.104	.062	.041	.029
Medium Cos.	.093	.229	.147	.069	.051	.041
Small Cos.	.152	.247	.194	.130	.061	.042
 <u>DEBIT ORDINARY</u>						
Very Large Cos.	.107	.230	.174	.080	.049	.032
Large Cos.	.196	.452	.248	.124	.068	.040
Medium Cos.	--	--	--	--	--	--
Small Cos.	.244	.419	.356	.198	.108	.083
 <u>PENSION TRUST</u>						
Very Large Cos.	.115	.154	.143	.104	.080	.077
Large Cos.	.110	.136	.128	.108	.086	.088
Medium Cos.	.127	.152	.164	.102	.120	.086
Small Cos.	.201	.383	.248	.127	.098	--
 <u>TERM POLICIES</u>						
Very Large Cos.	.122	.157	.152	.103	.070	.048
Large Cos.	.131	.170	.150	.115	.083	.068
Medium Cos.	.139	.171	.153	.120	.094	.072
Small Cos.	.118	.142	.131	.114	.090	.059

For permanent policies and for debit ordinary business there are progressively increasing over-all lapse rates according to company size. For both blocks of business, the small companies have over-all lapse rates that measure two and one-third times the rates for the very large companies.

For pension trust business, over-all lapse rates do not show much variation in the three largest groups of companies. Pension trust lapse rates for the small companies are based on too few cases for interpretive analysis. Perhaps one observation that may be made is that, regardless of size of company, the lapse rates beyond the first policy year do not drop as sharply as do those in the other blocks of business.

There is an interesting reversal in lapse patterns for term policies. The smallest companies have an over-all lapse rate that is slightly better than that of the very large companies. Lapse rates by duration indicate that the small companies' older business shows higher lapse rates than does that of the very large companies. The most recently sold term policies have provided relatively good persistency that has resulted in the smaller companies' superior over-all lapse rate.

Summary

In summary, the stock companies now represent more than 50 percent of the volume of ordinary new business. The smaller number of mutual companies, more likely to be large-sized, still account for a substantial volume of new sales. The home service companies sell more than half the individual policies in the United States.

Practices promoting good persistency are more prevalent among large companies than small ones. The larger the company, the more apt it is not only to monitor its lapse experience but also to employ practices that encourage good persistency of business. Lapse results by company size indicate that the large companies generally have lower lapse rates than do the smaller companies.

APPENDIX A

[Editor's Note: All italicized footnotes within Appendix A are corrections or additions to the original summary, which appeared in the December 1978 report.]

SUMMARY OF THE ADVISORY COMMITTEE'S FIRST REPORT
TO THE (C3) COST DISCLOSURE TASK FORCE, DECEMBER 1978

This summary provides a brief overview of the material in each chapter of the report. While readers are encouraged to read the whole report, because of its length some may be unable to do so. We hope this summary will lead the reader to areas of greatest interest.

There are several purposes of the report: to provide background information regarding lapses (Chapters I and II); to indicate factors related to lapse (Chapter III); and to illustrate the effect of lapse on costs and benefits (Chapters IV and V). In addition, the report suggests some ways to improve lapse rates (Chapter VI) and offers a disclosure system for inclusion in the annual statement which will provide greater awareness of company persistency and which may supply impetus for companies to act more positively in this area (Chapter VII).

Chapter I: Is There a Lapse Problem?

The committee's charge began quite reasonably with the above question. The committee feels that "there is a lapse problem, in the sense that: we wish fewer policies terminated in lapses; we recognize those harmed by lapsation include the buyer, lapser, persister, industry, agent, company and beneficiary; and we believe improved persistency, to the advantage of all, can be achieved, although not easily."

In answering this question with a "yes," the committee considered the perspective and/or statements of six groups of interested persons:

1. Insurance Industry. The industry has for many years monitored lapse rates and made efforts to improve persistency, indicating that it feels the situation is worth improving.
2. National Association of Insurance Commissioners. They have for many years expressed interest in and concern about policy lapsation.
3. U.S. Senate's Hart Committee Hearings of 1973-4. Concern, particularly about high early lapse rates, was expressed many times.
4. Federal Trade Commission. Their 1978 questionnaire, sent to about 100 life insurance companies, has some questions about lapse rates.
5. Individual Critics. Many have criticized the industry about lapse rates, although frequently in an ill-defined way.
6. Individual Policyholders. This group, although significantly affected by lapses, has not spoken on this issue.

The committee believes that, since several groups feel there is a problem, there is reason for concern and that something can be done to improve the situation. However, all concerned realize that, while reasonably low lapse rates are desirable, the total lack of lapse is neither possible nor necessarily desirable.

Chapter II: How Extensive is the Lapse Problem?

The chapter first attempts to correct the general impression held by some, that early lapse rates have doubled over the last 25 years. Actually the trend has been fairly stable with some cyclical variations, and there are indications lapse rates* are currently at a low point.**

*13-month lapse rates.

**The United States first-year lapse rate (face amount) reached the lowest point (since calculations were begun in 1961) in 1978 and then began to climb, according to LIMRA's 13-Month Ordinary Lapse Survey.

Concern about lapses centers around the substantial variation in lapse rates among companies. However, great care must be taken in interpreting lapse rates because companies may operate in different markets and write business with different characteristics. Further, the extent of these differences may vary from year to year.

This chapter as well as Chapter III (What Are Factors Affecting Persistency?) and Chapter VII (A Disclosure System) provide some insight into the analysis of lapse rates.

Chapter III: What Are Factors Affecting Persistency?

Numerous factors may affect persistency. The two factors cited as most important are mode of premium payment and income of the insured. Major factors considered are:

- A. Buyer Related Factors—income, age, occupation and sex of the insured, and whether the insured has previously purchased insurance in the same company.
- B. Product Related Factors—mode of premium payment, type of policy (term or permanent, high early cash values, pension), amount of annual premium and type of underwriting.
- C. Agent Related Factors—agent's length of service at the time of sale, ultimate survival in the business and insurance knowledge.
- D. Post-Sale Related Factors—changes in the insured's financial condition, in the insured's perception of his financial priorities and in the economy—also the effects of policy loans and replacements.

Chapter IV: What is the Effect on Cost of Insurance?

This chapter focuses on the effect that lapses have on the cost of insurance for persisting policyholders. For participating business, mathematical models are used to illustrate the effect lapses have on annual dividends and interest-adjusted costs. Effects on nonparticipating premiums are also discussed. In addition, the chapter discusses the marginal effects which lapses have on an insurance company, as well as important secondary effects.

Mathematical models for a participating ordinary life policy and a participating ten year term policy issued to a male age 30 are developed. The results indicate that higher lapse rates produce higher costs. Representative results are shown below.

TABLE 27

		Lapse Experience		
		<u>Low(=None)</u>	<u>Medium</u>	<u>High</u>
<u>Ordinary Life</u>				
Equivalent Level Annual Dividend	10 Year	\$ 2.88	\$ 2.54	\$ 2.01
	20 Year	5.48	5.26	4.86
Surrender Cost Index	10 Year	6.11	6.44	6.97
	20 Year	4.68	4.90	5.30
<u>Ten Year Term</u>				
Equivalent Level Annual Dividend	10 Year	\$ 1.83	\$ 1.44	\$.18
	10 Year	3.77	4.16	5.42

In the case of nonparticipating insurance, once a policy is issued the company absorbs any effects on cost which are generated by lapses. Existing policyowners are, therefore, insulated from these effects as long as the company remains solvent. Future policyowners will be affected if premium changes become necessary.*

In summary, this chapter concludes that the effect lapses have on the cost of insurance is measurable and real.

Chapter V: What is Extent of Injury to Consumers?

The primary purpose of life insurance is to provide protection against economic loss at death. While the need may be temporary or permanent, when a policy lapses before the need expires the policyowner generally loses.

Policyowners may be injured both directly and indirectly by lapses. The direct effects include the policyowner's outlay and lost benefits for beneficiaries. Indirect effects arise from agent turnover, loss of company and industry reputation, and increased regulation.

Chapter VI: What Possible Solutions May We Find?

A life insurance policy which is properly sold and serviced generally should persist. This chapter lists actions which may be taken by companies and the insurance industry to promote improved persistency, particularly through efforts to improve the sale and post-sale service. Most of the practices listed below are already used in one form or another by companies:

1. Compensation of field personnel
2. Security benefits
3. Agents' honor clubs or conventions
4. Agent selection, training and supervision
5. Termination of agents
6. Use of persistency raters
7. Special supervision
8. Reduced emphasis on modes of business with poor persistency
9. Home office systems
10. Education of new and existing policyowners
11. Efforts in the home office
12. "Jawboning"

**

Several industry-wide, coordinated efforts are also cited.

While many of the approaches described in this chapter may help to improve persistency, a company must first recognize that a problem exists, then assess the extent and severity of it and, finally, then commit itself fully to its solution. Companies should regularly monitor their own lapse rates.

**The conditions in this paragraph refer to the situation at the time the original report was written. Recently, companies writing nonparticipating business began writing policies with variable premiums which would make it possible to reflect differences in lapse experience in policy costs.*

***13. Controlling unwarranted replacements
14. Improving competitiveness of existing policies*

Chapter VII: A Disclosure System

As a result of the NAIC's request, the committee has developed a disclosure system designed to identify companies with unusual persistency patterns. The proposed disclosure formula should provide a reasonable indication of the level of a company's persistency while not requiring unusually difficult calculations or recordkeeping procedures. Selected company lapses, based on the experience of a recent 12 month period, would be compared against an industry standard, and the actual to expected lapse ratios would be disclosed in the annual statement.

Variations in persistency can occur because of different markets which companies serve or as a consequence of the mix of business (age, duration, etc.) currently on a company's books. The committee realizes that variations in lapse experience are influenced by a number of factors not recognized in the suggested disclosure system, an important one being mode of premium payment. However, the disclosure system suggested attempts to avoid undue complexity and reflects differences in markets served only in broad terms.

Because there is special regulatory concern with lapse rates of cash value insurance*, we have suggested showing cash value and term insurance separately. For cash value insurance, regular ordinary, debit ordinary, and pension trust business are separated. For term insurance, including term riders, no separation is suggested. Several policy duration groups are also suggested to reflect different mixes among companies. In total there would be 24 categories as shown in Table 28.

TABLE 28

Ratios of Actual Lapses to Industry Standard Lapses

<u>Policy Years</u>	<u>Cash Value Insurance</u>			<u>All Term Insurance</u>
	<u>Regular Ordinary</u>	<u>Debit Ordinary</u>	<u>Pension Ordinary</u>	
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3-5	_____	_____	_____	_____
6-10	_____	_____	_____	_____
11+	_____	_____	_____	_____
All	_____	_____	_____	_____

Lapse and exposure determination would be based on any of a number of acceptable methods. In general these methods would cover lapses and exposures for either during a particular 12 month period or between policy anniversaries in one 12 month period and policy anniversaries in the next 12 month period. This would require reporting so that, for example, the 1979 annual statement data (published early in 1980) would be based on lapses occurring during periods which might include 1977 or 1978. Further, in order for companies to have adequate time to gear up for this disclosure system, such disclosure probably should not begin until at least three years after the system is adopted.

*Due to the size of losses to the public when lapse rates on cash value insurance are high

APPENDIX B

State of Colorado
Division of Insurance
Department of Regulatory Agencies
201 East Colfax, Room 106
Denver, Colorado 80203

September 28, 1979

To Life Insurance Companies
Operating in the United States

The National Association of Insurance Commissioners (NAIC) has been concerned for some time about the consequences to consumers resulting from high levels of lapsation experienced by some companies. As a result, the (C3) Cost Disclosure Task Force charged an industry advisory committee to study the various aspects of lapsation and to develop a lapse disclosure system which would identify companies with unusual lapse patterns.

The industry advisory committee submitted its report on lapsation, including a proposed lapse disclosure system, to the NAIC in December, 1978. After exposing the report and disclosure system to the industry for a six-month period, the (C3) Cost Disclosure Task Force asked the advisory committee to test the technical adequacy of the disclosure system using the Life Insurance Marketing and Research Association (LIMRA) as the collection and analysis center. The NAIC task force will circulate the results and interpretation of the test material to the commissioners and ask their response as to the usefulness of the information.

With this letter you will find three enclosures:

1. A reference description of the industry advisory committee's proposed lapse disclosure system. (Only the table on the first page of the reference description would be submitted to the commissioners according to the proposed system.)
2. A questionnaire concerning company informational items, current persistency efforts, cost and time factors of the proposed system, etc. *—to be completed and returned by October 31, 1979.*
3. Reporting forms for the test data, *to be completed and returned by December 28, 1979.* Auxiliary information which may be useful in further "normalizing" or explaining lapse variances is requested in addition to the test data needed for the proposed system.

Please complete the questionnaire and test data report promptly and to the best of your ability. It is requested and expected that each company will reply to the questionnaire. Those companies which are currently monitoring their lapse experience should also submit data to test the proposed system. Test data may be submitted for as many policy durations as are currently available.

Individual company questionnaire responses and actual data submitted for testing purposes will be held confidential by LIMRA staff. Results and analyses from the testing period will be submitted to the NAIC without company identification.

The purpose of a testing period is to discover the possible shortcomings of a proposed system before its adoption. It is, therefore, most important that efforts be made to submit test data for as many sectors of the insurance industry as possible in order that the system may be tested on small as well as large, on stock as well as mutual, on home service as well as ordinary companies, and on as many distribution systems as possible.

Your cooperation in these efforts will be appreciated.

Please direct your responses and inquiries to Helen T. Noniewicz, assistant vice president, manpower and market research, at LIMRA (170 Sigourney Street, Hartford, Connecticut 06105, or (203) 525-0881).

J. Richard Barnes, C.L.U.
Chairman
NAIC Life Insurance (C3) Subcommittee

A LAPSE DISCLOSURE SYSTEM

— as developed by the Industry Advisory Committee on Policy Lapsation

The industry advisory committee developed a lapse disclosure system that falls within the guidelines established by the NAIC (C3) Task Force. These guidelines were as follows:

- a. That the system be able to identify companies with unusual lapse patterns
- b. That the system take into consideration long-term as well as short-term lapsation
- c. That a system be developed that can be used in the annual statement as the vehicle for disclosure

In developing such a lapse disclosure system, the committee recognized that variations in persistency will occur because of different markets companies serve or as a consequence of the mix of business (issue age, policy duration, etc.) on a company's books. The committee felt that any disclosure formula should, on the one hand, properly weigh factors to provide a reasonable answer to the true level of a company's persistency and, on the other hand, not require excessively difficult calculations or recordkeeping procedures. A balance between the two was sought.

The following table represents the separate blocks of business and policy durations that the committee suggested for the disclosure system.

POLICY YEARS	CASH VALUE INSURANCE		DEBIT ORDINARY	TERM INSURANCE
	Regular Ordinary	Pension Trust*		
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3 - 5	_____	_____	_____	_____
6 -10	_____	_____	_____	_____
11+	_____	_____	_____	_____
All Durations	_____	_____	_____	_____

*If the amount of pension business sold by a company is five percent or less of its total, the company has the option of combining pension with regular ordinary.

(For purposes of testing, we are asking you to exclude deposit term-type business and, where possible, term riders from the above columns and to list each as a separate category. You will find tables for these additional items in the *Test Data* section.)

The report to the NAIC would consist of an "actual-to-expected" ratio, based on face amount, for each cell in the above table. The "actual-to-expected" ratio is simply a comparison of a company's actual lapse experience to that of an industry norm.

To obtain the "actual-to-expected" ratios, three sets of data are needed:

1. Industry norm for each cell
2. The company's insurance in force within each cell
3. The company's actual lapses within each cell

To compute an "actual-to-expected" ratio, the first step is to multiply the company's insurance in force by the industry norm within the same cell. This step produces the "expected" lapses for the company based on industry experience. The second step is to divide the company's actual lapses by these "expected" lapses to obtain the "actual-to-expected" ratio.

A hypothetical example of how the formula works is given in the following table based on one of the blocks of business under study.

CASH VALUE INSURANCE -- REGULAR ORDINARY					
(Face Amount)					
POLICY YEARS	(1) INDUSTRY STANDARD LAPSE RATES	(2) COMPANY INFORCE	(3) COMPANY ACTUAL LAPSES	(4) EXPECTED LAPSES = (1) x (2)	(5) ACTUAL TO EXPECTED LAPSE RATIO = (3) ÷ (4)
1	.17	\$100,000	\$20,000	\$17,000	1.18
2	.09	80,000	9,000	7,200	1.25
3 - 5	.06	200,000	14,000	12,000	1.17
6 -10	.04	200,000	10,000	8,000	1.25
11+	.02	420,000	13,000	8,400	1.55
ALL DURATIONS		\$1,000,000	\$66,000	\$52,600	1.25

Only the last column would be recorded on the disclosure table (page 1) as a report to the NAIC.

If a company's "actual-to-expected" lapse ratio for the total block of business is atypically high according to some standard established by the NAIC, the committee recommends that the company examine in greater depth specific factors affecting its persistency. An example of how the disclosure system can be expanded to take account of these additional factors is shown in the following table which examines the effect of a company's modal distribution of business.

CASH VALUE INSURANCE -- REGULAR ORDINARY							
MODE OF PREMIUM PAYMENT							
(Actual-to-expected ratios based on face amount)							
POLICY YEARS	A	SA	MBP	SS	Q	M	TOTAL
1	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—
3 - 5	—	—	—	—	—	—	—
6 -10	—	—	—	—	—	—	—
11+	—	—	—	—	—	—	—
All Durations	—	—	—	—	—	—	—

In this supplementary table, "actual-to-expected" ratios are developed for each cell. Each ratio is calculated outside of the table by multiplying the company's in force for each cell by the industry norm within the same cell. The product ("expected" lapses) within each cell is then divided into the actual company lapses of the comparable cell to obtain the "actual-to-expected" ratio. The total "actual-to-expected" ratios for each policy duration or for each mode are calculated by summing the "expected" lapses for each duration or for each mode and dividing into the company's actual total lapses for the same duration or for the same mode. This extended analysis would be similarly introduced into the other blocks of business, if applicable.

Other characteristics of the insured or of the business such as income, age, occupation, type of policy, amount of annualized premium, etc. may be used for this more extensive analysis.

Industry norms would be provided to the companies for the disclosure system. Norms to be used for the supplementary table(s) would be obtained upon request from a central source.

The table showing the "actual-to-expected" lapse ratios would be included in the annual statement on something like page 17 or 17A, the general interrogatories. Another possibility is to include the table in one of the supplementary statements released later in the year.

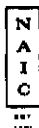
Each company should have on file sufficiently detailed back-up data to support the submitted "actual-to-expected" ratios and be prepared to release them to the commissioners of insurance on request.

DEFINITIONS OF DATA

The lapse disclosure system is based on ordinary life insurance and excludes industrial life, credit life, group life, and annuity business.

The following are recommended definitions of the data to be included in the determination of lapses and exposures.

1. Lapsation is to mean termination by lapse, surrender or application of reduced paid-up or extended term options. Policies going on automatic premium loan should be included in the exposure and not considered as lapsed until the cash value is insufficient to pay a premium. Nonrenewal of renewable term insurance is also considered a lapse. The lapsation of a term policy due to conversion to permanent insurance should not be considered a lapse, nor should death, maturity or expiry at the end of the term coverage.
2. Policy year lapses and related in forces are to be determined by face amount for designated durations.
3. Exposures would be for either a particular 12-consecutive-month period or between policy anniversaries in one 12-month period and policy anniversaries in the next 12 months.
4. Lapses are assigned to the last policy year to which any part of the premium is paid, as appropriate for the exposure period.
5. Group conversions should be excluded from the calculations.
6. Wherever possible, partial surrenders should be included as lapses for the amount of insurance reduced. Policy plan changes should be considered as lapses only to the extent that the amount of insurance decreases.
7. Scheduled changes in coverage may be leveled by using an average amount. Consistency is required in the methods used to measure the lapses and the exposures.
8. Data are to apply to premium-paying policies only.
9. Term riders attached to permanent plans are to be separated from their base policies and treated as a separate category.
10. Term insurance which is an integral part of combination policies should be classified according to the basic policy.
11. Policies with preliminary term coverage for less than one year should not be included during the preliminary term period. "Preliminary term" does not refer to preliminary term reserve methods but to short duration term coverage provided prior to commencement of a basic policy. Inclusion and exposure of these policies should begin with the permanent coverage.
12. Revivals should be handled by each company in a manner consistent with how it determines its lapses.
13. Deposit-term-type policies are to be treated as a separate category. Deposit-term insurance refers to those annual premium individual insurance products which require the payment of a premium in the first contract year higher than a level series of premiums in the renewal contract years. The excess of the first year premium over the renewal year premiums is sometimes described as a "deposit." "Deposit term insurance," "deposit whole life insurance" and "modified premium whole life insurance" are names typically given to these products; however, all products of the type described irrespective of the name given to the coverage should be in this separate category.
14. The table should be completed if any business still remains in force even if the business is not currently issued.



EXECUTIVE SECRETARY'S OFFICE

NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

Company Name _____ NAIC Code _____
 Address _____
 _____ Zip Code _____
 Prepared by _____ Phone Number: _____
 Title _____

Please submit your responses by October 31, 1979

NAIC LAPSE QUESTIONNAIRE

I. COMPANY INFORMATIONAL ITEMS

A. Type of Life Company

Please check all responses that currently apply:

- ☐ -- Stock ☐ -- Home Service (Combination)
☐ -- Mutual ☐ -- New York Registered
☐ -- Fraternal Benefit Society ☐ -- Non-New York Registered
☐ -- Ordinary

B. Distribution System

Please list the percent of your 1978 United States ordinary life new business face amount produced by the following distribution channels (estimate if necessary):

Distribution Channels	Percent of Total 1978 Face Amount New Business	
	Premium Notice Ordinary	Debit Ordinary
1. "Own" full-time multiple-line* agents working under:		
a. managers	_____ %	_____ %
b. general agents	_____	_____
2. "Own" full-time life and health agents working under:		
a. managers	_____	_____
b. general agents	_____	_____
3. Personal-producing general agents (PPGA's)	_____	_____
4. Brokerage	_____	_____
5. Direct mail, mass-merchandising	_____	_____
6. Other -- describe: _____	_____	_____
	_____	_____
Total Percent	_____ %**	_____ %

*Selling life, health and property and casualty products

**Must be less than 100% if company sells debit ordinary

If the above distribution is based on other than face amount, please indicate the measure used:

C. Size of Company

1. Direct-written ordinary life insurance in force in the United States on December 31, 1978: \$ _____
2. Total company assets on December 31, 1978: \$ _____

II. LAPSE INFORMATIONAL ITEMS

A. Is your company currently monitoring its lapse experience?

- ☐ 1. Yes ☐ 2. No

If No, please skip to Section II., F.

B. Exposure period used in your monitoring system:

- ☐ 1. Exposure based on policy anniversaries in one 12-month period and policy anniversaries in the next 12-month period.
- ☐ 2. Exposure based on all lapses occurring in a calendar 12-month period.
- ☐ 3. Other -- please define: _____
- _____
- _____

C. Policy durations studied:

- ☐ 1. All durations by individual and/or grouped durations
- ☐ 2. Other -- please specify: _____
- _____
- _____

D. Measure(s) used in your lapse study:

- ☐ 1. Face amount
- ☐ 2. Annualized premiums
- ☐ 3. Number of policies
- ☐ 4. Other -- please define: _____
- _____
- _____

E. Processing system used to obtain your data:

- ☐ 1. Computerized ☐ 2. Manual

F. Persistency factor included in your compensation plans for:

	a. YES (1.)	b. NO (2.)
1. Full-time agents	<input type="checkbox"/>	<input type="checkbox"/>
2. PPGA's	<input type="checkbox"/>	<input type="checkbox"/>
3. Brokers	<input type="checkbox"/>	<input type="checkbox"/>
4. Supervisors, assistant managers, etc.	<input type="checkbox"/>	<input type="checkbox"/>
5. General agents or managers	<input type="checkbox"/>	<input type="checkbox"/>

G. Persistency factor included in your club and/or convention requirements:

☐ 1. Yes ☐ 2. No

III. PROPOSED LAPSE RATE DISCLOSURE SYSTEM

A. For Testing Purposes:

1. Will your company's data, however incomplete, be submitted for testing the lapse rate disclosure system?

☐ (1.) Yes ☐ (2.) No

2. Will the data be submitted by December 28, 1979, as requested:

☐ (1.) Yes ☐ (2.) No

If No, please specify date of submittal: _____

3. Would your company be willing to submit, during this testing period, additional data for each cell to help explain your lapse experience?

☐ (1.) Yes ☐ (2.) No

If Yes, could the additional information include the following allocations of data within each cell:

	YES (1.)	NO (2.)
a. by mode of premium payment	<input type="checkbox"/>	<input type="checkbox"/>
b. by age of insured	<input type="checkbox"/>	<input type="checkbox"/>
c. other, please specify:	<input type="checkbox"/>	<input type="checkbox"/>

If your company is not currently monitoring lapses for all durations, please skip to Section III., B., 2.

B. For Future Reporting Assuming the Proposed Lapse Disclosure System Is Adopted:

1. If your company is currently monitoring lapses for all durations, please answer the following questions:

- a. Length of time that would be required to abstract data for the proposed system from your current records:

_____ working days

- b. Expected annual cost in providing data for the proposed system:

\$ _____

- c. How soon after the close of the studied calendar years would your information be available?

Month of _____

- d. Would the requested tabular information be available for a 12-consecutive-month period commencing with any specified month as well as for a calendar 12-month period?

☒ (1) Yes

☐ (2) No

2. If your company is not currently monitoring lapses for all durations, please estimate responses for the following questions:

- a. How long will it take to develop the reporting system?

(1) Working days _____

(2) Elapsed days _____

- b. How much will it cost to develop the reporting system?

(1) Data processing development \$ _____

(2) Programming \$ _____

(3) Testing \$ _____

- c. What will be the annual costs after development?

\$ _____

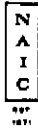
- d. How much lead time would be required to initiate such a program?

* * * * *

The NAIC (CS) Task Force asked the Life Insurance Marketing and Research Association (LIMRA) to collect and analyze the requested information. Therefore, please send your completed questionnaire to:

Ms. Helen T. Noniewicz
Assistant Vice President
LIMRA
170 Sigourney Street
Hartford, Connecticut 06105
(203) 525-0881

* * * ALL DATA WILL BE TREATED AS CONFIDENTIAL AND NO IDENTIFIED INDIVIDUAL COMPANY RESULTS WILL BE REPORTED TO THE NAIC.



EXECUTIVE SECRETARIAT OFFICE

NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

Company Name _____ NAIC Code _____
 Address _____
 _____ Zip Code _____
 Prepared by _____ Phone Number: _____
 Title _____

Please submit your results by December 28, 1979

PROPOSED NAIC LAPSE DISCLOSURE SYSTEM

-- TEST DATA

Please complete the following tables even if data are incomplete or do not conform to definitions given in the section describing the Lapse disclosure system.

The data sought for testing purposes are not actual-to-expected ratios but actual face amount in force and lapses for each category. The submitted information will be used in conjunction with other data in developing industry norms which, in turn, will be used to compute each company's actual-to-expected ratios for the test.

I. DISCLOSURE OF LAPSE EXPERIENCE FOR:

- ☐ 1. Calendar year 1978 (Policy year experience)
☐ 2. Anniversaries in 1977 to anniversaries in 1978
☐ 3. Other -- specify: _____

(Check one to indicate method utilized to prepare this section.)

II. TEST DATA -- UNITED STATES BUSINESS

Please provide data on premium-paying business only.

A. Debit Ordinary

- ☐ 1. Not issued
☐ 2. Data not available

Policy Year(s)	(3.) Face Amount In Force (Exposed)	(4.) Face Amount Lapsed	(5.) Policies In Force
1	_____	_____	_____
2	_____	_____	_____
3 - 5	_____	_____	_____
6 -10	_____	_____	_____
11+	_____	_____	_____
All	_____	_____	_____

B. Pension Trust Business

- ☐ 1. Included with regular ordinary business
(_____ % of total ordinary business)
- ☐ 2. Not issued
- ☐ 3. Data not available

(Exclude Pension Trust term insurance)

Policy Year(s)	(4.) Face Amount In Force (Exposed)	(5.) Face Amount Lapsed	(6.) Policies In Force
1	_____	_____	_____
2	_____	_____	_____
3 - 5	_____	_____	_____
6 -10	_____	_____	_____
11+	_____	_____	_____
All	_____	_____	_____

C. Other Cash Value Ordinary Insurance

- ☐ 1. Not issued
- ☐ 2. Data not available

(Exclude Deposit Whole Life insurance)

Policy Year(s)	(3.) Face Amount In Force (Exposed)	(4.) Face Amount Lapsed	(5.) Policies In Force
1	_____	_____	_____
2	_____	_____	_____
3 - 5	_____	_____	_____
6 -10	_____	_____	_____
11+	_____	_____	_____
All	_____	_____	_____

D. Term Insurance Riders

- ☐ 1. Not issued ☐ 3. Included with basic policies
- ☐ 2. Data not available ☐ 4. Included with "term ins. pols."

Policy Year(s)	(5.) Face Amount In Force (Exposed)	(6.) Face Amount Lapsed	(7.) Riders In Force
1	_____	_____	_____
2	_____	_____	_____
3 - 5	_____	_____	_____
6 -10	_____	_____	_____
11+	_____	_____	_____
All	_____	_____	_____

E. Term Insurance Policies

- ☐ 1. Not issued
- ☐ 2. Data not available

(Exclude Deposit Term Insurance; include Pension Trust term insurance)

Policy Year(s)	(3.) Face Amount In Force (Exposed)	(4.) Face Amount Lapsed	(5.) Policies In Force
1	_____	_____	_____
2	_____	_____	_____
3 - 5	_____	_____	_____
6 -10	_____	_____	_____
11+	_____	_____	_____
All	_____	_____	_____

F. Deposit Term-Type Policies

"Deposit term insurance", "deposit whole life insurance", and "modified premium whole life insurance" are names typically given to these products. Refer to definition in the section describing the proposed lapse disclosure system.

- ☐ 1. Not issued
- ☐ 2. Data not available
- ☐ 3. Data included with "other cash value ordinary insurance"
- ☐ 4. Data included with "term insurance policies"

Policy Year(s)	(5.) Face Amount In Force (Exposed)	(6.) Face Amount Lapsed	(7.) Policies In Force
1	_____	_____	_____
2	_____	_____	_____
3 - 5	_____	_____	_____
6 -10	_____	_____	_____
11+	_____	_____	_____
All	_____	_____	_____

G. Indicate any differences from the recommended definitions and methods of calculations that were used in preparing the above data.

III. AUXILIARY INFORMATION

-- Pertaining to United States Business

A. Reserves and Policy Loans

1. Life insurance reserves on December 31, 1978 for ordinary line of business: \$ _____
2. Outstanding policy loans on December 31, 1978: \$ _____

B. Average Policy
(Including riders in amount of insurance)

	Premium Paying Policies	
	Issued in 1978	In Force 12/31/78
	(a.)	(b.)

1. Average volume/policy \$ _____ \$ _____
2. Average premium/policy \$ _____ \$ _____

C. Sales
(Including riders in amount of insurance)

	Number of Policies	Amount of Insurance
	(a.)	(b.)

1. Issued in 1978 _____
2. Issued in 1977 _____
3. Issued in 1973 _____

D. Number of Premium Collections

1. Directly billed or collected:
 - a. Policies on which at least one premium was paid in 1978 _____
 - b. Total number of premium collections made _____
2. Collectively billed (salary deduction or bank plans):
 - a. Number of accounts _____
 - b. Number of policies on which at least one premium was paid in 1978 _____
 - c. Number of premium collections _____

E. Full-Time Agency Force

(Exclude brokers, supervisors, managers and general agents.)

1. Experience:

	(c.)	(d.)
	# Under Contract 12/31/78	# Terminated During 1978
a. Inexperienced (hired after 1975)	_____	_____
b. Experienced (hired prior to 1976)	_____	_____
2. Average first-year commission rate to agents _____ %

F. Persistence-Related Compensation to Field Force

(Do not include standard renewal commissions or service fees -- only compensation when amount or rate of payment varies with persistency results.)

1. Persistence duration used:	(1.)	(2.)
	<u>Agents*</u>	<u>General Agents and/or Managers</u>
a. 13 months or shorter	<input type="checkbox"/>	<input type="checkbox"/>
b. 14 to 23 months	<input type="checkbox"/>	<input type="checkbox"/>
c. greater than 23 months	<input type="checkbox"/>	<input type="checkbox"/>
2. Persistence-related payments paid in 1978:		
a. to agents*		\$ _____
b. to general agents and/or managers		\$ _____
3. Number of individuals receiving above in 1978:		
a. agents*		_____
b. general agents and/or managers		_____
4. Individuals with full-time contract on December 31, 1978:		
a. as agents*		_____
b. as general agents and/or managers		_____
G. <u>Number of Agents* Qualifying for NQA in 1978</u>		

H. <u>Number of Agents* Qualifying for MDRT in 1978</u>		

*Include personal-producing general agents; exclude brokers

The NAIC (CS) Task Force asked the Life Insurance Marketing and Research Association (LIMRA) to collect and analyze the requested information. Therefore, please send your results to:

Ms. Helen C. Bonington
Assistant Vice President
LIMRA
170 Seymour Street
Hartford, Connecticut 06182
(203) 526-6831

* * * ALL DATA WILL BE TREATED AS CONFIDENTIAL AND NO IDENTIFIED COMPANY RESULTS WILL BE REPORTED TO THE NAIC.

APPENDIX C

TABLE 1

DEBIT ORDINARY -- COMPANIES SUPPLYING TEST DATACorrelation Coefficients

	<u>Year</u> <u>1</u>	<u>Year</u> <u>2</u>	<u>Years</u> <u>3--5</u>	<u>Years</u> <u>6--10</u>	<u>Years</u> <u>11+</u>	<u>All Years</u>	
						<u>Rate</u>	<u>Ratio*</u>
Year 1	1	.13	.22	.34	.21	.72	.74
Year 2	.13	1	.91	.85	.84	.44	.70
Years 3--5	.22	.91	1	.90	.76	.47	.78
Years 6--10	.34	.85	.90	1	.91	.55	.82
Years 11+	.21	.84	.76	.91	1	.54	.69
All Years	.72	.44	.47	.55	.54	1	1

TABLE 2

PENSION TRUST -- COMPANIES SUPPLYING TEST DATACorrelation Coefficients

	<u>Year</u> <u>1</u>	<u>Year</u> <u>2</u>	<u>Years</u> <u>3--5</u>	<u>Years</u> <u>6--10</u>	<u>Years</u> <u>11+</u>	<u>All Years</u>	
						<u>Rate</u>	<u>Ratio*</u>
Year 1	1	.76	.23	-.08	.04	.37	.25
Year 2	.76	1	.54	-.02	.02	.40	.28
Years 3--5	.23	.54	1	.15	.26	.32	.23
Years 6--10	-.08	-.02	.15	1	.16	.88	.93
Years 11+	.04	.02	.26	.16	1	.11	.09
All Years	.37	.40	.32	.88	.11	1	1

*Based on median results

TABLE 3

TERM POLICIES -- COMPANIES SUPPLYING TEST DATACorrelation Coefficients

	<u>Year</u> <u>1</u>	<u>Year</u> <u>2</u>	<u>Years</u> <u>3--5</u>	<u>Years</u> <u>6--10</u>	<u>Years</u> <u>11+</u>	<u>All Years</u>	
						<u>Rate</u>	<u>Ratio*</u>
Year 1	1	.42	.23	.16	.13	.69	.71
Year 2	.42	1	.80	.60	.44	.83	.87
Years 3--5	.23	.80	1	.69	.43	.70	.75
Years 6--10	.16	.60	.69	1	.52	.61	.63
Years 11+	.13	.44	.43	.52	1	.44	.44
All Years	.69	.83	.70	.61	.44	1	1

TABLE 4

TERM RIDERS -- COMPANIES SUPPLYING TEST DATACorrelation Coefficients

	<u>Year</u> <u>1</u>	<u>Year</u> <u>2</u>	<u>Years</u> <u>3--5</u>	<u>Years</u> <u>6--10</u>	<u>Years</u> <u>11+</u>	<u>All Years</u>	
						<u>Rate</u>	<u>Ratio*</u>
Year 1	1	.57	.28	.37	.24	.73	.77
Year 2	.57	1	.75	.62	.28	.80	.81
Years 3--5	.28	.75	1	.62	.38	.70	.65
Years 6--10	.37	.62	.62	1	.40	.62	.68
Years 11+	.24	.28	.38	.40	1	.33	.61
All Years	.73	.80	.70	.62	.33	1	1

*Based on median results

APPENDIX D

Chapter I points out that random fluctuations can adversely affect the interpretation of results in the case of small sample sizes associated with small companies. Consequently, the advisory committee decided to identify any information where the policy count exposed is less than 100 policies.

Doing so created somewhat of a problem inasmuch as a large proportion of companies submitting data did not provide policies in force. For such companies, it was desirable to provide some estimate of policy count. Multiple regression was tried as a method of estimation for "other cash value" and term policies, but a large portion of the sum of squares explained by the multiple regression is attributable to knowing the group mean. Since the data for calculating the group mean were incomplete, the use of a simple average size policy was deemed preferable to the use of a more complicated formula.

Based upon the sample submitted, average size policies used for calculating number of policies were:

Type of Business	AVERAGE SIZE POLICIES				
	POLICY YEARS				
	1	2	3-5	6-10	11+
Debit Ordinary	3,952	3,730	3,295	2,971	2,119
Pension	16,563	15,839	16,469	16,243	12,966
Other Cash Value	19,022	17,967	16,130	12,589	9,644
Term Riders	18,175	16,644	13,561	10,339	8,091
Term Policies	44,146	40,814	35,372	23,224	14,753
Deposit Term	41,290	41,402	39,613	24,383	27,093
Permanent + Riders	32,805	33,895	22,924	19,626	12,924

APPENDIX E

INDIVIDUAL COMPANY RESULTS BY DURATION AND LINE OF BUSINESS

Definitions of Measures Used in Lapse Standards

WEIGHTED AVERAGE: A measure based on the use of total exposures and lapses for each company regardless of size. In other words, the weighted average standard is determined as if the industry were one big company.

The weighted averages in the Summary Listings are based on the above definition. For the individual Company Listings, the heading "mean" refers to a weighted average that has been modified to limit a company's contribution within a cell (i.e., a particular line of business within a duration group) to 10 percent of the total unadjusted exposure in that cell.

UNWEIGHTED AVERAGE: A measure based on averaging individual company lapse rates. That is, each company's lapse rate is weighted equally, irrespective of the amount of its business.

MEDIAN: A measure based on selecting the middle lapse rate. That is, the lapse rate is located at dead center with an equal number of companies having a lapse rate higher and lower than the selected middle rate.

TABLE 1

"ALL DURATIONS" LAPSE EXPERIENCEType of Business: DEBIT ORDINARY

Company Listing

Company Code	Lapse Rate	Rank	Lapse Ratio			
			Mean		Median	
			Ratio	Rank	Ratio	Rank
1	.4844	23	161	22	143	21
2	.3192	22	197	23	186	23
3	.3182	21	155	20	141	20
4	.2829	20	157	21	145	22
5	.2657	19	135	18	120	18
6	.2355	18	144	19	130	19
7	.2305	17	109	12	97	10
8	.2081	16	126	16	117	16
9	.1965	15	114	14	105	14
10	.1950	14	127	17	118	17
11	.1617	13	109	11	100	12
12	.1591	12	118	15	109	15
13	.1543	11	97	8	91	8
14	.1533	10	76	4	74	4
15	.1500	9	109	13	102	13
16	.1373	8	108	10	98	11
17	.1365	7	90	6	84	6
18	.1294	6	102	9	94	9
19	.1105	5	82	5	76	5
20	.0968	4	95	7	88	7
21	.0826	3	57	1	53	1
22	.0820	2	71	3	66	3
23	.0493	1	65	2	61	2

Summary Listing

Number of Companies: 23

	Lapse Rate	Lapse Ratio	
		Mean	Median
1. Weighted Average	.1171	80	75
2. Unweighted Average	.1887	113	104
3. Median	.1567	109	99
4. Quantiles: 75 %	.2317	129	118
80 %	.2476	139	124
85 %	.2752	150	136
90 %	.3076	156	142

TABLE 2

LAPSE EXPERIENCE BY DURATION

Type of Business: DEBIT ORDINARY

Company Listing

Ratio Basis: Mean

Co. Code	Year 1			Year 2			Years 3--5			Years 6--10			Years 11+		
	Rate			Rate			Rate			Rate			Rate		
	Ratio	Rank		Ratio	Rank		Ratio	Rank		Ratio	Rank		Ratio	Rank	
1	.622	182	23	.163	74	6	.091	87	9	.157	261	21	.133	371	20
2	.454	133	16	.473	214	23	.293	279	23	.067	112	10	.033	91	6
3	.590	173	22	.262	118	16	.144	138	19	.100	167	20	.069	193	16
4	.586	172	21	.254	115	15	.160	153	20	.094	156	18	.106	296	18
5	.435	128	15	.182	82	8	.212	202	22	.070	116	12	.034	151	14
6	.576	169	20	.202	92	12	.101	96	12	.090	151	17	.111	309	19
7	.337	99	8	.311	141	19	.122	116	15	.074	124	13	.039	107	9
8	.384	113	13	.307	139	17	.172	163	21	.060	101	6			
9	.469	138	17	.200	90	11	.076	72	6	.068	114	11	.040	112	11
10	.509	149	19	.206	93	14	.114	109	13	.086	144	15	.041	115	12
11	.354	104	11	.194	88	10	.131	125	17	.057	94	5	.036	99	8
12	.499	146	18	.204	92	13	.087	83	7	.061	102	7	.035	98	7
13	.226	66	4	.319	144	20	.128	122	16						
14	.425	125	14	.122	55	2	.025	24	1						
15	.247	72	5	.308	139	18	.119	113	14	.087	144	16	.076	212	17
16	.200	59	2	.423	191	22	.133	127	18	.099	165	19	.062	173	15
17	.330	97	6	.154	69	5	.095	90	10	.061	102	8	.032	89	5
18	.330	97	7	.186	84	9	.101	96	11	.077	129	14	.052	143	13
19	.215	63	3	.352	159	21	.066	63	3	.025	41	1	.018	51	3
20	.337	99	9	.171	78	7	.088	84	8	.062	103	9	.039	108	10
21	.151	44	1	.146	66	4	.067	64	4	.042	70	4	.028	78	4
22	.360	105	12	.127	58	3	.041	39	2	.030	49	2	.016	45	2
23	.345	101	10	.110	50	1	.073	69	5	.035	58	3	.015	42	1

Summary Listing

Ratio Basis: Mean

Number of Companies:	Year 1			Year 2			Years 3--5			Years 6--10			Years 11+		
	Rate			Rate			Rate			Rate			Rate		
	Ratio	Rank		Ratio	Rank		Ratio	Rank		Ratio	Rank		Ratio	Rank	
1. Weighted Average	.2576	76		.1853	84		.0856	81		.0522	87		.0339	94	
2. Unweighted Average	.3905	115		.2337	106		.1148	109		.0653	109		.0472	131	
3. Median	.3569	105		.2010	91		.1009	96		.0644	107		.0385	107	
4. Quantiles:	75 %	140		.3074	139		.1315	125		.0863	144		.0383	162	
	80 %	148		.3091	140		.1318	131		.0881	147		.0666	185	
	85 %	160		.3157	143		.1531	146		.0922	154		.0742	206	
	90 %	171		.3419	155		.1682	160		.0974	162		.1004	279	

TABLE 3

"ALL DURATIONS" LAPSE EXPERIENCE

Type of Business: PENSION TRUST

Company Listing

	LAPSE RATE	RANK	LAPSE RATIO			
			MEAN RATIO	RANK	MEDIAN RATIO	RANK
1	.7076*	51	961*	51	985*	51
2	.3248	50	773	50	272	50
3	.2484	49	180	48	177	48
4	.2475	48	241	49	235	49
5	.1844	47	156	47	153	47
6	.1668	46	146	45	143	45
7	.1659	45	127	40	123	40
8	.1645	44	153	46	146	46
9	.1644	43	131	41	128	42
10	.1623	42	138	43	133	43
11	.1580	41	133	42	127	41
12	.1543	40	143	44	139	44
13	.1470	39	121	36	117	36
14	.1441	38	124	37	120	37
15	.1435	37	125	38	122	38
16	.1373*	36	109*	30	105*	29
17	.1330	35	127	39	123	39
18	.1289	34	101	22	98	22
19	.1286	33	112	31	109	31
20	.1261	32	117	35	114	35
21	.1253	31	103	26	101	26
22	.1250	30	112	32	110	32
23	.1224	29	115	33	112	34
24	.1215	28	115	34	112	33
25	.1185	27	105	27	102	27
26	.1182	26	108	29	106	30
27	.1174	25	109	29	104	28
28	.1166	24	103	24	100	24
29	.1154	23	99	21	97	21
30	.1140	22	103	25	101	25
31	.1126	21	93	18	89	15
32	.1120	20	89	13	87	13

Table 3 (continued)

(PENSION TRUST)

33	.1107	19	98	20	95	20
34	.1089	14	107	23	99	23
35	.1066	17	92	16	90	18
36	.1051	14	93	19	91	19
37	.1038*	15	92*	17	89*	17
38	.1012	14	91	15	89	16
39	.1009*	13	90*	14	87*	14
40	.0930	12	88	12	86	12
41	.0919	11	85	11	83	11
42	.0846	10	78	10	75	9
43	.0837*	9	72*	9	71*	9
44	.0785	8	71	7	70	7
45	.0781	7	77	9	76	10
46	.0779	6	64	3	62	3
47	.0769*	5	69*	6	68*	6
48	.0731	4	65	4	63	4
49	.0700*	3	65*	5	63*	4
50	.0661	2	60	2	59	2
51	.0562	1	54	1	52	1

* BASED ON FEWER THAN 100 POLICIES EXPOSED

Summary Listing

NUMBER OF COMPANIES: 51

	LAPSE RATE	LAPSE RATIO	
		MEAN	MEDIAN
1 WEIGHTED AVERAGE	.1125	100	97
2 UNWEIGHTED AVERAGE	.1394	127	125
3 MEDIAN	.1178	103	101
4 QUANTILES: 75 %	.1448	126	122
80 %	.1573	131	126
85 %	.1644	140	135
90 %	.1667	152	146

TABLE 4

LAPSE EXPERIENCE BY DURATION

Type of Business: PENSION TRUST

Company Listing

	YEAR 1			YEAR 2			YEARS 3-5			YEARS 6-10			YEARS 11+		
	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK
1	.599	402	50	.520	320	50	.111	106	24	.017	21	4	.000	0	14
2	.241	175	49	.244	192	46	.191	172	44	.000	0	1	.000	0	11
3	.184	127	41	.172	234	48	.292	278	50	.212	259	49	.121	152	43
4	.183	121	39	.305	220	47	.223	212	49	.047	57	8	.026	37	16
5	.149	113	36	.191	137	41	.167	154	44	.170	207	47	.080	100	31
6	.225	151	47	.144	119	34	.110	104	22	.063	77	16	.000	0	6
7	.212	142	44	.170	266	49	.174	166	45	.039	48	5	.000	0	15
8	.103	130	43	.146	105	26	.189	180	48	.114	140	40	.000	0	7
9	.210	141	45	.236	170	45	.091	87	12	.261	319	50	.200	875	50
10	.053	35	3	.167	120	35	.184	177	47	.058	71	13	.000	0	3
11	.164	110	32	.172	121	36	.149	142	42	.147	179	46	.167	209	47
12	.255	171	48	.182	131	40	.098	93	14	.040	49	6	.000	0	9
13	.143	130	42	.214	157	44	.114	108	30	.089	109	29	.070	98	30
14	.125	84	21	.172	138	42	.128	122	39	.120	146	41	.091	116	37
15	.165	111	33	.172	124	37	.120	114	33	.000	0	3	.113	141	40
16	.124	85	22	.139	100	24	.125	119	35	.217	265	49	.000	0	13
17	.172	87	20	.143	104	28	.127	121	37	.105	129	38	.217	260	44
18	.186	125	40	.114	82	19	.116	110	31	.120	147	42	.119	142	41
19	.170	114	37	.128	92	19	.105	100	20	.095	115	31	.082	102	33
20	.173	116	38	.193	139	43	.130	124	40	.080	98	25	.032	48	17
21	.210	141	44	.181	130	39	.117	106	25	.080	97	24	.070	92	29
22	.107	72	13	.159	115	32	.139	133	41	.049	107	28	.122	152	44
23	.131	88	23	.148	107	29	.113	108	29	.100	122	34	.000	0	1
24	.079	53	8	.120	87	17	.127	121	38	.123	151	44	.135	168	46
25	.148	100	28	.136	98	21	.123	117	34	.094	115	30	.067	84	26
26	.138	93	25	.160	115	33	.110	105	23	.080	98	26	.082	107	36
27	.116	78	14	.112	81	13	.113	107	28	.123	150	43	.121	153	45
28	.116	78	17	.141	101	20	.112	106	27	.102	124	35	.101	127	38
29	.044	30	2	.152	109	30	.109	104	21	.000	0	2	.000	0	12
30	.162	109	30	.119	86	15	.075	71	8	.061	75	14	.000	0	4

TABLE 5

"ALL DURATIONS" LAPSE EXPERIENCEType of Business: PERMANENT & RIDERS

Company Listing

	LAPSE RATE	RANK	LAPSE RATIO			
			MEAN		MEDIAN	
			RATIO	RANK	RATIO	RANK
1	.4973	163	219	163	864	163
2	.4327	162	424	162	392	162
3	.4153	161	289	158	269	158
4	.3905	160	287	157	266	157
5	.3809	159	419	161	386	161
6	.3523	158	361	160	334	160
7	.3112*	157	224*	152	208*	152
8	.2662	156	259	155	241	155
9	.2402	155	291	159	272	159
10	.2264	154	259	154	241	154
11	.2246	153	249	153	231	153
12	.2160	152	200	148	186	148
13	.2067	151	144	120	133	119
14	.1993	150	141	116	131	115
15	.1917	149	145	121	134	121
16	.1853	148	183	144	170	144
17	.1819	147	155	129	143	129
18	.1722	146	145	122	135	122
19	.1693	145	136	112	126	112
20	.1659	144	207	150	192	150
21	.1605	143	121	94	112	95
22	.1569	142	196	147	183	147
23	.1560	141	175	141	164	142
24	.1486	140	184	145	172	145
25	.1480	139	109	77	101	75
26	.1452	138	144	119	133	118
27	.1417	137	142	117	132	117
28	.1408	136	170	138	158	137
29	.1377	135	126	105	117	103
30	.1376	134	192	146	180	146
31	.1333*	133	96*	62	89*	59
32	.1332	132	152	127	141	125

Table 5 (continued)

(PERMANENT & RIDERS)

33	.1304	131	173	140	161	139
34	.1295	130	163	135	153	135
35	.1289	129	175	142	163	141
36	.1285	128	178	143	166	143
37	.1280	127	156	130	145	130
38	.1276*	126	160*	132	150*	132
39	.1254	125	164	136	153	134
40	.1247	124	140	114	131	116
41	.1242	123	137	110	123	110
42	.1206	122	143	118	133	120
43	.1194	121	123	98	114	98
44	.1161	120	160	131	149	131
45	.1161	119	140	115	130	114
46	.1145*	118	148*	124	138*	123
47	.1142*	117	119*	93	111*	91
48	.1133	116	125	100	117	102
49	.1106	115	202	149	190	149
50	.1106	114	207	151	195	151
51	.1088	113	161	133	151	133
52	.1093*	112	152*	128	142*	123
53	.1056	111	273	156	262	156
54	.1001	110	148	123	139	124
55	.0993	109	170	137	160	138
56	.0991	108	120	94	112	94
57	.0960	107	117	90	109	89
58	.0948	106	126	104	118	105
59	.0945	105	88	44	81	43
60	.0944*	104	172*	139	163*	140
61	.0938	103	130	109	121	109
62	.0928	102	137	113	128	113
63	.0917	101	93	55	86	53
64	.0916	100	113	86	105	84
65	.0899	99	125	102	117	101
66	.0899	98	125	101	117	100
67	.0895	97	97	64	90	62
68	.0895	96	133	111	124	111
69	.0895	95	128	108	120	108
70	.0893	94	110	81	102	79
71	.0889	93	87	41	80	41
72	.0886	92	125	99	117	99

Table 5 (continued)

(PERMANENT & RIDERS)

73	.0984	91	104	70	97	70
74	.0877*	90	108*	76	101*	77
75	.0866	89	151	126	142	126
76	.0849	88	98	66	91	65
77	.0844	87	126	103	118	104
78	.0826	86	120	95	113	96
79	.0825	85	101	68	94	67
80	.0825	84	70	23	65	23
81	.0821*	83	104*	71	98*	71
82	.0816	82	119	92	111	93
83	.0816	81	55	39	79	37
84	.0801	80	127	107	119	107
85	.0799	79	119	91	111	92
86	.0797	78	127	106	119	106
87	.0794	77	106	73	99	73
88	.0790	76	82	35	76	35
89	.0774	75	112	82	104	82
90	.0765	74	122	97	114	97
91	.0763	73	109	78	102	80
92	.0762	72	93	53	87	54
93	.0762	71	113	87	106	87
94	.0750	70	93	54	86	52
95	.0750	69	150	125	142	127
96	.0736	68	115	89	108	88
97	.0726	67	95	58	88	58
98	.0716	66	106	72	99	72
99	.0715	65	112	84	105	83
100	.0713	64	113	85	106	86
101	.0713	63	89	46	83	46
102	.0696	62	109	80	103	81
103	.0693	61	94	56	87	56
104	.0693	60	109	79	102	78
105	.0687	59	89	47	83	47
106	.0682	58	107	75	101	74
107	.0681	57	90	51	85	51
108	.0681	56	163	134	156	134
109	.0680	55	102	69	95	69
110	.0674	54	89	48	83	48
111	.0657	53	87	42	81	42
112	.0653*	52	94*	57	88*	57

(PERMANENT & RIDERS)

Table 5 (continued)

113	.0643	51	98	65	91	64
114	.0633	50	69	20	64	19
115	.0616*	49	78*	31	73*	31
116	.0609	49	96	63	90	64
117	.0608*	47	61*	11	56*	11
118	.0603	46	96	61	89	61
119	.0600*	45	107*	74	101*	76
120	.0583*	44	69*	22	64*	22
121	.0577*	43	90*	50	84*	50
122	.0574	42	85	40	80	40
123	.0569	41	65	15	61	14
124	.0568	40	93	52	87	55
125	.0564	39	112	83	105	85
126	.0562	38	81	34	76	34
127	.0553	37	90	49	84	49
128	.0551	36	88	45	82	45
129	.0545*	35	75*	30	70*	30
130	.0537	34	81	33	76	33
131	.0533*	33	80*	32	75*	32
132	.0527	32	42	6	39	6
133	.0514	31	87	43	81	44
134	.0510	30	95	59	89	60
135	.0509*	29	100*	67	95*	68
136	.0494*	28	68*	18	63*	17
137	.0492*	27	71*	25	66*	25
138	.0488	26	83	34	78	36
139	.0486	25	72	27	68	26
140	.0485	24	70	24	65	24
141	.0460	23	68	17	63	18
142	.0458	22	84	38	80	39
143	.0457	21	72	24	68	27
144	.0436	20	68	19	64	21
145	.0434	19	69	21	64	20
146	.0424	18	115	89	110	90
147	.0424	17	73	28	68	28
148	.0419	16	61	12	57	12
149	.0407	15	66	16	62	16
150	.0398	14	73	29	69	29

Table 5 (continued)

(PERMANENT & RIDERS)

151	.0384	13	95	60	90	63
152	.0382	12	36	3	33	3
153	.0381	11	42	13	58	13
154	.0371	10	51	9	48	9
155	.0366	9	83	37	80	38
156	.0363	8	65	14	62	15
157	.0338	7	41	5	38	5
158	.0338	6	41	4	38	4
159	.0331	5	53	10	49	10
160	.0318	4	42	8	44	8
161	.0301	3	28	2	26	2
162	.0270	2	44	7	42	7
163	.0145	1	16	1	15	1

* BASED ON FEWER THAN 100 POLICIES EXPOSED

Summary Listing

NUMBER OF COMPANIES: 163

		LAPSE RATE	LAPSE RATIO	
			MEAN	MEDIAN
1	WEIGHTED AVERAGE	.0682	101	94
2	UNWEIGHTED AVERAGE	.1035	129	120
3	MEDIAN	.0816	111	103
4	QUANTILES:			
	75 *	.1215	146	136
	80 *	.1298	158	147
	85 *	.1467	171	161
	90 *	.1790	195	182

TABLE 6

LAPSE EXPERIENCE BY DURATION

Type of Business: PERMANENT & RIDERS

Company Listing

	YEAR 1			YEAR 2			YEARS 3-5			YEARS 6-10			YEARS 11+		
	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK
1	.044	26	9	.305	305	148	.369	595	162	.555	1291	140	.604	2239	148
2	.675	190	162	.279	279	145	.343	586	161	.000*	0*	10			
3	.378	218	153	.508	508	158	.205	331	156	.630*	0*	7			
4	.510	295	159	.288	288	146	.114	184	147	.109*	254*	154	.000*	0*	12
5	.275	130	110	.352	352	153	.440	709	163	.000*	0*	5			
6	.433	250	156	.473	473	157	.287	463	159	.207	482	157	.167	613	147
7	.196*	114*	91	.443*	443*	156	.000*	0*	2						
8	.204	118	95	.630	630	159	.290	468	160	.071	166	142	.037	131	115
9	.474	274	155	.350	350	152	.174	280	155	.093	216	151	.128	474	145
10	.540	312	160	.206	206	134	.125	201	145	.077	180	145	.044	163	132
11	.657*	380*	161	.202*	202*	133	.038	61	26	.141*	327*	155	.000*	0*	8
12	.289	167	137	.257	257	142	.167	269	154	.090	210	149	.064	238	140
13	.259	150	129	.128	128	96	.000*	0*	4						
14	.306	177	138	.057	57	24	.000*	0*	5						
15	.254	147	123	.138	138	105	.089	144	117	.000*	0*	11	.000*	0*	14
16	.373	216	151	.180	180	125	.080	179	104	.044	101	82	.000*	0*	19
17	.262	151	130	.177	177	122	.085	136	112	.000*	0*	1			
18	.252	145	119	.181	181	126	.061	99	63	.037	87	57	.000*	0*	4
19	.257	149	127	.093	93	59	.092	148	121	.000*	0*	12			
20	.434	251	157	.325	325	149	.085	138	113	.021	49	28	.000*	0*	6
21	.195	107	83	.326*	326*	150	.090	145	118	.000*	0*	4	.000*	0*	2
22	.142	82	61	.380	380	154	.163	263	153	.049	113	104	.059	220	138
23	.253	146	121	.247	247	140	.143	230	150	.072	167	143	.000*	0*	22
24	.251	145	118	.251	251	141	.105	169	132	.092	214	150	.047	171	135
25	.190	110	86	.105	105	71	.070	112	80	.000*	0*	14			
26	.309	179	139	.188	188	129	.046	65	27	.031	71	40	.000*	0*	9
27	.266	154	132	.147	147	109	.073	118	87	.047	105	94	.024	89	60
28	.321	186	143	.168	168	121	.099	160	129	.059	136	130	.035	131	116
29	.000	0	3	.268	432	158	.335	779	159	.779	159	159	.135	500	146
30	.384	222	154	.777	277	144	.120	193	144	.031	73	42	.025	92	65
31	.197*	114*	92	.000*	0*	5	.152*	245*	152	.000*	0*	13	.000*	0*	18
32	.339	196	146	.139	139	106	.051	83	46	.038	88	62	.015	70	41

Table 6 (continued)

(PERMANENT & RIDERS)															
33	.324*	128*	144	.214*	214*	137	.098*	158*	128	.053*	173*	115	.532*	117*	99
34	.223	129	108	.339	339	151	.108	174	.56	.043	101	81	.021	78	47
35	.357	204	149	.177	177	123	.113	182	.140	.049	113	103	.022	83	54
36	.414	239	155	.144	144	108	.075	120	90	.044	102	84	.032	118	101
37	.365	211	150	.162	162	117	.053	86	53	.046	107	96	.030	112	92
38	.314*	181*	141	.167*	167*	120	.079*	177*	102	.058*	134*	126	.032*	119*	103
39	.218	124	105	.151	151	111	.117	188	.43	.086	200	148	.074	282	142
40	.268	155	135	.077	77	39	.084	136	111	.061	143	135	.000*	0*	17
41	.266	154	133	.117	117	87	.066	109	76	.041	95	70	.000*	0*	24
42	.256	148	126	.109	109	76	.094	151	125	.067	155	140	.000*	0*	25
43	.217	125	104	.108	108	75	.078	126	101	.057	131	122	.000*	0*	11
44	.163	94	69	.212	212	136	.135	217	147	.078	181	146	.027	99	77
45	.320	185	142	.188	188	128	.032	52	20	.031	72	41	.014	60	35
46	.217*	137*	114	.178*	178*	124	.099*	160*	130	.057*	132*	123	.034*	134*	122
47	.205*	118*	96	.083*	83*	48	.088*	142*	115	.067*	155*	139	.000*	0*	20
48	.283	164	134	.183	183	127	.083	133	106	.010	73	18	.024	90	62
49	.312	180	140	.294	294	160	.091	147	120	.037	85	55	.026	103	84
50	.355	205	147	.432	432	155	.138	223	148	.053	123	113	.033	122	106
51	.331	191	145	.418	418	130	.092	148	122	.058	134	126	.027	81	52
52	.121*	70*	47	.260*	260*	143	.138*	223*	149	.060*	140*	137	.033*	123*	108
53	.000*	0*	4	.000*	0*	3	.093*	150*	124	.214*	499*	158	.034*	132*	119
54	.254	147	124	.154	154	113	.109	175	138	.055	127	117	.034	128	113
55	.355	205	148	.165	165	119	.108	174	135	.057	134	125	.040	146	129
56	.234	135	113	.136	136	103	.066	107	73	.036	83	51	.030	112	94
57	.214	124	103	.114	114	85	.064	103	70	.046	107	97	.032	141	127
58	.219	127	107	.089	89	54	.089	144	116	.058	135	127	.034	133	121
59	.060	35	15	.102	102	67	.128	206	146	.149	346	156	.107	377	144
60	.206*	119*	98	.144*	144*	118	.102*	165*	131	.102*	238*	152	.034*	132*	170
61	.263	152	131	.120	120	90	.077	124	98	.046	106	95	.025	93	69
62	.259	150	129	.140	140	107	.093	150	123	.050	116	107	.024	96	73
63	.157	91	68	.127	127	95	.051	82	43	.005	12	17	.000*	0*	21
64	.170	98	73	.162	162	116	.075	120	91	.041	96	76	.023	84	55
65	.133	77	52	.190	190	132	.105	169	133	.056	129	119	.031	125	111
66	.193	112	88	.132	132	100	.087	141	114	.054	126	116	.035	131	114
67	.200	115	94	.062	62	27	.057	91	60	.034	78	44	.012	65	38
68	.208	120	100	.134	134	102	.095	154	127	.056	131	121	.030	140	125
69	.206	119	97	.130	130	99	.083	134	108	.057	133	124	.030	142	128
70	.100	58	39	.112	112	81	.110	177	139	.066	155	138	.043	157	131
71	.010*	11*	8	.152*	152*	112	.075	121	94	.000*	0*	6		93	68
72	.267	155	134	.117	117	86	.063	102	68	.037	87	61	.026		48

Table 6 (continued)

(PERMANENT & RIDERS)															
73	.144	83	62	.137	137	104	.067	109	75	.053	123	114	.000*	0*	23
74	.195*	107*	84	.112*	112*	92	.071*	114*	83	.043*	101*	79	.000*	0*	15
75	.167	96	72	.219	219	138	.108	175	137	.051	119	109	.024	98	76
76	.141	82	60	.104	104	69	.066	107	74	.060	140	133	.027	101	80
77	.214	124	102	.123	123	92	.075	121	92	.059	136	129	.037	137	124
78	.000	0	2				.152	245	151	.076	176	144	.046	172	136
79	.194	112	89	.087	87	53	.051	82	44	.042	99	77	.036	135	123
80	.165*	95*	70	.000*	0*	6	.016*	27*	7	.000*	0*	15			
81	.140*	81*	59	.091*	91*	58	.077*	123*	97	.049*	115*	105	.077*	286*	143
82	.178	103	80	.130	130	98	.082	133	105	.055	128	118	.032	119	104
83	.058	34	14	.113	113	84	.084	136	110	.071	166	141	.054	209	137
84	.237	137	115	.293	293	147	.051	83	48	.016	38	21	.012	45	27
85	.241	139	114	.069	69	32	.078	125	100	.053	123	112	.024	96	72
86	.255	147	125	.154	154	114	.083	134	107	.046	106	94	.018	65	37
87	.084	49	25	.134	134	101	.094	151	126	.062	145	136	.034	132	117
88	.174	113	90	.049	49	16	.031	51	19	.029	68	38	.028	104	85
89	.253	146	122	.111	111	80	.055	89	58	.034	80	45	.022	80	50
90	.219	126	104	.119	119	88	.070	113	81	.043	100	78	.047	169	134
91	.177	102	79	.105	105	70	.079	128	103	.045	105	92	.000*	0*	1
92	.151	87	64	.125	125	93	.052	84	50	.036	83	48	.021	79	48
93	.245	141	117	.086	86	50	.062	100	65	.040	93	66	.027	100	78
94	.056*	33*	13	.031	31	8	.091	146	119	.000*	0*	9			
95	.177	73	50	.109	109	78	.045	72	35	.086	199	147	.066	250	141
96	.110	63	42	.127	127	94	.084	135	109	.064	148	137	.046	165	133
97	.174	100	76	.109	109	77	.047	75	37	.036	83	50	.026	94	70
98	.172	99	75	.105	105	72	.073	118	88	.044	103	89	.030	111	90
99	.207	120	99	.108	108	74	.072	116	85	.041	96	74	.029	108	88
100	.199	115	93	.107	107	73	.043	101	66	.047	110	100	.037	132	118
101	.175	101	78	.103	103	68	.033	54	23	.041	96	75	.021	76	44
102	.232	134	112	.120	120	89	.050	80	40	.037	87	60	.027	95	71
103	.186	107	85	.083	83	47	.048	78	38	.039	91	64	.028	92	64
104	.054	31	12	.189	189	131	.105	169	134	.051	119	110	.015	56	30
105	.136	70	54	.094	94	61	.062	99	64	.041	95	69	.023	85	57
106	.191	111	87	.113	113	83	.065	105	72	.041	95	72	.031	114	95
107	.223	129	109	.077	77	38	.025	41	11	.023	53	30	.015	54	29
108	.119*	69*	44	.000*	0*	2	.233*	376*	157	.044*	102*	83	.060	222	139
109	.133	77	53	.078	78	40	.076	123	96	.056	130	120	.034	124	110
110	.087	50	28	.091	91	56	.074	119	89	.052	121	111	.047	154	130
111	.115	66	44	.073	73	34	.071	114	82	.044	103	87	.033	123	107
112	.067*	39*	18	.140*	148*	110	.078*	125*	99	.045*	106*	93	.035*	140*	126

Table 6 (continued)

(PERMANENT & RIDERS)

113	.139	90	55	.093	63	67	.069	111	79	.044	103	90	.033	121	105
114	.100	58	38	.121	121	91	.046	75	36	.025	57	31	.010	56	31
115	.227*	1316	111	.056	56*	21	.031*	50*	17	.039*	90*	63	.027*	100*	79
116	.140	81	58	.123	129	97	.065	104	71	.044	102	85	.023	86	58
117	.071	41	19	.045*	44*	12	.063*	101*	67	.000*	0*	3			
118	.138	80	56	.094	94	62	.071	114	84	.044	103	91	.024	96	75
119	.209*	121*	101	.095*	95*	63	.068*	110*	77	.047*	109*	98	.025*	93*	66
120	.000*	0*	1	.238*	238*	139	.036*	58*	24	.104*	242*	153	.037*	118*	102
121	.088*	51*	29	.100*	100*	66	.075*	121*	95	.044*	103*	88	.036*	112*	93
122	.138	80	57	.081	81	45	.058	94	67	.037	84	56	.028	89	61
123	.050	29	10	.065	65	29	.055	89	57	.061	141	134	.000*	0*	5
124	.178	103	81	.091	91	57	.064	102	69	.035	87	47	.021*	73	43
125	.171	99	74	.110	110	79	.072	117	85	.051	119	108	.032	117	98
126	.116	47	45	.058	58	25	.051	82	45	.048	112	101	.034	127	112
127	.156	90	67	.076	76	37	.053	85	52	.044	102	86	.024	96	74
128	.152	88	65	.081	81	42	.051	83	49	.037	87	59	.027	102	81
129	.109*	63*	41	.055*	55*	20	.057*	92*	61	.040*	94*	67	.026*	88*	59
130	.098	57	37	.081	81	43	.054	88	55	.041	94	73	.037	124	109
131	.126*	73*	49	.085*	85*	39	.048*	78*	39	.037*	85*	54	.025*	93*	67
132	.052	30	11	.075	75	36	.030	49	16	.000*	0*	2			
133	.174	100	77	.087	87	51	.050	81	42	.033	78	43	.022	82	53
134	.252	146	120	.099	99	65	.041	67	30	.027	63	36	.021	77	46
135	.082*	47*	23	.082*	82*	46	.075*	121*	93	.060*	139*	131	.031*	111*	91
136	.075*	44*	21	.050*	50*	18	.052*	84*	51	.049*	113*	102	.037*	117*	100
137	.090	52	30	.056*	56*	22	.054*	86*	54	.039*	91*	65	.029*	106*	86
138	.084	48	24	.066	66	31	.069	111	78	.043	101	80	.020	102	82
139	.109	63	40	.064	64	28	.056	90	59	.034	80	46	.022	80	51
140	.122	70	48	.097	87	52	.037	59	25	.025	59	33	.027	80	49
141	.097	54	36	.048	48	15	.041	66	29	.040	94	68	.029	106	87
142	.111	64	43	.046	46	14	.045	72	34	.049	115	106	.031	114	96
143	.080	46	22	.079	70	33	.051	83	47	.037	87	58	.021	103	83
144	.091	53	32	.049	49	17	.050	81	41	.036	84	57	.025	92	63
145	.166	94	71	.061	61	26	.030	48	13	.021	49	26	.014	53	28
146	.374	214	152	.091	91	55	.073	37	8	.036	84	53	.031	116	97
147	.128	74	51	.074	74	35	.044	72	33	.029	67	37	.021	77	45
148	.145	84	63	.097	97	64	.023	37	9	.012	28	19	.005	19	26
149	.090	52	31	.052	52	19	.044	72	32	.036	83	49	.023	85	56
150	.156	90	66	.066	66	30	.041	66	28	.025	59	34	.010	72	42

TABLE 7

"ALL DURATIONS" LAPSE EXPERIENCEType of Business: TERM POLICIES

Company Listing

Company Code	LAPSE RATE	RANK	LAPSE RATIO			
			MEAN		MEDIAN	
			RATIO	RANK	RATIO	RANK
1	.5964	144	452	144	419	146
2	.3829	145	314	145	295	145
3	.3068	144	269	144	252	144
4	.2735	143	232	143	216	143
5	.2702*	142	172*	137	161*	137
6	.2675	141	225	142	210	142
7	.2674	140	198	140	184	140
8	.2618	139	193	139	180	139
9	.2559	138	161	133	149	132
10	.2549*	137	204*	141	194*	141
11	.2453	136	158	130	146	130
12	.2322	135	180	138	167	138
13	.2150	134	136	119	127	118
14	.2132	133	169	135	158	136
15	.2041*	132	165*	134	155*	134
16	.2036	131	137	120	127	120
17	.2019	130	147	125	136	125
18	.1989	129	169	136	157	135
19	.1988	128	152	127	142	129
20	.1981	127	161	132	150	133
21	.1980	126	153	131	147	131
22	.1948	125	150	126	140	126
23	.1860	124	153	128	142	128
24	.1802	123	124	107	116	107
25	.1794*	122	132*	113	123*	114
26	.1793	121	137	121	128	121
27	.1785	120	138	122	129	122
28	.1757	119	129	110	121	110
29	.1714	118	121	103	112	101
30	.1712	117	153	129	142	127
31	.1670*	116	135*	117	126*	117
32	.1664	115	136	119	127	119

(TERM POLICIES)

Table 7 (continued)

33	.1655	114	128	109	120	109
34	.1625	113	133	114	124	115
35	.1622	112	123	106	114	106
36	.1612	111	133	116	123	113
37	.1605*	110	128*	109	120*	108
38	.1592	109	120	99	112	100
39	.1585	108	118	95	110	95
40	.1578	107	108	74	100	74
41	.1570	106	121	102	113	103
42	.1564	105	131	112	122	112
43	.1550	104	133	115	124	116
44	.1544	103	119	94	110	94
45	.1534	102	120	100	112	99
46	.1531	101	115	86	107	88
47	.1520	100	111	77	104	77
48	.1512	99	143	123	134	123
49	.1510	98	116	90	108	89
50	.1508	97	131	111	122	111
51	.1507*	96	112*	80	104*	79
52	.1500*	95	114*	93	106*	84
53	.1490	94	117	91	109	91
54	.1481	93	114	85	107	85
55	.1478	92	114	84	106	83
56	.1473*	91	101*	61	94*	61
57	.1469	90	120	101	112	102
58	.1467	89	117	92	109	92
59	.1457	88	121	104	113	104
60	.1454	87	111	79	105	81
61	.1453	86	115	87	107	87
62	.1428	85	104	69	97	69
63	.1423	84	113	81	105	80
64	.1400*	83	112*	94	111*	98
65	.1385	82	118	93	110	93
66	.1380	81	100	59	93	58
67	.1365	80	144	124	134	124
68	.1360	79	103	66	94	66
69	.1357	78	99	56	92	56
70	.1351	77	99	55	92	55
71	.1341	76	115	89	108	90
72	.1338	75	115	88	107	88

Table 7 (continued)

(TERM POLICIES)

73	•1334	74	119	98	111	97
74	•1321	73	111	78	104	78
75	•1317	72	103	65	96	64
76	•1311	71	113	82	105	82
77	•1307	70	122	105	114	105
78	•1289	69	110	74	103	76
79	•1266	68	107	72	100	73
80	•1261	67	101	62	95	62
81	•1256	66	99	54	92	53
82	•1249	65	104	67	97	67
83	•1249*	64	100*	60	94*	60
84	•1249	63	98	52	92	52
85	•1245	62	100	59	93	59
86	•1235	61	98	51	91	51
87	•1229	60	91	41	85	40
88	•1224	59	98	53	92	54
89	•1216	58	110	75	102	75
90	•1205	57	95	48	89	48
91	•1199	56	104	68	97	68
92	•1194	55	95	49	89	49
93	•1186	54	90	39	84	39
94	•1183*	53	104*	71	97*	71
95	•1181	52	107	73	100	72
96	•1180	51	99	57	93	57
97	•1178	50	97	50	91	50
98	•1176	49	93	45	86	45
99	•1162	48	102	64	94	65
100	•1160	47	93	46	87	46
101	•1159	46	91	42	85	42
102	•1159	45	91	40	85	41
103	•1152	44	88	37	82	37
104	•1152*	43	88*	35	82*	35
105	•1126	42	92	44	86	44
106	•1110	41	83	30	78	30
107	•1092*	40	87*	33	81*	33
108	•1084	39	92	43	85	43
109	•1080	38	87	34	82	34
110	•1076	37	88	36	82	36
111	•1072	36	95	47	89	47
112	•1058	35	82	28	76	27

Table 7 (continued)

(TERM POLICIES)

113	.1053	34	84	31	78	31
114	.1053*	33	83*	29	77*	29
115	.1048	32	102	63	95	63
116	.1039	31	79	23	69	21
117	.1022	30	82	27	77	28
118	.1009	29	74	21	70	23
119	.1003	28	104	70	97	70
120	.0999	27	74	22	69	22
121	.0988	26	89	38	83	38
122	.0963	25	115	97	110	96
123	.0959	24	74	20	69	20
124	.0949	23	85	32	80	32
125	.0943*	22	76*	24	71*	24
126	.0934	21	80	25	75	25
127	.0906	20	62	15	58	15
128	.0854	19	81	26	75	26
129	.0831	18	71	19	66	19
130	.0820*	17	56*	11	52*	11
131	.0806	16	67	17	63	17
132	.0806	15	70	18	65	18
133	.0729	14	51	13	57	13
134	.0722	13	61	14	57	14
135	.0702	12	47	7	44	7
136	.0674	11	61	12	57	12
137	.0649	10	45	6	42	6
138	.0598	9	51	10	47	9
139	.0589	8	62	16	58	16
140	.0563	7	49	8	46	8
141	.0543	6	50	9	47	10
142	.0292*	5	26*	5	24*	5
143	.0281	4	19	4	18	4
144	.0173	3	14	2	13	2
145	.0146*	2	18*	3	17*	3
146	.0002	1	0	1	0	1

* BASED ON FEWER THAN 100 POLICIES EXPOSED

Summary Listing

NUMBER OF COMPANIES: 142

		LAPSE RATE		LAPSE RATIO	
				MEAN	MEDIAN
1	WEIGHTED AVERAGE	.0904		101	94
2	UNWEIGHTED AVERAGE	.1415		113	105
3	MEDIAN	.1321		107	100
4	QUANTILES:				
	75 %	.1598		129	120
	80 %	.1704		134	125
	85 %	.1869		144	134
	90 %	.2038		159	148

TABLE 8

LAPSE EXPERIENCE BY DURATION

Type of Business: TERM POLICIES

Company Listing

	YEAR 1			YEAR 2			YEAR 3			YEAR 4			YEAR 5			YEAR 6-10			YEARS 11+		
	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK
1	.452*	279*	143	.592*	591*	143	.759*	702*	145	.377*	496*	141	.335*	420*	134						
2	.000*	0*	3				.677*	627*	144	.026*	34	12	.115*	213*	126						
3	.170	105	73	.525	347	141	.459	425	143	.144	190	132	.097	180	123						
4	.026	14	17	.152	100	70	.365	338	142	.428	543	142	.594	1100	137						
5	.262*	162*	128	.279*	185*	136	.000*	0*	2												
6	.780*	482*	145	.243*	161*	130	.105	97	51	.058*	76*	33	.012	33	30						
7	.380	235	139	.230	155	124	.170	158	126	.090	118	99	.145	269	129						
8	.420	250	142	.234	155	129	.151	140	120	.074	97	65	.000*	0*	24						
9	.266*	164	131	.225	152	127	.000*	0*	3												
10	.000*	0*	5	.425*	292*	140	.170*	111*	80	.098*	129*	106	.000*	0*	7						
11	.263	163	130	.225	145	126	.147	136	117	.009*	0*	6	.000*	0*	19						
12	.414	255	141	.220	106	125	.004*	4*	5	.081	106	77	.263*	487*	132						
13	.270	142	115	.189	125	111	.000*	0*	4												
14	.150	97	65	.274	182	135	.219	203	136	.226	297	138	.150	292	130						
15	.407	251	140	.177	117	103	.154	143	122	.104*	137*	113	.055*	97*	71						
16	.227	140	111	.205	136	119	.124	114	89	.324*	427*	140	.000*	0*	28						
17	.162*	100*	67	.528*	350*	142	.104*	96*	49	.178*	234*	136	.025*	52*	34						
18	.408	101	144	.205	136	120	.092	85	35	.056	74	31	.001*	0*	8						
19	.305	189	138	.192	127	112	.137	127	106	.087	115	90	.000*	0*	11						
20	.263	162	129	.307	203	138	.144	133	113	.113	149	123	.000*	0*	27						
21	.280	173	135	.247	177	133	.113	108	76	.085	112	87	.091	150	113						
22	.290	179	136	.169	112	95	.179	165	130	.066	97	47	.044	81	54						
23	.242	150	124	.214	143	124	.178	165	129	.119	156	127	.093	173	121						
24	.229	141	114	.131	87	48	.161	149	124	.000*	0*	8									
25	.231*	142*	116	.170*	113*	96	.146*	136*	116	.100*	132*	109	.055*	102*	74						
26	.182	112	85	.144	109	89	.182	169	132	.195	256	137	.000*	0*	6						
27	.240	153	126	.144	122	108	.146	135	115	.083	109	80	.067	112	83						
28	.242	149	123	.151	107	69	.140	129	109	.000*	0*	10									
29	.185	114	37	.163	106	86	.192	178	134	.069	91	56	.082	164	117						
30	.146	90	55	.206	137	121	.233	216	140	.138	182	130	.130	250	127						
31	.210*	135*	109	.201*	133*	116	.144*	134*	114	.110*	145*	122	.066*	122*	91						
32	.213	131	106	.171	113	97	.154	143	121	.142	187	131	.074	137	103						

Table 8 (continued)

(TERM POLICIES)																
33	.173	104	74	.244	162	131	.137	127	105	.082	108	79	.062	115	86	66
34	.262	162	127	.159	105	76	.135	123	102	.088	116	91	.047	86	61	
35	.230	147	120	.163	108	94	.114	106	68	.061	80	39	.034	67	43	
36	.197	121	100	.192	120	107	.192	169	133	.105	138	115	.080	145	118	
37	.082	51	23	.270	179	134	.152	169	131	.116	152	125	.093	172	120	
38	.228	141	112	.180	119	106	.109	100	59	.071	94	60	.000	0	12	
39	.162	100	60	.200	133	117	.139	129	108	.122	161	128	.061	113	85	
40	.197	122	101	.122	81	36	.115	107	74	.050	45	22	.000	0	5	
41	.274	169	133	.171	113	98	.091	84	31	.074	99	66	.000	0	22	
42	.242	149	122	.176	116	102	.130	120	94	.092	121	101	.071	132	97	
43	.241	149	121	.200	133	118	.111	103	66	.096	126	102	.074	141	108	
44	.277	171	134	.069	46	10	.138	128	107	.000	0	5	.000	0	13	
45	.215	133	107	.195	122	109	.112	104	67	.084	110	82	.054	103	75	
46	.191	118	91	.163	104	83	.123	114	85	.101	133	110	.266	497	133	
47	.029	18	13	.312	202	139	.134	124	103	.000	0	2	.000	0	4	
48	.150	98	66	.292	193	137	.203	188	135	.075	98	67	.034	63	36	
49	.194	113	86	.160	104	74	.132	122	100	.107	141	118	.074	136	102	
50	.137	85	50	.106	120	113	.170	158	127	.158	208	134	.077	143	111	
51	.194	121	96	.163	109	88	.115	107	75	.054	71	26	.036	67	41	
52	.195	121	94	.135	80	52	.126	117	93	.133	175	129	.040	74	49	
53	.203	125	103	.179	119	105	.117	108	78	.089	117	95	.040	73	48	
54	.226	139	110	.154	103	72	.101	93	44	.067	89	49	.047	87	64	
55	.228	141	113	.131	97	47	.103	95	46	.085	117	86	.000	0	14	
56	.151	93	61	.144	95	61	.149	138	118	.103	135	112	.000	0	23	
57	.194	120	93	.165	109	92	.130	121	97	.110	144	121	.062	127	94	
58	.202	125	102	.163	108	86	.122	113	93	.090	118	97	.073	136	101	
59	.194	120	92	.192	132	115	.129	118	94	.090	119	98	.047	84	62	
60	.205	151	125	.164	109	90	.105	97	54	.000	0	3				
61	.142	100	68	.147	97	64	.172	159	128	.080	117	93	.076	139	105	
62	.154	95	62	.164	110	93	.121	112	81	.089	117	94	.313	579	135	
63	.184	53	24	.210	139	123	.134	126	104	.174	229	135	.253	468	131	
64	.235	145	119	.117	72	32	.143	133	112	.085	112	85	.058	108	79	
65	.187	115	88	.156	103	73	.131	121	98	.096	126	103	.092	171	119	
66	.188	116	89	.133	89	50	.088	81	26	.047	62	20	.040	91	67	
67	.237	146	119	.120	79	36	.091	84	32	.153	201	133	.095	175	122	
68	.089	55	25	.257	170	132	.116	108	77	.085	111	84	.000	0	15	
69	.178	110	80	.115	76	31	.111	103	65	.106	140	114	.000	0	10	
70	.167	103	72	.131	87	49	.109	101	62	.085	111	83	.071	131	96	
71	.271	167	132	.165	109	91	.110	102	64	.062	82	44	.041	76	51	
72	.178	110	79	.145	96	63	.143	132	111	.100	131	108	.061	113	84	

Table 8 (continued)

(TERM POLICIES)															
73	.194	171	98	.143	95	60	.141	131	110	.084	113	84	.084	159	115
74	.207	129	109	.175	114	100	.114	106	69	.060	79	36	.047	74	50
75	.174	109	76	.142	94	59	.104	98	56	.086	113	89	.064	114	88
76	.194	121	95	.147	94	67	.131	122	99	.081	106	76	.045	84	59
77	.149	92	58	.158	104	75	.164	154	125	.107	141	117	.074	141	107
78	.211	143	117	.125	83	40	.103	95	47	.090	119	100	.051	108	81
79	.196	121	99	.140	93	54	.109	101	61	.071	94	59	.077	142	109
80	.179	111	82	.125	83	41	.109	101	60	.082	108	78	.074	141	106
81	.144	101	71	.155	103	71	.124	114	88	.078	103	72	.033	70	45
82	.134	84	46	.174	114	101	.128	114	95	.098	129	107	.040	90	65
83	.135	84	47	.136	90	56	.110	102	63	.104	137	114	.007	0	26
84	.176	108	75	.089	59	16	.110	102	79	.102	134	111	.071	135	99
85	.123	76	39	.147	111	94	.118	109	101	.063	83	45	.064	123	92
86	.108	67	31	.162	107	82	.132	122	101	.072	95	62	.054	104	76
87	.115	71	32	.161	107	40	.123	114	86	.072	95	62	.054	104	76
88	.145	89	52	.161	107	81	.104	96	50	.083	109	81	.071	135	98
89	.130	80	43	.160	106	78	.221	205	137	.055	72	28	.037	65	39
90	.134	84	48	.192	124	110	.100	93	42	.057	75	32	.037	69	44
91	.174	109	77	.124	85	45	.121	112	82	.079	104	73	.054	107	78
92	.145	90	53	.134	90	53	.107	99	58	.049	118	96	.050	108	80
93	.180	111	83	.093	67	18	.085	79	24	.097	128	104	.007	0	25
94	.196	121	97	.137	91	57	.104	96	48	.079	104	74	.057	106	77
95	.189	117	90	.200	138	122	.061	57	14	.069	91	57	.084	156	114
96	.179	110	81	.157	104	74	.100	93	43	.061	80	38	.032	70	46
97	.114	72	33	.134	90	55	.123	114	87	.098	129	105	.050	110	82
98	.107	66	29	.163	108	67	.172	113	84	.077	102	70	.087	163	116
99	.005	3	9	.078	52	13	.247	229	141	.078	102	71	.075	144	112
100	.122	75	38	.091	60	17	.126	116	92	.114	152	124	.137	253	128
101	.150	93	60	.145	94	64	.092	85	34	.074	97	64	.034	63	38
102	.147	90	56	.130	86	46	.105	97	52	.062	82	43	.051	95	68
103	.129	80	47	.147	97	65	.101	94	45	.065	86	46	.052	96	69
104	.155	95	61	.100	66	23	.106	98	57	.067	88	49	.034	67	42
105	.118	73	36	.134	90	54	.114	106	70	.068	89	51	.052	97	70
106	.137	84	49	.119	79	34	.094	87	38	.053	70	25	.060	127	95
107	.143	100	70	.134	89	51	.074	69	16	.062	81	42	.043	79	54
108	.178	110	78	.148	98	68	.085	78	23	.049	65	21	.043	80	55
109	.156	96	64	.131	74	29	.094	87	39	.071	93	58	.042	77	52
110	.145	90	54	.125	85	43	.094	87	40	.068	89	53	.040	90	64
111	.180	111	84	.122	85	44	.093	86	37	.073	95	63	.044	85	60
112	.076	47	19	.159	105	77	.115	106	72	.068	89	52	.034	63	37

Table 8 (continued)

(TERM POLICIES)

Summary Listing

	1 NUMBER OF COMPANIES:	YEAR 1		YEAR 2		YEARS 3-5		YEARS 6-10		YEARS 11+	
		RATE	RATIO	RATE	RATIO	RATE	RATIO	RATE	RATIO	RATE	RATIO
2 WEIGHTED AVERAGE		.1612	100	.1510	100	.1090	101	.0740	103	.0605	6
3 UNWEIGHTED AVERAGE		.1713	104	.1634	107	.1277	114	.0842	111	.0626	114
4 MEDIAN		.1666	103	.1554	103	.1148	106	.0775	107	.0514	95
5 QUANTILES:											
75 %		.2172	134	.1830	120	.1193	129	.0982	129	.0738	137
80 %		.2306	142	.1993	132	.1464	136	.1041	137	.0766	142
85 %		.2422	149	.2082	137	.1606	149	.1093	144	.0882	143
90 %		.2646	163	.2373	155	.1800	167	.1212	159	.0986	183

TABLE 9

"ALL DURATIONS" LAPSE EXPERIENCEType of Business: DEPOSIT TERM

Company Listing

Company Code	LAPSE RATE	RANK	LAPSE RATIO			
			MEAN RATIO RANK		MEDIAN RATIO RANK	
1	.2648*	14	210*	14	243*	14
2	.2134*	13	164*	12	185*	12
3	.1725	12	173	13	219	13
4	.1337	11	102	9	113	9
5	.1080	10	111	10	126	10
6	.0919	9	71	7	80	7
7	.0886	8	93	8	105	8
8	.0598	7	64	6	76	6
9	.0569*	6	54*	4	61*	4
10	.0506	5	63	5	74	5
11	.0405	4	36	2	37	2
12	.0352	3	36	3	42	3
13	.0322	2	126	11	133	11
14	.0000	1	0	1	0	1

* BASED ON FEWER THAN 100 POLICIES EXPOSED

Summary Listing

NUMBER OF COMPANIES: 14

		LAPSE RATE	LAPSE RATIO	
			MEAN	MEDIAN
1	WEIGHTED AVERAGE	.0985	99	114
2	UNWEIGHTED AVERAGE	.0969	93	107
3	MEDIAN	.0598	71	80
4	QUANTILES: 75 %	.1208	118	130
	80 %	.1414	134	143
	85 %	.1686	160	180
	90 %	.1970	169	205

TABLE 10

LAPSE EXPERIENCE BY DURATION

Type of Business: DEPOSIT TERM

Company Listing

Co. Code	YEAR 1			YEAR 2			YEARS 3-5			YEARS 6-10			YEARS 11+		
	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK
1	.192*	140*	11	.370*	309*	14	.000*	0*	5	.000*	0*	8			
2	.183*	134*	10	.260*	217*	12	.000*	0*	3						
3	.344	254	13	.170	142	11	.033	94	10	.000*	0*	1	.000*	0*	1
4	.144	120	9	.074	63	8	.000*	0*	6						
5	.194	141	12	.071	59	7	.045	129	12	.000*	0*	7			
6	.141	103	8	.021	13	2	.000*	0*	4						
7	.071	52	5	.130	108	10	.094	273	14	.012	40	9	.000*	0*	5
8	.092	69	7	.061	51	6	.031	89	9	.000*	0*	3			
9	.083*	61*	6	.032*	33*	5	.036*	102*	11	.000*	0*	6			
10	.059	43	4	.040	27	9	.031	85	8	.000*	0*	4	.000*	0*	3
11	.052	38	3	.030*	25*	3	.000*	0*	1	.000*	0*	2	.000*	0*	2
12	.045	33	2	.034	23	4	.029	83	7	.024	80	10	.024	112	7
13	.411	100	14	.354	294	13	.065	187	13	.034	127	11	.021	98	4
14	.000*	0*	1	.000*	0*	1	.000*	0*	2	.000*	0*	5	.000*	0*	4

* BASED ON FIVE YEAR THAN 100 POLICIES EXPOSED

Summary Listing

1 NUMBER OF COMPANIES:	YEAR 1			YEAR 2			YEARS 3-5			YEARS 6-10			YEARS 11+		
	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK	RATE	RATIO	RANK
2 WEIGHTED AVERAGE	.1361	99	99	.1193	99	99	.0346	99	99	.0304	101	101	.0209	2	2
3 UNWEIGHTED AVERAGE	.1454	104	104	.1214	101	101	.0241	75	75	.0067	22	22	.0063	30	30
4 MEDIAN	.0950	69	69	.0704	59	59	.0222	83	83	.0000	0	0	.0000	0	0
5 QUANTILES:															
75 %	.1077	137	137	.1501	125	125	.0342	94	94	.0030	10	10	.0052	25	25
50 %	.1924	141	141	.1882	157	157	.0376	107	107	.0095	32	32	.0124	59	59
25 %	.1914	141	141	.2512	209	209	.0443	127	127	.0162	54	54	.0196	93	93
90 %	.2865	209	209	.3175	265	265	.0574	164	164	.0229	76	76	.0215	102	102

APPENDIX F

AN INTRODUCTION TO LONG-TERM LAPSE MEASUREMENT

A lapse study measures the annual rate of lapsation that occurs over a limited period of time, often referred to as the "observation period" or the "exposure measurement period," or simply "exposure period." This period of time must be accurately defined so that only the lapse risk within the period is considered.

Definition of "Lapse"

There is a wide variety of definitions of lapsation in existence in the insurance industry today. This variation is bound to increase over the next few years as traditional products become superseded by new flexible products with indexed protection, stop and go features, and other flexible options, and as companies define lapse on these products without respect to any industry standards.

For traditional life insurance products, the interest in lapsation is usually in premium-paying policies. In this case, lapsation is often considered to be the cessation of premium payments for any reason other than death, maturity, expiry, transfer to an automatic premium loan status, or reaching the end of the stipulated premium-paying period.

Types of Studies

Insurance companies typically conduct two basic types of studies classified by observation period, "anniversary-to-anniversary" studies and "calendar year" studies. In both cases, number of policies, amounts of insurance, or annualized premiums lapsed are tabulated by age-at-issue groups and policy duration or, where breakdowns by age at issue are not desired, by individual policy durations or groups of durations.

Classification of Lapses

For either type of study, policy duration of lapse is typically assigned on one of two bases—a "12-month basis" or a "13-month basis." The difference in the two bases stems from the difference in treatment of policies that do not pay any part of the premium due during the subsequent policy year. With the 12-month basis, lapses are assigned to the policy year in which any part of the premium due failed to be paid. With the 13-month basis, lapses are assigned to the last policy year during which any premium was paid.

The difference between the two bases is subtle and theoretical justification can be given for either basis. LIMRA's Long-Term Lapse Study and 13-Month Lapse Survey utilize the 13-month basis. The primary purpose of this classification is that this basis minimizes differences in lapse rates that can be attributable to a difference in the distribution of business by mode of premium payment, thereby making it a better measure of the efficacy of conservation efforts and comparative performance than is the 12-month period. As a result, this basis generates more comparable lapse rates in all policy years for all modes of premium payment. The proposed NAIC disclosure system utilizes the same 13-month basis for the same reason.

Lapse Rates and Ratios

The following discussion is limited to lapse measurement in terms of number of policies, but the explanations also apply to face amount and premium measures. The number of lapses during a particular duration is used as the numerator in two primary ways. When the denominator is the number of policy years of exposure during which policies could lapse,* the resultant quotient is known as the annual lapse rate or, simply, a lapse rate. When the denominator is the number of policies that would lapse according to a given standard during the exposure period for the policy years "exposed," the quotient is known as a lapse ratio. The lapse ratio is significant in that it permits a convenient method of comparing performance across groups of policies in which the business has widely different characteristics. In the proposed system, the intent is to develop standards of lapsation that recognize broad types of policy groupings and durations-from-issue groupings. Use of these standards will permit a summation process across type and duration groupings to "wash out" various unwanted effects of these widely different business mixes and derive valuable aggregate performance measures.

*Concept of policy years of exposure will be subsequently explained.

Risk Exposure

The first denominator described above indicates a fundamental concept utilized in actuarial science to measure mortality or lapsation. That is, the denominator reflects not only the potential quantity than can be terminated by lapsation or other decrement (e.g., death, maturity) but also the period of time during which these can occur. Although there can be some variation in method of calculation associated with the definition of what rate is being measured and choice of "exposure measurement period," the basic concept utilized for all such calculations is: "Net Exposure = Potential Exposure minus Cancelled Exposure."

Anniversary-to-Anniversary Studies

With anniversary-to-anniversary studies, there is a precise demarcation of exposure period usually defined as running from anniversary dates in one calendar year to anniversary dates in the following calendar year. As an example, assume that we are dealing with an observation period running from anniversaries in 1978 to anniversaries in 1979.

1. Any policy that was issued prior to 1978 is included in the study if, and only if, it is in force on its anniversary date in 1978. Policies on which the premium due on the anniversary in 1978 is not paid are not included in the study. These would be considered lapses in the prior contract year.
2. Each policy issued in 1978 and on which at least one premium is paid during 1978 is included in the study.
3. No other policies are included in the study.
4. For the policies defined in 1., observation begins on their anniversaries in 1978. Such policies are often called "starters."
5. For the policies defined in 2., observation begins with the issue date. Such policies are called "new entrants." The two groups are usually separated, since different methods of tabulation are commonly used for each.

Of the above policies in both groups, some will terminate by death, lapse, conversion, expiry, or maturity during the exposure period. If one is interested in measuring, for example, mortality and lapse experience, the terminated policies should be classified into three groups—deaths, lapses, and other withdrawals.* (The balance of the policies remain in force and are often called "enders.") These termination groups are similar in concept inasmuch as each represents risk termination for purposes of various studies. However, they are distinguished because they usually require different methods of tabulation or because special treatment is needed for deaths and lapses, depending upon whether one is obtaining lapse or mortality rates.

On occasion, through conservation efforts, reversal of policyowner decisions, or discovery and correction of errors, terminations by lapse or other decrement are reversed. Such transactions are called reinstatements. For the purpose of lapse measurement, reinstatements should be treated in a manner consistent with the treatment of the original lapse or other decrement. That is, the amount reinstated should be the same amount as originally lapsed and should be assigned to the same policy year as the one in which the lapse was originally recorded.

Exposure Measurement

In general, exposure measurement ceases at the earlier of:

1. Time of termination for all reasons except for the particular decrement being measured
2. At the end of the exposure period

Overview of Examples

Figures I and II illustrate the methods of calculating exposure.

1. The examples assume that a lapse study is being conducted. (For those interested in mortality studies, the same principles are involved—the treatment of lapses and deaths are just interchanged.)

* See the following page for further discussion of this term.

2. The examples assume that lapses are measured on a 13-month basis.
3. Tabulation of lapses as the numerator of lapse rates or lapse ratios is a simple accumulation of numbers of policies terminated by lapse during the exposure period.
4. The examples emphasize the tabulation of the appropriate exposure in a policy duration study of lapses by calculating Net Exposure = Potential Exposure less Cancelled Exposure.
5. Potential Exposure

Potential exposure represents the potential future fraction of a policy year that a policy can contribute to a particular duration.

- a. New Entrants—With a policy duration study, a policy can only be classified as a new entrant at issue time. Regardless of whether one is dealing with an anniversary-to-anniversary study or a calendar-year study, the potential exposure for a new entrant is a full policy year. (Full amount of insurance or premium for amount studies.)
- b. Starters—A “starter” is a policy that is in force (within the definition of in force) at the beginning of the exposure measurement period. Potential exposure varies by type of study.
 - (1) Anniversary-to-Anniversary Study—The potential exposure for an anniversary-to-anniversary study is a full policy year.
 - (2) Calendar-Year Study—The potential exposure associated with a particular duration is equal to the fraction of a policy year starting from the later of either the beginning of the policy year or beginning of the exposure measurement period and extending to the end of the policy year. For instance, in Figure II, for case 4, the potential exposure is 6 months or $\frac{1}{2}$ policy year. For case 2, it is 3 months or $\frac{1}{4}$ policy year. With case 3, the potential exposure for Policy Year 2 is a full policy year.

6. Cancelled Exposure

Cancelled exposure refers to exposure that is cancelled from potential exposure due to termination of insurance for causes other than lapsation or to the end of the exposure period. No potential exposure is cancelled by lapsation.

There is no variation in cancelled exposure method of tabulation for new entrants or starters, but variation of cancelled exposure is related to whether policies are lapses, deaths, withdrawals, or enders.

- a. Lapses—Lapses is a generic term that includes several voluntary methods of policy termination—lapse without value, surrender for cash, etc. Since lapses are being measured as the subject of the study, there is no cancellation of exposure due to lapse.
- b. Deaths—If deaths were the subject of the study they would be treated in the same manner as lapses. Since they are not, they are treated in the same manner as withdrawals.
- c. Withdrawals—Withdrawal means termination due to conversion, expiry, maturity, etc. Regardless of whether the study is an anniversary-to-anniversary study or a calendar-year study, the exposure cancelled by withdrawal is the fraction of a policy year from termination to the end of the policy year. For withdrawals that occur on the anniversary date, there is no exposure cancelled.
 - (1) Figure I—Case 2 will have 4 months of cancelled exposure. Case 4 will have 5 months of cancelled exposure.
 - (2) Figure II—Case 2 has 1 month of cancelled exposure. Case 6 has 7 months of cancelled exposure.
- d. Enders—“Enders” are policies that are in force at the end of the exposure measurement period. There is no cancellation of exposure for enders in policy-year anniversary-to-anniversary studies. For calendar-year studies, the exposure cancelled for enders is the time from the end of the exposure measurement period to the following anniversary. (It is convenient to consider the end of the exposure period on a 1/1/79-to-1/1/80 study to be 12/31/79 to clarify this definition.)

Synopsis of Calendar-Year Study Cases

1. Policy issued 2/1/78, terminates by death on 9/1/79. Period from 2/1/78 to 1/1/79 is not in the study. Policy is "starter" on 1/1/79 for policy year 1 with potential exposure until 2/1/79 (or one policy month). Policy is a "starter" for policy year 2 with potential exposure until 2/1/80 (or one policy year). "Death" intervenes on 9/1/79 and exposure from 9/1/79 to 2/1/80 is "cancelled."
2. Policy issued 4/1/78, terminates in death on 3/1/79. Period from 4/1/78 to 1/1/79 is not in the study. Policy is "starter" on 1/1/79 for policy year 1 with potential exposure until 4/1/79 (or 3 policy months). "Death" intervenes on 3/1/79 and exposure from 3/1/79 to 4/1/79 is "cancelled."
3. Policy issued 5/1/78, terminates by lapse on 12/1/79. Period from 5/1/78 to 1/1/79 is not in the study. Policy is "starter" on 1/1/79 for policy year 1 with potential exposure until 5/1/79 (or 4 policy months). Policy does not terminate and no exposure is cancelled in policy year 1. Policy starts policy year 2 with potential of 12 months exposure from 5/1/79 to 5/1/80. Policy lapses on 12/1/79, but no potential exposure is cancelled because this is a lapse study.
4. Policy issued 7/1/78, and is still in force on 1/1/80. Period from 7/1/78 to 1/1/79 is not in the study. Policy is "starter" on 1/1/79 for policy year 1 with potential exposure until 7/1/79 (or 6 policy months). Policy ends policy year in force, and none of the potential policy year 1 exposure is cancelled. Policy begins policy year 2 on 7/1/79 with a potential exposure of 1 policy year. Policy is "ender" on 1/1/80, and 6 months of potential exposure is "cancelled."
5. Policy issued 1/1/79 and in force on 1/1/80. Policy is "new entrant," with a potential exposure of one policy year. Policy is "ender" on 12/31/79, with no cancellation of exposure.
6. Policy issued 4/1/79, terminates by death on 9/1/79. Policy is "new entrant" on 4/1/79, with a potential exposure of one policy year. "Death" intervenes on 9/1/79, and exposure for 9/1/79 to 4/1/80 is "cancelled."
7. Policy issued 7/1/79 and in force on 1/1/80. Policy is "new entrant" on 7/1/79, with a potential exposure of one policy year. Policy is an "ender" at policy year 1 on 1/1/80 with cancelled exposure from 1/1/80 to 7/1/80 or 6 policy months.
8. Policy issued on 8/1/79, lapses on 10/1/79. Policy is "new entrant" on 8/1/79 with a potential of one policy year. Policy lapses on 10/1/79, but no potential exposure is cancelled.
9. Policy issued 10/1/79, lapses on 3/1/80. Policy is "new entrant" on 10/1/79 with a potential exposure of one policy year. Policy is an "ender" on 1/1/80, with cancelled exposure of 9 months. Note: lapsation occurred on this policy after the end of the exposure measurement period and is not counted in the 1979 calendar-year study (but will be included in the 1980 study).

The preceding descriptions are provided assuming that companies are able to conduct such studies on an individual record basis. Actuaries often generalize these concepts to be able to perform similar calculations using grouped data.*

*Texts to learn more about group methods:

1. Measurement of Mortality by H. Gershenson (Society of Actuaries)
2. Mortality Table Construction by R. W. Batten (Prentice-Hall, Inc.)

FIGURE I -- Anniversary-to-Anniversary Study

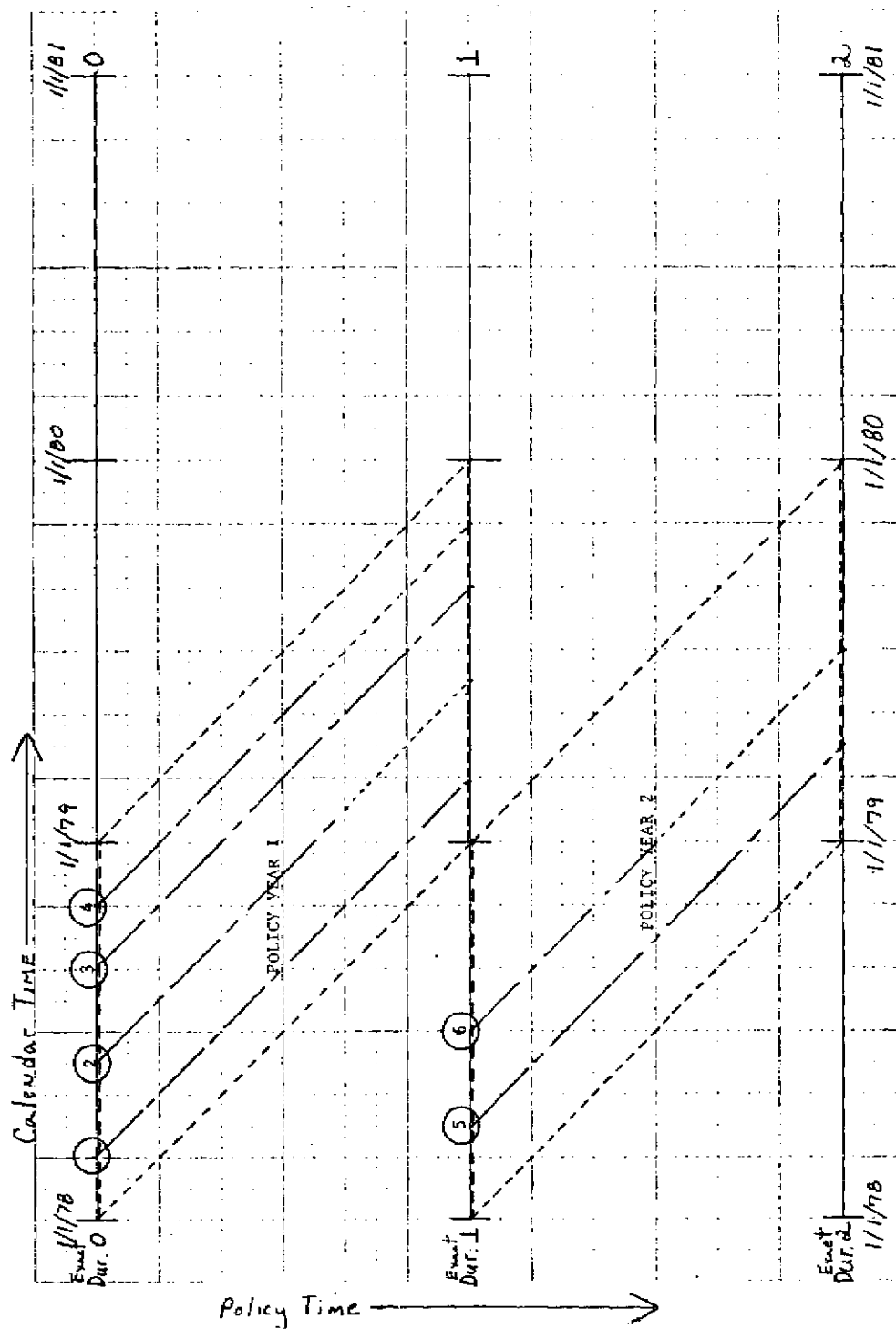
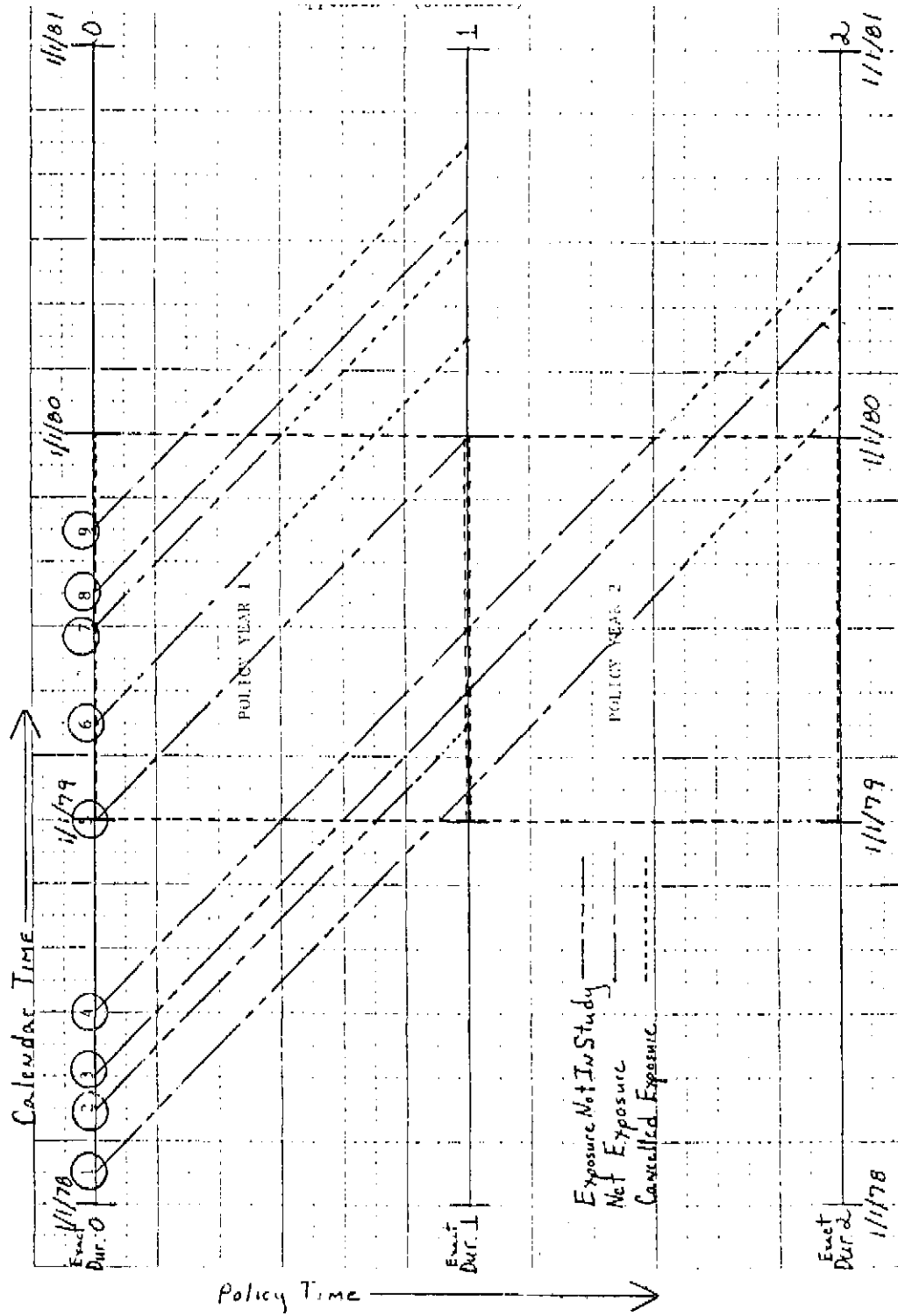


FIGURE II -- Calendar Year Study (Calendar Year 1979)



ATTACHMENT ONE-B

American Academy of Actuaries
1835 K Street, N.W.
Suite 515
Washington, D.C. 20006

June 2, 1981

To: National Association of Insurance Commissioners' Task Force on Manipulation, Lapsation, Dividend Practices and Annuity Disclosure

From: John H. Harding, Chairman — Committee on Dividend Principles and Practices

Subject: Report of the Committee on Dividend Principles and Practices

It is a pleasure to tell you that this report constitutes our formal presentation to the NAIC of suggested modifications to existing regulations concerning dividend practices. As reported to you in December, the American Academy of Actuaries has formally adopted standards of practice with respect to dividend payment and dividend illustration. The primary focus of these standards, which are formally called "Recommendations Concerning Actuarial Principles and Practices in Connection with Dividend Determination and Illustration," is on disclosure. The American Academy of Actuaries, by adopting the recommendations, is requiring that actuaries responsible for the determination of dividend scales disclose to their companies all relevant considerations used in determining their recommended dividend scales. Of course, the Academy of Actuaries cannot compel companies to disclose publicly the relevant content of this report. The state insurance departments, however, can make such requirements. This presentation to you identifies the form and substance of what the Academy committee believes should be reported by companies about how they pay and illustrate dividends.

Brief History

In June of 1980, the Committee on Dividend Principles and Practices published its report. This report contained a general historical background, which is summarized here.

It has been traditional in the life insurance industry to illustrate dividends to prospective policyholders. Such illustrations have been called upon to provide an indication of the company's current performance and to give a reasonable indication of the probable relative performance in the future, as dividends were actually paid. It has also been generally accepted that there must be equitable apportionment of dividends among all classes of policyholders, in spite of a temptation for a company to favor more recent policyholders at the expense of others. In the early 1970's, there was concern regarding the apparent proliferation of bases for paying dividends and illustrating them. There was also concern that departure from a close relationship between dividends paid and dividends illustrated may have taken place for some companies.

In the mid-1970's, the Society of Actuaries circulated a questionnaire designed to develop information concerning dividend practices. Analysis of the results showed that there was a much broader range of practices than previously had been thought to exist.

The Society of Actuaries established, in early 1976, the Committee on Dividend Philosophy to explore possible courses of action to deal with this problem. In 1978, this committee recommended that the best solution would be to establish standards of dividend payment and illustration and that the actuary responsible for recommending a dividend scale provide a written opinion to corporate management.

The Society committee published Draft 7 of its recommendations in the fall of 1979. Finally, the Society committee completed Draft 11 in May of 1980. This draft covered all participating policies issued by mutual life insurance companies and some participating life policies issued by stock companies. The Society committee is still working on remaining stock life insurance company issues. In addition, deferred annuities are under consideration.

The American Academy of Actuaries' Committee on Dividend Principles and Practices was formed in late 1978. It has worked closely with the Society committee since that time. There is a mutual understanding between the board of governors of the Society and the board of directors of the Academy that the Society should develop the suggested recommendations and that the Academy use that framework to adopt a formal set of recommendations, with subsequent interpretations as necessary. In addition, the Academy would develop the appropriate framework for implementation of these recommendations. This framework is what is being suggested today.

The Academy committee published a slightly modified version of Draft 11 for comment, as a part of its June, 1980 report. Essentially, the Academy version makes the recommendations mandatory for mutual companies and optional, at this time, for stock companies. However, stock companies who do not elect to conform should disclose that fact to regulators and to the public. On October 31, 1980, the Academy board of directors adopted the recommendations. The final version was published in February, 1981.

Since that time, the Academy committee has been developing improved versions of its suggestions to the NAIC. These suggestions include the possible modification of what is now Schedule M of the annual statement, modifications in language in the Life Insurance Buyer's Guide and modifications in the language required to be included with dividend illustrations.

Regulatory Disclosure

The committee believes that the best disclosure for regulatory purposes would be a qualitative extract of the actuary's report. The actuary who signs that report should also sign the statement of opinion and answers to the interrogatories in the proposed modification of Schedule M of the annual statement. However, this actuary would not necessarily be the same one who signed the statement of opinion with regard to policy reserves and related items.

Our primary concern is that the actuary's report will include proprietary company information with respect to experience factors and how these are translated into product pricing. Such information in great detail would be of little value to regulators, but of substantial value to competitors. The giving away of legitimate techniques of product pricing is unnecessary for appropriate regulation and would diminish, rather than enhance, the price competitive nature of the life insurance industry.

A properly written actuarial report would not enhance a layman's understanding of the dividend process. Further, few state insurance departments could afford to develop the expertise to interpret all such reports in a meaningful manner. Even if such interpretation were made, it is not clear what could be done with the information. The primary role of regulators and the supervision of dividend practices should be directed toward obvious manipulation, solvency questions, general concern about equitable distribution and the avoidance of improper discrimination.

The suggested modifications to Schedule M (Attachment One-B1) focus on an extract of the actuary's report. This extract is intended to be helpful to the regulators in their supervisory role. The report requires a summary of practices used, a highlighting of changes in practices, a quantification of changes in dividend scale and a certification by the actuary that the dividends have been determined, except as disclosed, in accordance with the "Recommendations Concerning Actuarial Principles and Practices in Connection with Dividend Determination and Illustration."

Consumer Disclosure

The suggested changes to the buyer's guide (Attachment One-B2) incorporate several new ideas. First, while the current buyer's guide describes the concept of cost and identifies the differences between illustrations of cost of participating and nonparticipating policies, the redraft recognizes the existence of cost illustrations of products recently introduced.

Second, the suggested modifications identify the difference between investment generation and portfolio average methods in the determination of dividends. At the suggestion of the NAIC Advisory Committee on Manipulation, dividends based on investment generation methods are identified as being more sensitive to changes in current interest rates.

Finally, the suggested modifications recognize the existence of the newly adopted principles and practices and warn the prospective insured to be aware of any exception language which may be required on the illustration.

Suggested language which should accompany the illustration must necessarily be brief. We believe, however, that in all cases there should be an identification of the method of investment income allocation used, because of the significantly different illustrative result. In addition, each required exception statement that appears in the suggested Schedule M would also need to be briefly summarized.

The primary focus of dividend illustrations, of course, is on new sales. However, the proposed disclosure language is intended to be used both with illustrations of dividend scales for new policies and also on illustrations for policies currently in-force.

Conclusion

The Academy Committee on Dividend Principles and Practices believes that we have now progressed to a stage where it would be possible and appropriate for the NAIC to make use of our suggestions for modifications which are described above and attached as Attachments One-B1 and B2.

The recommendations which were adopted in October of 1980 and published in February of 1981 have already been distributed. Additional copies can be obtained from the American Academy of Actuaries.

We recognize that the process of modification will not necessarily be a speedy one and that the NAIC will need to give serious consideration to not only our proposals, but related proposals from other groups. However, we believe that public disclosure of company practices with regard to dividend illustration and payment is essential. We hope that the NAIC can begin the process of modification as quickly as possible, and we would be happy to work with the NAIC in this process.

ATTACHMENT ONE-B1

POSSIBLE SCHEDULE M DISCLOSURE Statement Year 1981

Identify the participating ordinary life business which is not subject to the actuarial principles and practices of the American Academy of Actuaries applicable to the determination of dividends paid by mutual companies. Answer the questions and state the opinion below which apply with respect to any other participating business.

Process of Dividend Determination

Describe the general methods and procedures used to determine dividends.

Description of Experience Factors

Describe the basis used in making any distinction in experience factors which underlie the determination of dividends. The description should specifically include:

- a. investment income factors;
- b. claims factors;
- c. expense factors;
- d. termination factors;
- e. any other factors which have a material effect on the dividends of any group of policies.

Also, describe in a qualitative way any material changes made in the bases used to determine those factors since this Schedule was last filed.

General Interrogatories

1. Has the Contribution Principle been followed in determining dividends?

If no, describe.

2. Since this Schedule was last filed, has any material change occurred with respect to the determination of policy factors?

If yes, describe.

3. a. Since this Schedule was last filed, have there been any changes in the scales of dividends on new or existing business authorized for illustration by the company?

If yes, describe in general the changes that were made.

- b. Since this Schedule was last filed, have there been any changes in the scales of dividends apportioned for payment?

If yes, describe in general the changes that were made.

- c. For each major block of business, indicate when the dividend scale was last changed (including changes described in b, above) and indicate the extent of such change in terms of the percentage by which dividends payable under the new scale exceeded or were less than those which would have been paid in the year of change had the scale not been changed.
4. Does the dividend scale incorporate the use of projections or forecasts of experience factors for any period in excess of two years beyond the effective date of the scale?

If yes, describe.
5. In the basis of determining investment income experience factors, state whether the company uses (a) a portfolio average approach, (b) an investment generation approach, or (c) a combination of the two approaches.

If (b) and (c), describe the general basis used, including the issue year groupings.
6. With respect to policy loan provisions,
 - a. Describe how differences in such provisions affect dividends.
 - b. Does the dividend scale contain any provision for varying the amount of dividend in accordance with the extent to which an individual policy's loan provision is utilized?

If yes, indicate the blocks of business where this treatment pertains, and describe the basis of variation used.
7. Does the company pay termination dividends on its policies? If yes:
 - a. Are they payable on death, surrender and maturity?
 - b. Are they payable or credited either upon the commencement of nonforfeiture insurance or upon termination thereof by death, surrender or maturity?
 - c. Do they reflect the incidence, size and growth of amounts which may be attributed to the policies in question?

If the answer to a., b., or c. is no, describe the basis used.
8. Does the undersigned believe dividends illustrated on new or existing business can be paid if current experience continues?

If no, explain why.
9. Does the undersigned believe there is a substantial probability that because of the expected deterioration of experience, the dividends illustrated on new or existing business cannot be maintained for at least two years?

If yes, explain why.

10. Describe any aspects of the determination of the dividend scale not covered above which involve material departures from the actuarial principles and practices of the American Academy of Actuaries applicable to the determination of dividends paid by mutual companies.
11. Describe any material changes in the basis of determination of the dividend scale which were made since this Schedule was last filed and which are not covered above.

Actuarial Opinion

I, _____ (name, title) _____, am _____ (relationship to company) and a member of the American Academy of Actuaries. I have examined the actuarial assumptions and methods used in determining dividends under the dividend scale for the individual participating life insurance policies of the company issued for delivery in the United States. The dividends encompassed by this scale are both:

- i) those apportioned for payment during 1982; and
- ii) those in effect as of January 1, 1982 which are illustrated for payment on new or existing business in 1983 and later and which are authorized for illustration by the company.

My examination included such review of the actuarial assumptions and methods of the underlying basic records and such tests of the actuarial calculations as I considered necessary. In my opinion, these dividends have been determined in accordance with actuarial principles and practices of the American Academy of Actuaries applicable to the determination of dividends paid by mutual companies, except as described above.

Date _____ Name and Title _____

ATTACHMENT ONE-B2

POSSIBLE CHANGES IN SOME SECTIONS OF THE LIFE INSURANCE BUYER'S GUIDE

(The committee believes that the "What is Cost?" and "How Do I Use Cost Indexes?" sections of the buyer's guide could be enhanced by the following.)

What is Cost?

"Cost" is the difference between what you pay and what you get back. If you pay a premium for life insurance and get nothing back, your cost for the death protection is the premium. If you pay a premium and get something back later on, such as cash value, your cost is smaller than the premium.

The cost of some policies is guaranteed at time of issue. These policies are called "guaranteed cost-nonparticipating" policies. These policies do not pay dividends, but every feature is fixed at the time of purchase so that you know in advance what your future cost will be.

Listed below are some examples of policies that contain cost elements that are not guaranteed when you buy the policy. The actual cost of these policies will depend on the future actions of the company selling the policy and your actual cost can be lower or higher than that illustrated at time of purchase.

Participating Policies

These policies have their cost reduced by dividends. Their premiums, cash values and death benefits are guaranteed, but the dividends are not. A dividend is a refund or return of part of the premium paid. Each company pays those dividends which it believes to be appropriate, based on its current experience as to the factors affecting the cost of the insurance it provides—primarily claims, expenses, investment earnings and taxes.

There are certain standards that have been endorsed for mutual companies as generally acceptable for use in determining dividend scales, including illustrations of dividends that may be paid in the future. Companies are required to indicate whether or not their illustrated dividends, and cost indexes reflecting them, were determined in conformance with these standards.

The future dividends illustrated by companies conforming with these standards are based on current levels of experience. The extent to which actual dividends will differ from those illustrated will depend on the extent to which actual future experience differs from that underlying the scale of illustrated dividends.

There are two main ways in which dividends may reflect investment earnings. One method involves reflection of such earnings on funds attributable to all policies, regardless of when they were issued. The other method involves reflection of such earnings on funds attributable to policies issued in specified years. Usually, dividends based on this method are more sensitive to changes in current interest rates than are dividends based on earnings on funds attributable to all policies.

A description of the method used must accompany any figures presented which involve dividends.

Nonparticipating Policies with Nonguaranteed Cost

While "nonparticipating" policies do not pay dividends, some of them have costs that are not guaranteed at time of purchase. Some examples are:

Nonguaranteed Premium Policies

Cash values and death benefits under these policies are guaranteed, but their premiums are not. These policies contain a guaranteed "maximum premium," but the company anticipates charging a lower premium. The company will illustrate the cost based on the premium it currently expects to charge. Your actual cost will be lower or higher than this, depending on the premiums you are actually charged.

Policies with Nonguaranteed Cash Values

Premiums and death benefits under these policies are guaranteed, but their cash values are not. These policies contain a guaranteed minimum interest rate for accumulation of cash values, but the company anticipates using a higher rate. The company will illustrate the cost based on the interest rate they currently use to accumulate cash values. Your actual cost will be higher or lower than this, depending on the interest rate actually used.

Policies with Nonguaranteed Death Benefits and Cash Values Under These Policies

These policies do not require a specific level of premium payments, but guarantee a minimum level of death benefit and cash value for any particular amount of premium the insured chooses. The company will also illustrate higher cash values and death benefits based on the interest rates and insurance cost it currently uses. Your actual cost under these policies, in relation to the benefits provided, will be higher or lower than that illustrated depending on the interest rate and insurance cost actually used.

Reunderwritten Policies

Some policies permit the insured to have lower premiums throughout the duration of the policy, if the insured can periodically meet specified health qualifications.

The actual cost of these policies will depend on whether or not the insured can meet the prescribed standards.

Cost illustrations for all policies with costs that are nonguaranteed are required to disclose the part of the cost that is not guaranteed.

ATTACHMENT ONE-B3

POSSIBLE MODIFICATION OF EXISTING STATE REGULATIONS
WHICH DEAL WITH DIVIDEND DISCLOSURE

The committee has not addressed itself to each possible regulation where the following modifications might apply. However, most of the regulations involved deal with solicitation and advertising. In principle, information relevant to the comparability of dividend scales could be added to the normal dividend caveats:

- A. For those policies which are specified in Schedule M as not subject to the actuarial standards which apply to the determination of dividends paid by mutual companies, it would be appropriate to include a statement in the dividend caveat that "The illustrated dividends on this policy are determined according to standards which are different from those applicable to a mutual company."
- B. For all other policies, the method of allocation of investment earnings should be identified.
 - 1) If a company is more than 10 years old, and states in Schedule M that it uses a portfolio average approach, it would be appropriate to state:

"Illustrated dividends are based upon the dividend scale applicable to currently issued policies, which reflects current investment earnings on funds attributable to all policies. Dividends are neither guarantees nor estimates and future dividends which you actually receive will differ from those illustrated to the extent that future expense, claim and investment experience differs from current experience."
 - 2) For other companies it would be appropriate to state:

"Illustrated dividends are based upon the dividend scale applicable to currently issued policies, which reflects current investment earnings on funds attributable to all policies issued since 19 * . Dividends are neither guarantees nor estimates and future dividends which you actually receive will differ from those illustrated to the extent that future expense, claims and investment experience differs from current experience."
- C. Under the conditions defined below, with regard to the answers to the Interrogatories in Schedule M, disclosure of areas of specific concern would be appropriate.
 - Interrogatory 1 - A negative answer should be disclosed.
 - Interrogatory 4 - An affirmative answer would require a description of the period of projection.
 - Interrogatory 6 - An affirmative answer to question 6,b, should be disclosed.
 - Interrogatory 7 - A negative answer to question 7,a, or 7,b, would require disclosure of the types of transactions on which termination dividends are not paid, once they are available. A negative answer to question 7,c, should be disclosed together with a statement that termination dividends are not in conformance with the standards of practice for payment of such dividends.
 - Interrogatory 8 - A negative answer should be disclosed.
 - Interrogatory 9 - A positive answer should be disclosed.

*The earliest year of the issue year groupings used to determine the investment earnings on current issued policies.

ATTACHMENT ONE-C

ADVISORY COMMITTEE ON MANIPULATION

June, 1981

For background, the reader is referred to the June, 1980, report of this advisory committee together with accompanying minority statements by Joseph N. Belth, Paul J. Overberg, Brenda P. Roberts, and William C. Scheel. The earlier material is to be found on pages 828-857 of Volume II of the 1980 Proceedings of the NAIC. Mr. Overberg's and Dr. Scheel's statements were inadvertently omitted from that publication and are attached hereto (Attachments One-C1 and C2). There are also attached copies of pages 831, 834, 835 and 839 of the 1980 Proceedings amended to show certain numerical information that was inadvertently omitted from the report as originally printed (Attachment One-C3).

Since the submission of our June, 1980, report, members of the advisory committee have visited a number of regulators in order to explain the work of the advisory committee and encourage the adoption of the advisory committee's recommendations. As a result of these visits and discussions, we have decided to put our recommendations in regulatory language. Accordingly, most of the substance of this report consists of a draft regulation which is attached (Attachment One-C4). We believe that language along the lines of the draft can usefully be incorporated by states into their life insurance solicitation regulations or other relevant regulations.

In the course of our work, the advisory committee turned its attention to life insurance company dividend practices. Therefore, disclosures related to companies' use of the contribution principle and the investment year method form part of the attached draft regulation. Our review of dividend practices included a review of the work of the Society of Actuaries Committee on Theory of Dividends and Other Nonguaranteed Elements in Life Insurance and Annuities, and the American Academy of Actuaries Committee on Dividend Principles and Practices, and an informative discussion with the chairmen of those committees.

The advisory committee has not considered questions related to nonguaranteed elements of life insurance policies other than dividends. We believe, however, that they deserve study by others.

The advisory committee has been concerned about the possible use of misleadingly attractive illustrated net cost indexes that can entice an unwary consumer into buying an inferior policy. This can sometimes result from policy designs in which premiums, cash values or dividends exhibit large and discontinuous variations from year to year. Most of our work has been aimed at detecting and disclosing these kinds of discontinuities.

It is also possible for consumers to be led into unwise purchases by companies which simultaneously offer two similar policies, even if neither of these policies has progressions of premiums, cash values or dividends that exhibit large discontinuities. An example is the situation in which a company offers two similar life insurance policies with markedly different price structures. The company may encourage the sale of the higher-priced policy through higher commissions. One approach to this problem would be to designate as an unfair trade practice a failure on the part of the company to disclose fully to the buyer the availability of the lower priced policy.

Another example is the situation in which a company offers two similar life insurance policies, sells one of the policies heavily over the years while selling the other only lightly, pays relatively meager dividends on the heavily sold policy while paying relatively generous dividends on the lightly sold policy, and then arranges for wide publicity of the favorable dividend history on the lightly sold policy. One approach to this problem would be to encourage publishers of dividend histories to include data on the relative importance of the policies in the company's portfolio.

A final example involves the sale of combination term and annuity products which may be presented to the client as an alternative to whole life insurance. Because such products may be taxed differently from whole life, such alternative sales must be carefully evaluated on an after-tax basis.

The committee believes that practices such as described above deserve the careful review and consideration of regulators.

The second difference discontinuity test described in the attached draft regulation is based upon the size of changes in the year-to-year costs of a policy. Some members of the committee felt that, when the changes in year-to-year costs were large enough to cause the test to exceed the recommended limit, the prospective buyer should be provided with certain yearly price information. A majority of the committee, however, voted not to require disclosure of yearly price information under such circumstances, whether or not the prospective buyer specifically requested it. These decisions reflected a division within the committee concerning disclosure of yearly prices per \$1,000 of protection. For discussion of this matter see Professor Belth's comments on yearly prices in his August 28, 1980 statement (page 849 in Volume II of the 1980 NAIC Proceedings).

The advisory committee believes it has carried its work as far as is practicable at this time. Accordingly, we believe that this should be our final report, and we request that the advisory committee be discharged. We suggest, however, that the task force consider appointing a smaller group of individuals to carry out further research into the appropriate level of the test limits for the second difference discontinuity test described in the attached draft regulation in order to determine if further variation by plan and issue age is needed.

Committee Members

Thomas J. Kelly, New York Insurance Department (Chairman)
 Ernest J. Moorhead, Retired (Vice Chairman)
 Joseph M. Belth, Indiana University
 Kenneth J. Clark, Lincoln National Life Insurance Company
 Thomas F. Eason, Security Mutual Life Insurance Company (Nebraska)
 Walter N. Miller, New York Life Insurance Company
 Richard C. Murphy, Aetna Life and Casualty Insurance Company
 Paul J. Overberg, Allstate Life Insurance Company
 C. Norman Peacor, Massachusetts Mutual Life Insurance Company
 Brenda P. Roberts, Fireman's Fund Life Insurance Company
 William C. Scheel, University of Connecticut
 Harold Skipper, Jr., Georgia State University
 Julius Vogel, Prudential Insurance Company of America

ATTACHMENT ONE-C1

STATEMENT BY PAUL J. OVERBERG

June 15, 1980

(Inadvertently omitted from 1980 Proceedings)

My comments today relate to the June, 1980, Advisory Committee on Manipulation report. My statement is prompted by Joe Belth's minority opinion dated June 2, 1980, which is attached to the Manipulation Committee's June, 1980, report. My observations are those of an individual of the Manipulation Committee, and do not necessarily represent the views of other members of the committee.

During its first year of existence, this committee has had nine meetings. All meetings were well attended, and there was every indication that all members came well prepared.

Our June, 1980, report is a consensus of diverse points of view on a very controversial subject. I do not believe that any member is completely happy with it, but I feel relatively confident that most members believe the report to be a very good one, which could prove to be very useful. We have completed our initial charge. The report is not an "industry" report. Industry members disagreed on many items. Every member contributed something to this report, yet no one member's total contributions were included.

If the committee is to be continued, I recommend that it be continued at approximately its present size. It is, obviously, very true that if the committee had fewer members, it would be more efficient. However, it would also lack the needed diverse backgrounds on a very complex subject.

The report indicates that the insurance commissioners can control manipulation:

- By prohibition (disapproving the Policy Form), and/or
- By required Disclosure (prospect must be warned that the 10th and 20th year indexes may not be representative of Indexes for years immediately before or after the Indexes shown--or, perhaps, a requirement that Cost Indexes must be shown for a series of years, whenever they do not flow smoothly).

The disclosure recommended in the committee report is very meaningful to the prospective buyer, and to agents of competing companies.

Much discussion was had regarding the basis for a mechanical test:

- 1) One method favored by some of the members was to use the surrender cost indexes computed at each duration from the sixth through the 23rd policy years.
- 2) Another method discussed was the yearly price formula recommended by Joe Belth, and endorsed by other members. This method produces erroneous results on endowment policies near the endowment date.
- 3) The method recommended in our report is a compromise of the above two methods. It is a yearly price formula calculated in a manner consistent with that used to calculate the surrender cost indexes. This yearly price is slightly different from that recommended by Joe Belth, and it has the advantage that it does not have the problem mentioned above that is contained in the Joe Belth formula.

Many thanks to the task force members for giving me this opportunity to make these observations.

ATTACHMENT ONE-C2

Statement of William C. Sheel

June, 1980

(Inadvertently omitted from 1980 Proceedings)

Acknowledgement and Disclaimer

I greatly appreciate the extension of time provided by Chairman Kelly in which to file this statement as an attachment to our report, Detecting Manipulation of Policy Values and Dividends. A family illness prevented me from completing it in a more timely fashion.

The views expressed herein are my own. A majority of the committee voted against the methodologies for detecting manipulation discussed in this statement. I believe the committee seriously erred in its majority judgment.

Introduction and Purpose of Statement

There are many ways of detecting irregularities in policy design. We developed and performed empirical tests using twelve different, but not unrelated, systems. We also examined an approach suggested to the committee by an insurance department official.

There was never any question in the committee's collective mind that serviceable tests could be found. An abundance of mechanical detection systems existed—we knew this fact very early in our deliberations. The difficult decision was finding a mechanical test which was simple to administer and interpret and which would be reliable. It needed to be robust and to accommodate a wide range of policy designs, issue ages and face amounts. We also wanted a test which made sense. Some of us wanted a test which was based on a theoretically defensible measure of policy cost.

This statement broadens Section VIII of our report, Detecting Possible Manipulation: The Mechanical Approach. I discuss in this statement two methods which I view as theoretically defensible and more efficacious than the actual detection system of measurement contained in the report.

Background

The concept of manipulation caused the committee great grief, hours of senseless haggling and in the final analysis found its members roaming through a maze with no exit. In my judgment, the word contains connotations which should have led to its abandonment by the committee at a very early stage. But, the term persisted.

The heart of the "manipulation" problem we investigated is policy design irregularities. The irregularities, and the cause for public concern that arises from them, result from progressions in policy values and dividends which are discontinuous. The discontinuities cause the price structure of the manipulated policy to be erratic when measured on a year-by-year basis. The prevailing system of cost disclosure is inadequate in alerting consumers about these irregularities — the irregularities in price structure remain hidden and that important omission in cost disclosure is cause for concern.

Some of these irregularities may have been intentionally designed to make the policy look particularly attractive at the durations which are publicly disclosed. But, prices at other durations may be much higher. Hence, "manipulation." The policy in example (1) of our report falls into this class. The terminal dividend scale has been purposefully designed to reduce the 10 and 20 year interest-adjusted cost indexes. The policy design cannot be justified on any basis. It is actuarial deception. The fact that the policy is sold should cause public consternation about the present policy approval process by state insurance regulators.

Other irregularities may arise from novel policy design and serve purposes which benefit consumers. These cases are difficult, because it was neither the intention nor desire of the committee to thwart innovation in product design by a straight-jacket mechanical detection system that would ring false alarms for these beneficial cases of policy design irregularities.

Can a prohibition approach, triggered by a mechanical detection system, safely separate the dandelions from the daisies?

In the presence of rigorous public disclosure the usefulness of mechanically triggered prohibitions may be substantially reduced. Irregularities in policy design would be less apt to occur, and those that do occur would probably be serving the consumer well. However, even with rigorous disclosure, I believe many types of manipulation would persist. Prohibition would still be necessary and a detection system would be required.

While I adamantly agree with Professor Joseph Belth that full disclosure and reliance on the strength of vigorous competition in an informed market will solve a majority of the problems addressed by the committee without the need for mechanical detection systems, I am less optimistic than he regarding the power of full disclosure in certain circumstances. For example, all of the cases of manipulation cited in his statement under Class B would, in my judgment, persist even in the presence of full disclosure. Class A manipulation involving inequities among different generations of policyholders would be unaffected by the type of full disclosure recommended by him. Only a prohibition approach will solve these problems.

Therefore, a soundly conceptualized detection system is required.

It must be multi-faceted, and it must bear the rudiments of a price measurement technique that would be fundamental to detection of all the classes of manipulation cited by Professor Belth.

Basic Components of a Detection System

It may help readers to identify the measurement bases for mechanical detection systems. There are four possibilities: (1) holding period indexes, (2) yearly price measures, (3) combination or ratio measures, and (4) basic data—premiums, dividends and policy values. Two of these were given close attention by our committee: holding period cost indexes (such as interest-adjusted surrender costs) and yearly price measures (such as price of protection per \$1,000 of amount at risk or price per \$1,000 of face amount).

It is also possible to construct comparative ratios like yearly prices divided by yearly renewable term insurance rates. The year-by-year progression in the ratio reveals information both about discontinuities in the price structure and the drift in prices relative to equivalent term insurance prices. A comparison of the ratios by attained age among different plans of insurance age at issue and calendar year at issue reveals inequities among policyholders that constitute manipulation. The committee majority refused to consider this important ratio in any detail; however, I believe it is a sensible building block for a broad-based detection system. It will be pursued in detail later in this statement.

A cumbersome, but nonetheless possible, detection system might examine directly the dividends and policy values without combining them into measures of cost. The committee believes that the yearly prices will reveal most of what might be found from an intensive review of policy data. The committee concluded with near unanimity that unacceptable large discontinuities in yearly prices were sufficient evidence of manipulation as it was delimited by the task force's charge to the committee.

Yearly Prices

Yearly prices measure the cost of protection as the difference in present valued, out-of-pocket costs and net savings of life insurance if continued in force one more year.

The price measurement imputes to the policyowner a rate of return that can be earned on savings. The rate is a low risk, after-tax return. The level of insurance savings is measured by cash surrender values; so, the present value of the net gain (relative to non-insurance savings opportunities) attributable to continued investment in insurance savings is:

$$CV_t / (1+i) - CV_{t-1}$$

where CV_t is the end-of-year cash surrender value and CV_{t-1} is the beginning-of-year value. The discount rate of interest is i . It is customary to include the value of any terminal dividend with the cash surrender value.

The present value of out-of-pocket outlays is:

$$P_t - D_t / (1+i)$$

where P_t is the annual premium and D_t is the regular dividend received at year end. The total yearly cost (measured at the beginning of the policy year) is the present value of the out-of-pocket outlays less the net gain in insurance savings:

$$YC_t = P_t - D_t v - (CV_t v - CV_{t-1}) \quad (1)$$

where YC is the yearly cost and $v = 1/(1+i)$.

This cost is related to the protection which it has purchased and the result is a yearly price.

The committee felt that a detection system should give equal weight to discontinuities in these costs regardless of when the discontinuities arise. The interest-adjusted surrender cost index is a weighted sum of the yearly costs defined by equation (1) where the weights are compound interest accumulation factors (adjusted for the accumulated face amount over the holding period of the index). The application of the interest factors in the interest-adjusted system results in the discontinuities in indexes for long holding periods (say, 20 years) receiving less weight than discontinuities in indexes for short holding periods (say, 10 years). It is primarily for this reason that the committee adopted yearly costs rather than surrender cost indexes (which are a function of yearly costs) as the building blocks for the mechanical test.

The committee remained split, however, on whether the yearly costs should be converted to yearly prices by division of the amount at risk (face amount less cash surrender value) or by division of the entire face amount. It is apparent that some form of a yearly price must be used in a mechanical test because yearly costs will vary with the size of the policy and a simple detection scheme could not be developed for the numerator of yearly prices.¹

Preference for Yearly Prices Per \$1,000 Amount at Risk

There are three important reasons why the amount at risk should be used as the divisor for yearly prices instead of the face amount:

- (1) The yearly price per \$1,000 amount at risk has been widely discussed in the literature and is well-known to all actuaries by its relationship to the cost of insurance.
- (2) It is theoretically defensible because the numerator is the cost of the protection element (amount at risk) from the policyowner's point of view and not the cost of the full face amount.
- (3) The series of yearly prices, properly related to amount at risk, should be more stable for test purposes.

The yearly price per \$1,000 amount at risk is perhaps better known to actuaries in relation to the cost of the insurance, K_{x+t} , (Jordan, p. 106-7):

1. Yearly prices also can vary with the size of the policy because of premium gradation; however, the extent of variation will be much less.

$$K_{x+t} = q_{x+t} (1 - {}_{t+1}V_x) \quad (2)$$

$$({}_tV_x + P_x)(1+i) = {}_{t+1}V_x + q_{x+t} (1 - {}_{t+1}V_x) \quad (3)$$

solving (2) for q_{x+t} :

$$q_{x+t} = \frac{({}_tV_x + P)(1+i) - {}_{t+1}V_x}{1 - {}_{t+1}V_x} \quad (4)$$

and, restating as a beginning of year value:

$$q_{x+t}^v = P - \frac{({}_{t+1}V_x^v - {}_tV_x)}{1 - {}_{t+1}V_x} \quad (5)$$

The lefthand side of (5) is $P \overline{1}_{x:1}$, a one-year term premium. The yearly price per unit amount at risk formula is equation (5) with cash surrender values substituted for reserves. The transition to the conceptual framework of a policyowner is clear. The interest rate assumed in v (5 percent for our test) is the policyowner's opportunity after-tax savings rate and the yearly price becomes an equivalent term rate when measured at the beginning of the year as in (5).

I am at a loss to provide any conceptual basis or relevant actuarial analog to the use of a yearly price with face amount in the denominator. There is no actuarial or academic literature discussing yearly prices with the face amount denominator.

The yearly price defined by equation (5) is a very fundamental actuarial identity. The recursion formula for terminal reserves on which it is based is equation (2). Yearly prices of protection (per \$1,000 amount at risk) are theoretically defensible. They conceptually are the foundation for pricing net premiums. They are meaningful.

By contrast, the use of the face amount (unit value denominator in equation 5), results in yearly prices that are understated whenever the cash surrender value is non-zero.

Because the numerator of the yearly price is the cost of just the amount at risk, variations in the amount at risk should be marked by cost variations in the numerator. Hence, a kink in the amount at risk caused, say, by a gradation of cash values into reserves at policy year twenty should be associated with a change in cost (the numerator) although the face amount is unchanged.

Test Limits for a Mechanical Detection System Using Yearly Prices of Protection Per \$1,000 Amount at Risk

The limits for our mechanical detection system were derived empirically using a data base of 1979 whole life policies provided to us by the Wisconsin Insurance Department. Using this same data base, the following test limits emerge for the yearly price of protection per \$1,000 amount at risk. They are analogous to the limits shown on pages 14 and C-1 of our report for the face amount basis actually adopted by a majority of the committee:

<u>Issue Age</u>	<u>95% Limits</u>	<u>90% Limits</u>	<u>85% Limits</u>
25	400	200	150
35	900	400	300
45	1000	650	450

These limits would have isolated 5, 10, and 15 percent of the sample used to construct the test—a sample ranging between 165 and 172 whole life policies, depending on the issue age.

In my opinion, the Committee's detection system would be more defensible if these limits had been used—limits based on the sum of backward second differences squared of yearly prices between years 8 and 23. The correct definition of the yearly price of protection per \$1,000 is:

$$YP = \frac{P - Dv - (CVCv - CVP)}{0.001 (F - CVC)} \quad (6)$$

where YP is the yearly price per \$1,000 of protection, P is the annual premium, CVP is the sum of the cash value and terminal dividend at the end of the preceding year, $v=1/(1+i)$ and i is the assumed interest rate expressed as a decimal, CVC is the sum of the cash value and terminal dividend at the end of the current year, D is the annual dividend and F is the sum of the face amount and terminal dividend at the end of the current policy year. Equation (6) produces results expressed as of the beginning of the policy year.

Committee Objection to Price of Protection Per \$1,000 Amount at Risk

The main reason committee members seem opposed to the yearly price per \$1,000 amount at risk is that it might require a multiplicity of filters not only for different issue ages, but also for different types of plans. It is patent that yearly prices measured on an amount at risk basis will be larger than prices relative to the face amount. Furthermore, as the amount at risk decreases, yearly prices of protection tend to increase.

Discontinuities can be larger when measured on the yearly price of protection basis and a mechanical test may be triggered, whereas on a yearly price per \$1,000 face amount basis, the test may be satisfactory.

Submerged in this debate is the implicit notion that policies with different amounts at risk (say, whole life and endowment policies) should be expected to have radically different prices of protection per \$1,000 amount at risk for the same attained age. I reject this presumption. A company with radically different prices of protection for the same attained age under different plans available to any given insured is engaging, in my opinion, in unacceptable price manipulation. It is primarily for this reason that I recommended that the committee pursue a manipulation test based on the progression of ratios—ratios of yearly prices of protection per \$1,000 amount at risk to Society of Actuaries "low" term rates. This latter method was tabled by the committee when it was decided to narrow the scope of candidate test variables. In my opinion, the ratio technique deserved more attention. The final section of this statement explores the nature of a ratio detection system. A mechanical detection scheme based on the ratio shows promise of treating adequately most of the classes of manipulation cited by Professor Belth. It is a test that is also consistent with the committee's charge.

Introduction to a Broad-Based Detection Scheme

There is a philosophical slant to the committee's scheme for detection of life insurance policy design irregularity. Ugliness is relative: we may conjecture that contours are good and edges are bad, that discontinuities are inherently unexpected and, hence, irregular. The main postulate of the committee's scheme—and it is a postulate—is that the series of yearly prices should not be a path of jigs and jags, a progression of disjointed trends or encumbered with periodic blips. The tenet of actuarial design inherent in this postulate is that these attributes are signs of irregularities.

If the postulate that yearly prices should be approximately smooth is rejected, everything crumbles. The cutting edge of the 'hue and cry': "manipulation!" becomes no sharper than the blunt end of a bologna.

I endorse the idea that the discontinuities in yearly prices of protection for a policy indicate a (possibly) unacceptable design feature. However, the primary focus on a single policy is myopic and is a diminutive part of the charge given to the committee by the task force. What about the manipulation across plans and issue ages? Or, granting the logical extension of the limited charge we received, how do we measure manipulation among different classes by calendar year of entry?

I believe that policy design irregularities need to be examined in a broader context. The context is an entire book of policies—old and new—and the name of the game is equity.

The mechanical detection system I propose is pegged on a simple premise:

All policyowners who contribute to the company about the same mortality risk should:

- (1) Have about the same yearly prices of protection (hereinafter meaning yearly prices per \$1,000 amount at risk as defined by equation 6) if they are the same attained age²
- (2) Have yearly prices of protection which, over time, maintain a reasonably stable relationship to competitive term insurance rates (such as the Society of Actuaries "low" term rates)

2. Guaranteed cost policies would, in general, fail the first test when general economic conditions are volatile. Hence, for guaranteed cost insurance the first condition for equity would be limited to policies issued in the same calendar year. For participating insurance the condition would apply regardless of the calendar year of entry.

If these conditions were fulfilled, the company's pricing system may be judged equitable; if the conditions are not satisfied, the pricing system is "manipulated."³

I believe these are reasonable tests for equity among policyowners. "Manipulation" occurs whenever the two conditions fail to exist, for whatever reason.

A mechanical detection system is offered below. It is a system based on this rigorous concept of equity among policyowners.

Outline of a System for Detection of Policy Design Irregularities

A. Proposed Test

1. The primary test indicator is the absolute value of the change between policy years in the ratio of yearly prices per \$1,000 of protection (amount at risk) to Society of Actuaries "low" term rates per \$1,000. The secondary test indicator is the range in the ratio by attained age for all policies in the same or similar underwriting class and in force at least ten years.
2. The absolute threshold used for the test is:

During	Max. Diff.
1980	.40
1981	.35
1982	.30
1983	.25
1984	.20
1985 and thereafter	.15

3. The primary test is applied to all policy years beginning with year six and continuing to policy maturity.
4. The formula for determining the yearly price of protection is equation (6). The Society of Actuaries "low" term prices are determined by the following formula:

$$T = (1000) (.95)^q + A$$

where T = term prices per \$1,000 in policy year t, q = mortality rate, Society of Actuaries 1957-60 male ultimate mortality, for the attained age during policy t, A = $0.9 + (25/(0.001P))$

5. The test ratio for policy year t is then

$$R = YP/T$$

where R = the test ratio for policy year t,

YP = the price of protection per \$1,000

T = low term rate for the attained age in policy year t.

B. Proposed Certification

1. A qualified actuary would certify during (1) filing for a new policy series; (2) filing for a change in an existing policy series; and (3) change in dividend scale on an existing policy series that the differences in the test ratios between consecutive policy years do not exceed the amount shown in A 2. for all policy years specified in A 3.
3. The definition of "manipulation" implicit in a violation of these conditions for equity can be easily objectified into a mechanical test. Other aspects of the manipulation problem constitute deceptive or misleading sales practices such as bait and switch. I have not dealt with these latter problems in the definition because I wish to limit the scope of the problem to one having a tractable solution via mechanical detection means.

2. An additional certification would be required to assure that cross-sectional manipulation among different policy plans or different issue ages does not exist. The range among ratios for all policies with the same attained age and in the same or similar underwriting class and in force at least ten years should not exceed the limit shown in A 3. The requirement would be independent of the plan of individual life insurance or issue age. This certification would be made annually as part of the annual report. The certification for participating classes of insurance would be independent of the calendar year of issue, but certification of guaranteed cost plans would be by calendar year. When the range is exceeded, a disclosure of the mean ratio for quinquennial attained ages between 25 and 75 would be required in the annual report with identification of the specific plans falling two standard deviations or more higher than the mean ratio. It would be consistent with the present charge of the committee if this certification was limited to just new issues; however, I believe the certification should apply across calendar year of entry for participating insurance as well.

C. Proposed Disclosure Requirements for Failure of Policy Design Test

1. At the discretion of the commissioner, the company would be required to include in its policy summary information (or when not required to provide a policy summary, it must provide on a separate statement) notice to the policyowner or prospective policyowner that the policy failed the commissioner's test for potential design irregularities. If the policy is an existing policy, the company would be required at the discretion of the commissioner to provide timely notice to all policyowners of the policy that potential design irregularities exist in the policy. The warning to policyowners would state that a table of yearly prices of protection is available from the company to aid the policyowner in assessing potential design irregularities.
2. Upon request of policyowners, the company would be required to provide a statement of yearly prices of protection for any policy for which the commissioner requires a published warning.

Discussion of Ratio Detection System

The derivation of limits for the ratio detection system is normative. It departs from the empirical approach taken by the committee to derive limits for its mechanical detection system. It is possible that the limits defined in a normative fashion could isolate a large segment of the insurance industry. Nevertheless, I believe that the limits are reasonable. The 1980 test limit of .4 has a straightforward meaning:

- a. After the first ten policy years, the spread in yearly prices of protection among policyowners of the same attained age and in the same underwriting class should not exceed 40 percent of a "yardstick" term insurance rate for the same age regardless of the plan of insurance.
- b. After the first five policy years, the level of yearly prices of protection compared to "yardstick" term rates should not experience a deviation of more than 40 percent between any two consecutive policy years for any policy.

The rigor of the test limit would be strengthened over time allowing companies to gradually accommodate to the equity standards. There is evidence that the standards would not be met by a significant proportion of the market. Based on the policy data for issue age 25 available to the committee, about 48 percent of participating whole life policies and 54 percent of guaranteed cost whole life policies would fail the test for policy year 21.

The failure rate is much lower for other policy years. A limit of .15 (projected for 1985) would today isolate about 73 percent of the whole life market at policy year 21. The failure rates would be significantly lower at older issue ages. With a .4 limit, the isolated group would comprise approximately 36 and 11 percent of the market for ages 35 and 45, respectively. The percentage of policies which fail the year-by-year requirement are comparatively small for policy years other than year 21. Years 10, 11, 15 and 16 exhibit the next highest failure rates.

The committee does not have at its disposal the necessary data to judge fully the impact of the consistency requirement across attained age. However, I assembled some data for whole life plans. Table 1 shows the median ratio by policy year for issue ages 25, 35, and 45. The information contained in the table is based on the committee's data set. These policies are all in the standard underwriting class, but they include both participating and guaranteed cost policies.

Assuming that dividend scales remained unchanged, the average plan exhibits a spread in ratios greater than .4 on an attained age basis beginning at age 48 and continuing intermittently through age 54, when data were no longer available for a comparison. It is clear, however, that a more rigorous limit would find a greater number of problems with other ages.

The actuarial community needs to address the inequities in pricing that are exhibited in Table 1. In my judgment, there is something very wrong and inequitable in the current pricing practices which charge a fifty-year old policyholder who had been an insured for 25 years a yearly price 1.23 times the market term rate but charge a fifty-year old policyholder who had been with the company only 15 or 5 years a yearly price of between .85 and .90 times the market term rate. In my judgment, consumers would be correct in interpreting these findings as evidence of widespread manipulation.

It is important to note that an investigation of this phenomenon was entirely within the charge of the committee. It was ignored.

It remains a mystery whether similar or worse differentials would be found on an attained age basis among policies issued during different calendar years. Professor Belth has classified this problem as Class A manipulation. The ratio test defined above will measure the extent to which it exists.

Conclusion and Recommendation

The committee ought to have received a broad charge—instead, it was greatly constrained. But even within its narrowly defined sphere of investigation, the product of the committee was a failure. It fell far short of reasonable expectations. The committee was unwilling to accept a defensible price measurement technique for its mechanical detection procedures. Instead, it invented a measure of yearly cost which cannot be justified on any basis.

I have provided in this statement a ratio test which is global, simple and entirely defensible. It is based on sound, recognized theory. It has great potential as the bulwark for a wide-ranging detection system for policy design irregularities and inequity among policyholders. It can detect most of the types of manipulation described in Professor Belth's statement attached to the committee report.

The committee has chosen to make its report the final one. The task force should reject the report—as a finale it was a fizzle. As a beginning, it demonstrates promise.

The most significant feature of the report is that for the first time a regulatory body has been instructed by a committee with important (and majority) industry representation that yearly prices do, indeed, contain a veritable storehouse of information about life insurance price structure. This is a most significant admission. It was regrettable that for unknown reasons, the majority of the committee refused to accept yearly prices as they are properly defined. It chose to reinvent the wheel with square sides. The contraption really doesn't roll very well, and we can get to where we really want to go much more effectively and simply using the kind of ratio detection system I propose in this statement.

Table 1

Median Ratios: Yearly Prices of Protection/Term Rates

<u>Attained Age</u>	<u>Issue Age 25</u>	<u>Issue Age 35</u>	<u>Issue Age 45</u>
25	4.14		
26	3.71		
27	2.19		
28	.59		
29	.54		
30	.52		
31	.54		
32	.48		
33	.57		
34	.55		
35	.65	5.26	
36	.69	4.61	
37	.71	1.01	
38	.76	.73	
39	.71	.74	
40	.68	.73	

<u>Attained Age</u>	<u>Issue Age 25</u>	<u>Issue Age 35</u>	<u>Issue Age 45</u>
41	.68	.78	
42	.70	.82	
43	.69	.81	
44	.65	.85	
45	1.27	.88	4.49
46	1.21	.90	3.22
47	1.21	.88	.83
48	1.28	.87	.85
49	1.29	.89	.85
50	1.23	.86	.87
51	1.31	.94	.91
52	1.30	.91	.92
53	1.32	.94	.98
54	1.34	.91	.95
55		1.20	1.02
56		1.29	1.00
57		1.26	1.03
58		1.25	1.03
59		1.28	1.03
60		1.27	1.03
61		1.29	1.06
62		1.28	1.05
63			1.07
64			1.06
65			1.22
66			1.22
67			1.24
68			1.27
69			1.27
70			1.29
71			1.30
72			1.32
73			1.29
74			1.32

This definition furthermore might extend to policy designs that are in wide use. The role of disclosure in curbing manipulation is discussed in Section IX of this report.

The committee recognizes the need for being alert to identify manipulation by attained age or by issue age or by issue year as well as the manipulation by policy duration that is the main subject of this report.

VII. Detecting Possible Manipulation: General Discussion

The committee concurs in the belief that regulatory judgment must be the final arbiter on what policies should be challenged on grounds of manipulation. We agree also that the comparison system set forth in the present NAIC Model Regulation, regardless of its suitability for disclosure to the buyers, is neither refined enough nor detailed enough to reveal structural peculiarities to officials charged with policy approval responsibility.

Further, we observe cases in which the progression of values or premiums may place a policyholder who is considering immediate surrender or lapse in a position where he might gain a dollar-and-cent advantage by postponing doing so for, say, a year, perhaps using the policy loan privilege in the meantime. If such a policy is approved, this should be done with a proviso that requests for voluntary termination at such points should not be acted upon until the policyholder has at least been told about this.

We now proceed to discussion of several ways in which the policies that may possibly be challenged on grounds of manipulation can be separated from policies free from serious criticism in this respect. The discussion herein deals only with insurance policies; the fact that the committee has not looked into manipulation of annuity contracts does not mean that we regard annuities as exempt from such questions.

VIII. Detecting Possible Manipulation: The Mechanical Approach

Manipulation is manifested in irregularities in the otherwise smooth progression of the net result of offsetting the dividends and the changes each year in cash values against the annual premiums, i.e., irregularities in the annual policy cost from the policyowner's viewpoint. We have examined several ways of testing for such irregularities and of arriving at limits beyond which they may be cause for inquiry by the regulators.

The method that we regard as most likely to work satisfactorily is described technically as follows:

1. The test measures irregularities in policy values which are identified by the yearly prices of protection. Yearly prices are based on premiums, illustrated dividends, cash surrender values, death benefits, and an imputed interest rate of five percent. They are defined in Appendix A. An analysis of the kinds of irregularities which can arise because of changes in one or more policy values is contained in Appendix B.
2. The test is applied to the sum of the squares of the second backward differences in yearly prices. This measure is obtained as follows: First, the differences between successive changes in yearly prices are calculated. These "second differences" are then squared to avoid the offsetting effect of positive and negative values. Finally, the squared second differences are added for policy years 8-23. Because the test omits from the calculation yearly prices prior to year 6, it will not detect irregularities in yearly prices during the first five policy years. The use of the mechanical approach in early policy years is burdened by variations in expense amortization and in early year cash surrender values. It was the judgment of the committee that incorporation of yearly prices beyond policy year 23 is currently unnecessary.
3. For the time being, we recommend a set of limits be used to separate whole life policies that are to be subjected to regulatory consideration which produces a manageable volume of identified policies. The upper limits of the test measure we recommend for acceptable policies are:

<u>Issue Age</u>	<u>Test Limit</u>
25 and under	300
35	500
45 and over	600

The column (1) yearly prices are calculated by the yearly price formula shown in Appendix A. The yearly prices are measured as of the beginning of the year.

Column (2) is calculated by subtracting the change observed in the yearly price in year $t-1$ from the change observed in the yearly price in year two. For example, the second difference of -16.63 in year 20 is calculated:

$$\begin{aligned} -16.63 &= (-5.84 - 10.47) - (10.47 - 10.15) \\ &= -16.31 - .32 \\ &= -16.63 \end{aligned}$$

Column (3), second difference squared, is the square of the figure in column (2). The sum of the squared second differences between years 8 and 23 is 2028. This sum exceeds by * the test limit for issue age 35 of *. A company actuary would be required to justify the abrupt discontinuities in yearly prices in policy years 10 and 20. These discontinuities are attributable to the unusual annual dividend scale and terminal dividend scale.

* 1528
** 500

The second example is a \$10,000 guaranteed cost policy issued during 1979 to males aged 25. It has a six percent policy loan rate. The policy summary is presented below on a per \$1,000 basis.

Example 2

Policy Year	Guaranteed Cash Value	Illustrated		Premium
		Annual Dividend	Terminal Dividend	
1	0.0	0.0	0.0	11.34
2	0.0	0.0	0.0	11.34
3	0.02	0.0	0.0	11.34
4	9.77	0.0	0.0	11.34
5	19.84	0.0	0.0	11.34
6	30.23	0.0	0.0	11.34
7	40.95	0.0	0.0	11.34
8	52.01	0.0	0.0	11.34
9	63.41	0.0	0.0	11.34
10	75.17	0.0	0.0	11.34
11	87.27	0.0	0.0	11.34
12	99.71	0.0	0.0	11.34
13	112.48	0.0	0.0	11.34
14	125.54	0.0	0.0	11.34
15	138.90	0.0	0.0	11.34
16	152.53	0.0	0.0	11.34
17	166.43	0.0	0.0	11.34
18	180.59	0.0	0.0	11.34
19	195.03	0.0	0.0	11.34
20	224.12	0.0	0.0	11.34
21	230.80	0.0	0.0	11.34
22	253.71	0.0	0.0	11.34
23	268.85	0.0	0.0	11.34
24	284.20	0.0	0.0	11.34
25	299.73	0.0	0.0	11.34
26	315.43	0.0	0.0	11.34
27	331.29	0.0	0.0	11.34
28	347.29	0.0	0.0	11.34
29	363.43	0.0	0.0	11.34
30	379.67	0.0	0.0	11.34

Policy Year	(1) Yearly Price	(2) Second Difference In Yearly Price	(3) Second Difference Squared
1	11.34	—	NA
2	11.34	—	NA
3	11.32	-.02	NA
4	2.06	-9.24	NA
5	2.21	9.41	NA
6	2.39	.03	NA
7	2.57	.00	NA
8	2.76	.01	.0001
9	2.96	.01	.0001
10	3.16	.00	.0000
11	3.40	.04	.0016
12	3.65	.01	.0001
13	3.93	.03	.0009
14	4.26	.05	.0025
15	4.59	.00	.0000
16	4.97	.05	.0025
17	5.37	.02	.0004
18	5.78	.01	.0001
19	6.19	.00	.0000
20	-7.08	-17.68	187.1424
21	15.65	36.00	1,296.0000
22	.51	-37.87	1,434.1369
23	9.00	23.63	558.3769
24	9.52	-7.97	NA
25	10.08	.04	NA
26	10.66	.02	NA
27	11.26	.02	NA
28	11.88	.02	NA
29	12.51	.01	NA
30	13.18	.04	NA

The sum of the squared second differences between years 8 and 23 for example two is 3476. It exceeds by * the test limit for issue age 25 of * . A company actuary would be required to justify the abrupt discontinuities in yearly prices between years 20 and 23. These discontinuities are attributable to the unusual cash surrender value progression during these years.

*3176
** 300

IX. Detecting Possible Manipulation: The Disclosure Approach

Prof. Belth, with support from some of the committee, urges consideration of detailed disclosure of policy structure as a sufficient way of curbing manipulation. In his words:

"The disclosure approach leaves companies free to develop and price their products provided they disclose fully the details and price structures thereof. The assumption is that companies would be reluctant, because of the possibility of adverse publicity, to market manipulated products.

The detailed information should be provided to the regulators when a policy is submitted for approval. In addition, all that information should be made available directly to the prospective buyer, at least upon that buyer's request.

The awesome power of disclosure is frequently underestimated. Not only would regulators and individual buyers see the prescribed data, agents also would see it. Agents' vital role in the sales process means that their influence in discouraging manipulation should not be underestimated. Competitors would see it, and also could be a powerful factor in discouraging manipulation. So would other observers of the life insurance business see it, and add their voices. In short, the very act of disclosure might cause companies to refrain from manipulation.²¹

1. 

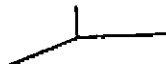
An element stays level for some years and then abruptly increases (or decreases) at duration n to a new level. This pattern is observed in certain modified premium policies. For this we set $b = d = c = 0$. Since we are talking about premiums, we look in the column headed " ∇^2 " and see that such a discontinuity will make itself known by affecting the second differences in two successive years.

2. 

An element increases for some years at one rate and then the slope changes abruptly so that it increases at a different rate. This can happen in annual dividends after charges for initial expenses are repaid; it can also happen in cash values either because of expense amortization or split interest rates. It also can happen in TD's which build up gradually to an ultimate level as a percent of the cash value. For this we set $c = d = 0$. If we are talking about annual dividends, we look at column " ∇^2 " and note that the discontinuity increases the second differences in only one year. However, if we are talking about cash values or TD's, we note from column " ∇^3 " that there will be a second difference effect for two successive years.

3. 

A combination of 1 and 2. This can happen if a substantial TD appears for the first time at duration n . In this instance $d = 0$ and we look at column " ∇^3 ". The discontinuity will be reflected in the second differences for three successive years.

4. 

This is a spike in the yearly cost. It might be occasioned by an extra quinquennial or decennial dividend. Or there might be an extra cash value or TD that shows up only at duration n . In this situation $d = -c$. An annual dividend discontinuity of this kind will affect three successive second differences. A cash value or TD discontinuity will affect four successive second differences.

APPENDIX C

Test Limits That Would Isolate 10 and 15 Percent of Policies Tested¹

<u>Issue Age</u>	<u>90 Percentile Limits²</u>	<u>85 Percentile Limits³</u>
25	130	80
35	240	140
45	260	160

Notes:

1. The data set used by the Committee was obtained from the Office of the Commissioner of Insurance, State of Wisconsin. All policies were 1979 whole life insurance. Policy sizes of \$10,000, \$25,000 and \$100,000 were sampled. Sample sizes vary by issue age and policy size and ranged between 165 and 172 policies.
2. The 90 percentile limits would isolate approximately ten percent of the policies tested.
3. The 85 percentile limits would isolate approximately fifteen percent of the policies tested.

ATTACHMENT ONE-C4

ENHANCEMENTS FOR THE NAIC MODEL LIFE INSURANCE SOLICITATION REGULATION

Section I. Purpose.

This regulation makes the following enhancements to the NAIC Model Life Insurance Solicitation Regulation:

- A. Identification of policies containing unusual discontinuities in yearly prices and a caution to policyowners about the possible unreliability of comparisons using cost indexes for such policies.
- B. A caution to policyowners or prospective policyowners when actual or illustrated policyowner dividends are determined in a manner involving substantial deviation from the Contribution Principle.
- C. Certain disclosures to (title of supervisory authority), policyowners or prospective policyowners when the Discontinuity Index for a newly issued policy exceeds specified limits.
- D. Disclosure to policyowners or prospective policyowners of the method for reflecting the company's investment yield in the determination of dividends and notification to policyowners if a change in the method occurs.
- E. A guarantee of access to certain information about policies.

Section II. Definitions.

- A. "Caution to Policyowners Regarding Failure to Use the Contribution Principle in Illustrating Policyowner Dividends" is the following statement:

The illustrated dividends for this policy have been determined in a manner inconsistent with generally accepted practices. Read the Buyer's Guide and contact this company for further information.
- B. "Caution to Policyowners Regarding Failure to Use the Contribution Principle in the Apportionment of Divisible Surplus" is the following statement:

The dividend paid this year was determined in a manner inconsistent with generally accepted practices. Contact this company for further information.
- C. "Caution to Policyowners Regarding the Discontinuity Index" is the following statement:

The cost indexes may not accurately reflect year to year policy costs. The policy has an unusual pattern of premiums or benefits that makes comparison of cost indexes with other policies possibly unreliable. You should discuss this with your agent or this company. A statement of year by year information is available.
- D. "Contribution Principle" is a basic principle of dividend determination adopted by the American Academy of Actuaries with respect to policies issued by mutual companies. The Academy report, The Recommendations of the Committee on Dividend Principles and Practices, describes this principle as the distribution of the aggregate divisible surplus among policies in the same proportion as the policies are considered to have contributed to divisible surplus. In a broad sense the contribution principle underlies the essential equity implied by participating business. References to the contribution principle in this regulation apply to all participating policies issued by any company, whether it is mutual or stock.
- E. "Discontinuity Index" is the sum of backward second differences squared in the Yearly Prices of Death Benefits (per 1000) between policy years 8 and 23. (See the sample calculation in Appendix A.)
- F. "Investment Generation Method" is a method of reflecting the company's investment earnings in dividend scales so that dividends for policies issued in specified years or groups of years reflect such earnings on funds attributable to those policies.
- G. "Policy Data" include: illustrated annual, other periodic and terminal dividends, and both guaranteed and non-guaranteed premiums, death benefits, cash surrender values and endowment benefits.

H. "Portfolio Average Method" is a method of reflecting the company's investment earnings in dividend scales so that dividends reflect such earnings on funds attributable to all policies regardless of when they were issued.

I. "Statement to Policyowners Regarding Investment Generation Method" is the following statement:

Illustrated dividends reflect current investment earnings on funds attributable to policies issued since 19 ____ (Insert the earliest year of the issue year grouping used to determine the investment earnings on currently issued policies) and are based on the current dividend scale. Refer to your Buyer's Guide for further information.

J. "Statement to Policyowners Regarding Investment Generation Method--Existing Policies" is the following statement:

The dividend for this policy reflects current investment earnings on funds attributable to policies issued in the years 19 ____ to 19 ____, inclusive (insert the applicable years of issue).

K. "Statement to Policyowners Regarding Portfolio Average Method" is the following statement:

Illustrated dividends reflect current investment earnings on funds applicable to all policies and are based on the current dividend scale. Refer to your Buyer's Guide for further information.

L. "Test Limits for Discontinuity" are the values set forth in Table 1.

M. "Yearly Price of Death Benefits (per 1000)" is computed by the following formula:

$$YP = (P - Dv - (CVCv - CVP)) / (F(1.05))$$

where YP = the Yearly Price of Death Benefits (per 1000),

P = the annual premium,

CVP = the sum of the cash value and terminal dividend at the end of the preceding year,

CVC = the sum of the cash value and terminal dividend at the end of the current year,

D = the annual dividend,

F = the face amount,

v = 1 / (1.05).

Section III. Duties of Insurers.

A. Requirements for Newly Insured Policies.

1. Policy Data for policy years 1 through 30 must be given on request to a policyowner or prospective policyowner.
2. If the Discontinuity Index for a newly issued policy exceeds the Test Limits for Discontinuity:
 - a. The policy summary and all other sales information showing the Surrender Cost, Net Payment or Equivalent Level Annual Dividend indexes shall prominently display the Caution to Policyowners Regarding the Discontinuity Index.
 - b. The (title of supervisory authority) shall be provided prior to the sale of a policy:
 1. Policy Data for policy years 1 through 30 for that policy.
 2. The Discontinuity Index and its component calculations. (See the examples in Appendix A.)
 3. A statement identifying as accurately as possible the specific policy premium or benefit causing the policy's Discontinuity Index to exceed the Test Limits for Discontinuity.
 - c. The buyer shall be given on request the information in Section III. A.2.b.3.

3. If the illustration of policyowner dividends is determined in a manner involving substantial deviation from the Contribution Principle, the policy summary and all other sales information showing illustrated policyowner dividends must prominently display the Caution to Policyowners Regarding Failure to Use the Contribution Principle in Illustrating Policyowner Dividends.
4. If the illustration of the policyowner dividends is determined on a basis involving use of the Portfolio Average Method, the policy summary and all other sales information showing illustrated policyowner dividends must include the Statement to Policyowners Regarding Portfolio Average Method.
5. If the illustration of policyowner dividends is determined on a basis involving use of the Investment Generation Method, the policy summary and all other sales information showing illustrated dividends must include the Statement to Policyowners Regarding Investment Generation Method.

B. Requirements for Existing Policies.

1. For a reasonable fee not to exceed \$(insert dollar amount), Policy Data for 30 consecutive years beginning with the previous policy anniversary must be provided on request to a policyowner. This information shall include cash dividends according to the current dividend scale. The statement of Policy Data shall also include the amount of outstanding policy loans and the current policy loan interest rate. Policy values shown shall be based on the dividend option in effect at the time of the request.
2. If use is made of any method that involves substantial deviation from the Contribution Principle, the Caution to Policyowners Regarding Failure to Use the Contribution Principle in the Apportionment of Divisible Surplus shall appear on an annual notice to policyowners.
3. If the dividend scale on existing policies which is in effect as of the effective date of this regulation is determined on a basis involving use of the Investment Generation Method, within 18 months after such effective date the company must send to each affected policyowner the Statement to Policyowners Regarding Investment Generation Method—Existing Policies.
4. If the method of dividend scale determination on existing policies is changed from one involving the Investment Generation Method to one involving the Portfolio Average Method, or vice versa, the company must send to each affected policyowner a notice of the change and the implications thereof on dividends payable under the policy in question. Any such notice must be sent no later than the first policy anniversary when the dividend on the new basis is payable, and must be filed with the (title of supervisory authority) and approved prior to the time it is sent to the policyowner.

TABLE 1

Test Limits for Discontinuity

<u>Issue Age</u>	<u>Test Limit</u>
25 and under	300
26	325
27	348
28	371
29	392
30	413
31	432
32	451
33	468
34	485
35	500
36	515
37	528
38	541
39	552
40	563
41	572
42	581
43	588
44	595
45 and over	600

APPENDIX A

Examples of Calculations of the Discontinuity Index

Example 1

The first example is a participating whole life policy issued to a male aged 35. The calculation is made on a per \$1,000 basis:

Policy Year	Guaranteed Cash Value	Illustrated		Premium
		Annual Dividend	Terminal Dividend	
1	0.0	0.0	0.00	21.40
2	8.77	2.40	0.00	21.40
3	31.27	2.65	0.00	21.40
4	54.28	2.90	0.00	21.40
5	77.82	3.16	0.00	21.40
6	94.24	3.16	0.00	21.40
7	110.93	3.16	0.00	21.40
8	127.88	3.41	0.00	21.40
9	145.09	3.41	0.00	21.40
10	162.54	3.66	8.00	21.40
11	180.22	4.16	8.00	21.40
12	198.11	4.67	8.00	21.40
13	216.20	5.17	8.00	21.40
14	234.46	5.68	8.00	21.40
15	252.88	6.18	8.00	21.40
16	271.43	6.69	8.00	21.40
17	290.10	7.19	8.00	21.40
18	308.87	7.95	8.00	21.40
19	327.73	8.46	8.00	21.40
20	346.65	9.47	25.00	21.40
21	365.62	10.48	25.00	21.40
22	384.60	11.49	25.00	21.40
23	403.57	12.50	25.00	21.40
24	422.50	13.51	25.00	21.40
25	441.37	14.52	25.00	21.40
26	460.14	15.53	25.00	21.40
27	478.78	16.54	25.00	21.40
28	497.28	17.55	25.00	21.40
29	515.60	18.56	25.00	21.40
30	533.70	19.57	25.00	21.40

The yearly prices, (backward) second differences in yearly prices, and their squares for this policy are:

Policy Year	(1) Yearly Price	(2) Second Difference in Yearly Price	(3) Second Difference Squared
1	21.40	—	NA
2	10.76	—	NA
3	-2.13	-2.25	NA
4	-1.79	13.23	NA
5	-1.44	.01	NA
6	6.46	7.55	NA
7	6.98	-7.38	NA
8	7.29	-.21	.0441
9	7.85	.25	.0625

Policy Year	(1) Yearly Price	(2) Second Difference in Yearly Price	(3) Second Difference Squared
10	.59	-7.82	61.1524
11	8.72	15.39	236.8521
12	8.88	-7.97	63.5209
13	9.06	.02	.0004
14	9.28	.04	.0016
15	9.52	.02	.0004
16	9.78	.02	.0004
17	10.08	.04	.0016
18	10.15	-.23	.0529
19	10.47	.25	.0625
20	-5.84	-16.63	276.5569
21	11.05	33.20	1,102.2400
22	10.98	-16.96	287.6416
23	10.93	.02	.0004
24	10.91	.03	NA
25	10.91	.02	NA
26	10.94	.03	NA
27	11.00	.03	NA
28	11.06	.00	NA
29	11.15	.03	NA
30	11.27	.03	NA

The column (1) yearly prices are the values of the Yearly Price of Death Benefits per (1000).

Column (2) is calculated by subtracting the change observed in the yearly price in year t-1 from the change observed in the yearly price in year t. For example, the second difference of -16.63 in year 20 is calculated:

$$\begin{aligned}
 -16.63 &= (-5.84 - 10.47) - (10.47 - 10.15) \\
 &= -16.31 - .32 \\
 &= -16.63
 \end{aligned}$$

Column (3), second difference squared, is the square of the figure in column (2). The sum of the squared second differences between years 8 and 23 is 2028. This sum exceeds by 1528 the test limit for issue age 35 of 500.

The second example is a guaranteed cost policy issued to a male age 25. It has a six percent policy loan rate. The calculation is made on a per \$1,000 basis.

Example 2

Policy Year	Guaranteed Cash Value	Illustrated		Premium
		Annual Dividend	Terminal Dividend	
1	0.0	0.0	0.0	11.34
2	0.0	0.0	0.0	11.34
3	0.02	0.0	0.0	11.34
4	9.77	0.0	0.0	11.34
5	19.84	0.0	0.0	11.34
6	30.23	0.0	0.0	11.34
7	40.95	0.0	0.0	11.34
8	52.01	0.0	0.0	11.34
9	63.41	0.0	0.0	11.34

Policy Year	Guaranteed Cash Value	Illustrated		Premium
		Annual Dividend	Terminal Dividend	
10	75.17	0.0	0.0	11.34
11	87.27	0.0	0.0	11.34
12	99.71	0.0	0.0	11.34
13	112.48	0.0	0.0	11.34
14	125.54	0.0	0.0	11.34
15	138.90	0.0	0.0	11.34
16	152.53	0.0	0.0	11.34
17	166.43	0.0	0.0	11.34
18	180.59	0.0	0.0	11.34
19	195.03	0.0	0.0	11.34
20	224.12	0.0	0.0	11.34
21	230.80	0.0	0.0	11.34
22	253.71	0.0	0.0	11.34
23	268.85	0.0	0.0	11.34
24	284.20	0.0	0.0	11.34
25	299.73	0.0	0.0	11.34
26	315.43	0.0	0.0	11.34
27	331.29	0.0	0.0	11.34
28	347.29	0.0	0.0	11.34
29	363.43	0.0	0.0	11.34
30	379.67	0.0	0.0	11.34

	(1)	(2)	(3)
Policy <u>Year</u>	<u>Yearly Price</u>	<u>Second Difference in Yearly Price</u>	<u>Second Difference Squared</u>
1	11.34	--	NA
2	11.34	--	NA
3	11.32	--.02	NA
4	2.06	-9.24	NA
5	2.21	9.41	NA
6	2.39	.03	NA
7	2.57	.00	NA
8	2.76	.01	.0001
9	2.96	.01	.0001
10	3.16	.00	.0000
11	3.40	.04	.0016
12	3.65	.01	.0001
13	3.93	.03	.0009
14	4.26	.05	.0025
15	4.59	.00	.0000
16	4.97	.05	.0025
17	5.37	.02	.0004
18	5.78	.01	.0001
19	6.19	.00	.0000
20	-7.08	-17.68	187.1424
21	15.65	36.00	1,296.0000
22	.51	-37.87	1,434.1369
23	9.00	23.63	558.3769
24	9.52	-7.97	NA
25	10.08	.04	NA
26	10.66	.02	NA
27	11.26	.02	NA
28	11.88	.03	NA
29	12.51	.01	NA
30	13.18	.04	NA

The sum of the squared second differences between years 8 and 23 for example two is 3476. It exceeds by 3176 the test limit for issue age 25 of 300.

ATTACHMENT ONE-D

The Northwestern Mutual Life Insurance Company - Milwaukee
720 East Wisconsin Avenue
Milwaukee, Wisconsin 53202

ADVISORY COMMITTEE ON ANNUITY DISCLOSURE

June 7, 1981

We have been meeting approximately every six weeks.

With a diversity of products in this field, it is difficult to develop one system that clearly shows cost figures.

It does appear that a buyer's guide, to explain what annuities are and what annuities are not, would be helpful.

We are working on this, with a broadened policy summary.

Our next meeting is on June 24, 1981, in Washington, D.C. at The American Council of Life Insurance.

The proposed regulation, which would encompass all of this, should be ready for exposure to the industry in December, 1981.

William M. Snell
Chairman

ATTACHMENT TWO

STATEMENT ON REPLACEMENT DISCLOSURE ISSUES

Submitted to the (C3) Life Insurance Cost Disclosure Task Force
by the Center for Public Representation
520 University Avenue
Madison, Wisconsin 53703

Prepared by Tony Whitson

June 19, 1981

This statement is submitted for the record of the hearing on replacement issues noticed for June 7, 1981. I am grateful for the opportunity to submit written comments. Although I do not have the means to personally attend hearings of the task force, I would be happy to clarify these comments or otherwise respond to questions by correspondence or by telephone.

As you may know, an ad hoc network of consumer groups interested in life insurance cost disclosure issues is being coordinated by David Swankin, counsel for the National Consumers League. Again, although these groups (mostly state and local consumer organizations) generally are not funded for travel to your hearings, we do look forward to future communication with the task force on the new solicitation regulation.

This statement is limited to the issue of replacement cost disclosure, and is offered on behalf of the Center for Public Representation (CPR), which operated the statewide (WATS) Wisconsin Life Insurance Cost-Comparison Information Line for eleven months during 1979. Discussion of our experience with the "hotline," which was intended to supplement the new Wisconsin regulation, can be found in the transcript of the hearings conducted by Commissioner Hemmings in Detroit in November, 1979. The CPR has continued its involvement in issues of life insurance solicitation regulation, and was party to an amicus brief (along with the Wisconsin Consumers League and the National Consumers League) in Commissioner Mitchell's appeal of the decision enjoining parts of the new solicitation regulation in Wisconsin.

1. Hotline Experience Related to Replacement

A surprising number of consumers called the hotline asking for information on the range of Surrender Cost Index numbers so that they could see how policies already in force compared with new policies currently being offered in the state. Consumers with policies less than five or six years old sometimes had the Surrender Cost Index as delivered with their policy at time of issue. Others asked us to give them index numbers (to compare with current ranges) for policies that had been in force for as much as twenty years.

From this experience we conclude that any system that encourages consumers to compare costs of life insurance policies must include instructions for comparing in-force policies with new policies currently being offered. Otherwise, consumers who received index numbers with original delivery of their in-force policies will tend to compare those numbers with indexes or ranges for new policies on the market.

2. Incorporation of Replacement and General Solicitation Rules

Although replacement and general solicitation might be covered by separate rules, they should be "incorporated" at least to this extent:

- a. Consumer information governed by the general solicitation regulation (e.g., buyer's guide, policy summary, agent or company communications, etc.) must alert the consumer to the difference between replacement comparison and comparison of similar new policies.
- b. Cost comparison methods included in the general solicitation regulation should be consistent with the comparison method to be used in replacement situations. The situation to be avoided is one in which a general regulation indicates one method for comparison of similar (new) policies and a second method for dissimilar (new) policies, while a third method is indicated by a separate replacement regulation. To the extent that methods of calculating the comparisons must be different, they should as far as possible be susceptible to consistent and coherent interpretations by the consumer. The buyer's guide should be written to aid the interpretation of all of these cost comparison situations.

3. Replacement Comparison for Differing Interest Assumptions

Cost comparison for possible replacement decisions may be regarded as a special case of the comparison of dissimilar policies. Such comparison should therefore employ a method usable by consumers for whom differing interest assumptions are relevant.

Often, an existing cash-value policy will be compared against a new term policy with initially lower premiums. But even where an existing cash-value policy is compared against a new cash-value policy, these should be regarded as dissimilar to the extent that the alternatives involve differing levels of funds "inside" the contract (e.g., if an older CV policy would be replaced by a combination of a smaller [but otherwise similar] policy plus a side fund started with proceeds from surrender of the older policy). Where one alternative involves comparatively less money "inside" the contract, present value calculations will differ for consumers with differing interest rates relevant to their use of money "outside" the contract.

Thus, comparison of dissimilar policies must be accomplished by a method that makes possible an evaluation taking into account the different interest rates relevant for different consumers. The replacement evaluation is merely a special case of this general situation. The general solicitation regulation should employ a method for comparing dissimilar (new) policies that can also be used for evaluating the replacement decision.

I have attached illustrations of how a 10-year-old cash-value policy compares against replacement by a hypothetical 1-year renewable term policy, using 8% and 5% interest assumptions. The method is that shown in Appendix II of the Consumers Union Report on Life Insurance, 4th ed., 1980. This differs from the cash accumulation method, in which the amount of term purchased is determined every year so that the sum of that amount plus the side fund at the beginning of the year exactly equals the face value of the CV policy. The Consumers Union modifies this approach in two ways: first, the amount of term purchased is in even multiples of \$1,000; and second, that amount is adjusted only every five years (instead of every year) to bring the sum of term plus side fund to just over the CV policy face amount.

Consumers Union compares the accumulated side fund against the illustrated surrender value (\$28,795 for the CV policies in my examples). I would add to this the illustrated dividend for the final year of the comparison period (\$1,279.50), which brings the figure for comparison on the cash value side to \$30,074.50.

The consumer whose use of money outside the contract would yield an 8% return after taxes (Figure 1 and Table 1) would have a side fund of \$35,863.94.

For the consumer who would get a 5% after-tax return on money outside the contract, Figure 2 and Table 2 show that replacement at age 45 would leave him considerably worse off at age 65 than if he had persisted with his CV policy. The side fund in this case is only \$14,780.76 at age 65. Furthermore, withdrawals from the side fund (to pay term premiums and to match negative net premiums on the CV side of the comparison) bring the total of term plus side fund below the CV face amount in some years. This can be avoided, of course, by adjusting the term amount every year instead of every five years. (See Figure 3 and Table 3. Note that this could not be done in a comparison using 5-year term, as in the Consumers Union example.)

Figure 1
8% interest assumption;
5-yr adjustments

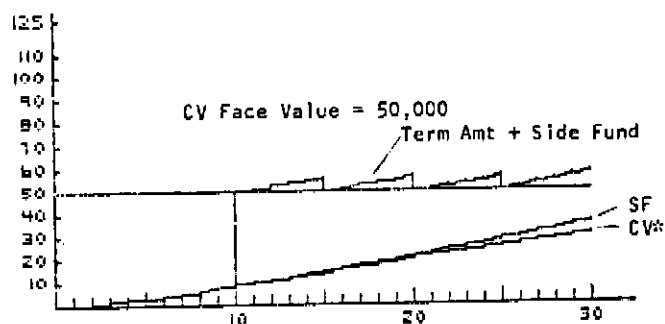


Figure 2
5% interest
5-yr adjustments

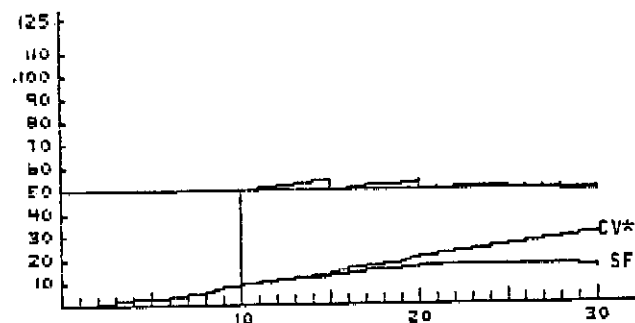
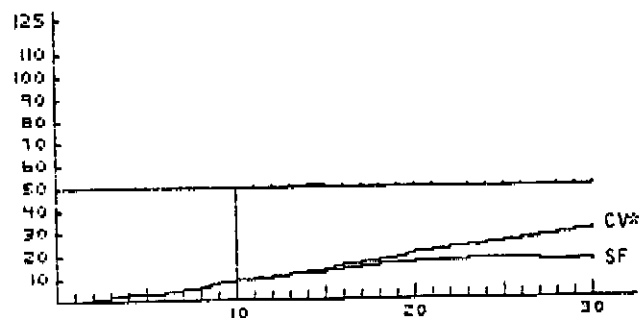


Figure 3
5% interest
annual adjustments



CV* = Gtd. Surre. Value + ill terminal dividend + ill div (end of year)

COST ANALYSIS OF REPLACEMENT DECISION
 AT AGE 45, ORIGINAL POLICY YR #11
 ASSUMING SAVINGS FROM LOWER COST REPLACEMENT POLICY INVESTED
 TO EARN 8% INTEREST AFTER TAXES.

TABLE 1

AGE	CU POLICY YEAR	TERM RATE	TERM FACE VALUE	TERM PREM
45	11	8.65	41000.00	272.65
46	12	7.15	41000.00	293.15
47	13	7.72	41000.00	316.52
48	14	8.33	41000.00	341.53
49	15	9	41000.00	369.00
50	16	9.73	35000.00	340.55
51	17	10.52	35000.00	368.20
52	18	11.38	35000.00	398.30
53	19	12.33	35000.00	431.55
54	20	13.37	35000.00	467.95
55	21	14.49	28000.00	405.72
56	22	15.73	28000.00	440.44
57	23	17.07	28000.00	477.56
58	24	18.53	28000.00	518.84
59	25	20.13	28000.00	563.64
60	26	21.87	22000.00	491.14
61	27	23.77	22000.00	522.94
62	28	25.84	22000.00	568.48
63	29	28.1	22000.00	618.20
64	30	30.57	22000.00	672.54
CU GROSS PREM	CU ILL DIV*	SAVINGS INVESTED (YR)	ACCUM'D SAVINGS YR END	CU ILL SURREN- DER VALUE
45				
891	99.5	518.85	9506.54	9209.5
891	157.5	440.35	10742.64	10261
891	215.5	358.98	11989.75	11338.5
891	273	276.47	13247.52	12441.5
891	330.5	191.50	14514.14	13571
50				
891	391.5	158.95	15846.93	14727
891	450	72.80	17193.31	15909.5
891	508.5	-15.80	18551.71	17120
891	569.5	-109.05	19918.08	18358.5
891	629	-205.95	21289.10	19627
55				
891	691	-205.72	22770.05	20546.5
891	946	-495.44	24056.58	21467
891	984	-570.96	25364.47	22386.5
891	1022	-649.84	26691.80	23354.5
891	1062	-734.64	28033.73	24269
60				
891	1103.5	-671.77	29550.91	25178.5
891	1140	-771.94	31081.29	26082.5
891	1177.5	-854.98	32644.42	27029.5
891	1215	-942.20	34239.40	27917.5
891	1249.5	-1031.04	35863.94	28795
65				

* DIVIDENDS ILLUSTRATED FOR END OF PREVIOUS YEAR.
 ILL DIV. END OF YR #30 = \$1279.5

COST ANALYSIS OF REPLACEMENT DECISION
 AT AGE 45, ORIGINAL POLICY YR #11
 ASSUMING SAVINGS FROM LOWER COST REPLACEMENT POLICY INVESTED
 TO EARN 5% INTEREST AFTER TAXES.

TABLE 2

AGE	CU POLICY YEAR	TERM RATE	TERM FACE VALUE	TERM PREM
45	11	6.65	41000.00	272.65
46	12	7.15	41000.00	293.15
47	13	7.72	41000.00	316.52
48	14	8.33	41000.00	341.53
49	15	9	41000.00	369.00
50	16	9.73	37000.00	360.01
51	17	10.52	37000.00	389.24
52	18	11.38	37000.00	421.06
53	19	12.33	37000.00	456.21
54	20	13.37	37000.00	494.69
55	21	14.49	34000.00	492.66
56	22	15.73	34000.00	534.82
57	23	17.07	34000.00	580.38
58	24	18.53	34000.00	630.02
59	25	20.13	34000.00	684.42
60	26	21.87	34000.00	743.59
61	27	23.77	34000.00	808.18
62	28	25.84	34000.00	878.56
63	29	28.1	34000.00	955.40
64	30	30.57	34000.00	1039.38
CU GROSS PREM	CU ILL DIV*	SAVINGS INVESTED (YR)	ACCUM'D SAVINGS YR END	CU ILL SURR VALUE
45				
891	93.5	518.85	9242.47	9209.5
891	157.5	440.35	10166.96	10261
891	215.5	358.98	11052.24	11338.5
891	273	276.47	11895.14	12441.5
891	330.5	191.50	12690.97	13571
50				
891	391.5	139.49	13471.99	14727
891	450	51.78	14199.93	15909.5
891	508.5	-38.56	14863.44	17120
891	568.5	-133.71	15472.52	18358.5
891	629	-232.69	16001.82	19627
55				
891	691	-278.17	16509.83	20546.5
891	846	-589.82	16716.01	21467
891	994	-673.38	16844.76	22386.5
891	1022	-761.02	16887.93	23354.5
891	1062	-855.42	16834.14	24269
60				
891	1103.5	-934.21	16894.92	25178.5
891	1140	-1057.18	16419.63	26092.5
891	1177.5	-1165.06	16017.30	27029.5
891	1215	-1279.40	15474.79	27917.5
891	1249.5	-1397.88	14780.76	28795
65				

* DIVIDENDS ILLUSTRATED FOR END OF PREVIOUS YEAR.
 ILL DIV. END OF YR #30 = \$1279.5

COST ANALYSIS OF REPLACEMENT DECISION
 AT AGE 45, ORIGINAL POLICY YR #11
 ASSUMING SAVINGS FROM LOWER COST REPLACEMENT POLICY INVESTED
 TO EARN 5% INTEREST AFTER TAXES.

TABLE 3

AGE	CU POLICY YEAR	TERM RATE	TERM FACE VALUE	TERM PREM
45	11	6.65	41000.00	272.65
46	12	7.15	40000.00	286.00
47	13	7.72	39000.00	301.00
48	14	8.33	38000.00	316.54
49	15	9	38000.00	342.00
50	16	9.73	37000.00	360.01
51	17	10.52	36000.00	378.72
52	18	11.38	35000.00	399.30
53	19	12.33	35000.00	431.55
54	20	13.37	34000.00	454.58
55	21	14.49	34000.00	492.66
56	22	15.73	33000.00	519.09
57	23	17.07	33000.00	563.31
58	24	18.53	33000.00	611.49
59	25	20.13	33000.00	664.29
60	26	21.87	33000.00	721.71
61	27	23.77	33000.00	784.41
62	28	25.84	34000.00	878.56
63	29	28.1	34000.00	955.40
64	30	30.57	35000.00	1063.95
CU GROSS PREM	CU ILL DIV*	SAVINGS INVESTED (YR)	ACCUM'D SAVINGS YR END	CU ILL SURR VALUE
45				
891	99.5	518.85	9242.47	9209.5
891	157.5	447.50	10174.47	10261
891	215.5	374.42	11076.33	11338.5
891	273	301.46	11948.68	12441.5
891	330.5	218.50	12773.44	13571
50				
891	391.5	139.49	13558.58	14727
891	450	62.28	14301.90	15909.5
891	508.5	-15.80	15080.40	17120
891	568.5	-96.72	15849.87	18359.5
891	629	-192.59	16229.10	19627
55				
891	691	-278.17	16749.48	20546.5
891	946	-574.09	16983.11	21467
891	984	-656.31	17143.14	22386.5
891	1022	-723.96	17240.14	23354.5
891	1062	-815.16	17246.22	24269
60				
891	1103.5	-912.34	17150.58	25178.5
891	1140	-1009.64	16947.99	26082.5
891	1177.5	-1139.22	16599.20	27029.5
891	1215	-1251.30	16115.30	27917.5
891	1249.5	-1367.31	15485.39	28795
65				

* DIVIDENDS ILLUSTRATED FOR END OF PREVIOUS YEAR.
 ILL DIV, END OF YR #30 = \$1279.5

ATTACHMENT THREE

REPORT TO THE LIFE INSURANCE (C3) SUBCOMMITTEE
ON THE MODEL POLICY LOAN INTEREST RATE BILL

Submitted by the American Council of Life Insurance
Detroit, Michigan
June 10, 1981

At the December, 1980, meeting of the National Association of Insurance Commissioners, a new model bill was adopted permitting an adjustable interest rate on loans against life insurance policies. By adopting this model bill, the NAIC recognized that its previous model, which only permitted a fixed maximum interest rate, was not adequate to accommodate periods of extraordinarily high market interest rates, such as the most recent period of the last two years.

There has been considerable and encouraging progress in the legislatures with regard to this model since its adoption by the NAIC. In addition, many of the economic circumstances that brought about your consideration of the policy loan problem during 1980 continue to be present today. This report will therefore briefly review the status of the model in the state legislatures and the continuing need for its passage.

Bills based on the model have been introduced in 34 state legislatures so far this year.¹ Nine states have enacted this legislation to date. These states are Alabama, Arkansas, Connecticut, Indiana, Maine, Nebraska, Utah, Virginia and Washington. Moreover, in Florida and Texas, the bills have passed the legislatures and are awaiting the governor's signature. In three other state legislatures, bills have already passed the first house.² The bill has also made substantial progress in a number of other states, and we anticipate more enactments before the various state legislatures adjourn this year.

At the end of 1980 and again in the spring of 1981, we experienced the same spiral of high interest rates as occurred earlier in 1980. While interest rates may level off slightly this summer, many economists have predicted another sharp increase in market interest rates by the end of the year. In response to high market interest rates, policyholders have continued to borrow heavily against their life insurance policies. Although not reaching the heights of the spring of 1980, borrowing has continued at high levels. For example, the survey of 15 insurers conducted by the Council shows that during the first 4 months of 1981, gross loans made averaged slightly more than \$600 million per month, somewhat less than the same period in 1980 but substantially higher than the same period in 1979. These periodic spurts of borrowing have caused serious problems for life insurers, their policyholders and the economy. Enactment of the model bill by the states should alleviate these problems in the future.

Enactment of the model bill will especially have a positive impact on the smaller policyholder who generally does not borrow but who suffers the most because of the heavy borrowing done by the larger policyholder. A survey conducted by the Council shows conclusively that for the large policies, a higher percentage of cash values are borrowed and a higher percentage of policies have loans outstanding.³ The model bill will do much to alleviate this inequity and assure fairer treatment for people who do not borrow on their policies.

The Council thanks you for this opportunity to report to you on the status of the model bill you adopted at your last meeting and which you as individual commissioners have been supporting before your state legislatures. We hope you are pleased with the legislative progress that has been made in such a short time, and we are hopeful that even more progress will be made this year and next.

-
1. Alabama, Arkansas, Arizona, Connecticut, Florida, Georgia, Hawaii, Illinois, Indiana, Kansas, Louisiana, Maine, Massachusetts, Minnesota, Mississippi, Nebraska, New Hampshire, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.
 2. Massachusetts, Oregon and Wisconsin.
 3. For whole life insurance policies of \$50,000 or more, 38% have loans outstanding and 63% of the cash value has been borrowed. For whole life policies of less than \$5,000, 12% have loans outstanding and only 10% of the cash value has been borrowed.