

TRANSACTIONS OF SOCIETY OF ACTUARIES 1988-90 REPORTS

II. 1987-88 LONG-TERM ORDINARY LAPSE SURVEY IN CANADA*

PREFACE

This report was prepared in the Financial Research Department of the Life Insurance Marketing and Research Association, Inc. LIMRA has given the Society of Actuaries permission to reproduce this study as part of the Society's expansion of its experience studies. Discussions of this report as well as of any experience study are encouraged. LIMRA and the Society intend to work together to expand this report and seek additional data contributors. The United States version of this study appears as Part I.

INTRODUCTION

Annual Survey

This annual long-term lapse study examines the lapsation of ordinary insurance in Canada between 1987 and 1988 policy anniversaries. It is designed to assist companies with developing new products and in monitoring marketing and product performance.

In past reports, lapse rates were percentages of face amounts in force at the beginning of 1987 policy anniversaries that lapse on or before 1988 policy anniversaries. (See Appendix A for the definitions used in this study.) This year, the report also examines the percent of policies in force at the beginning of 1987 policy anniversaries that lapse on or before 1988 policy anniversaries.

Face amount lapse rates are measured for five types of ordinary insurance plans:

- Traditional whole life
- Interest-sensitive whole life
- Permanent term (sometimes referred to as term to 100)
- Five-year renewable term (5-YRT)
- Level face amount term (excluding 5-YRT).

Lapse rates are measured for policy years 1, 2, 3-5, 6-10, and 11 and over. These policy years correspond to issue years 1987, 1986, 1985-1983, 1982-1978, and 1977 and earlier.

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This report touches on each of the five products, highlighting certain details. The report also examines trends in whole life and 5-YRT lapse rates for a constant group of companies that participated in both this year's and last year's studies, as well as variations of lapse rates by company for whole life and 5-YRT. The end of the report has detailed tables showing various statistics for each product. Appendix A supplies definitions of in-force business, lapses, and products.

In-Depth Survey

The report also presents an in-depth look at lapse rates for five-year renewable term on three bases:

- Number of policies
- Face amount
- Annualized premium.

Lapse rates and average size policies are analyzed for individual policy years 1–10 and combined policy years 11 and over.

ABOUT THE SAMPLE

Eleven companies participated in the study; 10 of these companies provided both face amount lapsing and number of policies lapsing; one company was only able to provide face amount lapsing. Table A shows the total face amount in force at the beginning of the 1987–1988 policy year, while Table B shows the total number of policies in force at the beginning of the 1987–1988 policy year.

TABLE A
FACE AMOUNT IN FORCE (BILLIONS) ON 1987 ANNIVERSARIES
(11 COMPANIES)

Issue Year	Traditional Whole Life	Interest- Sensitive Whole Life	Permanent Term	Level Term	
				5-YRT	Other
1987*	\$ 5.0	\$ 4.4	\$0.9	\$ 3.0	\$ 2.9
Before 1987	27.8	13.6	2.1	13.1	8.4
Total In Force	\$32.8	\$18.0	\$3.0	\$16.1	\$11.3

*For issue year 1987, amounts in force on 1987 anniversaries correspond to amounts sold during that year.

TABLE B
NUMBER OF POLICIES IN FORCE (THOUSANDS)
ON 1987 ANNIVERSARIES (10 COMPANIES)

Issue Year	Traditional Whole Life	Interest-Sensitive Whole Life	Permanent Term	Level Term	
				5-YRT	Other
1987*	112	82	9	23	17
Before 1987	1,799	306	21	123	71
Total In Force	1,911	388	30	146	88

*For issue year 1987, amounts in force on 1987 anniversaries correspond to amounts sold during that year.

LAPSE RATES BY PRODUCT TYPE

As a quick overview, Table C summarizes the products by showing the individual median lapse rates by policy year and face amount. Table D summarizes the products by policy year and number of policies.

TABLE C
SUMMARY OF MEDIAN LAPSE RATES BY FACE AMOUNT
(11 COMPANIES)

Policy Year	Traditional Whole Life	Interest-Sensitive Whole Life	Permanent Term	Level Term	
				5-YRT	Other
1	11.8%	14.2%	7.4%	13.0%	10.9%
2	10.5	10.8	11.1	14.4	12.2
3-5	8.0	10.9	9.8	16.8	13.7
6-10	8.3	—	—	15.0	12.6
11 and Over	6.1	—	—	12.1	10.0

—Insufficient data.

TABLE D
SUMMARY OF MEDIAN LAPSE RATES BY NUMBER OF POLICIES
(10 COMPANIES)

Policy Year	Traditional Whole Life	Interest-Sensitive Whole Life	Permanent Term	Level Term	
				5-YRT	Other
1	12.2%	14.9%	11.6%	14.1%	13.1%
2	9.8	11.3	12.3	14.9	14.9
3-5	7.9	10.4	10.6	16.7	14.3
6-10	8.7	—	—	13.0	12.5
11 and Over	5.7	—	—	11.2	7.3

—Insufficient data.

LAPSE RATES BY FACE AMOUNT AND NUMBER OF POLICIES

Figure 1 shows median lapse rates by face amount and number of policies for *traditional whole life*. Lapse rates in both measures decrease in the first three durations, increase slightly in the fourth duration, and then decrease in the last duration.

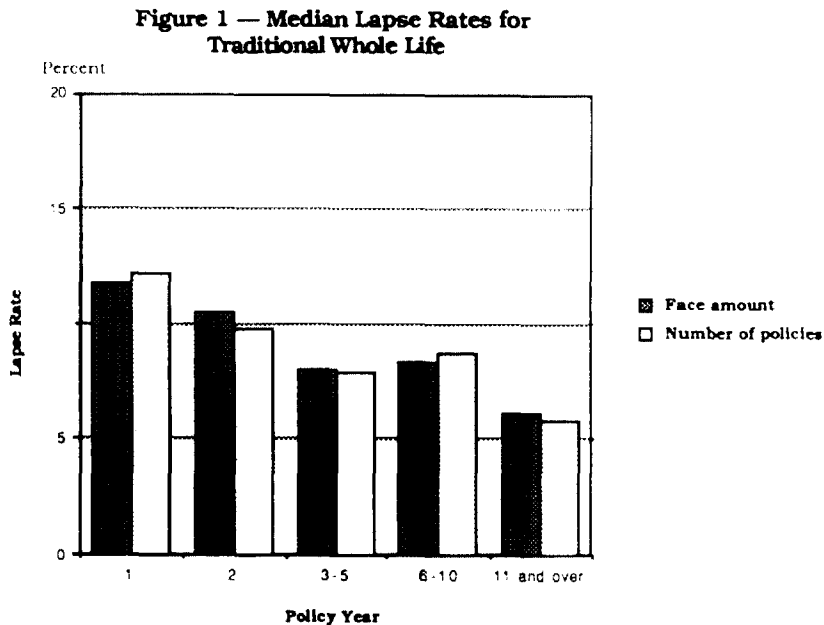


Figure 2 shows median lapse rates by face amount and number of policies for *interest-sensitive whole life*. Because of insufficient data in the later durations, lapse rates are only shown for the first three durations. Lapse rates by face amount range from 14.2 percent to 10.9 percent; lapse rates by number of policies range from 14.9 percent to 10.4 percent.

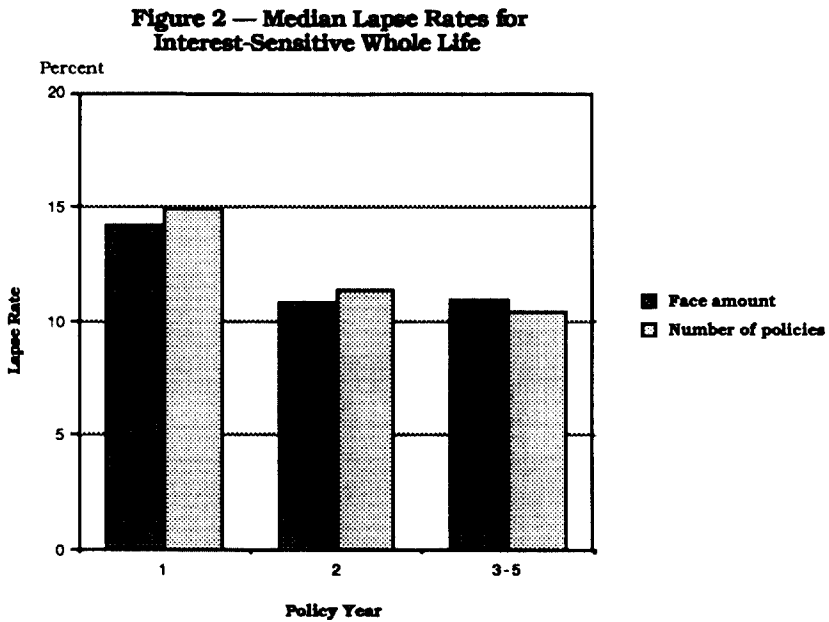


Figure 3 shows selected median lapse rates by face amount and number of policies for *permanent term* insurance (sometimes referred to as term to 100). In the first three durations, lapse rates by face amount are lower than rates by number of policies. The biggest difference occurs in policy year 1. The lapse rate by face amount is 7.4 percent, while the lapse rate by number of policies is 11.6 percent.

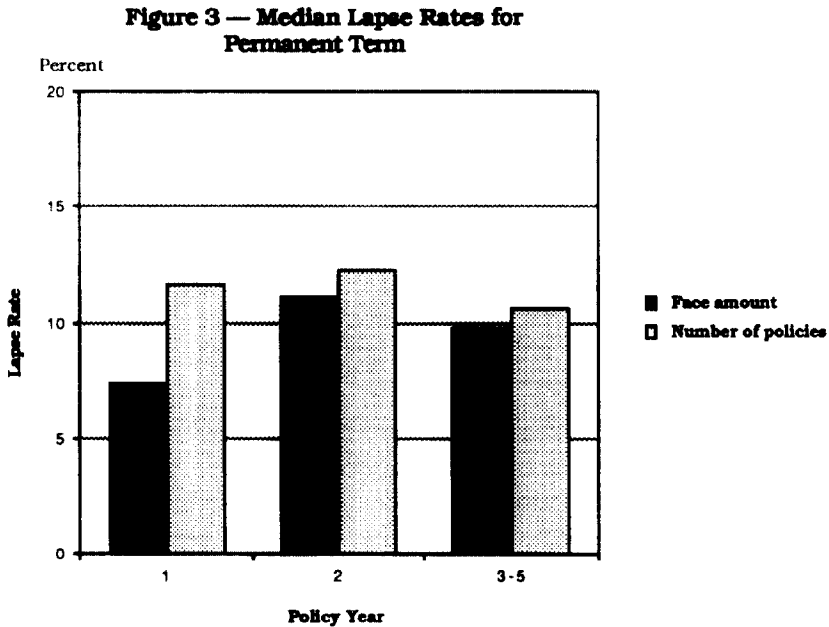


Figure 4 shows median lapse rates by face amount and number of policies for *five-year renewable term* insurance. Lapse rates peak in policy years 3–5. Note that a policy not renewing in the first month of the premium increase (61st month) is considered a fifth-policy-year lapse, not a sixth-policy-year lapse (see Appendix A for definitions of lapses).

Figure 4 — Median Lapse Rates for Five-Year Renewable Term

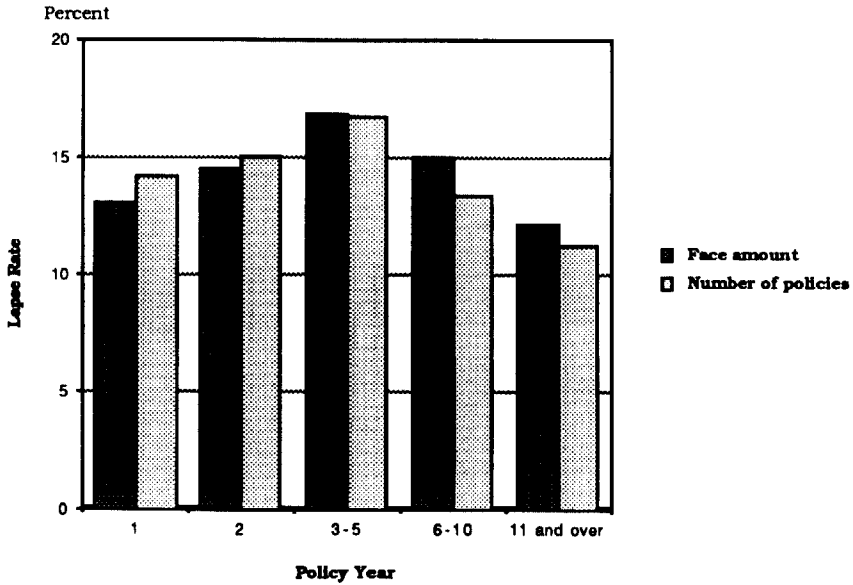
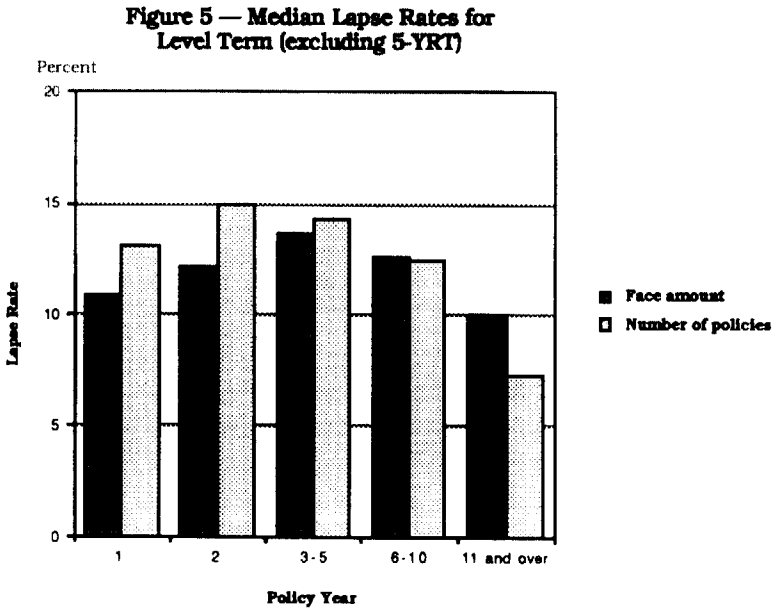


Figure 5 shows median lapse rates by face amount and number of policies for *level term (excluding 5-YRT)*. Lapse rates measured by face amount are lower than lapse rates by number of policies in all but the last two durations. Face amount lapse rates range from 10.9 percent in policy year 1 to 13.7 percent in policy years 3-5. Lapse rates measured by number of policies range from 13.1 percent in policy year 1 to 7.3 percent in policy years 11 and over.



AVERAGE FACE AMOUNT PERSISTING AND LAPSING

Table E provides medians for average face amount persisting and lapsing for traditional whole life. Average face amount persisting is greater than average face amount lapsing only in policy year 1 and policy year 2.

TABLE E
AVERAGE FACE AMOUNT PERSISTING AND
LAPSING FOR TRADITIONAL WHOLE LIFE
(10 COMPANIES)

Policy Year	Average Face Amount	
	Persisting	Lapsing
1	\$40,207	\$34,977
2	40,642	36,398
3-5	25,555	27,346
6-10	20,798	21,374
11 and Over	7,903	8,298

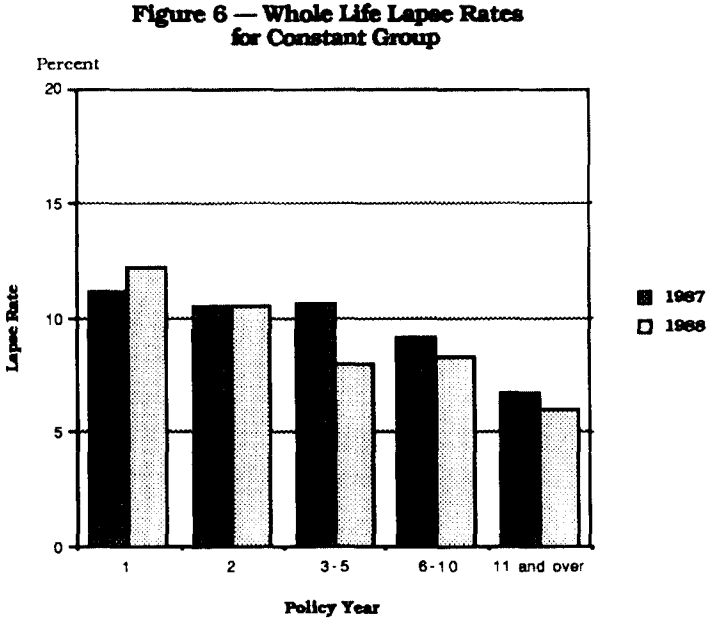
Table F shows medians for average face amount lapsing and persisting for five-year renewable term. Average face amount persisting is greater than average face amount lapsing in policy year 1, policy year 2, and policy years 3-5.

TABLE F
AVERAGE FACE AMOUNT PERSISTING AND
LAPSING FOR FIVE-YEAR RENEWABLE TERM
(7 COMPANIES)

Policy Year	Average Face Amount	
	Persisting	Lapsing
1	\$144,924	\$118,218
2	159,411	153,060
3-5	135,917	133,698
6-10	95,587	104,597
11 and Over	49,118	54,662

TRENDS IN WHOLE LIFE FACE AMOUNT LAPSE RATES

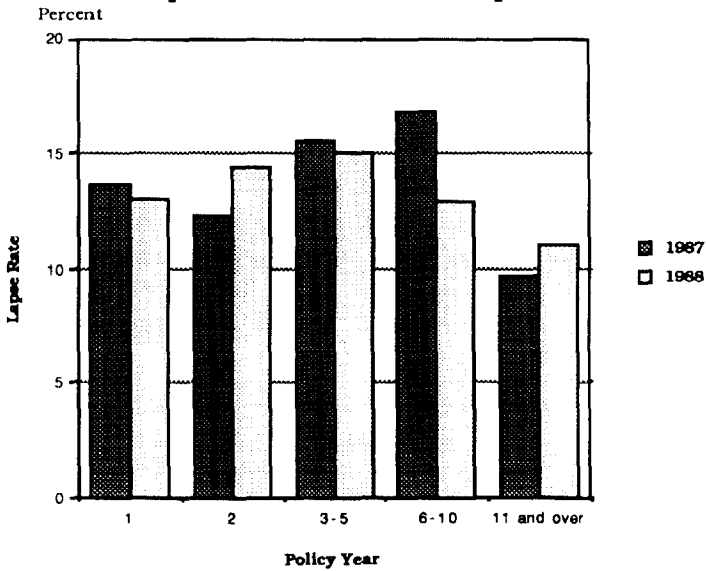
Figure 6 shows 1987 and 1988 whole life lapse rates for a constant group of companies. The lapse rates for this group of companies have decreased from 1987 in all durations with the exception of policy years 1 and 2. Policy years 3-5 experienced the largest decrease.



TRENDS IN FIVE-YEAR RENEWABLE TERM LAPSE RATES

Figure 7 shows 1987 and 1988 five-year renewable term lapse rates for a constant group of companies. Lapse rates have increased in policy year 2 and policy years 11 and over. The most substantial decrease occurs in policy years 6-10.

Figure 7 — Five-Year Renewable Term Lapse Rates for Constant Group



VARIATIONS AMONG COMPANIES' LAPSE RATES

Table G shows the face amount lapse rate variations across companies for whole life insurance. All companies in the three durations have lapse rates less than 20 percent. In policy year 1, nine companies have lapse rates less than 15 percent. In policy years 3-5 and policy years 11 and over, eight companies have lapse rates below 10 percent.

TABLE G
VARIATIONS OF WHOLE LIFE LAPSE RATES

Lapse Rate	Policy Year		
	1	3-5	11 and Over
20% and Over	0	0	0
15-19.99%	2	2	0
10-14.99	6	1	1
Under 10.00	3	8	8
Total Number of Companies	11	11	11

Table H shows the variations among companies' face amount lapse rates for five-year renewable term insurance. In policy years 3 to 5, all the companies have lapse rates greater than 10 percent; two companies have lapse rates above 20 percent.

TABLE H
VARIATIONS OF FIVE-YEAR RENEWABLE
TERM LAPSE RATES

Lapse Rate	Policy Year		
	1	3-5	11 and Over
20% and Over	0	2	0
15-19.99%	2	3	1
10-14.99%	3	3	3
Under 10.00%	1	0	2
Total Number of Companies	6	8	6

LAPSE RATES BY FACE AMOUNT

TABLE 1

TRADITIONAL WHOLE LIFE
(11 COMPANIES)

Policy Year	Low	Median	High	Average*
1	3.5%	11.8%	16.9%	11.5%
2	6.0	10.5	18.3	10.3
3-5	5.6	8.0	16.3	9.3
6-10	4.6	8.3	20.7	9.0
11 and Over	4.0	6.1	14.3	7.2

*All companies receive equal weight; company size does not affect the results.

TABLE 2

INTEREST-SENSITIVE WHOLE LIFE
(6 COMPANIES)

Policy Year	Low	Median	High	Average*
1	3.4%	14.2%	15.7%	12.3%
2	5.1	10.8	16.4	10.5
3-5	5.5	10.9	21.7	13.3

*All companies receive equal weight; company size does not affect the results.

TABLE 3

PERMANENT TERM
(6 COMPANIES)

Policy Year	Low	Median	High	Average*
1	1.3%	7.4%	14.5%	7.8%
2	4.9	11.1	15.8	10.5
3-5	1.5	9.8	14.0	8.5

*All companies receive equal weight; company size does not affect the results.

TABLE 4
FIVE-YEAR RENEWABLE TERM
(9 COMPANIES)

Policy Year	Low	Median	High	Average*
1	8.3%	13.0%	17.2%	13.1%
2	11.3	14.4	19.1	14.5
3-5	11.6	16.8	24.6	16.9
6-10	10.0	15.0	21.8	15.5
11 and Over	7.5	12.1	15.6	11.7

*All companies receive equal weight; company size does not affect the results.

TABLE 5
LEVEL TERM (EXCLUDING 5-YRT)†
(10 COMPANIES)

Policy Year	Low	Median	High	Average*
1	2.4%	10.9%	23.7%	11.0%
2	9.9	12.2	21.6	13.2
3-5	7.2	13.7	24.1	14.8
6-10	8.7	12.6	24.6	13.5
11 and Over	5.5	10.0	18.9	10.6

*All companies receive equal weight; company size does not affect the results.

†One company's data were excluded because of atypical experience.

LAPSE RATES BY NUMBER OF POLICIES

TABLE 6
TRADITIONAL WHOLE LIFE
(10 COMPANIES)

Policy Year	Low	Median	High	Average*
1	9.8%	12.2%	18.1%	12.9%
2	6.8	9.8	14.2	10.2
3-5	6.3	7.9	16.7	9.2
6-10	5.3	8.7	19.8	10.1
11 and Over	3.5	5.7	9.9	6.2

*All companies receive equal weight; company size does not affect the results.

TABLE 7
INTEREST-SENSITIVE WHOLE LIFE
(6 COMPANIES)

Policy Year	Low	Median	High	Average*
1	4.0%	14.9%	17.4%	13.3%
2	6.1	11.3	17.0	11.2
3-5	4.7	10.4	23.4	13.1

*All companies receive equal weight; company size does not affect the results.

TABLE 8
PERMANENT TERM
(5 COMPANIES)

Policy Year	Low	Median	High	Average*
1	1.8%	11.6%	14.0%	9.6%
2	4.9	12.3	19.1	12.0
3-5	3.9	10.6	18.8	10.9

*All companies receive equal weight; company size does not affect the results.

TABLE 9
FIVE-YEAR RENEWABLE TERM
(8 COMPANIES)

Policy Year	Low	Median	High	Average*
1	7.7%	14.1%	21.7%	14.3%
2	12.9	14.9	20.5	15.6
3-5	12.0	16.7	19.6	15.6
6-10	9.3	13.3	17.1	13.3
11 and Over	7.0	11.2	14.1	10.7

*All companies receive equal weight; company size does not affect the results.

TABLE 10
LEVEL TERM (EXCLUDING 5-YRT)†
(8 COMPANIES)

Policy Year	Low	Median	High	Average*
1	3.0%	13.1%	29.2%	13.3%
2	9.4	14.9	24.9	15.9
3-5	9.7	14.3	26.0	16.1
6-10	7.4	12.5	21.7	12.4
11 and Over	4.3	7.3	13.9	8.3

*All companies receive equal weight; company size does not affect the results.

†One company's data were excluded because of atypical experience.

IN-DEPTH SURVEY—FIVE-YEAR RENEWABLE TERM

Lapse Rates by Policy Year

TABLE 11
PERCENTAGE OF POLICIES LAPSING
(6 COMPANIES)

Policy Year	Median	Average*
1	14.4%	15.4%
2	14.9	15.0
3	15.2	15.8
4	13.7	13.8
5	17.0	18.6
6	18.6	18.3
7	12.9	12.3
8	11.5	11.5
9	9.6	10.0
10	14.2	14.2
11 and Over	11.2	10.8

*All companies receive equal weight; company size does not affect the results.

TABLE 12
 PERCENTAGE OF FACE AMOUNT
 LAPSING
 (6 COMPANIES)

Policy Year	Median	Average*
1	16.2%	13.8%
2	14.4	13.9
3	14.1	15.3
4	11.1	12.3
5	16.0	20.8
6	22.0	20.9
7	13.4	13.4
8	13.9	13.7
9	9.7	9.2
10	13.8	16.7
11 and Over	13.2	12.2

*All companies receive equal weight;
 company size does not affect the results.

TABLE 13
 PERCENTAGE OF ANNUALIZED
 PREMIUM LAPSING
 (6 COMPANIES)

Policy Year	Median	Average*
1	13.3%	15.6%
2	15.4	15.6
3	11.6	12.4
4	10.4	10.3
5	15.3	27.2
6	15.3	16.6
7	14.5	14.6
8	11.5	10.3
9	8.5	8.2
10	13.9	20.5
11 and Over	10.6	10.4

*All companies receive equal weight;
 company size does not affect the results.

Average Size Policy Lapsing and Persisting

TABLE 14
FACE AMOUNTS PERSISTING AND LAPSING

Policy Year	Median		Average*	
	Lapsing	Persisting	Lapsing	Persisting
1	\$118,000	\$145,000	\$107,000	\$133,000
2	153,000	159,000	129,000	144,000
3	118,000	162,000	134,000	140,000
4	128,000	158,000	118,000	137,000
5	112,000	115,000	121,000	109,000
6	124,000	102,000	112,000	94,000
7	111,000	106,000	110,000	100,000
8	112,000	96,000	117,000	90,000
9	70,000	78,000	76,000	82,000
10	69,000	71,000	78,000	67,000
11 and Over	55,000	50,000	56,000	51,000

*All companies receive equal weight; company size does not affect the results.

Distribution of In Force and Lapses

TABLE 15
DISTRIBUTION OF IN FORCE

Policy Year	Number of Policies	Face Amount	Annualized Premium
1	13.5%	15.9%	11.0%
2	14.4	17.3	11.6
3	12.4	13.9	11.0
4	12.7	14.2	14.8
5	12.6	12.4	14.2
6	9.2	8.4	10.7
7	7.4	6.9	8.3
8	4.6	3.9	4.8
9	3.2	2.4	3.2
10	2.4	1.5	2.5
11 and Over	7.6	3.2	8.0
	100.0%	100.0%	100.0%

TABLE 16
DISTRIBUTION OF LAPSES

Policy Year	Number of Policies	Face Amount	Annualized Premium
1	14.4%	14.5%	9.1%
2	15.6	17.2	12.2
3	12.6	14.5	9.8
4	11.7	12.0	11.2
5	15.9	15.9	21.3
6	10.1	10.7	14.1
7	6.0	5.7	6.9
8	3.5	3.5	3.8
9	2.1	1.6	1.6
10	2.4	1.7	2.8
11 and Over	5.6	2.7	7.2
	100.0%	100.0%	100.0%

APPENDIX A
DEFINITIONS OF IN-FORCE POLICIES AND LAPSES

In Force

A policy is considered in force if the first premium for the new policy year starting in 1987 is paid.

In-force business includes:

- Policies issued in 1987.
- Policies issued before 1987 where the premium due on the 1987 policy anniversary date is paid before the end of the grace period.

In-force business excludes:

- Policies that lapse before their 1987 anniversaries and are on extended term or reduced paid-up status.
- Limited premium payment policies that are paid up.
- Single premium policies.

Examples of policies in force are:

- A policy issued in 1987 and the first premium is paid.
- A policy issued in 1986 and the premium due in the 13th policy month is paid.
- A policy issued in 1985 and the premium due in the 25th policy month is paid.

Lapse

A policy is considered a lapse if the first premium for the new policy year starting in 1987 is paid, but not all of the premium that comes due after the 1987 anniversary and before or on the 1988 anniversary date is paid.

Lapsed business includes:

- Policies surrendered after their 1987 anniversaries and before or on their 1988 anniversaries.
- Policies where a premium due after the 1987 anniversary and before or on the 1988 anniversary date is not paid by the end of the grace period.
- Term policies with renewal provisions that do not renew.
- Policies that are on extended-term or reduced paid-up status.

Lapsed business excludes:

- Death claims.
- Automatic premium loaned policies.
- Expiries and maturities.
- Conversions.
- Policies that lapse during the 1987–1988 policy year but are reinstated before or on their 1988 anniversaries.
- Policies not taken.
- Policies where the waiver-of-premium provision applies.

Examples of policies that lapse are:

- A policy issued in 1987 and the policyowner has paid the first premium. If any premium for policy months 2 through 13 is not paid by the end of the grace period, the policy is a lapse.
- A policy issued in 1986 and the policyowner has paid the 13th policy month premium. If any premium for policy months 14 through 25 is not paid by the end of the grace period, the policy is a lapse.
- A policy issued in 1985 and the policyowner has paid the 25th policy month premium. If any premium for policy months 26 through 37 is not paid by the end of the grace period, the policy is a lapse.

Example of a policy that does not lapse is:

- A policy issued in 1986 is not considered a lapse if the 13th policy month premium and all premiums for policy months 14 through 25 are paid.

PRODUCT DEFINITIONS

Traditional Whole Life

Includes: ● Whole life policies with level premiums or indeterminate premiums with *fixed* cash values including continuous pay and limited pay plans.

Excludes: ● Universal life
● Graded-premium whole life
● Interest-sensitive whole life
● Endowments
● Policies that are combinations of whole life and term plans
● Whole life plans used to fund a registered pension plan.

Five-Year Renewable Term

Includes: ● Level five-year term.

Excludes: ● Nonlevel term
● Permanent-term insurance
● Term riders.

Level Term (Excluding 5-YRT)

Includes: ● Term policies with level face amounts.

Excludes: ● Nonlevel term
● Permanent term insurance
● Term riders.

Interest-Sensitive Whole Life

Includes: ● Whole life plans that credit cash values with current interest rates. Premiums may be level, may vanish, or may be adjusted periodically.

Excludes: ● Universal life.

Permanent Term

Includes: ● Plans that provide coverage to age 100 and feature initial level death benefits and level premiums. Death benefits or premiums for these plans may be adjusted periodically (for example, every five years) to reflect changes in interest rates, mortality, and expenses. Typically the plans build no (or little) cash value and their only nonforfeiture value may be reduced paid-up coverage.