

## **TRANSACTIONS OF SOCIETY OF ACTUARIES 1973 REPORTS**

### **III. EXPERIENCE UNDER TERM CONVERSIONS AND GUARANTEED INSURABILITY OPTIONS BETWEEN 1966 AND 1971 POLICY ANNIVERSARIES**

#### **ABSTRACT**

This report covers the intercompany study of experience between 1966 and 1971 policy anniversaries for two types of benefits, namely, term insurance conversion rights and guaranteed insurability options (GIO). The study was designed to derive information relative to conversion and election rates, lapse rates, and mortality rates required to evaluate the extra mortality costs associated with each of these benefits according to a basis described in Appendix II. Expected death claims are based on the 1955-60 Basic Tables. The following comments apply to the six different sets of experience submitted by the contributors.

#### **TERM CONVERSION RATES**

Conversion rates by attained age at conversion were derived for the first time with respect to two major conversion issue groups, namely, those issued prior to the end of the conversion period and those issued at the end of the conversion period. The rates experienced for the latter group were distinctly higher than those for the first group. Lowest rates were experienced under decreasing term plans. An analysis by duration group was prepared to test the hypothesis that conversion rates depend primarily on attained age for a given conversion issue group.

#### **LAPSE RATES UNDER CONVERTED POLICIES**

Analyses were prepared to continue the historical experience shown in the prior 1961-66 intercompany study with respect to policy-year duration measured from the date of issue of the conversion policy. The lapse rates for the recent 1966-71 period are consistently higher than those for prior periods.

#### **MORTALITY RATIOS UNDER CONVERTED POLICIES**

Analyses were prepared to continue the historical experience shown in the prior 1961-66 intercompany study with respect to policy-year duration measured from the date of issue of the original term policy. The mortality ratios for the recent 1966-71 period are generally lower than those for the prior period. The over-all ratios for two important plan categories with the largest volume of conversions with respect to conversions issued prior to the end of the conversion period are significantly lower than that for conversions issued at the end of the conversion period. The over-all ratios for the select period under medical business are consistently higher than those for nonmedical

business. However, for the ultimate experience, the over-all ratio for medical business is distinctly lower than that for nonmedical business. While the highest ratios are shown for decreasing term plans, it is observed that this category of plans had the lowest conversion rates. An analysis of the relation of conversion ratios to mortality ratios indicates a significant negative correlation in the case of three plan categories.

#### GIO ELECTION RATES

Election rates by attained age at election were derived for the first time with respect to regular elections and special elections. Rates for regular elections appear to increase steadily with advancing age. Rates for the special elections show a peak for the issue-age group 26–30.

#### LAPSE RATES UNDER GIO ELECTIONS

Lapse rates for both regular and special elections appear to be favorable. The over-all rates for issue-age groupings with respect to medical business are consistently lower than those for corresponding nonmedical business. The rates for regular elections are generally lower than those for special elections.

#### MORTALITY RATIOS UNDER GIO ELECTIONS

Only 215 death claims were contributed to the study. Male business experienced over-all ratios somewhat in excess of the expected. Medical business experienced over-all ratios which were lower than those for nonmedical business.

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PREFACE

**T**HE Society of Actuaries' Committee on Mortality under Ordinary Insurances and Annuities in 1962 undertook its first intercompany study of the mortality experience on term plan conversions which covered the experience between 1954 and 1961 anniversaries. This initial study was followed five years later by another study covering the experience between 1961 and 1966 policy anniversaries which was expanded to include the mortality experience of policies issued as a result of the

exercising of options under guaranteed insurability riders. A supplemental study was also made at that time of conversion and GIO policy lapse rates between 1961 and 1966 anniversaries. The results of the earlier study were published in the *1963 Reports*; those for the later period may be found in the *1968 Reports*.

Because of the continued interest in conversions and GIO elections, the Committee decided that various facets of experience related to these benefits should be the subject of a continuing investigation. For the 1966-71 study, in particular, the Committee decided to concentrate on data which could be used to develop the costs of extra mortality experienced under conversions and GIO elections according to a specific formula. For the purpose of this study, the Committee adopted the concept for conversion policies that the present value of the extra mortality costs on the date of issue of the original policy is dependent on nine major elements: assumed rate of interest, issue age and persistency of the original plan, conversion period, conversion rate, plan of conversion policy, persistency and mortality under the conversion policy, and mortality under corresponding standard nonconversion policies. A similar assumption was adopted for GIO elections.

The reader may wish to refer to Appendix I for the instructions given to contributing companies and also to Appendix II for details of the concept described above for measuring extra mortality costs. Expected deaths for this report are based on the 1955-60 Male Basic Tables and on the 1955-60 Female Basic Tables for the experience submitted by sex. The 1955-60 Combined Basic Tables were used for the small volume of data submitted for the ultimate experience which was not separated by sex. War deaths were excluded from this experience.

#### PART A: TERM CONVERSION EXPERIENCE

Part A of this year's study presents term conversion experience relating to three of the five sets of rates which are required under the formulas given in Appendix II as a basis for measuring the present value of extra mortality costs. These three sets of rates include conversion rates, lapse rates under converted policies, and mortality rates under converted policies. The Committee believes that suitable data for the two remaining rates required to measure the extra mortality costs (namely, the persistency rates applicable to the period prior to the date of conversion and the mortality rates thereafter for standard nonconversion policies) may be obtained from company experience or from published sources.

Four of the five categories of term plans which were studied in the prior reports were also studied this time, namely, plans automatically convertible within ten years, renewable term plans, decreasing term plans, and all other identifiable term plans, which, for the most part, consist of other level term insurance plans. The same two types of major conversion groups were also analyzed—conversion group 1 for conversion policies issued prior to the end of the conversion period and conversion group 2 for conversion policies issued at the end of the conversion period.

*A(1). Conversion Rates under Term Policies*

The definition of the conversion rate given in Appendix II expresses this rate as a function of three variables: issue age of the term plan, conversion period, and duration to the date of conversion. For the purpose of this study, however, the assumption was adopted that conversion rates for each of the two major conversion groups would depend primarily on one variable—the attained age on the date of conversion. In order to test this assumption with respect to the degree of the conversion rate dependence on both (i) attained age at conversion and (ii) duration at conversion, companies were asked to report their experience by attained-age groups each separated into two durational subgroups: conversions effected during the first seven policy years and those effected thereafter.

The data for the conversion rate experience were furnished by the companies on Report Form No. 1 as shown in Appendix I. The total number of conversions contributed by the companies listed in Appendix III was 137,754, of which 123,861 occurred prior to the end of the conversion period, while 13,893 took place at the end of the conversion period.

The instructions for the study noted that the level of conversion rates might be influenced by company practices and asked companies to give a résumé of any special administrative procedures or any financial inducements which they offered to their policyholders at the various eligibility dates. However, it was not possible to present an analysis of variations due to company practices because the responses to this request were too difficult to interpret.

Tables 1 and 2 present a summary of the conversion rates based on amounts of insurance as reported by the various companies. The values shown for conversion group 1 are the annual rates obtained by dividing the conversion amounts by the amounts eligible to convert each year during the observation period. The rates shown for conversion group 2,

TABLE 1  
 TERM CONVERSION RATES BY ATTAINED AGE AT CONVERSION  
 (Based on Amounts)  
 GROUP 1—CONVERSIONS PRIOR TO END OF CONVERSION PERIOD

ATTAINED AGE AT CONVERSION	AGGREGATE CONVERSION RATE	TOTAL CONVERSIONS	RANGE OF INDIVIDUAL COMPANY CONVERSION RATES*			
			Maximum		Minimum	
			Rate	Number	Rate	Number
Plans Automatically Convertible within 10 Years (4)†						
15-24 .....	8.2%	180				
25-34 .....	8.6	332	16.7%	76	7.7%	252
35-44 .....	8.6	245				
45-54 .....	8.8	143				
55 and over .....	11.8	36				
Total ‡	10.5% ‡	6,283 ‡				
Renewable Term Plans (8)†						
15-24 .....	4.5%	1,560	10.8%	353	1.9%	92
25-34 .....	4.2	5,217	8.5	1,856	1.0	119
35-44 .....	4.1	6,400	9.0	1,826	1.4	247
45-54 .....	5.2	4,537	9.7	889	2.4	174
55 and over .....	5.9	1,199	15.9	164	4.8	474
Total .....	4.5%	18,913				
Decreasing Term Plans (9)†						
15-24 .....	0.7%	2,138	4.8%	51	0.3%	409
25-34 .....	0.9	13,434	4.7	368	0.4	93
35-44 .....	1.4	20,405	6.1	1,608	0.4	115
45-54 .....	2.1	15,412	7.6	2,313	0.4	56
55 and over .....	3.1	3,742	9.8	117	1.6	1,216
Total .....	1.4%	55,131				
All Other Identifiable Term Plans (8)†						
15-24 .....	6.0%	2,598	9.2%	871	2.6%	346
25-34 .....	6.9	13,999	10.0	6,618	2.1	89
35-44 .....	9.0	17,049	12.8	7,263	3.4	195
45-54 .....	8.4	8,020	13.7	2,618	3.0	695
55 and over .....	5.8	1,868	13.4	411	2.8	255
Total .....	7.7%	43,534				

\* Entries in last four columns are given only if two or more companies each reported at least 50 conversions for the indicated category.

† Number of contributing companies.

‡ Including one company's contribution of 5,347 conversions with no available age distribution, for which the aggregate rate is 10.8 per cent.

TABLE 2  
 TERM CONVERSION RATES BY ATTAINED AGE AT CONVERSION  
 (Based on Amounts)  
 GROUP 2—CONVERSIONS AT END OF CONVERSION PERIOD

ATTAINED AGE AT CONVERSION	AGGREGATE CONVERSION RATE	TOTAL CONVERSIONS	RANGE OF INDIVIDUAL COMPANY CONVERSION RATES*			
			Maximum		Minimum	
			Rate	Number	Rate	Number
Plans Automatically Convertible within 10 Years (3) †						
15-24.....	58.6%	377				
25-34.....	41.9	513	62.1%	143	37.2%	370
35-44.....	49.5	493	65.1	166	44.2	327
45-54.....	57.6	343	71.9	124	51.8	219
55 and over.....	66.4	91				
Total ‡.....	71.3% ‡	5,448 ‡				
Renewable Term Plans (8) †						
Total.....		322				
Decreasing Term Plans (6) †						
15-24.....						
25-34.....	8.7%	47				
35-44.....	3.2	374	52.1%	72	2.2%	185
45-54.....	4.6	934	52.7	194	3.9	443
55 and over.....	7.5	662	45.9	72	5.7	300
Total.....	4.9%	2,017				
All Other Identifiable Term Plans (7) †						
15-24.....	11.3%	27				
25-34.....	25.2	701	62.3%	397	11.5%	88
35-44.....	33.2	2,368	58.6	1,478	16.1	63
45-54.....	34.8	1,863	56.9	1,007	23.8	266
55 and over.....	27.5	1,147	77.4	257	22.2	206
Total.....	31.0%	6,106				

\* Entries in last four columns are given only if two or more companies each reported at least 50 conversions for the indicated category.

† Number of contributing companies.

‡ Including one company's contribution of 3,631 conversions with no available age distribution, for which the aggregate rate is 89.8 per cent.

on the other hand, were obtained by dividing the amounts converted at the end of the conversion period by the amounts which were eligible for conversion at that time. The exposure used to obtain a particular rate shown in the second columns of these two tables was estimated from each company's actual number of conversions and the related conversion rate, which was submitted on an amount basis.

The rates shown in Table 1 suggest some stability by plan, with perhaps a tendency for rates to increase with attained age. Somewhat of an exception, the "all other identifiable term plans" experience shows a peak at about attained age 40. The rates for automatically convertible plans appear to be generally higher than the corresponding rates for other plans. Also, the category for decreasing term plans shows rates which are well under the corresponding rates for the other plans.

Table 2 shows that the rates for conversion group 2 are generally considerably higher than the corresponding rates for conversion group 1. For example, in the case of plans automatically convertible within ten years, the rate shown in Table 2 is 6.8 times that shown in Table 1. A comparison for the renewable term plan would not be meaningful because the volume of contributions submitted for group 2 was very small.

Table 3 presents data for testing the assumption that conversion rates for a particular category would vary primarily by attained age rather than by duration. The ratio of the over-all conversion rate for durations 1-7 to that for durations 8 and over as shown in Table 3 is 104 per cent. While this ratio of 104 per cent might lend support for the use of this attained-age assumption for aggregate experience, one should note that the over-all ratios for the four broad plan categories included in Table 3 ranged from 84 to 130 per cent. Comparisons could not be given in Table 3 for any other categories because of lack of data or because of suspect data (one company stated that it made no attempt to remove from the eligibility base amounts of reduced term insurance which were below the minimum amount for which a conversion policy would be issued).

Table 4 was prepared to illustrate the range in the aggregate conversion rates for some of the companies which contributed data for Table 3. Data are included only for those categories with respect to which at least three companies each reported at least fifty conversions. A wide variance for these conversion rates is to be noted. It is apparent, therefore, that the composite ratios shown in Table 3 are quite sensitive to the volume of experience contributed by particular companies to the various categories.



TABLE 3  
 TERM CONVERSION RATES BY DURATION GROUPS  
 (Based on Amounts)

ATTAINED AGE AT CONVERSION	NUMBER OF CONVERSIONS FOR DURATIONS		CONVERSION RATE FOR DURATIONS		RATIO*
	1-7	8 and Over	1-7	8 and Over	
Conversion Group 1, Renewable Term					
15-34.....	6,528	249	4.3%	4.3%	100%
35-44.....	5,491	909	4.2	3.2	131
45-54.....	3,354	1,183	5.9	3.9	151
55 and over.....	725	474	6.3	5.4	117
Total.....	16,098	2,815			122%
Conversion Group 1, Decreasing Term					
15-34.....	13,932	1,640	0.9%	1.2%	75%
35-44.....	13,320	7,085	1.4	1.5	93
45-54.....	8,249	7,163	2.0	2.2	90
55 and over.....	2,128	1,614	3.1	3.0	103
Total.....	37,629	17,502			87%
Conversion Group 1, All Other Identifiable Term					
15-34.....	15,534	1,063	6.8%	6.4%	106%
35-44.....	13,802	3,247	9.7	7.0	139
45-54.....	5,660	2,360	9.8	6.2	158
55 and over.....	951	917	8.4	4.4	191
Total.....	35,947	7,587			130%
Conversion Group 2, All Other Identifiable Term					
15-34.....	312	416	16.8%	35.6%	47%
35-44.....	612	1,756	24.3	38.0	64
45-54.....	478	1,385	28.6	37.7	76
55 and over.....	269	878	31.2	26.5	118
Total.....	1,671	4,435			84%
Summary for Above Plans					
15-34.....	36,306	3,368	1.9%	2.1%	89%
35-44.....	33,225	12,997	2.7	2.4	112
45-54.....	17,741	12,091	3.3	3.0	112
55 and over.....	4,073	3,883	5.1	4.1	124
Total.....	91,345	32,339			104%

\* Ratio of rate for durations 1-7 to that for durations 8 and over. Ratios for totals are based on the average of individual rates, each weighted by the associated number of policies eligible for conversion for all durations combined.

**TABLE 4**  
**TERM CONVERSION RATES BY COMPANY\***  
 (Based on Amounts)

COMPANY	DURATIONS 1-7		DURATIONS 8 AND OVER		RATE†
	Rate	Number	Rate	Number	
Conversion Group 1, Renewable Term					
B.....	3.5%	4,283	3.0%	687	117%
C.....	6.2	1,157	5.8	940	107
F.....	3.3	1,608	3.0	565	110
G.....	1.5	553	1.5	58	100
J.....	9.3	4,753	5.6	310	166
L.....	3.2	899	4.3	104	74
N.....	8.3	2,111	6.5	149	128
Conversion Group 1, Decreasing Term					
C.....	5.3%	6,438	5.1%	2,350	104%
E.....	2.3	984	1.0	204	230
F.....	2.3	1,875	1.9	709	121
G.....	0.6	10,466	1.2	8,095	50
H.....	1.5	1,020	1.2	914	125
J.....	5.2	3,150	14.5	630	36
N.....	5.0	961	6.2	130	81
O.....	1.7	12,430	2.4	4,470	71
Conversion Group 1, All Other Identifiable Term					
B.....	11.9%	1,350	3.4%	111	350%
C.....	7.8	1,666	10.0	209	78
F.....	3.1	380	3.3	891	94
G.....	3.6	2,316	2.7	564	133
H.....	7.3	8,877	9.8	2,099	74
J.....	12.5	15,386	7.0	2,499	179
N.....	9.7	5,643	12.0	1,195	81
Conversion Group 2, All Other Identifiable Term					
C.....	27.9%	447	34.0%	247	82%
G.....	22.9	562	20.3	274	113
J.....	60.6	545	59.3	2,600	102

\* Entries are limited to those categories for which at least three companies each reported at least 50 conversions.

† Ratio of rate for durations 1-7 to that for durations 8 and over.

The volume of experience contributed to the conversion rate experience portion of the 1961-66 study was quite small. Consequently, a meaningful comparison of the results under the prior and current studies could not be made for the various possible plan-age-duration study groups.

*A(2). Lapse Rates under Converted Policies*

The definition for the persistency rate used in formula (2) of Appendix II implies that the corresponding lapse rate for a conversion policy arising from a particular term plan type is a function of four variables. The 1968 lapse study for conversion policies suggests that the use of four variables may be an unnecessary refinement for practical purposes and that the assumption might be made that lapse rates would depend primarily on only two of these variables, namely, age at issue of the conversion policy and duration measured from its issue date, provided that the conversions at the end of the conversion period are separated from the earlier issues. The cost of conversion, furthermore, would appear to be much more dependent upon conversion rates and the associated excess mortality rates under conversion policies than upon the general level of lapse rates. Because of these considerations, the Committee decided for the purpose of this report to adopt the simpler two variable lapse rate assumptions distinguishing between conversion groups 1 and 2.

The data for the lapse experience were furnished by the twelve companies listed in Appendix IV. The total exposure was 2,114,692 by number of policies and \$22.3 billion by amount of insurance. There were 63,004 lapses with a total of \$0.739 billion of insurance.

Tables 5-10 were prepared in a form which historically continues the experience shown in Tables 2-7 of the prior lapse study (see p. 130 of the *1968 Reports*). The results, as before, are analyzed herein by number of policies and amount of insurance for the two major conversion groups as to time of conversion. In the case of conversion group 2, analyses were also prepared by type of conversion privilege (i.e., the interval between the end of the conversion period and the end of the term coverage). Subdivisions of the experience for term plan groups are given also for sex, for type of underwriting of the original policy (i.e., medical or nonmedical), and for type of contract (i.e., policy or rider).

TABLE 5

LAPSE RATES FOR CONVERSIONS FROM ALL TERM PLANS COMBINED  
 MALE AND FEMALE, MEDICAL AND NONMEDICAL, POLICIES AND RIDERS COMBINED

AGE AT CONVERSION	DURATION FROM CONVERSION	CONVERSIONS PRIOR TO END OF PERIOD		CONVERSION AT END OF CONVERSION PERIOD WITH INTERVAL BETWEEN END OF CONVERSION PERIOD AND END OF TERM COVERAGE OF:												TOTAL							
				0 Years			1-3 Years			Over 3 Years			Unknown					Total					
		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate					
			No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.	No.	Amt.		
Select																							
15-24	1	1,208	13.2%	13.3%	224	14.2%	15.5%	4							1			229	12.9%	14.9%	1,437	13.2%	13.5%
	2	641	8.2%	8.1%	68	5.2%	4.9%	3							2			73	4.8%	4.9%	714	7.6%	7.7%
	3-5	767	4.4%	4.6%	127	3.9%	3.8%	17	2.5%*	1.9%*					2			146	3.7%	3.8%	913	4.3%	4.5%
	6-15	742	3.2%	3.1%	139	3.0%	3.2%	36	3.5%*	2.8%*	1							176	3.1%	3.2%	918	3.2%	3.1%
	Total	3,358	5.8%	6.3%	558	5.2%	5.6%	60	2.9%	2.4%	1				5			624	4.8%	5.5%	3,982	5.7%	6.1%
25-34	1	3,936	8.6%	8.0%	415	13.8%	14.0%	39	5.2%*	4.9%*	5				27	4.7%*	6.0%*	486	11.1%	11.6%	4,422	8.8%	8.3%
	2	2,187	5.3%	5.2%	115	4.4%	4.2%	15	2.0%*	1.6%*	2				22	4.0%*	4.7%*	154	3.9%	3.9%	2,341	5.2%	5.1%
	3-5	3,850	3.7%	4.1%	249	3.5%	4.1%	54	2.3%	2.2%	6				38	3.0%*	3.2%*	347	3.2%	3.6%	4,197	3.7%	4.1%
	6-15	5,124	2.4%	2.6%	478	2.5%	2.8%	109	1.9%	2.1%	22	1.7%*	1.8%*		38	1.9%*	2.3%*	647	2.3%	2.6%	5,771	2.4%	2.6%
	Total	15,097	3.8%	4.1%	1,257	3.9%	4.5%	217	2.3%	2.3%	35	2.3%*	2.3%*	125	2.8%	3.5%	1,634	3.4%	4.0%	16,731	3.7%	4.1%	
35-44	1	3,261	5.5%	4.8%	318	8.1%	8.2%	82	4.2%*	4.5%*	32	4.5%*	4.7%*	31	3.4%*	3.9%*	463	6.1%	6.7%	3,724	5.6%	4.9%	
	2	1,883	3.3%	3.4%	98	2.7%	2.7%	50	2.5%	2.6%	15	2.6%*	3.8%*	25	2.1%*	2.0%*	188	2.6%	2.6%	2,071	3.2%	3.3%	
	3-5	3,900	2.7%	3.1%	235	2.5%	2.3%	137	2.3%	2.6%	30	1.4%*	1.4%*	103	2.0%	2.2%	505	2.2%	2.3%	4,405	2.6%	3.0%	
	6-15	5,808	2.1%	2.4%	677	2.0%	2.4%	368	1.9%	2.1%	106	1.4%	1.6%	218	1.6%	1.9%	1,369	1.9%	2.2%	7,177	2.0%	2.4%	
	Total	14,852	2.7%	3.0%	1,328	2.6%	3.0%	637	2.2%	2.5%	183	1.7%	1.9%	577	1.8%	2.1%	2,525	2.3%	2.7%	17,377	2.7%	3.0%	
45-54	1	1,642	4.4%	3.7%	179	7.3%	6.8%	70	3.7%	3.5%*	26	2.3%*	2.5%*	13	2.7%*	2.0%*	288	4.8%	5.1%	1,930	4.5%	3.9%	
	2	872	2.6%	3.0%	63	2.9%	3.4%	31	1.7%*	1.7%*	14	1.4%*	1.5%*	7			115	2.0%	2.5%	1,987	2.5%	2.9%	
	3-5	1,976	2.4%	2.9%	152	2.8%	3.4%	90	1.7%	1.7%	40	1.5%*	1.6%*	47	1.3%*	1.5%*	329	1.9%	2.4%	2,305	2.3%	2.8%	
	6-15	3,554	2.5%	3.0%	549	2.4%	2.7%	385	2.3%	2.5%	109	2.1%	2.5%	269	2.1%	2.2%	1,312	2.3%	2.5%	4,866	2.5%	2.9%	
	Total	8,044	2.7%	3.1%	943	2.9%	3.4%	576	2.3%	2.3%	189	1.9%	2.1%	536	1.9%	2.0%	2,044	2.4%	2.7%	10,088	2.7%	3.0%	

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

TABLE 5 *Continued*

AGE AT CONVERSION	DURATION FROM CONVERSION	CONVERSIONS PRIOR TO END OF PERIOD		CONVERSION AT END OF CONVERSION PERIOD WITH INTERVAL BETWEEN END OF CONVERSION PERIOD AND END OF TERM COVERAGE OF:												TOTAL						
				0 Years		1-3 Years		Over 3 Years		Unknown		Total										
		No. of Lapses	Lapse Rate	No. of Lapses	Lapse Rate	No. of Lapses	Lapse Rate	No. of Lapses	Lapse Rate	No. of Lapses	Lapse Rate	No. of Lapses	Lapse Rate	No. of Lapses	Lapse Rate	No. of Lapses	Lapse Rate					
																		No.	Amt.	No.	Amt.	No.
<i>Select—Continued</i>																						
55 and over	1	332	3.4%	2.9%	53	6.6%	4.8%	24	2.4%	3.3%*	34	3.4%	3.7%*	8		119	4.1%	4.2%	451	3.6%	3.2%	
	2	274	3.0	3.8	22	3.1*	2.1*	16	1.7*	1.8*	18	1.8*	1.9*	3		59	2.1	1.9	333	2.8	3.5	
	3-5	609	2.7	3.1	56	2.9	4.2	61	2.4	3.6	79	2.6	2.8	26	3.4%*	4.2%*	222	2.7	3.6	831	2.7	3.2
	6-15	1,032	3.3	3.6	171	2.6	2.8	144	2.9	2.8	123	2.8	3.2	109	3.9	4.0	547	2.9	3.0	1,579	3.1	3.4
	Total	2,247	3.1%	3.4%	302	3.0%	3.2%	245	2.6%	3.0%	254	2.7%	3.0%	146	3.8%	4.0%	947	2.9%	3.2%	3,194	3.0%	3.3%
All ages	1	10,379	6.4%	5.6%	1,189	10.1%	9.5%	219	3.8%	4.0%	97	3.3%	3.6%	80	3.8%	4.3%	1,585	7.0%	7.4%	11,964	6.5%	5.8%
	2	5,857	3.9	3.9	366	3.5	3.4	115	2.0	2.1	49	1.9*	2.3*	59	2.2	2.2	589	2.8	2.9	6,446	3.8	3.8
	3-5	11,102	3.0	3.3	819	3.0	3.2	359	2.1	2.4	155	1.9	1.9	216	2.0	2.3	1,549	2.5	2.8	12,651	2.9	3.3
	6-15	16,260	2.4	2.7	2,014	2.3	2.6	1,042	2.2	2.3	361	1.9	2.2	634	2.0	2.2	4,051	2.2	2.5	20,311	2.3	2.6
	Total	43,598	3.2%	3.4%	4,388	3.2%	3.6%	1,735	2.3%	2.5%	662	2.1%	2.3%	989	2.1%	2.4%	7,774	2.7%	3.0%	51,372	3.1%	3.4%
<i>Ultimate</i>																						
Attained ages:	30-49	877	1.9%	2.0%	119	1.9%	2.2%	16	1.3%*	1.1%*	3			5		143	1.8%	2.0%	1,020	1.9%	2.0%	
	50-59	2,284	1.9	2.1	503	1.6	1.8	111	1.8	2.1	35	1.5%*	1.7%*	81	1.8%	2.3%	730	1.6	1.9	3,014	1.8	2.0
	60 and over	4,979	3.4	3.7	1,777	3.0	3.4	530	3.0	2.5	152	3.3	3.1	160	2.8	3.0	2,619	3.0	3.4	7,598	3.2	3.6
	Total	8,140	2.6%	2.8%	2,399	2.5%	2.8%	657	2.6%	3.0%	190	2.7%	2.6%	246	2.3%	2.6%	3,492	2.5%	2.8%	11,632	2.6%	2.8%
Grand total	51,738	3.1%	3.4%	6,787	2.9%	3.4%	2,392	2.4%	2.5%	852	2.2%	2.3%	1,235	2.1%	2.4%	11,266	2.6%	3.0%	63,004	3.0%	3.3%	

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

TABLE 6

LAPSE RATES BY TYPE OF TERM INSURANCE, MALE AND FEMALE,  
MEDICAL AND NONMEDICAL, POLICIES AND RIDERS COMBINED

AGE AT CONVERSION	DURATION FROM CONVERSION	CONVERSIONS FROM TERM PLANS AUTOMATICALLY CONVERTIBLE WITHIN 10 YEARS						CONVERSIONS FROM RENEWABLE TERM PLANS PROVIDING LEVEL AMOUNTS OF INSURANCE			
		Conversions Prior to End of Period		Conversions at End of Period		Total		Total			
		No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.	No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate	
							No.	Amt.		No.	Amt.
Select											
15-24	1	205	14.9%	224	15.6%	429	14.8%	15.3%	184	9.2%	10.1%
	2	83	6.9	67	4.9	150	6.0	5.9	89	6.6	6.4
	3-5	112	4.0	126	3.9	238	4.0	4.0	114	4.1	5.3
	6-15	145	3.7	134	3.2	279	3.1	3.4	62	2.8	2.8
	Total	545	6.1%	551	5.7%	1,096	5.6%	5.9%	418	5.2%	6.0%
25-34	1	213	15.0%	375	15.8%	588	15.9%	15.5%	544	8.4%	7.5%
	2	68	5.4	102	4.7	170	5.1	5.0	307	5.6	5.2
	3-5	175	4.4	223	4.5	398	4.0	4.4	480	3.8	4.3
	6-15	352	3.1	390	3.0	742	2.8	3.1	501	2.8	2.5
	Total	808	4.8%	1,090	5.0%	1,898	4.4%	4.9%	1,832	4.0%	4.3%
35-44	1	58	9.6%	239	12.9%	297	13.3%	12.0%	478	5.1%	4.5%
	2	26	3.9*	49	2.8*	75	3.3	3.1	284	3.3	2.9
	3-5	97	5.8	161	2.6	258	3.5	3.6	664	3.0	3.3
	6-15	213	2.8	430	2.8	643	2.3	2.8	915	2.3	3.0
	Total	394	3.9%	879	3.6%	1,273	3.2%	3.7%	2,341	2.9%	3.3%
45-54	1	28	9.6%*	123	11.6%	151	13.3%	11.0%	292	4.2%	3.3%
	2	7	.....	29	3.9*	36	3.3*	3.4*	166	2.7	2.9
	3-5	34	3.1*	93	3.6	127	3.4	3.5	416	2.8	3.0
	6-15	161	3.5	329	3.1	490	3.1	3.2	613	2.6	3.1
	Total	230	3.7%	574	4.0%	804	3.7%	3.9%	1,487	2.9%	3.1%
55 and over	1	2	.....	30	8.1%*	32	10.4%*	6.4%*	77	3.6%	2.9%
	2	1	.....	9	.....	10	3.4*	1.0*	72	3.7	4.1
	3-5	7	.....	17	4.4*	24	2.6*	3.6*	134	3.1	3.2
	6-15	28	4.9%*	69	3.7	97	2.8	4.1	163	2.9	2.9
	Total	38	3.6%*	125	4.1%	163	3.3%	3.9%	446	3.2%	3.2%
All ages	1	506	12.8%	991	13.8%	1,497	14.6%	13.4%	1,545	5.8%	4.8%
	2	185	4.8	256	3.8	441	4.7	4.2	918	3.9	3.5
	3-5	425	4.4	620	3.6	1,045	3.8	3.9	1,808	3.2	3.5
	6-15	899	3.2	1,352	3.0	2,251	2.8	3.1	2,254	2.4	2.9
	Total	2,015	4.5%	3,219	4.3%	5,234	4.1%	4.4%	6,525	3.3%	3.5%
Ultimate											
Attained ages:											
30-49	63	2.2%	101	2.5%	164	2.2%	2.4%	55	2.5%	2.3%	
50-59	207	2.3	415	1.8	622	1.7	2.0	198	2.6	2.3	
60 and over	554	3.9	1,444	3.6	1,998	3.2	3.7	572	3.5	3.7	
Total	824	3.2%	1,960	3.0%	2,784	2.6%	3.0%	825	3.1%	3.1%	
Grand total	2,839	4.2%	5,179	3.9%	8,018	3.4%	4.0%	7,350	3.2%	3.5%	

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

TABLE 7  
LAPSE RATES BY TYPE OF TERM INSURANCE  
MALE AND FEMALE, MEDICAL AND NONMEDICAL, POLICIES AND RIDERS COMBINED

AGE AT CONVERSION	DURATION FROM CONVERSION	CONVERSIONS FROM DECREASING TERM PLANS						CONVERSIONS FROM ALL OTHER IDENTIFIABLE TERM PLANS							
		Conversions Prior to End of Period		Conversions at End of Period		Total		Conversions Prior to End of Period		Conversions at End of Period		Total			
		No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.	No. of Lapses	Lapse Rate		No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.	No. of Lapses	Lapse Rate	
							No.	Amt.						No.	Amt.
		Select													
15-24	1	227	15.1%	1	.....	228	15.0%	14.9%	622	13.6%	4	.....	626	12.9%	13.5%
	2	129	11.8	1	.....	130	10.9	11.6	340	8.2	5	.....	345	8.0	8.1
	3-5	116	5.7	1	.....	117	5.5	5.7	425	4.3	19	2.3%*	444	4.3	4.2
	6-15	16	3.6*	.....	.....	16	4.0*	3.6*	519	3.0	42	2.8*	561	3.1	3.0
	Total	488	9.7%	3	.....	491	9.4%	9.6%	1,906	5.8%	70	2.7%	1,976	5.3%	5.8%
25-34	1	1,172	8.9%	33	6.7%*	1,205	9.7%	8.8%	2,008	7.5%	77	5.2%	2,085	7.6%	7.4%
	2	607	6.6	18	4.9*	625	6.3	6.5	1,205	4.7	34	2.0*	1,239	4.7	4.6
	3-5	644	4.2	33	4.1*	677	3.7	4.2	2,552	4.0	90	2.0	2,642	3.6	3.9
	6-15	266	3.2	3	.....	269	2.7	3.2	4,009	2.6	250	2.0	4,259	2.4	2.5
	Total	2,689	5.7%	87	5.0%	2,776	5.5%	5.7%	9,774	3.8%	451	2.3%	10,225	3.3%	3.7%

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

TABLE 7 - Continued

AGE AT CONVERSION	DURATION FROM CONVERSION	CONVERSIONS FROM DECREASING TERM PLANS							CONVERSIONS FROM ALL OTHER IDENTIFIABLE TERM PLANS						
		Conversions Prior to End of Period		Conversions at End of Period		Total			Conversions Prior to End of Period		Conversions at End of Period		Total		
		No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.	No. of Lapses	Lapse Rate		No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.	No. of Lapses	Lapse Rate	
							No.	Amt.						No.	Amt.
Select - Continued															
35-44	1	1,281	5.8%	35	3.2%*	1,316	6.2%	5.7%	1,448	4.4%	185	4.0%	1,633	4.8%	4.3%
	2	648	4.1	12	2.1*	660	3.5	4.1	926	3.3	126	2.6	1,052	3.1	3.2
	3-5	926	2.7	25	2.4*	951	2.4	2.7	2,218	3.0	314	2.1	2,532	2.6	2.9
	6-15	443	2.3	9		452	1.8	2.3	4,239	2.2	928	1.9	5,167	2.0	2.2
	Total	3,298	3.5%	81	2.6%	3,379	3.2%	3.5%	8,831	2.8%	1,553	2.2%	10,384	2.4%	2.7%
45-54	1	758	4.3%	34	2.8%*	792	4.5%	4.2%	564	3.6%	131	3.2%	695	4.0%	3.5%
	2	318	2.9	13	1.4*	331	2.1	2.9	381	3.1	73	2.1	454	2.7	3.0
	3-5	601	2.2	26	1.4*	627	1.9	2.2	927	3.2	208	2.1	1,135	2.3	2.9
	6-15	521	2.6	10	1.0*	531	2.0	2.5	2,461	3.0	971	2.3	3,432	2.4	2.8
	Total	1,998	2.9%	83	1.7%	2,081	2.5%	2.8%	4,333	3.1%	1,383	2.3%	5,716	2.5%	2.9%
55 and over	1	140	3.6%	10	1.8%*	150	3.3%	3.5%	124	2.7%	68	3.8%	192	3.4%	2.9%
	2	90	3.4	7		97	2.5	3.2	120	3.9	34	1.9*	154	2.6	3.4
	3-5	173	2.4	20	1.5*	193	2.3	2.3	314	3.4	166	3.6	480	2.8	3.5
	6-15	117	4.5	6		123	3.2	4.1	744	3.8	452	2.8	1,196	3.2	3.4
	Total	520	3.3%	43	1.6%*	563	2.7%	3.2%	1,302	3.5%	720	3.0%	2,022	3.1%	3.4%

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.



TABLE 7 -Continued

AGE AT CONVERSION	DURATION FROM CONVERSION	CONVERSIONS FROM DECREASING TERM PLANS							CONVERSIONS FROM ALL OTHER IDENTIFIABLE TERM PLANS								
		Conversions Prior to End of Period		Conversions at End of Period		Total			Conversions Prior to End of Period		Conversions at End of Period		Total				
		No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.	No. of Lapses	Lapse Rate		No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.	No. of Lapses	Lapse Rate	
							No.	Amt.								No.	Amt.
<i>Select -Continued</i>																	
All ages.....	1	3,578	6.2%	113	3.9%	3,691	6.4%	6.2%	4,766	5.4%	465	3.8%	5,231	5.9%	5.2%		
	2	1,792	4.5	51	2.6	1,843	3.7	4.4	2,972	3.9	272	2.3	3,244	3.7	3.7		
	3-5	2,460	2.9	105	2.5	2,565	2.5	2.9	6,436	3.4	797	2.3	7,233	2.9	3.2		
	6-15	1,163	2.7	28	2.0*	1,191	2.2	2.7	11,972	2.6	2,643	2.2	14,615	2.3	2.5		
	Total	8,993	3.9%	297	2.8%	9,290	3.5%	3.9%	26,146	3.3%	4,177	2.4%	30,323	2.8%	3.1%		
<i>Ultimate</i>																	
Attained ages:	30-49.....	12	2.1%*			12	2.4%*	2.1%*	747	1.9%	42	1.2%*	789	1.8%	1.9%		
	50-59.....	21	2.7*			21	2.5*	2.7*	1,858	2.0	315	2.0	2,173	1.8	2.0		
	60 and over.....	19	13.2*	1		20	6.0*	13.5*	3,874	3.6	1,134	3.1	5,008	3.2	3.5		
	Total	52	4.2%	1		53	3.1%	4.3%	6,479	2.7%	1,491	2.7%	7,970	2.5%	2.7%		
Grand total.....		9,045	3.9%	298	2.8%	9,343	3.5%	3.9%	32,625	3.2%	5,668	2.4%	38,293	2.8%	3.1%		

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

TABLE 8—LAPSE RATES FOR TERM CONVERSIONS BY SEX  
ALL CONVERSION CODES, TERM PLANS,  
MEDICAL AND NONMEDICAL,  
POLICIES AND RIDERS COMBINED

AGE AT CONVERSION	DURATION FROM CON- VERSION	MALE			FEMALE		
		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate	
			By Policies	By Amount		By Policies	By Amount
Select							
15-24	1	1,266	13.3%	13.6%	171	12.0%	13.0%
	2	629	7.7	7.5	85	7.6	9.0
	3-5	818	4.3	4.5	95	4.4	3.8
	6-15	864	3.2	3.1	54	3.2	2.6
	Total	3,577	5.6%	6.1%	405	6.3%	7.1%
25-34	1	4,129	8.9%	8.3%	293	8.4%	8.0%
	2	2,174	5.1	5.1	167	5.8	4.9
	3-5	3,980	3.7	4.1	217	3.8	3.2
	6-15	5,640	2.4	2.6	131	2.4	1.6
	Total	15,923	3.7%	4.1%	808	4.6%	3.9%
35-44	1	3,488	5.6%	5.0%	236	5.3%	4.3%
	2	1,912	3.2	3.3	159	3.9	3.0
	3-5	4,163	2.6	3.1	242	2.6	1.8
	6-15	6,935	2.0	2.4	242	2.2	1.7
	Total	16,498	2.6%	3.0%	879	3.0%	2.3%
45-54	1	1,793	4.5%	4.0%	137	4.6%	2.7%
	2	910	2.5	3.0	77	2.9	2.8
	3-5	2,151	2.3	2.9	154	2.3	1.7
	6-15	4,665	2.5	3.0	201	2.2	1.5
	Total	9,519	2.7%	3.1%	569	2.7%	1.9%
55 and over	1	414	3.5%	3.2%	37	4.9%*	3.0%*
	2	315	2.8	3.7	18	2.6*	1.2*
	3-5	783	2.7	3.3	48	2.6*	2.5*
	6-15	1,517	3.2	3.6	62	2.5	1.6
	Total	3,029	3.0%	3.4%	165	2.9%	2.0%
All ages	1	11,090	6.5%	5.8%	874	6.7%	5.0%
	2	5,940	3.7	3.9	506	4.4	3.5
	3-5	11,895	2.9	3.3	756	2.9	2.1
	6-15	19,621	2.3	2.7	690	2.3	1.6
	Total	48,546	3.1%	3.4%	2,826	3.5%	2.5%
Ultimate							
Attained ages:							
30-49		712	1.9%	2.0%	23	1.7%*	1.3%*
50-59		2,218	1.8	2.1	47	2.1*	1.1*
60 and over		5,517	3.2	3.6	96	3.0	1.9
Total		8,447	2.6%	2.8%	166	2.4%	1.5%
Grand total		56,993	3.0%	3.4%	2,992	3.4%	2.5%

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

TABLE 9—LAPSE RATES FOR TERM CONVERSIONS BY TYPE OF UNDERWRITING  
ALL CONVERSION CODES, TERM PLANS, MALE AND  
FEMALE, POLICIES AND RIDERS COMBINED

AGE AT CONVERSION	DURATION FROM CONVERSION	MEDICAL			NONMEDICAL		
		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate	
			By Policies	By Amount		By Policies	By Amount
Select							
15-24.....	1	218	12.5%	11.8%	1,114	13.1%	13.7%
	2	123	7.8	7.8	537	7.5	7.5
	3- 5	211	4.8	5.2	672	4.3	4.3
	6-15	401	3.0	3.0	494	3.4	3.4
	Total	953	4.6%	5.2%	2,817	6.1%	6.7%
25-34.....	1	1,378	7.0%	7.0%	2,402	9.7%	10.4%
	2	864	4.6	4.6	1,200	5.6	5.9
	3- 5	1,937	3.7	4.3	2,035	3.9	4.1
	6-15	3,950	2.4	2.6	1,486	2.6	2.8
	Total	8,129	3.2%	3.8%	7,123	4.6%	5.2%
35-44.....	1	2,342	5.2%	4.8%	686	5.7%	5.9%
	2	1,453	3.3	3.4	364	3.4	3.6
	3- 5	3,370	2.8	3.1	617	2.4	2.5
	6-15	5,961	2.1	2.4	512	1.7	1.9
	Total	13,126	2.6%	3.0%	2,179	2.8%	3.1%
45-54.....	1	1,405	4.4%	3.9%	101	4.7%	5.2%
	2	821	2.8	3.1	40	2.6*	2.6*
	3- 5	1,936	2.5	2.9	60	1.8	2.0
	6-15	4,097	2.5	2.9	116	2.4	2.3
	Total	8,259	2.7%	3.0%	317	2.7%	2.9%
55 and over..	1	346	3.7%	3.2%	14	3.1%*	2.7%*
	2	266	3.0	3.7	9		
	3- 5	680	2.9	3.4	14	1.8*	1.6*
	6-15	1,289	3.3	3.5	51	2.4	2.5
	Total	2,581	3.2%	3.4%	88	2.4%	2.4%
All ages.....	1	5,689	5.3%	5.0%	4,317	9.0%	9.8%
	2	3,527	3.4	3.6	2,150	5.2	5.6
	3- 5	8,134	2.9	3.3	3,398	3.5	3.7
	6-15	15,698	2.3	2.7	2,659	2.4	2.6
	Total	33,048	2.8%	3.3%	12,524	4.2%	4.9%
Ultimate							
Attained ages:	30-49.....	875	1.9%	2.0%	63	1.5%	1.5%
	50-59.....	2,477	1.7	2.0	92	1.3	1.5
	60 and over.....	6,041	3.2	3.5	370	3.5	3.9
	Total	9,393	2.5%	2.7%	525	2.4%	2.8%
Grand total.....	42,441	2.8%	3.2%	13,049	4.1%	4.8%	

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

TABLE 10

LAPSE RATES FOR TERM CONVERSIONS ARISING FROM POLICIES OR RIDERS  
ALL CONVERSION CODES, TERM PLANS, MEDICAL AND  
NONMEDICAL, MALE AND FEMALE COMBINED

AGE AT CONVERSION	DURATION FROM CONVERSION	CONVERSIONS FROM DECREASING TERM PLANS				CONVERSIONS FROM ALL OTHER IDENTIFIABLE TERM PLANS			
		Policies		Riders		Policies		Riders	
		No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.	No. of Lapses	Rate by Amt.
Select									
15-24	1	35	14.3%*	92	14.8%	260	15.4%	366	12.0%
	2	16	9.4*	51	10.5	127	8.6	218	7.8
	3-5	16	5.0*	22	4.2*	150	4.3	294	4.2
	6-15	9		5		166	2.6	395	3.1
	Total	76	8.5%	170	8.9%	703	6.5%	1,273	5.3%
25-34	1	191	10.4%	846	8.0%	732	8.4%	1,353	6.7%
	2	73	4.2	402	5.9	349	4.8	890	4.4
	3-5	105	4.0	377	3.8	626	4.3	2,015	3.7
	6-15	104	4.0	145	2.6	1,260	2.5	2,999	2.5
	Total	473	5.4%	1,770	5.2%	2,967	4.0%	7,258	3.5%
35-44	1	196	5.3%	976	5.3%	551	4.7%	1,082	4.1%
	2	86	2.8	410	3.2	340	3.7	712	2.9
	3-5	183	2.7	585	2.5	718	3.3	1,814	2.6
	6-15	164	3.1	271	1.9	1,964	2.3	3,293	2.1
	Total	629	3.3%	2,242	3.2%	3,573	2.9%	6,811	2.6%
45-54	1	149	4.2%	537	3.8%	336	4.0%	359	3.0%
	2	37	3.4*	207	2.1	204	3.1	250	2.8
	3-5	147	2.6	343	1.8	492	3.1	643	2.8
	6-15	117	2.6	200	2.5	1,834	2.9	1,598	2.6
	Total	450	3.0%	1,287	2.5%	2,866	3.1%	2,850	2.7%
55 and over	1	53	4.0%	71	3.3%	149	3.1%	43	2.6%*
	2	28	2.8*	38	2.6*	116	2.9	38	5.0*
	3-5	60	1.9	78	1.7	376	3.5	104	3.2
	6-15	61	4.8	58	3.4	925	3.3	271	3.7
	Total	202	3.2%	245	2.6%	1,566	3.3%	456	3.6%
All ages	1	624	6.1%	2,522	5.6%	2,028	5.6%	3,294	4.9%
	2	240	3.4	1,108	3.6	1,136	3.9	2,108	3.6
	3-5	511	2.8	1,405	2.6	2,362	3.5	4,871	3.0
	6-15	455	3.3	679	2.2	6,149	2.6	8,466	2.4
	Total	1,830	3.7%	5,714	3.5%	11,675	3.3%	18,648	3.0%
Ultimate									
Attained ages:	30-49	3		9		294	1.7%	495	2.0%
	50-59			19	2.8%*	1,041	2.1	1,132	1.9
	60 and over	3		16	16.9*	3,052	3.5	1,976	3.6
	Total	6		44	4.6%*	4,367	2.8%	3,603	2.6%
Grand total		1,836	3.6%	5,758	3.5%	16,042	3.2%	22,251	2.9%

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

## A(2.1). GENERAL COMMENT ON RESULTS

Table 5, which was prepared to summarize the experience for all types of term insurance plans combined, shows the magnitude of the lapse rates experienced on attained-age conversions when duration is measured from date of conversion. The results are shown separately for conversion groups 1 and 2, that is, for policies issued prior to the end of the conversion period and policies issued at the end of the conversion period. Furthermore, the data were subdivided into select (first fifteen years after conversion) and ultimate (durations 16 and over) experience.

The over-all lapse rate was 3.0 per cent by number of policies and 3.3 per cent by amount of insurance. During the first fifteen years after conversion the rate was 3.4 per cent by amount of insurance. The rates during the select period generally showed a decrease by duration, the rates by amount for all ages combined varying from 5.8 per cent for duration 1 to 2.6 per cent for durations 6-15. For durations 16 and over, the over-all rate by amount was 2.8 per cent. The rate was 2.0 per cent for attained ages under 60; however, for ages 60 and over, the rate increased to 3.6 per cent.

During the select period, lapse rates decreased sharply by increasing age for duration 1. The rate by amount of insurance ranged from a high of 13.5 per cent for ages 15-24 to a low of 3.2 per cent for ages 55 and over.

For all select durations combined, the rates by amount of insurance ranged from 6.1 per cent for ages 15-24 to 3.0 per cent for ages 35-54.

The over-all lapse rate by amount of insurance for conversions prior to the end of the period during which conversion was permitted was 3.4 per cent, while the first-year lapse rate was 5.6 per cent. The latter rate was somewhat lower than the first-year rate of 7.4 per cent for policies converted at the end of the conversion period. It should be noted, however, that over-all rates are affected by the relative proportions of select and ultimate data in these categories, as well as by variations in the volume for the various types of term insurance.

For plans converted at the end of the period during which conversion was permitted, first-year lapse rates tended to be highest for the shorter periods between the expiry of the conversion privilege and the end of the term coverage. When conversion was permitted until the end of the term coverage, the first-year rate was 9.5 per cent, whereas when conversion was permitted only until from one to three years prior to expiry of the term coverage, the rate was 4.0 per cent by amount; and, when

conversion was permitted only until four years or more prior to expiry of the term coverage, the rate was 3.6 per cent by amount. Of the 6,787 lapses on conversions issued at the end of the conversion period where conversion was permitted until the end of the term coverage, 5,179 were conversions from policies providing automatic conversion within ten years.

The first-year lapse rates by amount of insurance for individual companies ranged from a low of 2.7 per cent to a high of 10.0 per cent, and the over-all rates ranged from a low of 2.5 per cent to a high of 6.2 per cent.

#### A(2.2). ANALYSIS BY TYPE OF TERM INSURANCE

Tables 6 and 7 analyze the lapse rates for the four types of term insurance, with three of the types being further subdivided according to whether conversion took place at or prior to the end of the conversion period. A separation for the renewable term plan category for the two conversion groups was not prepared because of the small volume of data for conversion group 2.

The highest lapse rates were experienced for conversions from term policies providing for automatic conversion within ten years, the first-year lapse rate being 13.4 per cent by amount of insurance, as compared with 5.8 per cent for all plans combined. The over-all lapse rate by amount for this plan was also highest at 4.0 per cent, as compared with 3.3 per cent for all plans combined.

For this same term plan providing for automatic conversion, the over-all lapse rate of 13.8 per cent by amount for duration 1 with respect to policies converted at the end of the conversion period was slightly higher than the corresponding rate of 12.8 per cent for policies converted prior to the end of the conversion period. However, for ultimate durations under this automatic conversion plan and generally for all durations for conversions from decreasing term plans and from all other identifiable term plans, lapse rates were lower for policies converted at the end of the conversion period.

#### A(2.3). ANALYSIS BY SEX

The analysis by sex given in Table 8 shows that female lapse rates by amounts generally were lower than male rates, with differences not varying much by age or duration. During the select period, the female rate was 2.5 per cent, as compared with 3.4 per cent for males, while during the ultimate period the female rate was 1.5 per cent, compared with 2.8 per cent for males.

## A(2.4). ANALYSIS BY TYPE OF UNDERWRITING

The analysis of lapse rates for medical and nonmedical business given in Table 9 shows a first-year lapse rate by amount of 9.8 per cent for nonmedical issues, as compared with the lower rate of 5.0 per cent for medical issues. The first-year rates for nonmedical issues were higher for ages below 55. After duration 2 the differences between rates for medical and nonmedical issues are small.

## A(2.5). ANALYSIS BY ORIGINAL POLICY AND RIDER FORMS

A comparison of lapse rates on conversions from term policies and term riders given in Table 10 shows that in general conversions from the policies included in the "all other identifiable term plans" group have a somewhat higher lapse rate than conversions from the term riders in that group, the duration 1 rates being 5.6 per cent for policy conversions and 4.9 per cent for rider conversions and the over-all rates being 3.2 per cent for policy conversions and 2.9 per cent for rider conversions. A generally similar pattern was displayed for the smaller volume of conversions from decreasing term plans.

## A(2.6). COMPARISON WITH THE 1961-66 STUDY

Table 11 presents a comparison of the aggregate durational lapse rates shown in Tables 3 and 4 of the *1968 Reports* with those derived from the present study. The lapse rates shown for the current study indicate a consistently higher level than those shown in the prior report. The total exposure by amount of \$22.3 billion shown in Appendix IV was 46 per cent higher than that for the prior report, while the total lapses of 63,004 contributed was 49 per cent higher.

A(3). *Mortality Rates under Converted Policies*

The definition for the death rate used in formula (2) in Appendix II implies that the death rate for a conversion policy arising from a particular term plan type is a function of four variables. However, the Committee requested data which might be used under the broader assumption that the death rates for each category of experience would depend primarily on only two of these variables—the term plan issue age and the duration measured from the issue date of the term plan, provided that the conversions at the end of the period are separated from the earlier issues.

The data for the death rate experience were furnished by the thirteen companies listed in Appendix IV. The total exposure was 2,401,946 by

TABLE 11  
 TERM CONVERSION EXPERIENCE  
 COMPARISON OF LAPSE RATES WITH EXPERIENCE FOR 1961-66  
 (Based on Number of Policies)

POLICY YEAR DURATION	EXPERIENCE PERIOD	ORIGINAL TERM PLAN			
		Automatic Conversion within 10 Years	Level Renewable Term	Decreasing Term	All Other Identifiable Term
1	{ 1966-71 1961-66	14.6% 13.3	5.8% 5.1	6.4% 5.0	5.9% 4.9
2	{ 1966-71 1961-66	4.7 3.8	3.9 2.7	3.7 2.8	3.7 2.6
3-5	{ 1966-71 1961-66	3.8 3.3	3.2 2.7	2.5 2.3	2.9 2.5
6-15	{ 1966-71 1961-66	2.8 2.5	2.4 1.9	2.2 2.1	2.3 2.0
16 and over	{ 1966-71 1961-66	2.6 2.3	3.1 2.6*	3.1	2.5 2.3
Total†	{ 1966-71 1961-66	3.4% 3.2	3.3% 2.6	3.5% 2.9	2.8% 2.4

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

† Average of individual rates, each weighted by the associated number of exposed to lapse for the two five-year periods combined.

number of policies and \$25.2 billion by amount of insurance. There were 22,390 death claims, totaling \$179,946,000 of insurance.

Tables 12-20 were prepared in a form which historically continues the experience shown in Tables 11-19 of the prior mortality study (see p. 93 of the *1968 Reports*). The results are analyzed by number of policies and amount of insurance for the same categories given before: major conversion group (conversion at or before end of conversion period), type of conversion privilege (duration from end of conversion period to expiry), term plan group, sex, type of underwriting of the original policy, and type of contract.

#### A(3.1). GENERAL COMMENTS ON RESULTS

Table 12, prepared to summarize the experience for all term plans combined, shows mortality ratios for attained-age conversions according to duration measured from the original date of issue of the term policy.



TABLE 12  
MORTALITY RATIOS FOR CONVERSIONS OF ALL TERM PLANS COMBINED  
MALE AND FEMALE, MEDICAL AND NONMEDICAL, POLICIES AND RIDERS COMBINED

ISSUE AGE	DURATION FROM TERM ISSUE	CONVERSION PRIOR TO END OF PERIOD		CONVERSION AT END OF CONVERSION PERIOD WITH INTERVAL BETWEEN END OF CONVERSION PERIOD AND END OF TERM COVERAGE OF:												TOTAL			
				0 Years			1-3 Years			4 Years and Over			Unknown		Total				
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.
Select																			
15-24	1-3	6		2											2		8		
	4-5	19	99%*	101%*	2										2		21	94%*	97%*
	6-10	48	87*	86*	6										6		54	72	70
	11-15	46	98*	122*	14	87%*	95%*								15	71%*	61	90	106
	Total	119	88%	92%	24	61%*	69%*			1					25	54%*	144	79%	83%
25-34	1-3	30	83%*	100%*													30	78%*	96%*
	4-5	43	74*	69*	1										1		44	70*	65*
	6-10	284	99	104	33	91%*	79%*	7							41	86%*	325	97	100
	11-15	452	85	87	94	88	105	30	97%*	78%*	15	71%*	79%*	21	108%*	90	612	86	90
	Total	809	88%	92%	128	86%	94%	37	94%*	81%*	15	68%*	75%*	22	96%*	82%*	202	87%	92%
35-44	1-3	41	73%*	247%*	3										3		44	74%	241%*
	4-5	120	105	113	3			1							5		125	102	108
	6-10	663	112	105	72	103%	110%	27	129%*	149%*	1			1		101	764	111	107
	11-15	909	93	96	197	107	118	68	89	118	28	82%*	84%*	36	115%*	122%*	1,238	95	100
	Total	1,733	100%	111%	275	105%	111%	96	98%	125%	29	80%*	78%*	38	107%*	111%*	438	101%	112%
45-54	1-3	33	68%*	48%*	6										6		39	76%*	59%*
	4-5	106	106	103	12	178%*	120%*								13	155%*	119	110	103
	6-10	438	93	71	55	88	75	31	130%*	148%*				92	96	88	530	93	74
	11-15	685	103	107	122	83	82	93	121	137	22	91%*	78%*	20	85%*	92%*	942	101	105
	Total	1,262	98%	89%	195	89%	87%	124	122%	139%	27	100%*	102%*	22	70%*	67%*	368	97%	98%

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

TABLE 12—Continued

ISSUE AGE	DURATION FROM TERM ISSUE	CONVERSION PRIOR TO END OF PERIOD		CONVERSION AT END OF CONVERSION PERIOD WITH INTERVAL BETWEEN END OF CONVERSION PERIOD AND END OF TERM COVERAGE OF:												TOTAL								
				0 Years			1-3 Years			4 Years and Over			Unknown						Total					
		No. of Actual Deaths		Ratio		No. of Actual Deaths		Ratio		No. of Actual Deaths		Ratio		No. of Actual Deaths		Ratio		No. of Actual Deaths		Ratio				
		No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.			
Select—Continued																								
55 and over	1-3	11	80%*	69%*	1														12	78%*	66%*			
	4-5	32	106*	64*	1														33	94*	62*			
	6-10	125	123	106	45	128%*	89%*	15	153%*	111%*	2								191	127	103			
	11-15	104	112	118	55	96	93	11	76*	50*	4								179	103	102			
	Total	272	114%	100%	102	106%	89%	26	103%*	69%*	6								143	105%	81%	415	111%	94%
All ages	1-3	121	72%	132%	12	135%*	162%*												12	107%*	131%*	133	74%	132%
	4-5	320	99	98	19	81*	66*	1											22	76*	58*	342	97	95
	6-10	1,558	103	93	211	95	87	80	124%	133%	8								306	99	94	1,864	103	93
	11-15	2,196	95	99	482	94	101	202	100	113	70	82%	79%	82	103%	100%	836	95	102	3,032	95	100		
	Total	4,195	97%	99%	724	95%	96%	283	106%	117%	78	82%	76%	91	93%	86%	1,176	96%	99%	5,371	97%	99%		
Ultimate																								
Attained ages:	30-39	25	141%*	148%*	6			2						41				9			34	122%*	126%*	
	40-49	640	101	104	122	83%	93%	49	110%*	109%*	86	97%*	88%*	110%*	108%*	248	93%	98%	888	99	102			
	50-59	2,356	87	94	718	85	92	215	92	95	91	71	7	219	105	97	1,243	88	92	3,599	88	93		
	60-69	3,683	91	91	1,814	98	97	463	94	99	289	104	109	87	85	2,803	97	97	6,486	93	93			
	70-79	2,284	94	88	1,662	98	95	398	91	106	218	113	122	62	92	81	2,340	98	99	4,624	96	93		
	80 and over	663	97	82	518	101	97	151	94	88	48	108*	113*	8			725	98	96	1,388	98	88		
	Total	9,651	92%	92%	4,840	96%	95%	1,278	93%	100%	682	100%	108%	568	94%	90%	7,368	95%	97%	17,019	93%	94%		
Grand total		13,846	93%	95%	5,564	96%	96%	1,561	95%	104%	760	98%	100%	659	94%	89%	8,544	95%	97%	22,390	94%	96%		

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

The over-all mortality ratios were 94 per cent by number of policies and 96 per cent by amount of insurance. During the select period, the ratios by amount for the various issue-age groups ranged from 83 to 111 per cent. However, as noted later in Section A(3.3), the highest ratio shown for ages 35-44 was attributable to a very high claim amount on one life. The ultimate mortality ratios for attained ages 40 and over showed a narrower pattern, ranging between 88 and 102 per cent.

For policies converted prior to the end of the period during which conversion was permitted, the over-all ratio by amount was 95 per cent, as compared with the slightly higher value of 97 per cent shown for policies converted at the end of the conversion period. As will be shown in Section A(3.5), however, the mortality difference between conversion groups 1 and 2 is considerably more than the 2 per cent indicated here if conversions from renewable term and decreasing term plans are excluded. Such exclusion seems appropriate because under decreasing term plans the initial amount of insurance loses its convertibility gradually, instead of all at once as in the case of the other term plans, and because the renewable term experience includes an unusually large claim amount on a single life.

The over-all ratios on an amount basis for individual companies ranged from a low of 74 per cent to a high of 409 per cent. The median ratio by amount of insurance was 102 per cent.

#### A(3.2). TERM PLANS PROVIDING FOR AUTOMATIC CONVERSION WITHIN TEN YEARS

Table 13 shows the mortality experience on conversions from term plans which provided for automatic conversion within ten years of original issue. For policies converted at the end of the conversion period, all the data were coded as indicating that conversion was permitted until expiry of the term coverage.

The over-all mortality ratio of 96 per cent by amount for these conversions was the same as that for all term plans combined, as shown in Table 12. Only five companies contributed to this category, with individual company ratios by amount of insurance ranging from a low of 75 per cent to a high of 103 per cent.

Conversions at the end of the conversion period had over-all mortality ratios of 96 per cent by number of policies and 97 per cent by amount of insurance, as compared with 89 per cent by number and 92 per cent by amount for policies converted prior to the end of the conversion period.

TABLE 13

MORTALITY RATIOS FOR CONVERSIONS FROM TERM PLANS  
 PROVIDING FOR AUTOMATIC CONVERSION WITHIN 10 YEARS  
 MALE AND FEMALE, MEDICAL AND NONMEDICAL,  
 POLICIES AND RIDERS COMBINED

TERM ISSUE AGE	DURA- TION FROM TERM ISSUE	CONVERSION PRIOR TO END OF PERIOD		CONVERSION AT END OF PERIOD		TOTAL				
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			No.	Amt.		No.	Amt.		No.	Amt.
Select										
15-24	1-3	1			2			3		
	4-5	3			2			5		
	6-10	8			6			14	61%*	67%*
	11-15	1			12	86%*	90%*	13	77%*	77%*
	Total	13	100%*	105%*	22	62%*	69%*	35	72%*	78%*
25-34	1-3									
	4-5	2			1			3		
	6-10	6			31	107%*	94%*	37	94%*	87%*
	11-15	15	80%*	78%*	72	88	104	87	87	99
	Total	23	69%*	66%*	104	91%*	97%*	127	86%*	90%*
35-44	1-3	1			3			4		
	4-5	5			3			8		
	6-10	12	75%*	132%*	61	113%*	121%*	73	104%*	124%*
	11-15	26	82*	96*	136	100	112	162	97	109
	Total	44	84%*	107%*	203	103%*	111%*	247	99%*	110%*
45-54	1-3	2			6			8		
	4-5	5			11	187%*	144%*	16	184%*	165%*
	6-10	11	79%*	65%*	39	79*	55*	50	79	58
	11-15	20	68*	99*	92	83	86	112	80	89
	Total	38	80%*	95%*	148	88%*	86%*	186	86%*	88%*
55 and over	1-3	3			1			4		
	4-5	1			1			2		
	6-10	7			26	143%*	108%*	33	139%*	130%*
	11-15	8			25	86*	79*	33	93%*	83*
	Total	19	131%*	151%*	53	105%*	90%*	72	111%*	106%*
All ages	1-3	7			12	150%*	188%*	19	127%*	156%*
	4-5	16	124%*	113%*	18	90*	80*	34	104*	93*
	6-10	44	85*	108*	163	97	89	207	94	93
	11-15	70	79	92	337	91	99	407	88	98
	Total	137	85%*	101%*	530	94%*	97%*	667	92%*	98%*

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

TABLE 13—Continued

TERM ISSUE AGE	DURA- TION FROM TERM ISSUE	CONVERSION PRIOR TO END OF PERIOD			CONVERSION AT END OF PERIOD			TOTAL		
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			No.	Amt.		No.	Amt.		No.	Amt.
Ultimate										
Attained										
ages:										
30-39		1		4			5			
40-49		12	61%*	59%*	80	73%	87%	92	71%	82%
50-59		117	77	92	549	84	91	666	83	92
60-69		306	88	88	1,459	98	100	1,765	96	98
70-79		261	97	94	1,402	101	98	1,663	100	98
80 and over		88	108	70	401	102	101	489	103	94
	Total	785	90%	88%	3,895	96%	98%	4,680	95%	96%
Grand total		922	89%	92%	4,425	96%	97%	5,347	95%	96%

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

TABLE 14  
MORTALITY RATIOS FOR CONVERSIONS FROM RENEWABLE TERM PLANS  
MALE AND FEMALE, MEDICAL AND NONMEDICAL,  
POLICIES AND RIDERS COMBINED

TERM ISSUE AGE	DURA- TION FROM TERM ISSUE	CONVERSION PRIOR TO END OF PERIOD			CONVERSION AT END OF PERIOD			TOTAL		
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			No.	Amt.		No.	Amt.		No.	Amt.
Select										
15-24	1-3									
	4-5	4						4		
	6-10	8						8		
	11-15	3						3		
	Total	15	115%	123%*				15	115%	122%*
25-34	1-3	6						6		
	4-5	6						6		
	6-10	42	114%	100%*				42	112%	99%*
	11-15	33	60*	105*	1			34	62*	105*
	Total	87	81%	102%	1			88	82%	101%
35-44	1-3	10	73%*	667%*				10	73%*	667%*
	4-5	17	71*	99*				17	71*	99*
	6-10	123	106	86	2			125	106	85
	11-15	132	83	85	1			133	84	85
	Total	282	90%	131%	3			285	91%	130%
45-54	1-3	6						6		
	4-5	23	92%*	63%*				23	92%*	63%*
	6-10	92	77	62				92	75	61
	11-15	169	110	92	5			174	108	91
	Total	290	93%	72%	5			295	92%	71%
55 and over	1-3	3						3		
	4-5	4						4		
	6-10	36	134%*	139%*	5			41	121%*	128%*
	11-15	23	105*	141*	7			30	109*	137*
	Total	66	112%	118%	12	91%*	70%*	78	108%	112%
All ages	1-3	25	63%*	276%*				25	63%*	275%*
	4-5	54	81	73				54	80	73
	6-10	301	99	83	7			308	97	82
	11-15	360	92	94	14	101%*	66%*	374	92	94
	Total	740	92%	103%	21	80%*	50%*	761	92%	101%

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

TABLE 14—Continued

TERM ISSUE AGE	DURA- TION FROM TERM ISSUE	CONVERSION PRIOR TO END OF PERIOD			CONVERSION AT END OF PERIOD			TOTAL		
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			No.	Amt.		No.	Amt.		No.	Amt.
Ultimate										
Attained ages:										
30-39		23	68%*	50%*				23	67%*	50%*
40-49		151	85	111				151	85	110
50-59		307	86	80	27	105%*	96%*	334	87	81
60-69		316	94	84	61	98	117	377	94	87
70-79										
80 and over		139	94	77	48	80*	59*	187	90	72
	Total	936	89%	86%	136	91%	89%	1,072	89%	86%
Grand total		1,676	90%	97%	157	90%	77%	1,833	90%	96%

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

TABLE 15

MORTALITY RATIOS FOR CONVERSIONS FROM DECREASING TERM PLANS  
 MALE AND FEMALE, MEDICAL AND NONMEDICAL,  
 POLICIES AND RIDERS COMBINED

TERM ISSUE AGE	DURA- TION FROM TERM ISSUE	CONVERSION PRIOR TO END OF PERIOD		CONVERSION AT END OF PERIOD			TOTAL			
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			No.	Amt.		No.	Amt.		No.	Amt.
Select										
15-24	1-3	2						2		
	4-5	3						3		
	6-10	11	158%*	108%*				11	153%*	105%*
	11-15	15	309*	325*				15	302*	317*
	Total	31	194%*	151%*				31	188%*	146%*
25-34	1-3	9						9		
	4-5	15	132%*	206%*				15	123%*	194%*
	6-10	91	170	158	1			92	165	154
	11-15	141	167	152	5			146	162	149
	Total	256	165%	167%	6			262	159%	161%
35-44	1-3	17	166%*	167%*				17	159%*	163%*
	4-5	45	170*	174*				45	165*	170*
	6-10	257	169	169	5			262	168	167
	11-15	257	129	115	14	72%*	81%*	271	124	113
	Total	576	149%	149%	19	76%*	69%*	595	144%	146%
45-54	1-3	14	125%*	130%*				14	124%*	130%*
	4-5	33	112*	115*				33	112*	114*
	6-10	197	133	106	10	132%*	145%*	207	133	106
	11-15	169	132	115	31	141*	147*	200	133	118
	Total	413	130%	111%	41	138%*	144%*	454	131%	113%
55 and over	1-3	3						3		
	4-5	15	153%*	146%*				15	149%*	142%*
	6-10	46	142*	110*	4			50	145	110
	11-15	13	87*	120*	3			16	89*	125*
	Total	77	127%	115%	7			84	127%	115%
All ages	1-3	45	138%*	155%*				45	133%*	150%*
	4-5	111	139	151				111	136	148
	6-10	602	153	138	20	122%*	94%*	622	152	137
	11-15	595	138	124	53	106	113	648	134	123
	Total	1,353	144%	136%	73	104%	93%	1,426	142%	134%

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.



TABLE 15—Continued

TERM ISSUE AGE	DURA- TION FROM TERM ISSUE	CONVERSION PRIOR TO END OF PERIOD			CONVERSION AT END OF PERIOD			TOTAL		
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			No.	Amt.		No.	Amt.		No.	Amt.
Ultimate										
Attained ages:										
30-39		4					4			
40-49		90	170%	166%	13	153%*	105%*	103	168%	160%
50-59		174	122	118	14	58*	58*	188	113	112
60-69		82	112	108	15	106*	98*	97	111	107
70-79		1						1		
80 and over		1						1		
	Total	352	128%	123%	42	89%*	77%*	394	122%	119%
Grand total		1,705	141%	134%	115	98%	88%	1,820	137%	132%

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

TABLE 16

MORTALITY RATIOS FOR CONVERSIONS FROM ALL OTHER IDENTIFIABLE TERM PLANS  
 MALE AND FEMALE, MEDICAL AND NONMEDICAL, POLICIES AND RIDERS COMBINED

TERM ISSUE AGE	DURA- TION FROM TERM ISSUE	CONVERSION PRIOR TO END OF PERIOD		CONVERSION AT END OF CONVERSION PERIOD WITH INTERVAL BETWEEN END OF CONVERSION PERIOD AND END OF TERM COVERAGE OF:												TOTAL			
				0 Years			1-3 Years			4 Years and Over			Unknown					Total	
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.
		Select																	
15-24	1-3	3																3	
	4-5	9																9	
	6-10	21	57%*	56%*														21	53%*
	11-15	27	74*	103*	2						1							30	69*
	Total	60	64%	74%	2						1							63	61%
25-34	1-3	15	70%*	49%*														15	69%*
	4-5	20	56*	38*														20	55*
	6-10	145	78	94	2			7										154	76
	11-15	263	70	73	21	83%*	110%*	29	97%*	78%*	11	65%*	77%*	21	113%*	98%*	82	90%	345
	Total	443	71%	76%	23	70%*	83%*	36	94%*	82%*	11	62%*	77%*	21	111%*	96%*	91	84%	534
35-44	1-3	13	42%*	42%*														13	42%*
	4-5	53	87	100				1										55	88
	6-10	271	88	92	9			24	125%*	151%*			1				33	92%*	
	11-15	494	84	96	60	126%	136%	64	89	118	19	97%*	96%*	35	114%*	119%*	178	105	
	Total	831	84%	92%	69	109%*	114%	89	98%	125%	19	90%*	88%*	36	113%*	117%*	213	103%	
45-54	1-3	11	49%*	34%*														11	48%*
	4-5	45	106*	123*	1													47	105*
	6-10	138	73	61	16	142%*	167%*	24	138%*	153%*	2			1			43	118%*	
	11-15	327	93	116	29	82*	69*	77	114	141	3			20	85%*	92%*	129	98	
	Total	521	86%	93%	46	97%*	94%*	101	118%	143%	5			22	71%*	67%*	174	102%	

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

TABLE 16—Continued

TERM ISSUE AGE	DURA- TION FROM TERM ISSUE	CONVERSION PRIOR TO END OF PERIOD		CONVERSION AT END OF CONVERSION PERIOD WITH INTERVAL BETWEEN END OF CONVERSION PERIOD AND END OF TERM COVERAGE OF:												TOTAL			
				0 Years			1-3 Years			4 Years and Over			Unknown					Total	
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.
Select—Continued																			
55 and over.....	1-3	2															2		
	4-5	12	101%*	55%*													12	88%*	
	6-10	36	99*	66*	18	138%*	76%*	8			1						31	138%*	
	11-15	60	121	107	29	108*	116*	5			1						40	93*	
	Total	110	106%	75%	47	115%*	96%*	13	78%*	51%*	2						71	105%	
All ages.....	1-3	44	49%*	38%*													44	48%*	
	4-5	139	86	93	1												143	85	
	6-10	611	81	81	45	96%*	94%*	63	122%	136%	3						116	102%	
	11-15	1,171	84	97	141	103	108	175	96	113	35	77%*	75%*	81	104%	99%	432	98	
	Total	1,965	82%	87%	187	99%	100%	239	102%	117%	38	74%*	74%*	88	98%	90%	552	98%	
Ultimate																			
Attained ages:	30-39.....	20	130%*	149%*	2			2									5		
	40-49.....	515	98	106	42	109%*	113%*	41	98%*	108%*	31	99%*	90%*	41	110%*	108%*	155	104%	
	50-59.....	1,914	86	91	169	90	93	207	91	95	85	76	74	219	105	97	680	92	
	60-69.....	2,988	91	93	338	98	85	455	94	99	272	103	109	237	87	85	1,302	95	
	70-79.....	1,706	93	89	210	84	78	397	91	106	208	112	124	62	92	81	877	93	
	80 and over.....	435	96	86	69	103	107	151	94	88	48	123*	129*	8			276	97	
Total	7,578	91%	92%	830	93%	87%	1,253	93%	100%	644	102%	107%	568	94%	90%	3,295	95%		
Grand total.....	9,543	89%	90%	1,017	94%	91%	1,492	94%	104%	682	100%	103%	656	95%	90%	3,847	95%		

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

**TABLE 17**  
**MORTALITY RATIOS FOR CONVERSIONS FROM TERM PLANS BY SEX**  
**ALL CONVERSION CODES, TERM PLANS, MEDICAL AND**  
**NONMEDICAL, POLICIES AND RIDERS COMBINED**

TERM ISSUE AGE	DURATION FROM TERM ISSUE	MALE			FEMALE		
		No. of Actual Deaths	Mortality Ratio		No. of Actual Deaths	Mortality Ratio	
			By Policies	By Amount		By Policies	By Amount
Select							
15-34 .....	1- 3	36	69%*	85%*	2		
	4- 5	64	79	74	1		
	6-10	365	92	98	14	103%*	50%*
	11-15	664	86	92	9		
	Total	1,129	87%	92%	26	81%*	49%*
35-54 .....	1- 3	80	77%	158%	3		
	4- 5	231	106	110	13	97%*	47%*
	6-10	1,242	103	93	52	96	57
	11-15	2,136	98	105	44	78*	40*
	Total	3,689	100%	104%	112	86%	49%
55 and over .....	1- 3	12	83%*	70%*			
	4- 5	32	97*	66*	1		
	6-10	185	128	105	6		
	11-15	176	105	108	3		
	Total	405	113%	98%	10	65%*	30%*
All ages .....	1- 3	128	75%	135%	5		
	4- 5	327	99	99	15	75%*	37%*
	6-10	1,792	103	95	72	97	56
	11-15	2,976	96	102	56	75	38
	Total	5,223	97%	101%	148	83%	47%
Ultimate							
Attained ages:							
30-39 .....		25	137%*	144%*			
40-49 .....		690	102	106	4		
50-59 .....		2,797	88	95	47	124%*	74%*
60-69 .....		5,122	94	95	47	69*	30*
70-79 .....		3,550	95	94	37	64*	48*
80 and over .....		969	99	91	16	107*	90*
Total		13,153	94%	95%	151	80%	47%
Grand total .....		18,376	95%	98%	299	82%	47%

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

TABLE 18

MORTALITY RATIOS FOR TERM CONVERSIONS BY TYPE OF UNDERWRITING  
ALL CONVERSION CODES, MALE AND FEMALE, POLICIES AND RIDERS COMBINED

TERM ISSUE AGE	DURATION FROM TERM ISSUE	TERM PLANS PROVIDING AUTOMATIC CONVERSION WITHIN 10 YEARS				OTHER TERM PLANS†				ALL TERM PLANS COMBINED			
		Medical		Nonmedical		Medical		Nonmedical		Medical		Nonmedical	
		No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.
		Select											
15-24.....	1-3	1		2		1		3		2		5	
	4-5	1		4		3		10	87%*	4		14	91%*
	6-10	4		10	68%*	11	69%*	18	55*	15	64%*	28	60*
	11-15	13	86%*			22	101*	16	79*	35	96*	16	69*
	Total	19	88%*	16	70%*	37	80%*	47	61%*	56	82%	63	64%
25-34.....	1-3					17	118%*	10	65%*	17	112%*	10	58%*
	4-5			3		17	59*	16	74*	17	54*	19	78*
	6-10	26	87%*	11	95%*	148	96	80	85	174	95	91	87
	11-15	84	102	3		340	82	81	88	424	86	84	85
	Total	110	93%	17	77%*	522	87%	187	83%	632	88%	204	83%
35-44.....	1-3	4				32	281%*			36	270%*		
	4-5	6		2		79	85	8		85	83	10	124%
	6-10	68	125%	3		469	92	37	95%*	537	96	40	93*
	11-15	158	110	4		794	94	51	94	952	97	55	94
	Total	236	111%	9		1,374	104%	96	90%	1,610	105%	105	91%

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

† Renewable, decreasing, and other identifiable term plans.

TABLE 18—Continued

TERM ISSUE AGE	DURATION FROM TERM ISSUE	TERM PLANS PROVIDING AUTOMATIC CONVERSION WITHIN 10 YEARS				OTHER TERM PLANS†				ALL TERM PLANS COMBINED			
		Medical		Nonmedical		Medical		Nonmedical		Medical		Nonmedical	
		No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.
<i>Select Continued</i>													*
45-54	1-3	8				26	48%*			34	62%*		
	4-5	15	162%*	1		79	100			94	105	1	
	6-10	47	57*	1		355	77	1		402	75	2	
	11-15	110	89	2		640	98	4		750	97	6	
	Total	180	88%	4		1,100	87%	5		1,280	87%	9	
55 and over	1-3	4				7				11	76%*		
	4-5	2				18	53%*			20	54*		
	6-10	33	133%*			96	99	1		129	106	1	
	11-15	32	82*	1		92	109			124	101	1	
	Total	71	107%	1		213	91%	1		284	95%	2	
All ages	1-3	17	181%*	2		83	151%	13	41%*	100	153%	15	41%*
	4-5	24	89*	10	116%*	196	84	34	82*	220	85	44	88*
	6-10	178	95	25	83*	1,079	88	137	79	1,257	89	162	80
	11-15	397	99	10	69*	1,888	94	152	87	2,285	95	162	86
	Total	616	99%	47	81%*	3,246	95%	336	79%	3,862	95%	383	79%

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

† Renewable, decreasing, and other identifiable term plans.

TABLE 18—Continued

TERM ISSUE AGE	DURATION FROM TERM ISSUE	TERM PLANS PROVIDING AUTOMATIC CONVERSION WITHIN 10 YEARS				OTHER TERM PLANS†				ALL TERM PLANS COMBINED			
		Medical		Nonmedical		Medical		Nonmedical		Medical		Nonmedical	
		No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.	No. of Actual Deaths	Ratio by Amt.
		Ultimate											
Attained ages:													
30-39		5				19	128%*	5		24	114%*	5	
40-49		86	80%	5		607	104	71	112%	693	100	76	116%
50-59		627	92	33	79%*	2,385	92	126	82	3,012	92	159	81
60-69		1,656	98	107	103	3,749	90	192	102	5,405	92	299	103
70-79		1,520	97	143	110	2,121	90	109	97	3,641	92	252	104
80 and over		468	95	21	86*	521	53	45	82*	989	87	66	137
	Total	4,362	95%	309	105%	9,402	91%	548	102%	13,764	92%	857	103%
Grand total		4,978	96%	356	98%	12,648	92%	884	89%	17,626	93%	1,240	91%

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

† Renewable, decreasing, and other identifiable term plans.

TABLE 19

MORTALITY RATIOS FOR CONVERSIONS FROM TERM POLICIES AND TERM RIDERS  
MALE AND FEMALE, MEDICAL AND NONMEDICAL COMBINED

TERM ISSUE AGE	DURATION FROM TERM ISSUE	CONVERSIONS FROM DECREASING TERM PLANS, WITH CONVERSION PRIOR TO END OF CONVERSION PERIOD						CONVERSIONS FROM ALL OTHER IDENTIFIABLE TERM PLANS											
		Conversions from Term Policies			Conversions from Term Riders			With Conversion Prior to End of Conversion Period					With Conversion at End of Conversion Period						
		No. of Actual Deaths		Ratio	No. of Actual Deaths		Ratio	No. of Actual Deaths		Ratio			No. of Actual Deaths		Ratio				
		By Pol.	By Amt.	By Pol.	By Amt.	By Pol.	By Amt.	By Pol.	By Amt.	By Pol.	By Amt.	By Pol.	By Amt.	By Pol.	By Amt.	By Pol.	By Amt.		
Select																			
15-24	1-3			2			2			1									
	4-5			2			4			5									
	6-10	1		9			5			16	51%*	51%*							
	11-15	1		11	339%*	376%*	6			21	68%*	95%*	1			2			
	Total	2		27	251%*	206%*	17	100%*	96%*	43	56%*	67%*	1			2			
25-34	1-3	4		4			9			6									
	4-5	2		10	135%*	192%*	6			14	55%*	39%*							
	6-10	14	120%*	118%*	71	206	192	42	120%*	128%*	103	68	82	4		5			
	11-15	14	113%*	136%*	111	175	152	82	82	80	181	66	70	23	99%*	108%*	59	87%*	84%*
	Total	34	122%*	146%*	196	180%*	174%*	139	90%*	87%*	304	65%*	70%*	27	93%*	98%*	64	81%*	77%*
35-44	1-3	4		10	154%*	142%*	6			7									
	4-5	11	193%*	211%*	30	172%*	183%*	29	123%*	136%*	24	65%*	65%*	1		1			
	6-10	65	151	151	172	193	200	80	97	102	191	84	87	22	117%*	119%*	11	64%*	96%*
	11-15	52	118	104	180	136	122	218	93	110	276	79	84	79	107	147	99	104	95
	Total	132	138%*	137%*	392	160%*	163%*	333	94%*	103%*	498	79%*	83%*	102	108%*	137%*	111	98%*	96%*
45-54	1-3	5		7			6			5									
	4-5	11	132%*	198%*	19	108%*	92%*	21	91%*	108%*	24	124%*	158%*	1		1			
	6-10	92	144	114	89	133	104	68	75	65	70	71	57	35	160%*	188%*	8		
	11-15	83	146	121	66	118	105	224	105	137	103	74	73	91	110	108	38	77%*	112%*
	Total	191	144%*	130%*	181	123%*	99%*	319	94%*	105%*	202	76%*	72%*	127	120%*	124%*	47	72%*	91%*

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.



TABLE 19—Continued

TERM ISSUE AGE	DURATION FROM TERM ISSUE	CONVERSIONS FROM DECREASING TERM PLANS, WITH CONVERSION PRIOR TO END OF CONVERSION PERIOD					CONVERSIONS FROM ALL OTHER IDENTIFIABLE TERM PLANS												
		Conversions from Term Policies		Conversions from Term Riders			With Conversion Prior to End of Conversion Period					With Conversion at End of Conversion Period							
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			By Pols.	By Amt.		By Pols.	By Amt.		By Pols.	By Amt.		By Pols.	By Amt.		By Pols.	By Amt.		By Pols.	By Amt.
Select—Continued																			
55 and over	1-3	1			2			2											
	4-5	5			11			11	102%*	56%*	1								
	6-10	30	150%*	118%*	11	162%*	146%*	32	99*	67*	4			23	120%*	60%*	8		
	11-15	13	107*	138*				57	125	109	3			34	92*	78*	6		
	Total	49	132%*	125%*	21	152%*	107%*	102	109%	77%	8			57	98%	67%	14	144%*	101%*
All ages	1-3	14	147%*	184%*	25	129%*	122%*	25	56%*	33%*	19	42%*	46%*						
	4-5	29	144*	187*	69	143	143	71	100	102	68	74	81	2			2		
	6-10	202	145	126	352	175	165	227	93	86	384	75	78	84	128%	125%	32		
	11-15	163	130	118	371	144	130	587	98	116	584	73	78	228	104	117	204	67%*	76%*
	Total	408	138%	133%	817	155%	146%	910	95%	99%	1,055	73%	76%	314	108%	116%	238	87%	88%
Ultimate																			
Attained ages:	30-39				4			4			16	133%*	121%*	1			4		
	40-49	5			83	184%*	184%*	182	104%	117%	333	95	98	59	125%	126%	96		
	50-59	23	226%*	236%*	143	120%	112	912	87	90	1,002	85	92	260	87	91	420		
	60-69	17	164*	200*	61	110	99	1,843	93	95	1,145	89	90	817	98	95	485		
	70-79				1			1,384	95	91	322	86	77	726	92	101	151		
	80 and over	1						408	99	88	27	65*	64*	263	101	100	13		
Total	46	182%*	197%*	292	131%	123%	4,733	93%	93%	2,845	88%	90%	2,126	95%	98%	1,169	94%	93%	
Grand total	454	142%	136%	1,109	148%	141%	5,643	94%	95%	3,900	83%	84%	2,440	97%	101%	1,407	92%	92%	

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

**TABLE 20**  
**TERM CONVERSION EXPERIENCE**  
**COMPARISON OF CONVERSION RATES WITH MORTALITY RATIOS BY COMPANY**  
**(Based on Amounts)**

COMPANY	CONVERSION RATE EXPERIENCE		MORTALITY EXPERIENCE	
	Rate	Number of Conversions	Ratio	Number of Deaths
<b>Conversion Group 1, Decreasing Term Plans</b>				
B.....	0.4%	305	129%	333
C.....	5.2	8,788	136	51
E.....	2.1	1,188	134	47
F.....	2.2	2,584	117	274
G.....	0.7	18,561	202	645
H.....	1.4	1,934	146	74
J.....	5.4	3,780	114	51
N.....	5.1	1,091	140	27
O.....	1.8	16,900	113	120
Total.....	1.3%	55,131	147%	1,622
<b>Conversion Group 1, All Other Identifiable Term Plans</b>				
B.....	11.0%	1,461	86%	666
E.....	4.6	348	103	38
F.....	3.1	1,271	102	1,799
G.....	3.5	2,880	123	296
H.....	7.6	10,976	96	344
J.....	11.8	17,885	77	1,251
N.....	10.0	6,838	95	1,232
Total.....	8.0%	41,659	92%	5,626
<b>Conversion Group 2, All Other Identifiable Term Plans</b>				
C.....	29.4%	694	139%	13
F.....	22.9	654	110	961
G.....	22.0	836	128	215
J.....	59.6	3,145	68	373
N.....	20.6	619	91	243
Total.....	34.1%	5,948	97%	1,805

NOTE.—Entries are limited to companies each reporting at least ten deaths and at least 100 conversions for category shown.

A(3.3). RENEWABLE TERM PLANS PROVIDING LEVEL  
AMOUNTS OF INSURANCE

Table 14 shows the mortality experience on conversions from renewable term plans providing level amounts of insurance. The over-all ratio of 96 per cent by amount of insurance was also the same as that for all term plans combined. Very little experience (twenty-one deaths) was submitted for the select period with respect to conversions issued at the end of the conversion period. One company experienced a \$3 million claim under three policies which converted prior to the end of the conversion period on one life in the 35-44 age category, durations 1-3. If, instead, the amount of the claim had been the average for all other companies, the over-all ratio of 96 per cent would have dropped to 84 per cent and the 130 per cent ratio for the 35-44 age category would have dropped to 83 per cent.

## A(3.4). DECREASING TERM PLANS

Table 15 shows the mortality experience on conversions from decreasing term plans. This category showed the highest mortality of any of the categories studied, the ratios by amount being consistently over 100 per cent, with an over-all average of 132 per cent. Again, very few data were submitted for conversions issued at the end of the conversion period. This sparsity of experience may be due in part to the low terminal insurance amounts which might be converted under the schedule of decreasing amounts.

## A(3.5). ALL OTHER IDENTIFIABLE TERM PLANS

Table 16 shows an over-all mortality ratio by amount of 92 per cent for conversions from all other identifiable term plans not included in the three categories discussed above. Eleven companies contributed to the category, with individual company ratios by amount ranging from a low of 75 per cent to a high of 125 per cent.

Mortality ratios by amount were 90 per cent for conversions prior to the end of the conversion period, as compared with 98 per cent for total conversions at the end of the conversion period, the latter experience being subdivided by type of conversion period into segments for which the ratios range from 90 to 104 per cent. It should be noted that these results are quite similar to those for automatic conversions (Table 13), which showed 92 per cent, as compared with 90 per cent here, for conversions before the end of the conversion period, and 97 per cent, as compared with 98 per cent here, for conversions at the end of that

period. The ratio for the combined experience for these two types of term plans obtained for conversions before the end of the conversion period is 90.2 per cent, as compared with 97.5 per cent obtained for those at the end of the conversion period. These last two ratios may be compared with a ratio of 92.7 per cent derived from data reported in the *1972 Reports* for the 1966–71 intercompany combined male and female experience for standard ordinary insurance (see Table 9 for issue ages 15–64 and Table 12 for attained ages 30–95). Since the combined experience for conversions at the end of the conversion period under these two types of term plans involves a total of 8,272 deaths by number of policies, the excess of the associated 97.5 per cent mortality ratio over the corresponding standard ordinary ratio of 92.7 per cent may be significant.

#### A(3.6). ANALYSIS BY SEX

Ten of the thirteen companies contributing to the mortality experience were able to split their data by sex. Only 299 deaths, or about 1.6 per cent of the total, were female lives. Consequently, it was not possible to obtain any meaningful comparisons for a number of combinations of experience.

Table 17 does show a comparison of male and female mortality subdivided by age and duration groups. The over-all ratio by amount of 47 per cent shows a favorable experience; the over-all ratio by policies of 82 per cent is more in line with the 95 per cent shown for males.

#### A(3.7). ANALYSIS BY TYPE OF UNDERWRITING

Eleven of the thirteen companies were able to split their data between conversions from term policies originally issued medically and those originally issued nonmedically. Of the total number of claims, 78 per cent were coded as medical, 6 per cent as nonmedical, and 16 as unknown. Table 18 shows the comparison of medical and mortality separately for conversions from term policies providing for automatic conversion within ten years, for conversions from all other identifiable term plans, and for all conversions combined. The aggregate ultimate experience ratio of 103 per cent for nonmedical business was distinctly higher than the 92 per cent shown for medical business. However, for the select period, the mortality ratios for medical business were consistently higher than those for nonmedical business. It seems particularly noteworthy that these select nonmedical ratios, 79 per cent for all the select experience combined, are substantially lower than the comparable ratio of 110 per cent derived from data set forth in the *1972 Reports* for the 1966–

71 intercompany combined male and female nonmedical experience under standard ordinary insurance (see *1972 Reports*, p. 19, Table 10, for issue ages 15 and over).

#### A(3.8). ANALYSIS BY ORIGINAL POLICY AND RIDER FORMS

Table 19 presents mortality experience on conversions from term policies in relation to that for term riders. Data adequate for comparative purposes were available only for conversions from decreasing term plans prior to the end of the conversion period and for conversions from level term plans with a separation for the two major conversion groups.

For decreasing term plans, conversions from policies experienced an over-all ratio of 136 per cent by amount, as compared with the 141 per cent experienced by riders. Conversions from all other identifiable term policies in both major categories (conversions prior to the end of the conversion period and conversions at the end of the conversion period) experienced generally higher mortality ratios than those from corresponding riders. For all other identifiable term insurance with respect to both policy and rider conversions, the aggregate mortality ratios were higher for conversions at the end of the period than for earlier conversions.

#### A(3.90). COMPARISON OF CONVERSION RATES WITH MORTALITY RATES

Considerable interest has always been shown among actuaries in the question of how mortality rates on converted policies might vary according to the level of conversion rates. No analyses regarding any such possible relationships were prepared in connection with the experience submitted for the two prior studies published in the *1963* and *1968 Reports*. Table 20 in the current report was prepared for three categories for which companies contributed data for both conversion rates and mortality ratios. Entries are given in Table 20 only for those companies which reported at least ten deaths and at least one hundred conversions with respect to each category shown. The paired observations of conversion rates and mortality ratios shown in Table 20 were weighted by the indicated number of deaths and then used to develop the coefficients of correlation and regression-line equations shown in the tabulation on page 171. Here  $y$  is an estimate of the aggregate mortality ratio for a given aggregate conversion rate  $x$ . The values developed for the coefficients of correlation relating  $x$  to  $y$  appear to be quite significant in a negative sense.

Conversion Group	Coefficient of Correlation	Regression-Line Equation
	Decreasing Term	
1 . . . . .	-0.42	$y = 1.47 - 12.7(x - 0.013)$
	All Other Identifiable Term	
1 . . . . .	-0.83	$y = 0.92 - 2.6(x - 0.080)$
2 . . . . .	-0.86	$y = 0.97 - 1.1(x - 0.341)$

The parameters shown for the regression-line equations are not to be regarded as having any degree of precision, since they were derived from heterogeneous data reflecting the aggregate experience for all ages and durations combined. In particular, the reader should note that the mortality ratios are based in part on conversions issued prior to the anniversaries in 1966, the beginning date of this current study. Furthermore, since conversion rates vary by age, we should expect that parameters appropriate for specific age and duration subsets of the experience may well differ significantly from those shown above.

#### A(3.91). COMPARISON WITH THE 1961-66 EXPERIENCE

Table 21 presents a comparison of mortality ratios by amounts derived from the 1966-71 period with those published in the *1968 Reports* for the 1961-66 period. The total number of deaths of 22,390 for the 1966-71 period shown for this comparison is nearly double that of 11,354 for the earlier experience.

The mortality ratios shown in Table 21 for the 1966-71 experience are generally lower than those for the prior period. The over-all ratio of 94 per cent for conversion group 1 with respect to the 1966-71 experience shows a decrease of 10 percentage points from the 104 per cent for the 1961-66 experience. A decrease of 12 percentage points is indicated for conversion group 2. These decreases may be compared with the decrease of about 5 points for standard ordinary insurance, for which the over-all ratio with respect to the 1961-66 period was about 98 per cent, and that for the 1966-71 period was about 93 per cent (see data for comparable experience in the *1967* and *1972 Reports*).

TABLE 21  
 TERM CONVERSION MORTALITY  
 COMPARISON OF MORTALITY RATIOS WITH EXPERIENCE FOR 1961-66  
 (Based on Amounts)

TERM PLANS	CONVERSIONS PRIOR TO END OF CONVERSION PERIOD				CONVERSIONS AT END OF CONVERSION PERIOD			
	1961-66 Period		1966-71 Period		1961-66 Period		1966-71 Period	
	Mor- tality Ratio	No. of Deaths	Mor- tality Ratio	No. of Deaths	Mor- tality Ratio	No. of Deaths	Mor- tality Ratio	No. of Deaths
Automatic conver- sions within 10 years . . . . .	93%	802	92%	922	105%	4,111	97%	4,425
Renewable . . . . .	84	221	97	1,676	160	31	77	157
Decreasing . . . . .	166	408	134	1,705	193	33	88	115
All other identifiable plans . . . . .	102	3,742	90	9,543	112	2,006	98	3,847
Total . . . . .	104%*	5,173	94%*	13,846	109%*	6,181	97%*	8,544

\* Average of the above ratios each weighted by the associated expected number of deaths for the two five-year periods combined.

#### PART B: GUARANTEED INSURABILITY OPTION EXPERIENCE

Part B of this year's study presents GIO experience which relates to three of the five sets of rates which are required under the GIO counterparts of the formulas given in Appendix II for conversion policies. These three sets of rates include election rates, lapse rates under elected policies, and mortality rates under elected policies. Again, the Committee believes that suitable data for establishing two of the remaining rates required to measure the extra mortality costs (namely, the persistency rates applicable to the period prior to the date of election and the mortality rates for standard policies) may be obtained from company experience or from published sources.

The first intercompany study of GIO elections was published in the *1968 Reports* with respect to the period between the 1961 and 1966 policy anniversaries. The volume of comparable experience for this prior period was quite small (thirty deaths for the mortality experience and 660 lapses for the persistency experience). No election rates were published, and only a few over-all lapse and mortality rates were shown.

Because considerably more experience was submitted in connection with the current study, the Committee was able to prepare somewhat more detailed analyses for the two major election groups: group 1, representing policies issued on "regular" option dates, and group 2, representing policies issued on "special" option dates associated with marriage or the birth of a child.

#### *B(1). Election Rates*

The counterpart of formula (2) given in Appendix II for GIO experience expresses election rates as a function of two variables: issue age of the base policy and duration to the date of election. For the purpose of this current study, however, the Committee, for practical purposes, adopted the assumption that election rates for each of the two major option groups would depend primarily on one variable: the attained age on the date of election. The Committee anticipated that the volume of experience with respect to GIO election rates would be small. Consequently, it did not ask companies to separate their experience into durational subgroups (such as the two subgroups for the first seven policy years and for the later years which were used for the conversion rate analysis) in order to test the concept that GIO election rates depend primarily on attained age rather than on duration.

The data for the election rate experience were furnished by eleven companies, in accordance with Report Form No. 2 shown in Appendix I. Appendix V, which lists the companies contributing to this portion of the study, indicates that the number of GIO elections totaled 44,649, of which 40,368 were classed as "Regular" and 4,281 as "Special."

Table 22 presents a distribution of regular and special election rates by age derived from the experience submitted by companies listed in Appendix V. A regular election rate is the result obtained by dividing the amount elected on a specific anniversary by the maximum amount which could have been elected at that time on a regular basis by all eligible policyholders. On the other hand, a special election rate is the result obtained by dividing the amounts actually elected on a special basis (marriage, birth of a child, etc.) during a specific year by the amounts which could have been elected if all policyholders had met the eligibility requirements for the special option during that year. Because the denominator used to determine a special rate for a particular cell may be from three to five times as great as that for the corresponding regular rate, special rates are at a much lower level than those for regular rates.



The first part of Table 22 shows the distribution of regular election option rates by central ages 25, 28, 31, 34, 37, and 40. It is to be observed that the regular rates increase steadily with advancing age, from 10.2 per cent for central age 25 to 20.9 per cent for central age 40. Of interest is the broad spread between the maximum and minimum rates reported by individual companies, presumably due to diversity in administrative practices and financial inducement programs.

The second part of Table 22 shows the distribution of special election option rates by quinquennial age groups. As expected, the special election rates are of a low order of magnitude; the over-all rate of 0.44

TABLE 22  
 GUARANTEED INSURABILITY OPTIONS  
 ELECTION RATES BY ATTAINED AGE

ATTAINED AGE AT ELECTION	TOTAL ELECTIONS	AGGREGATE ELECTION RATE	RANGE OF INDIVIDUAL COMPANY ELECTION RATES*			
			MAXIMUM		MINIMUM	
			Rate	Number	Rate	Number
Regular Elections†						
24-26 .....	13,527	10.2%	18.2%	839	5.8%	488
27-29 .....	10,523	10.6	17.2	446	5.9	115
30-32 .....	7,575	11.6	18.6	244	6.9	314
33-35 .....	4,404	12.8	21.0	138	8.8	444
36-38 .....	2,618	15.4	35.6	82	10.3	269
39-41 .....	1,721	20.9	43.3	61	14.7	226
Total .....	40,368	11.3%				
Special Elections†						
21-25 .....	1,830	0.41%	1.04%	91	0.10%	67
26-30 .....	1,851	0.50	0.99	403	0.12	103
31-35 .....	504	0.44	1.67	126	0.29	73
36-40 .....	96	0.33				
Total .....	4,281	0.44%				

\* Entries are given only if two or more companies each reported at least 50 elections for the indicated category.

† Classified with regular elections (and excluded from special elections) is a relatively small but unknown volume of special elections. These data were contributed by three companies which were not able to distinguish between regular and special elections when the attained age was a regular election age.

per cent is about one twenty-fifth of the over-all regular election rate. As in the case of the regular elections, the spread of the special election rates reported by individual companies is also relatively broad.

*B(2). Lapse Rates under Elected Policies*

For the reasons stated in Section A(2) concerning term conversions, the Committee requested only such data as would be needed under the assumption that lapse rates for each category of experience would depend primarily on two variables: age at issue of the elected policy and duration measured from its date of issue.

The data for the lapse experience were furnished by the companies shown in Appendix V. The total exposures were 179,991 by number of policies and \$1,632 million by amount of insurance. There were 6,379 lapses, totaling \$54.6 million of insurance.

Tables 23 and 24 present a few details of the experience as summarized in Appendix V. The rates shown in Table 23 for both regular and special elections are quite favorable. The rates for the totals shown in Table 24 for medically examined business are consistently lower than those for nonmedical business. The experience for the small volume of elections for females appears to be only slightly higher than that for males.

*B(3). Mortality Rates under Elected Policies*

As in connection with the term conversion portion of this report, the Committee requested companies to submit only such mortality data as might be used under the broad assumption that death rates for each category of experience would depend primarily on two variables, namely, the issue age of the original policy which contained the election right and the duration measured from the issue date of the original policy. Because the Committee anticipated that the volume of experience would be small, no request was made to furnish data to test this broad assumption, as was done for term conversions.

The data for the mortality experience were furnished by the companies shown in Appendix V. The total exposure was 169,625 by number of policies and \$1,540 million by amount of insurance. There were only 215 death claims, totaling \$1.876 million of insurance.

Table 25 presents a few details of portions of the experience summarized in Appendix V. An over-all mortality rate of 111 per cent by amount is indicated for the male experience. The experience reported

for medical business showed a mortality ratio by amount of 99 per cent, somewhat lower than the 117 per cent for nonmedical business. Only three deaths were reported for female lives. The number of deaths (fourteen) reported for special options was too small to produce a meaningful comparison with the experience for regular options.

A comparison of the experience for the 1966-71 period with that for the prior period could not be made, because comparable data were not available.

TABLE 23  
LAPSE RATES FOR GUARANTEED INSURABILITY ELECTIONS  
MALE AND FEMALE, MEDICAL AND NONMEDICAL COMBINED  
SELECT EXPERIENCE

AGE AT ELECTION	DURATION SINCE ELECTION	ELECTIONS AT REGULAR OPTION DATES			ELECTIONS AT SPECIAL OPTION DATES		
		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate	
			No.	Amt.		No.	Amt.
15-24	1	81	6.5%	6.1%	97	7.9%	7.9%
	2	25	3.0*	3.2*	50	5.2	5.6
	3- 5	20	2.1*	2.6*	42	3.4*	3.3*
	6-15	1			10	4.6*	4.0*
	Total	127	4.1%	4.2%	199	5.5%	5.5%
25-34	1	1,356	6.4%	6.2%	129	6.4%	5.7%
	2	536	3.0	2.9	46	2.9*	2.8*
	3- 5	902	2.6	2.5	55	2.3	2.4
	6-15	339	2.3	2.3	16	2.5*	2.5*
	Total	3,133	3.6%	3.5%	246	3.7%	3.5%
35 and over	1	131	3.5%	3.6%	8		
	2	69	2.3	2.2	3		
	3- 5	82	1.5	1.7	7		
	6-15	35	2.0*	2.0*	2		
	Total	317	2.3%	2.4%	20	3.3%*	3.1%*
All ages	1	1,568	6.0%	5.8%	234	6.8%	6.3%
	2	630	2.9	2.8	99	3.6	3.7
	3- 5	1,004	2.5	2.4	104	2.7	2.7
	6-15	375	2.3	2.3	28	3.2*	2.9*
	Total	3,577	3.4%	3.3%	465	4.3%	4.1%

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

TABLE 24  
 GUARANTEED INSURABILITY ELECTIONS  
 LAPSE RATES BY SEX AND UNDERWRITING CLASS  
 REGULAR AND SPECIAL OPTIONS COMBINED  
 SELECT EXPERIENCE

AGE AT ELECTION	DURATION SINCE ELECTION	MALE			FEMALE			MEDICAL			NONMEDICAL		
		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate	
			No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.
15-24	1	270	7.6%	7.2%	6	.....	.....	46	5.4%*	5.0%*	145	8.6%	9.0%
	2	106	4.0	3.7	3	.....	.....	24	3.6*	3.8*	51	4.6	4.7
	3-5	92	2.8	2.9	6	.....	.....	24	2.7*	2.8*	42	3.5*	3.8*
	6-15	16	3.4*	3.0*	1	.....	.....	3	.....	.....	5	.....	.....
	Total	484	4.9%	4.7%	16	6.2%*	6.6%*	97	3.8%	3.8%	243	5.9%	6.2%
25-34	1	2,522	6.1%	5.7%	46	6.6%*	6.7%*	449	5.2%	5.1%	817	6.8%	6.9%
	2	966	3.0	2.6	15	3.3*	3.3*	189	2.6	2.6	310	3.7	3.8
	3-5	1,400	2.6	2.5	22	3.4*	2.6*	385	2.5	2.6	394	3.4	3.4
	6-15	441	2.2	2.2	4	.....	.....	181	2.5	2.5	99	2.8	3.2
	Total	5,329	3.6%	3.4%	87	4.4%	4.1%	1,204	3.1%	3.2%	1,620	4.6%	4.7%

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

TABLE 24—Continued

AGE AT ELECTION	DURATION SINCE ELECTION	MALE			FEMALE			MEDICAL			NONMEDICAL		
		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate		No. of Lapses	Lapse Rate	
			No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.
35 and over.....	1	193	3.5%	3.5%	2	.....	.....	86	3.7%	3.7%	32	3.3%*	3.1%*
	2	101	2.4	2.4	.....	.....	42	2.3*	2.2*	15	2.5*	2.5*	
	3- 5	119	1.7	1.8	3	.....	.....	52	1.7	1.8	13	2.2*	2.6*
	6-15	44	1.8*	1.9*	1	.....	.....	21	2.2*	2.2*	3	.....	.....
	Total	457	2.4%	2.4%	6	.....	.....	201	2.5%	2.5%	63	2.8%	2.8%
All ages.....	1	2,985	5.9%	5.5%	54	5.8%	6.2%	581	4.9%	4.8%	994	6.8%	6.9%
	2	1,173	3.0	2.6	18	2.9*	2.8*	255	2.6	2.6	376	3.7	3.8
	3- 5	1,611	2.5	2.4	31	3.5*	2.5*	461	2.4	2.5	449	3.3	3.4
	6-15	501	2.2	2.2	6	.....	.....	205	2.5	2.5	107	2.9	3.2
	Total	6,270	3.5%	3.3%	109	4.0%	3.8%	1,502	3.1%	3.1%	1,926	4.6%	4.8%

\* Rates based on 10-49 lapses inclusive. No rates shown for fewer than ten lapses.

TABLE 25  
 GUARANTEED INSURABILITY ELECTIONS  
 MORTALITY RATIOS BY SEX AND UNDERWRITING CLASS  
 REGULAR AND SPECIAL OPTIONS COMBINED  
 SELECT EXPERIENCE

AGE AT OPTION ISSUE	DURATION SINCE OPTION ISSUE	MALE			FEMALE			MEDICAL			NONMEDICAL		
		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio		No. of Actual Deaths	Ratio	
			No.	Amt.		No.	Amt.		No.	Amt.		No.	Amt.
15-34	1-3	12	75%*	63%*				2			3		
	4-5	47	138*	128*				12	149%*	148%*	15	169%*	165%*
	6-10	116	117	117	1			31	90*	92*	24	105*	109*
	11-15	26	113*	119*				11	108*	112*	7		
	Total	201	117%	114%	1			56	100%	100%	49	117%*	119%*
35 and over	1-3												
	4-5	3						1					
	6-10	4			2			3					
	11-15	4											
	Total	11	101%*	78%*	2			4					
All ages	1-3	12	72%*	60%*				2			3		
	4-5	50	140	128				13	150%*	143%*	15	166%*	163%*
	6-10	120	114	112	3			34	92*	93*	24	103*	107*
	11-15	30	121*	123*				11	102*	105*	7		
	Total	212	116%	111%	3			60	100%	99%	49	115%*	117%*

\* Rates based on 10-49 deaths inclusive. No rates shown for fewer than ten deaths.

## APPENDIX I

## INSTRUCTIONS TO CONTRIBUTING COMPANIES

The Society of Actuaries' Committee on Mortality under Ordinary Insurance and Annuities in 1962 undertook its first intercompany study of the mortality experience on term plan conversions, covering the experience between 1954 and 1961 anniversaries. This initial study was followed five years later by an expanded study covering the experience between 1961 and 1966 anniversaries with respect to both term conversions and policies issued as a result of the exercising of options under guaranteed insurability riders. A supplemental study was also made of conversion policy lapse rates between 1961 and 1966 anniversaries. The results of these studies were published in the *1963* and *1968 Reports*, respectively.

Because of the continued importance of this information, the Committee decided to make experience of this type the subject of a continuing investigation and now invites you to contribute your company's experience to its next study.

This year the Committee has decided to concentrate on the assembly of data which could be used to obtain a measure of the cost of extra mortality experienced under conversions and GIO elections according to a specific formula. As a consequence of this decision, companies will be asked to contribute their experience in somewhat different form but with respect to fewer categories. The instructions included herewith for the conversions will indicate that mortality will be studied only on the basis previously defined as Part B, duration measured from original date of issue of term policies, and that lapse rates will be studied only on the basis previously defined as Part A, duration measured from date of conversion. A similar treatment is indicated for GIO elections.

For the purpose of this study, the present value of the extra mortality costs on the date of issue of the original policy is viewed as a function of the issue age and persistency of the original plan, the date of election, the election rate, and the persistency, mortality, and amounts at risk for the elected policy.

Full details for procedures with respect to mortality and lapse experience under conversions for the investigation are given in the enclosed instructions. Computation of expected deaths will be done by the Committee. As was the case for the prior studies for term conversions, data will be requested for two major conversion groups: (1) conversions effected prior to the end of the conversion period and (2) those effected at the end of the period.

The Committee would like to test the premise that mortality rates under conversions for each of the two major conversion groups vary significantly only by duration from the issue date of the term plan and are essentially independent of the duration at conversion. For this purpose, the instructions

call for a separation of conversion into two subgroups: conversions effected during the first seven years and those effected thereafter.

The Committee would like to test the premise that conversion rates with respect to each of the two major conversion groups are largely independent of the duration at conversion (which is one of the functions appearing in the specific formula referred to above) and vary significantly only by attained age. For this purpose, conversion rates should be submitted in accordance with Report Form No. 1 and the enclosed instructions, which, you will note, call for the combined data for policies and riders.

The Committee believes that more detail is desirable with respect to GIO benefits and accordingly requests the completion of Report Form No. 2 in accordance with the enclosed instructions therefor. In contrast with the term conversion situation, however, no test is being made of the premise that election rates are largely independent of the duration at election.

The Committee does recognize that conversion and GIO election rates could vary among companies and therefore requests that each contributor give a statement of their practices at time of conversion or election which might influence these rates, including financial inducements.

The Committee is not requesting data at this time for three areas covered by the prior report: (1) the proportion of business sold on term coverages will not be requested, since the two earlier studies indicated that there was no significant correlation between the proportion of business sold on the term plan and the mortality experienced under conversion policies; (2) a comparison of mortality on term insurance with that on corresponding permanent plans will not be requested, since this type of information is not required to evaluate the extra cost of mortality according to the concept described above; (3) no experience is requested with respect to conversion policies for which the original term plan is unknown.

No request is being made with respect to persistency rates of permanent plans, mortality and persistency rates for standard policies, or amounts at risk, since any company, in determining its conversion costs from the results of this study, would presumably wish to tailor these assumptions as required for its needs.

The Committee would like to have all contributions by October 1, 1972. Please send them as shown on page 1 of the instructions. The Committee would welcome contributions to any of the parts which will be covered by this new intercompany study. If you do not find it feasible to contribute in the precise form requested, you are invited to submit your experience in such modified form as may be practicable, with a statement of the basis on which your data have been compiled. Please let me know by May 1 whether you will be able to participate. If you can contribute, please indicate the scope of what your contribution will be.

Sincerely yours,

CHARLES A. ORMSBY  
*Chairman*



REPORT FORM NO. 1

TERM PLAN CONVERSION RATES

- Group 1: Conversion prior to End of Conversion Period  
 Group 2: Conversion at End of Conversion Period

AGE AT CONVERSION	YEARS TO CONVERSION					
	1-7		8 and Over		Total	
	Number	Rate %	Number	Rate %	Number	Rate %
15-24						
25-34						
35-44						
45-54						
55 and over						
Total						
	Plans Automatically Convertible within 10 Years					
	Renewable Term Plans					
15-24						
25-34						
35-44						
45-54						
55 and over						
Total						
	Decreasing Term Plans					
15-24						
25-34						
35-44						
45-54						
55 and over						
Total						
	All Other Identifiable Term Plans					
15-24						
25-34						
35-44						
45-54						
55 and over						
Total						

## REPORT FORM NO. 2

## GIO ELECTION RATES

AGE AT ELECTION	TYPE OF OPTION			
	"Regular" Option		"Special" Option	
	Number	Rate %	Number	Rate %
20 and under				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42 and over				

## INSTRUCTIONS FOR 1966-71 EXPERIENCE UNDER TERM CONVERSIONS AND GUARANTEED INSURABILITY OPTION ELECTIONS

These instructions cover

1. Contributions to the investigation of mortality and lapse rates:
  - a) Section 1 for mortality rates.
  - b) Section 2 with Appendix 1 for lapse rates.
2. Completion of Report Form No. 1 for term plan conversion rates.
3. Completion of Report Form No. 2 for GIO election rates.

The work of the Committee would be simplified greatly if each company reviewed its summary card contribution carefully to be sure that all fields in the cards are properly punched. In particular, please be sure that totals for the transmittal cards balance with the check totals requested for sections 1 and 2. In prior studies, totals obtained from transmittal cards have not always balanced to check totals. This can occur if the contributing company uses a set of work cards to establish the check totals and a punch is omitted in reproducing transmittal cards from the work cards. Please make every effort to prevent this from occurring.

Please address your contributions to Mr. John M. Boermeester, Second Vice-President, John Hancock Mutual Life Insurance Company, 200 Berkeley Street, Boston, Massachusetts 02117. The Committee would like to have your summary cards, report forms, and transmittal letters by October 1, 1972.

CHARLES A. ORMSBY  
*Chairman*

INSTRUCTIONS FOR CONTRIBUTIONS TO INVESTIGATION OF MORTALITY  
AND LAPSE RATES UNDER TERM CONVERSIONS AND GIO ELECTIONS

This study is to cover mortality and lapse experience from 1966 to 1971 policy anniversaries under individual life insurance policies of the following types:

1. Policies issued as a result of the exercise of the conversion privilege included in term insurance policies and riders.
2. Policies issued as a result of the exercise of options under guaranteed insurability riders.

The following classes of policies should be excluded. If it is not feasible to do so, please inform the Committee in the letter of transmittal accompanying your company's contribution which of them are included.

1. Conversions to term plans.
2. Group conversions.
3. Substandard policies.
4. Joint life policies.
5. Term riders retained as term insurance after conversion.
6. Policies requiring underwriting at the time of conversion for the life insurance benefits. Do not exclude policies where evidence was required *solely* on account of the inclusion of a disability or other additional benefit.
7. Conversions to policies dated back to some year prior to that of conversion.
8. Policies not subject to normal medical or nonmedical underwriting at time of original issue. For example, exclude cases written on a guaranteed issue basis.
9. Conversions of dependents under family plans of insurance.

Some insurance plans give the insured a right to what may be described as a combination of a term conversion and a GIO election which will result in a single policy providing a death benefit greater than existed prior to the exercise of the right. The total experience for rights of this type should also be excluded. However, it is requested that companies send with their letter of transmittal a description of any of these types (together with policy form), so that the Committee may provide for coverages of these types in the next study.

It is recognized that some companies might be unable to make subdivisions of data which have been requested. In some instances, a code is provided for submitting combined experience. Companies are, of course, urged to subdivide data where feasible. Sections 1 and 2 below give separate instructions for the study of mortality and lapse, respectively.

### *Section 1: Mortality Rates*

Mortality experience will be studied on a fifteen-year select and ultimate basis with duration measured from year of issue of the original policy. Exposure and deaths, of course, should be included only for the period following the date of conversion or election. Experience with respect to extended term or reduced paid-up insurance periods should be excluded.

The recommended practice for suicides during the exclusion period, compromised claims, and limited benefits paid under aviation exclusion clauses is to include them in the exposure for the full amount and in claims for the amount paid. In your letter of transmittal please describe any variations from this recommended practice. Also, if possible, show in columns 55-69 the number of claims and the amount of benefits associated with any war deaths which are included in your total experience in columns 40-54. See *TSA, 1970 Reports*, page 57, for the definition of war deaths.

Data are requested for all years of original issue and all years of conversion or election through 1970. If it is necessary to limit your contribution to particular years of issue or conversion or election, please describe these limits in the letter of transmittal.

The Committee will calculate tabular deaths for all contributions. Data should be submitted on summary cards in accordance with the following instructions.

Columns	Item	Instructions																				
1-3	Company code number	Your company code number is ———.																				
4	Identification code	Gangpunch 3 for term conversions. Gangpunch 4 for GIO elections.																				
5-6	Age	For the select portion of the study (i.e., within 15 years of issue of original policy), submit data by five-year age groups at time of issue of the original term policy or policy containing the guaranteed insurability option rider, according to the following code:																				
		<table border="0"> <thead> <tr> <th style="text-align: left;">Age Group</th> <th style="text-align: left;">Code</th> </tr> </thead> <tbody> <tr> <td>15-19</td> <td>15</td> </tr> <tr> <td>20-24</td> <td>20</td> </tr> <tr> <td>25-29</td> <td>25</td> </tr> <tr> <td>·</td> <td>·</td> </tr> <tr> <td>·</td> <td>·</td> </tr> <tr> <td>·</td> <td>·</td> </tr> <tr> <td>60-64</td> <td>60</td> </tr> <tr> <td>65-69</td> <td>65</td> </tr> <tr> <td>70 and over</td> <td>70</td> </tr> </tbody> </table>	Age Group	Code	15-19	15	20-24	20	25-29	25	·	·	·	·	·	·	60-64	60	65-69	65	70 and over	70
Age Group	Code																					
15-19	15																					
20-24	20																					
25-29	25																					
·	·																					
·	·																					
·	·																					
60-64	60																					
65-69	65																					
70 and over	70																					

Columns	Item	Instructions												
		Exclude policies originally issued below age 15. For the ultimate portion of the study, submit data by individual attained age. Punch the individual attained age in columns 5-6.												
		NOTE: For term or guaranteed insurability option riders added to existing policies after issue, use date of addition of rider in determining age at issue (cols. 5-6) and duration since issue (cols. 7-8).												
7-8	Duration since issue	Data should be submitted for the select portion of the study by individual duration since issue of the original policy. Code as 01 to 15. For the ultimate portion of the study, punch XX (numeric).												
9	Age last-nearest code	Code 1 for data based on age nearest birthday.												
10	Sex	Code 2 for data based on age last birthday. Male 1. Female 2.												
11	Medical code	If unable to split data by sex, code 9. Code according to type of underwriting at time of issue of original policy as follows: Medical 1. Nonmedical 2.												
12	Conversion code	If unable to split data by underwriting class, code 9. Use code 1 for major conversion group 1, policies converted from term insurance before the end of the period during which conversion was permitted. "End of the period" is defined as the policy year at the end of which the conversion privilege expires. However, companies may use a different definition if more convenient; if they do, they should state their definition in the letter of transmittal For major conversion group 2, policies converted from term insurance at the end of the period during which conversion was permitted, code according to the number of years between expiry of the conversion privilege and expiry of the term insurance coverage, as follows:												
		<table border="1"> <thead> <tr> <th>Number of Years</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>0*</td> <td>2</td> </tr> <tr> <td>1-3</td> <td>3</td> </tr> <tr> <td>4-5</td> <td>4</td> </tr> <tr> <td>Over 5</td> <td>5</td> </tr> <tr> <td>Unknown</td> <td>6</td> </tr> </tbody> </table>	Number of Years	Code	0*	2	1-3	3	4-5	4	Over 5	5	Unknown	6
Number of Years	Code													
0*	2													
1-3	3													
4-5	4													
Over 5	5													
Unknown	6													
		* This means policies convertible until end of term insurance period.												

NOTES:

In determining the code for renewable term policies, use the final expiry date of the conversion privilege, assuming renewal as long as permitted.

Columns	Item	Instructions
		<p>If unable to distinguish between code 1 and codes 2-6, do not contribute data. For election of options under guaranteed insurability riders, code as follows:            Code 7 for options elected at "regular" option dates (determined by age or possibly by duration).            Code 8 for options elected at "special" option dates, such as at a marriage or upon birth of a child.            If unable to split GIO data in this manner, code 9.</p>
13	Policy-rider code	<p>Code 1 for conversions from term insurance policies.            Code 2 for conversions from term riders.            Code 9 if unable to distinguish term conversions by codes 1 and 2. Also use code 9 for all GIO elections.</p>
14	Policy plan group—before conversion or election	<p>Code according to the policy plan before conversion or election as follows:            Code 1 for term insurance plans providing for automatic conversion within 10 years of original issue.            Code 2 for renewable term plans providing a level amount of insurance.            Code 3 for decreasing term plans (including decreasing term riders) such as mortgage insurance, etc.            Code 4 for all other identifiable term plans (including level term riders).            Code 5 for election of options under guaranteed insurability riders.            NOTE: If unable to distinguish term conversions by codes 1-4, do not contribute data.</p>
15	Test subgroups	<p>Code 1—term conversions issued not later than end of the 7th year after issue of term plan.            Code 2—term conversions issued after the end of the 7th year after issue of term plan.            Code 9 if unable to distinguish term conversions by codes 1 and 2. Also use code 9 for all GIO elections.</p>
16-20 21-27	Exposed (policies)	<p>Leave blank.            Punch the number of policies exposed, if available. If not, punch X (numeric) in column 27 and leave rest of field blank.</p>
28-39	Exposed (amounts)	<p>Punch amount to the nearer \$1. If a company summarizes in units greater than \$1, fill in any zeros required to maintain the alignment of the decimal point.</p>
40-44	Actual deaths (policies)	<p>Punch the number of policies terminated by death, if such figures are available. If not, punch X (numeric) in column 44 and leave rest of field blank.</p>
45-54	Actual deaths (amounts)	<p>Punch amount to the nearer \$1. If a company summarizes in units greater than \$1, fill in any zeros required to maintain the alignment of the decimal point.</p>

Columns	Item	Instructions
55-59	War deaths (policies)	Punch the number of policies included in actual deaths, columns 40-44, if such figures are available. If not, punch X (numeric) in column 59 and leave rest of field blank.
60-69	War deaths (amounts)	Punch amount to the nearer \$1. If a company summarizes in units greater than \$1, fill in any zeros required to maintain the alignment of the decimal point.
70-80		Leave blank.

NOTE: Except in fields to be left blank, a zero should be punched in all columns which would otherwise remain unpunched, unless instructed to the contrary.

### Section 2: Lapse Rates

Lapse experience will be studied on a fifteen-year select and ultimate basis with duration measured from the year in which the policy was converted or the option elected. Exposure and lapses, of course, should be included only for the period following the date of conversion or election.

For purposes of this study, the term "lapses" will be used to measure rates of voluntary nonrenewal. Thus "lapse" includes:

1. Termination without value because of failure to pay premiums.
2. Cash surrenders at any time prior to maturity. (If possible, the amount of insurance terminated in a part surrender should be treated as a lapse.)
3. Transfers to extended term or reduced paid-up insurance.

If possible, all contributions should be made using policy years for the analysis year. Thus lapses at duration  $n$  would include policies with a premium paid to date *greater than*  $n - 1$  years from date of issue, but not greater than  $n$  years from issue. In other words, if no part of the premium due in the  $n + 1$  policy year is paid, it is a duration  $n$  lapse.

Where possible, exposures also should be calculated on a policy-year basis. Lapses should be exposed for the full year. While deaths theoretically should be exposed only until the date of death, the question of whether to include this refinement will be left to the contributor's discretion.

It is recognized that some companies can contribute only on the basis of using a calendar year as the analysis year. For those companies, duration at lapse is equal to the calendar year of lapse minus the calendar year of issue. Lapses in the calendar year of issue should be recorded separately and coded as duration 00.

It is suggested that companies which are contributing lapses on a calendar-year basis submit their exposures on the same basis as for the term conversion mortality study (e.g., year end in force plus "alpha" deaths). The lapse rate formulas the Committee plans to use are given in the Appendix [Appendix 1, p. 192].

Data are requested for all years of original issue and all years of conversion or election through 1970. If it is necessary to limit your contribution to par-

ticular years of issue or conversion or election, please describe these limits in the letter of transmittal. Data should be submitted on summary cards in accordance with the following instructions:

Columns	Item	Instructions																										
		Use instructions given for section 1 except as noted below.																										
4	Identification code	Gangpunch 5 for term conversions. Gangpunch 6 for GIO elections.																										
5-6	Age	For the select portion of the study (i.e., within 15 years of conversion or election) submit data by five-year age groups at time of conversion or election according to the following code:																										
		<table border="1"> <thead> <tr> <th>Age Group</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>15-19</td> <td>15</td> </tr> <tr> <td>20-24</td> <td>20</td> </tr> <tr> <td>25-29</td> <td>25</td> </tr> <tr> <td>30-34</td> <td>30</td> </tr> <tr> <td>35-39</td> <td>35</td> </tr> <tr> <td>40-44</td> <td>40</td> </tr> <tr> <td>45-49</td> <td>45</td> </tr> <tr> <td>50-54</td> <td>50</td> </tr> <tr> <td>55-59</td> <td>55</td> </tr> <tr> <td>60-64</td> <td>60</td> </tr> <tr> <td>65-69</td> <td>65</td> </tr> <tr> <td>70 and over</td> <td>70</td> </tr> </tbody> </table>	Age Group	Code	15-19	15	20-24	20	25-29	25	30-34	30	35-39	35	40-44	40	45-49	45	50-54	50	55-59	55	60-64	60	65-69	65	70 and over	70
Age Group	Code																											
15-19	15																											
20-24	20																											
25-29	25																											
30-34	30																											
35-39	35																											
40-44	40																											
45-49	45																											
50-54	50																											
55-59	55																											
60-64	60																											
65-69	65																											
70 and over	70																											
		Exclude conversions below age 15.																										
		For the ultimate portion of the study, submit data by individual attained age. Punch the individual attained age in columns 5-6.																										
7-8	Duration since conversion or election	Data should be submitted for the select portion of the study by individual duration since conversion or election. Code as 01 to 15. For the ultimate portion of the study, punch XX (numeric).																										
15	Type of analysis year	Policy year 1 Calendar year 2																										
40-44	Lapses (policies)	Punch the number of policies terminated by lapse, if such figures are available. If not, punch X (numeric) in column 44, and leave rest of field blank.																										
45-54	Lapses (amounts)	Punch amount of lapses to the nearer \$1. If a company summarizes in units greater than \$1, fill in any zeros required to maintain the alignment of the decimal point.																										
55-80		Leave blank.																										

#### TRANSMISSION OF DATA

Contributions are to be transmitted for each section with control totals by age last-nearest code (col. 9), sex (col. 10) and medical code (col. 11). Control totals for section 1 should include card count, and exposures and deaths by number of policies and amount of insurance. For section 2, control totals should include card count, and exposures and lapses by number of policies and amount of insurance. It would be appreciated if each company's contribution could be sorted on columns 9 (major) to 14 (minor), separately for each section, prior to transmission.



INSTRUCTIONS FOR REPORT FORM NO. 1

1. The combined experience for conversions from term policies and term riders should be reported on Form No. 1.
2. Rates should be expressed on an amount basis to the nearest one-tenth of a per cent.
3. "Number" refers to the number of policies issued under the conversion privilege.
4. Rate definitions:

Conversion group 1: conversions effected before the end of the conversion period: an *annual* rate of conversion for a specific period should be obtained by dividing the amount converted during that period by the amount eligible to convert each year during the same period.

Conversion group 2: conversions effected at the end of the conversion period: the rate should be determined by dividing the amount converted at the "end of the period" by the amount eligible to convert at that time.

The Committee suggests that the conversion rate for periods greater than one year be obtained not as an arithmetic average of yearly conversion rates but rather on an aggregate basis. For example, with respect to durations 1-7, the annual rate would be obtained as follows:

$$\text{Annual rate} = \frac{\sum_1^7 C_t}{\sum_1^7 E_t},$$

where

$C_t$  = Amount of conversions effected for policy year  $t$ ;

$E_t$  = Exposure to conversion for policy year  $t$ .

INSTRUCTIONS FOR REPORT FORM NO. 2

1. Companies should separate data for regular and special options. A company which, for some reason, cannot separate data is invited to contribute but only if its GIO option forms provide for a common election date schedule (such as at ages 25, 28, 31, 34, 37, 40 or at ages 25, 30, 35, 40). In such a case the company should treat policies issued at regular option ages as "regular" and others as "special" and should so state this action on the report form.
2. Rates should be expressed on an amount basis to the nearest one-tenth of a per cent.
3. "Number" refers to the number of policies issued under the election privilege.
4. Option types:

Regular: election may be made only on specific policy anniversaries.

Special: election may be made at dates dependent upon special events, such as marriage and birth or adoption of child.

## 5. Rate definitions:

Regular: amount actually elected on a specific anniversary divided by the maximum amount which then could have been elected by all eligible policyholders.

Special: amount actually elected during a specific year divided by the amount which could have been elected if all policyholders had met the eligibility requirements for the special option during that year.

## APPENDIX I

*Lapse Rate Formulas where Lapses Are Contributed on a Calendar-Year Basis*

$$(wq)_{(x)+0] = \frac{W_{(x)+0] + W_{(x)+1]}}{E_{(x)+0]^{w}}, \quad (1)$$

where the  $W_{(x)+t}$  are the terminations other than by death or maturity.

$$E_{(x)+0]^{w} = E_{(x)+0]^{d} + W_{(x)+0]. \quad (2)$$

$$(wq)_{(x)+t] = \frac{W_{(x)+t+1]}}{E_{(x)+t]^{w}} \quad (t \geq 1). \quad (3)$$

$$E_{(x)+t]^{w} = E_{(x)+t]^{d} \quad (t \geq 1). \quad (4)$$

## APPENDIX II

A BASIS FOR MEASURING THE EXTRA MORTALITY COSTS  
FOR A STANDARD WHOLE LIFE POLICY ISSUED AS  
A CONVERSION RIGHT UNDER A TERM PLAN

## PART I: CONVERSION AT END OF A SPECIFIC YEAR

$A_{(x,m,r)}$  = Present value at age  $x$  of the extra mortality cost due to conversion effected at end of a specific policy year  $r$  ( $r \leq m$ )

$$= r p_{(x,m)} e_{(x,m,r)} K_{(x,m,r)} v^r.$$

$K_{(x,m,r)}$  = Present value at age  $y$  of the extra mortality cost (where  $y = x + r$ )

$$= \sum_{t=1}^{\infty} {}_{t-1} p_{(y,m,r)} [q_{(y,m,r)+t-1} - q_{(y)+t-1}] \overline{AR}_{[y]+t} v^t.$$

## Notes

a) It is assumed that conversion is permitted on any policy anniversary during the first  $m$  policy years of the term policy.

- b) Formulas (1) and (2) express the concept that the level of extra mortality costs depends primarily on the issue age of the term policy ( $x$ ), the duration to conversion ( $r$ ), the duration after conversion ( $t$ ), and the conversion period ( $m$ ).
- c) Formula (2) may be viewed as an approximation to a more exact formula which recognizes separate persistency rates for whole life policies issued to standard lives with issue age  $y$ .

*Definitions*

- $x$  = Age at issue of term plan;
- $r$  = Duration from issue date of term plan to issue date of conversion plan;
- $y = x + r$  = Age at issue of conversion plan;
- $m$  = Number of years during which conversion is permitted;
- ${}_r p_{(x,m)}$  = Probability that term policy is in force at end of  $r$  years, assuming all possible modes of termination prior to end of year  $r$ ;
- $e_{(x,m,r)}$  = Probability that term policy which is in force at the end of  $r$  years is then converted;
- ${}_t p_{(y,m,r)}$  = Probability that conversion policy will enter its policy year  $t + 1$ , assuming all possible modes of termination;
- $q_{(y,m,r)+t}$  = Probability that conversion policy which enters its policy year  $t + 1$  will terminate by death during that year;
- $q_{[y]+t}$  = Probability that a standard policy which enters its policy year  $t + 1$  will terminate by death during that year;
- $\overline{AR}_{[y]+t}$  = Amount at risk under standard whole life policy at the end of its policy year  $t$ .

PART II. A SPECIAL CASE FOR PART I

Under some conditions, theoretical considerations or actual experience will suggest that for practical purposes the calculation of extra mortality costs may be simplified considerably if one general set of assumptions may be made for conversions issued prior to the end of the conversion period and another set for conversions issued at the end of the conversion period. Thus:

*For Conversion Group 1,  $r < m$*

Assume:

- Values of  $e_{(x,m,r)}$  depend only on the parameter  $x + r$ ;
- Values of  ${}_t p_{(y,m,r)}$  depend only on the parameters  $y$  and  $t$ ;
- Values of  ${}_r p_{(x,m)}$  depend only on the parameters  $x$  and  $r$ ;
- Values of  $q_{(y,m,r)+t}$  depend only on the parameters  $x = y - r$  and  $s = r + t$ .

Under the foregoing assumptions, formulas (1) and (2) may be rewritten in a simpler notational form as

$$A_{(x,r)} = {}_r p_{[x]}^T e_{x+r} K_{(x,r)} v^r, \quad (3)$$

where the superscript  $T$  distinguishes experience for term policies.

$$K_{(x,r)} = \sum_{t=1}^{\infty} {}_{t-1} p_{[y]}^c [q_{[x]+r+t-1}^c - q_{[y]+t-1}^s] \overline{AR}_{[y]+t} v^t, \quad (4)$$

where the superscripts  $c$  and  $s$  distinguish experience for conversion and standard policies.

*For Conversion Group 2,  $r = m$*

Assume:

Values of  $e_{(x,m,r)}$  depend only on the parameter  $y = x + m$ ;

Values of  ${}_t p_{(y,m,r)}$  depend only on the parameters  $y$  and  $t$ ;

Values of  ${}_r p_{(x,m)}$  depend only on the parameters  $x$  and  $m$ ;

Values of  $q_{(y,m,r)+t}$  depend only on the parameters  $x = y - r$  and  $s = m + t$ .

Under the foregoing assumptions, formulas (1) and (2) may be rewritten in simpler notational form as

$$A_{(x,m)} = {}_m p_{[x]}^T e_{x+m} K_{(x,m)} v^m. \quad (5)$$

$$K_{(x,m)} = \sum_{t=1}^{\infty} {}_{t-1} p_{[y]}^c [q_{[x]+m+t-1}^c - q_{[y]+t-1}^s] AR_{[y]+t} v^t. \quad (6)$$

### PART III: TOTAL OF EXTRA MORTALITY COSTS FOR THE SPECIAL CASE

The present value of the total of all extra mortality costs is equal to

$$\sum_{r=1}^{m-1} A_{(x,r)} + A_{(x,m)},$$

where the value of  $A(x, m)$  and the set of values of  $A(x, r)$  for  $r = 1$  to  $r = m - 1$  are uniquely determined according to the two sets of assumptions stated above for this special case.

**APPENDIX III**  
**TERM CONVERSION EXPERIENCE**  
**LIST OF COMPANIES CONTRIBUTING TO CONVERSION**  
**RATE STUDY AND PROPORTION OF TOTAL CON-**  
**VERSIONS CONTRIBUTED BY EACH**

COMPANY	PROPORTION OF TOTAL FOR CONVERSIONS ISSUED	
	Before End of Conversion Period	At End of Conversion Period
Connecticut Mutual . . . . .	1.0%	1.4%
Equitable of Iowa . . . . .	8.2	4.9
Equitable of New York . . . . .	6.0	10.3
Franklin Life . . . . .	13.6	.....
John Hancock . . . . .	17.8	13.0
Massachusetts Mutual . . . . .	21.6	25.2
Mutual Benefit . . . . .	1.9	4.2
Mutual of New York . . . . .	10.3	5.6
New York Life . . . . .	4.3	26.1
Sun Life . . . . .	10.4	.....
Travelers . . . . .	4.9	9.3
Total . . . . .	100.0%	100.0%
Policies eligible for conversion . . . . .	5,153,000	103,000
Total conversions . . . . .	123,861	13,893

APPENDIX IV

TERM CONVERSION EXPERIENCE

LIST OF COMPANIES CONTRIBUTING TO THE MORTALITY AND LAPSE EXPERIENCE AND PROPORTION OF TOTAL EXPOSURES CONTRIBUTED BY EACH

COMPANY	GROUP 1		GROUP 2	
	Conversions Issued Prior to End of Conversion Period		Conversions Issued at End of Conversion Period	
	Number of Policies	Amount of Insurance	Number of Policies	Amount of Insurance
Mortality Experience				
Connecticut General	6.8%	9.0%	2.2%	2.3%
Equitable of Iowa	7.8	5.5	3.6	3.2
Equitable of New York	9.0	9.9	11.5	12.7
Franklin Life	1.6	1.5		
John Hancock	5.9	5.3	2.8	3.2
Massachusetts Mutual	20.8	26.2	9.4	10.5
Mutual Benefit	1.0	1.4	2.3	3.3
Mutual of New York	1.3	1.6	0.2	0.5
New York Life			22.4	24.6
Penn Mutual	22.6	16.1	20.7	18.3
Provident Mutual	6.1	6.3	4.0	4.1
Sun Life	4.9	4.4	1.9	1.9
Travelers	12.2	12.8	19.0	15.4
Total	100.0%	100.0%	100.0%	100.0%
Total exposures*	1,795,370	20,209,049	606,576	5,030,361
Total claims*	13,846	124,695	8,544	55,251
Lapse Experience				
Connecticut General	7.2%	9.5%	3.1%	3.4%
Equitable of Iowa	8.4	6.0	5.1	4.6
Equitable of New York	9.6	10.7	16.4	18.8
Franklin Life	1.7	1.7		
John Hancock	6.2	5.5	3.8	4.6
Massachusetts Mutual	19.6	23.6	10.6	11.7
Mutual Benefit	1.0	1.6	3.3	4.9
Mutual of New York	1.5	1.7	0.4	0.7
Penn Mutual	20.2	14.7	22.0	20.4
Provident Mutual	6.3	6.4	5.5	5.7
Sun Life	5.2	4.8	2.7	2.8
Travelers	13.1	13.8	27.1	22.4
Total	100.0%	100.0%	100.0%	100.0%
Total exposures*	1,684,148	18,815,545	430,544	3,459,896
Total lapses*	51,738	635,032	11,266	103,701

\* In \$1,000 units for amount.

## APPENDIX V

### GUARANTEED INSURABILITY OPTION EXPERIENCE

#### LIST OF COMPANIES CONTRIBUTING TO THE MORTALITY AND LAPSE EXPERIENCE AND PROPORTION OF TOTAL EXPOSURES CONTRIBUTED BY EACH

COMPANY	LAPSE EXPERIENCE		MORTALITY EXPERIENCE	
	Number of Policies	Amount of Insurance	Number of Policies	Amount of Insurance
Connecticut General.....	2.5%	3.4%	2.9%	3.9%
Connecticut Mutual.....	8.1	8.0	.....	.....
Equitable of Iowa.....	1.8	1.6	1.8	1.7
Equitable of New York.....	13.8	13.5	14.5	14.1
John Hancock.....	9.8	9.7	10.6	10.5
Massachusetts Mutual.....	13.3	13.7	14.0	14.4
Mutual Benefit.....	2.3	2.9	2.4	3.0
Mutual of New York.....	4.7	4.7	4.8	4.9
Northwestern Mutual.....	15.3	16.3	16.3	17.3
Penn Mutual.....	13.6	12.0	15.8	13.9
Provident Mutual.....	5.1	5.5	6.7	7.3
Sun Life.....	0.9	0.8	1.0	0.8
Travelers.....	8.8	7.9	9.2	8.2
Total.....	100.0%	100.0%	100.0%	100.0%
Total exposures*.....	179,991	1,632,033	169,625	1,539,541
Total lapses or claims*.....	6,379	54,631	215	1,876

\* In \$1,000's for amounts of insurance.

#### LIST OF COMPANIES CONTRIBUTING TO ELECTION RATE STUDY AND PROPORTION OF TOTAL ELECTIONS CONTRIBUTED BY EACH

COMPANY	PROPORTION OF TOTAL FOR	
	Regular Elections	Special Elections
Connecticut Mutual.....	0.5%	.....
Equitable of Iowa.....	3.7	3.9%
Equitable of New York.....	16.3	5.0
John Hancock.....	9.7	10.8
Massachusetts Mutual.....	7.1	3.8
Mutual Benefit.....	2.7	9.3
Mutual of New York.....	10.8	9.4
Northwestern Mutual.....	20.9	30.5
Penn Mutual.....	18.9	25.9
Provident Mutual.....	8.2	.....
Sun Life.....	1.2	1.4
Total.....	100.0%	100.0%
Policies eligible for election.....	356,000	967,000*
Total elections.....	40,368	4,281

\* Assuming that all policies are subject to special election each year.

