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FIELD MANAGEMENT SURVIVAL EXPERIENCE, 1956-73

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ABSTRACT

Actuaries customarily have used the McConney-Guest Table stepped forward ten years to represent the termination rates of general agents or managers in a variety of actuarial calculations. Actual experience in the insurance industry in the United States and Canada, as reflected in a research project that the Life Insurance Marketing and Research Association (LIMRA) has been conducting since 1955, has been significantly different from the McConney-Guest assumption in both degree and pattern.

This paper reviews the results of the LIMRA research project and presents the actual experience in general agent and managerial termination for the 1956-73 period. The various tables show, for both select and ultimate experience, the aggregate results, the results by type of agency (general agent versus managerial), and the results by country for the managerial agencies.

INTRODUCTION

SINCE 1955 LIMRA, in its Agency Managers Survey, has been collecting information about the demographic characteristics of general agents and agency managers. The most recent results were published in early 1976 in *Study of Agency Heads in Career Building Companies—a Manpower Study* (Research Report 1976-1). Some of the findings included in that report were the following:

1. The number of agency-building agency heads has been increasing at a compound growth rate of about 2 percent per year in the United States and about 1.3 percent per year in Canada. In the United States, the number of managers has been increasing at a higher rate than the number of general agents.
2. The majority of agency head appointments are made to fill vacancies.
3. Most agency heads are appointed from within the company, and less than 1 percent overall are appointed from outside the insurance industry. Individuals appointed to new agencies from other companies are more likely to be heading scratch agencies than split agencies.

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4. The median tenure of incumbent agency heads is five and three-tenths years.
5. Terminations are generally heaviest in the third through fifth years of service.
6. The median tenure at separation is between three and five years except when termination is the result of disability, death, or retirement, in which case it is between eighteen and twenty years.
7. Agency heads appointed from within the company generally have a better chance of survival than those entering from other sources. Individuals appointed to split agencies or to vacancies survive longer than those appointed to scratch agencies.
8. On the average, over half of all agency heads who terminate for reasons other than disability, death, or retirement remain with the same company, most often as agents. Individuals terminating from positions as agency heads are more likely to remain as agents if they originally were appointed from within the company.

Although the calculations presented in the LIMRA report were made on a calendar year of termination basis, it still was readily apparent that the termination rates actually being experienced in the insurance industry were significantly different from those generally assumed in actuarial calculations. (For managerial and general agent survival it is customary to utilize the McConney-Guest Agent Survival Tables adjusted forward ten years.)¹ As a result, shortly after the publication of the report work was begun to produce termination experience on a contract-year basis, with separate tables on an attained-age basis to quantify the retirement experience better.

Table A illustrates the differences for the first fifteen contract years between McConney-Guest + 10 and the experience from the LIMRA study, in terms of both the termination rates and the life tables. The McConney-Guest + 10 Table has a fifteen-year termination rate that is about one-half of the actual experience level. On a cumulative basis, the differences between assumption and experience are even more dramatic. The average annual termination rate for fifteen years is 0.036 for the McConney-Guest + 10 Table as opposed to 0.111 for actual experience.

The purpose of this paper is to present the results of the contract-year calculations of managerial survival so that it will be possible to utilize these experience tables, or appropriate modifications of them, in calculations involving the use of survival rates of general agents and/or managers.

¹ That is, the rate of termination in contract year t is the rate from the McConney-Guest Tables for contract year $t + 10$.

TABLE A

COMPARISON OF MCCONNEY-GUEST + 10 TABLE WITH 1956-73 EXPERIENCE

CONTRACT YEAR (i)	MCCONNEY-GUEST+10 TABLE			1956-73 EXPERIENCE		
	$1 - q_{i-1}^{(T)}$	l_{i-1}	$d_{i-1}^{(T)}$	$1 - q_{i-1}^{(T)}$	l_{i-1}	$d_{i-1}^{(T)}$
1.....	.926	10,000	740	.954	10,000	460
2.....	.938	9,260	574	.873	9,540	1,212
3.....	.949	8,686	443	.838	8,328	1,349
4.....	.959	8,243	338	.846	6,979	1,075
5.....	.968	7,905	253	.854	5,904	862
6.....	.972	7,652	214	.877	5,042	620
7.....	.975	7,438	186	.889	4,422	491
8.....	.975	7,252	182	.897	3,931	405
9.....	.975	7,070	176	.893	3,526	377
10.....	.975	6,894	173	.909	3,149	287
11.....	.975	6,721	168	.916	2,862	240
12.....	.975	6,553	163	.913	2,622	228
13.....	.975	6,390	160	.917	2,394	199
14.....	.975	6,230	156	.927	2,195	160
15.....	.975	6,074	152	.921	2,035	161
15-Year termina- tion rate		.408			.813	
Average termina- tion rate		.036			.111	

BASIS OF THE STUDY

Population Sample

LIMRA's publication contains details of the companies contributing to the study. In producing the tabulations in this paper, changes were made in the LIMRA tabulations in order to handle various special situations and to remove distorting influences. These changes involved the following:

1. Where companies have a practice of starting general agents with a manager's contract, these personnel were considered as general agents for their entire tenure.
2. Portions of the experience were excluded in order to eliminate the experience of personal producing general agents. It was felt that the survival rates of these general agents would be different from those of building general agents.

Tabulating Rules

The age at first appointment was calculated on an age-last-birthday basis. The attained age was calculated as age at appointment plus duration minus one. These definitions create some distortion in rates of

retirement by attained age, since retirements are likely to occur at exact ages. Where age at appointment could not be calculated, the experience was classified under the category "age unknown." This group comprised 1.5 percent of the first-year exposure. The experience of this group is shown in the aggregate for illustrative purposes.

The study extended from January 1, 1956, to January 1, 1974, and was handled as a summation of eighteen individual January 1 to January 1 studies. The following tabulating rules were used:

1. Starters and enders were tabulated by next duration.
2. All terminations were tabulated by contract year of termination.
3. Since all causes of termination were accounted for, there was no "withdrawal" category.

Terminations were subdivided by cause into the following two groups: (1) disability, death, or retirement—the basic LIMRA data were in a form that did not make it possible to subdivide this group further—and (2) all other causes—this category includes termination due to company action, promotion, resignation, close of agency, and various other reasons.

The method of tabulating terminations resulted in the same exposure for each cause of termination. Thus, what is indicated as a "termination rate" in the tables is actually a $q^{(r)}$ (probability of termination) rather than the $q'^{(r)}$ (rate of termination) that is customary in most actuarial studies. Those who prefer to use absolute rates rather than relative rates may make the conversion by using standard actuarial approximations.

No attempt has been made to graduate or smooth the actual experience. Although the results exhibit some random or chance fluctuation, there is considerable nonrandom fluctuation associated with the peaking of terminations at the retirement ages of 60, 62, and 65.

Although the basic LIMRA study provided many useful categories of information, the size of the sample made it impossible to produce credible tables for more than a few breakdowns of the data. Nonetheless, the data represent the continuous experience of seventy-six companies over an eighteen-year period. Since the sample includes all the major agency-building companies in both the United States and Canada, there is little chance of increasing the sample size. Considerable research was done on the relative effects of the other categories of information collected in the study, and readers are encouraged to read the LIMRA Research Report to discover what other variables can be related to the survival of field management.

The results presented in this paper are based on the experience of

TABLE B
DISTRIBUTION OF FIELD MANAGEMENT
BY AGE AT APPOINTMENT

AGE GROUP	TOTAL SAMPLE	GENERAL AGENTS	MANAGERS		
			United States	Canada	All
20-29	8.8%	10.3%	7.6%	9.0%	8.0%
30-39	56.3	56.8	59.2	47.1	56.1
40-49	29.8	27.6	28.6	37.8	30.9
Over 49	3.6	3.2	3.4	5.0	3.8
Unknown	1.5	2.1	1.2	1.1	1.2
Total	100.0%	100.0%	100.0%	100.0%	100.0%

1956-73 subdivided as follows: (1) by age at appointment into six groupings, (2) by contract year for the first fifteen contract years (select experience) and by individual attained age beyond fifteen years from appointment (ultimate experience), (3) by type of agency (branch manager or general agent), and (4) by country (Canada or the United States). Effectively, only four age-at-appointment groupings are presented—the “unknown” age grouping is presented only for the aggregate experience, while the under-age-20 group had virtually no experience. Ultimate experience is shown for attained ages 34-79; experience above age 79 was combined and classified as age 80. The Canadian experience is entirely branch manager.

The aggregate exposure consists of 58,938 man-years of select experience and 11,826 man-years of ultimate experience. Table B gives the approximate distribution by age at hire of the experience underlying the various tables presented in the remainder of this paper.

AGGREGATE RESULTS

Select (Contract Years 1-15) Experience

The select results of the entire sample are given in Table 1 for the various age-at-appointment groups. The group for which age at appointment was unknown is shown for illustrative purposes only. It was found that in several of the groupings the distribution within the grouping by age at appointment was far from uniform. To give a measure of the skewness of the distribution and a measure of the relative age at termination, it was decided to calculate ages at hire for both the exposure and the terminations. These are shown at the right side of the tables.

TABLE 1
AGGREGATE RESULTS
SELECT (YEARS 1-15) TERMINATION EXPERIENCE

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Age-at-Appointment Group: 20-29									
1.....	781.0	0	41	41	0.00	5.25	5.25	27.7	27.3
2.....	661.5	3	97	100	0.45	14.66	15.12	27.8	27.4
3.....	555.5	0	101	101	0.00	18.18	18.18	27.8	27.6
4.....	447.0	1	68	69	0.22	15.21	15.44	27.8	27.8
5.....	370.0	1	59	60	0.27	15.95	16.22	27.8	27.5
6.....	308.5	2	39	41	0.65	12.64	13.29	27.9	27.4
7.....	262.0	0	30	30	0.00	11.45	11.45	28.0	28.2
8.....	225.0	1	27	28	0.44	12.00	12.44	27.9	27.8
9.....	191.5	0	20	20	0.00	10.44	10.44	27.9	27.9
10.....	164.0	1	9	10	0.61	5.49	6.10	27.8	27.3
11.....	148.5	0	11	11	0.00	7.41	7.41	27.8	27.6
12.....	136.5	1	19	20	0.73	13.92	14.65	27.8	27.6
13.....	114.5	1	8	9	0.87	6.99	7.86	27.9	28.3
14.....	101.5	0	5	5	0.00	4.93	4.93	27.8	28.2
15.....	91.5	0	4	4	0.00	4.37	4.37	27.8	28.5
1-15	4,558.5	11	538	549	0.24	11.80	12.04	27.8	27.6

TABLE 1—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Age-at-Appointment Group: 30-39									
1.....	5,020.5	4	207	211	0.08	4.12	4.20	34.7	34.7
2.....	4,456.5	7	520	527	0.16	11.67	11.83	34.7	34.8
3.....	3,923.0	11	604	615	0.28	15.40	15.68	34.7	34.5
4.....	3,295.5	5	484	489	0.15	14.69	14.84	34.7	34.7
5.....	2,784.5	5	377	382	0.18	13.54	13.72	34.7	34.9
6.....	2,394.5	7	281	288	0.29	11.74	12.03	34.7	34.9
7.....	2,109.0	7	194	201	0.33	9.20	9.53	34.7	34.8
8.....	1,873.5	4	180	184	0.21	9.61	9.82	34.7	34.4
9.....	1,651.5	6	158	164	0.36	9.57	9.93	34.7	34.8
10.....	1,464.0	8	120	128	0.55	8.20	8.74	34.7	34.7
11.....	1,304.5	12	95	107	0.92	7.28	8.20	34.7	34.5
12.....	1,152.0	11	76	87	0.95	6.60	7.55	34.8	34.7
13.....	1,029.0	8	68	76	0.78	6.61	7.39	34.9	34.8
14.....	930.5	6	51	57	0.64	5.48	6.13	34.9	34.9
15.....	848.0	8	45	53	0.94	5.31	6.25	35.0	35.5
1-15	34,236.5	109	3,460	3,569	0.32	10.11	10.42	34.7	34.7

TABLE 1—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Age-at-Appointment Group: 40-49									
1.....	2,657.0	6	122	128	0.23	4.59	4.82	43.3	43.6
2.....	2,309.5	5	294	299	0.22	12.73	12.95	43.3	43.5
3.....	1,994.0	14	327	341	0.70	16.40	17.10	43.2	43.3
4.....	1,645.5	6	268	274	0.36	16.29	16.65	43.1	43.1
5.....	1,368.5	2	210	212	0.15	15.35	15.49	43.1	43.3
6.....	1,149.5	6	135	141	0.52	11.74	12.27	43.1	43.0
7.....	1,007.0	11	127	138	1.09	12.61	13.70	43.2	43.4
8.....	873.0	8	75	83	0.92	8.59	9.51	43.1	42.7
9.....	786.0	15	59	74	1.91	7.51	9.41	43.2	42.7
10.....	714.0	15	45	60	2.10	6.30	8.40	43.2	44.1
11.....	664.5	11	41	52	1.66	6.17	7.83	43.2	43.4
12.....	619.5	14	39	53	2.26	6.30	8.56	43.2	43.6
13.....	569.0	15	35	50	2.64	6.15	8.79	43.3	43.9
14.....	516.0	21	21	42	4.07	4.07	8.14	43.3	43.5
15.....	472.0	29	18	47	6.14	3.81	9.96	43.3	44.3
1-15	17,345.0	178	1,816	1,994	1.03	10.47	11.50	43.2	43.3

TABLE 1—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Age-at-Appointment Group: Over 49									
1.....	319.0	0	14	14	0.00	4.39	4.39	52.9	50.9
2.....	268.5	8	37	45	2.98	13.78	16.76	53.0	54.2
3.....	217.5	7	25	32	3.22	11.49	14.71	52.9	52.5
4.....	189.5	4	19	23	2.11	10.03	12.14	53.0	52.9
5.....	171.5	5	22	27	2.92	12.83	15.74	53.1	54.1
6.....	148.5	12	14	26	8.08	9.43	17.51	53.0	52.7
7.....	130.5	15	3	18	11.49	2.30	13.79	53.0	53.9
8.....	117.5	10	13	23	8.51	11.06	19.57	52.8	53.3
9.....	98.5	13	2	15	13.20	2.03	15.23	52.8	55.5
10.....	88.5	16	5	21	18.08	5.65	23.73	52.4	53.8
11.....	70.0	10	3	13	14.29	4.29	18.57	52.1	52.3
12.....	60.0	10	2	12	16.67	3.33	20.00	52.0	51.9
13.....	53.5	11	2	13	20.56	3.74	24.30	51.8	51.6
14.....	46.5	14	0	14	30.11	0.00	30.11	51.7	50.7
15.....	36.5	9	1	10	24.66	2.74	27.40	52.3	50.8
1-15	2,016.0	144	162	306	7.14	8.04	15.18	52.8	53.0

TABLE 1—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Age-at-Appointment Group: Unknown									
1.....	131.0	0	16	16	0.00	12.21	12.21	...	...
2.....	116.5	1	20	21	0.86	17.17	18.03	...	...
3.....	100.0	0	12	12	0.00	12.00	12.00	...	...
4.....	86.5	2	13	15	2.31	15.03	17.34	...	...
5.....	67.5	0	12	12	0.00	17.78	17.78	...	...
6.....	48.5	0	3	3	0.00	6.19	6.19	...	...
7.....	43.5	0	7	7	0.00	16.09	16.09	...	...
8.....	38.5	1	2	3	2.60	5.19	7.79	...	...
9.....	36.0	2	7	9	5.56	19.44	25.00	...	...
10.....	26.0	0	4	4	0.00	15.38	15.38	...	...
11.....	20.5	0	2	2	0.00	9.76	9.76	...	...
12.....	16.0	0	1	1	0.00	6.25	6.25	...	...
13.....	14.0	0	0	0	0.00	0.00	0.00	...	...
14.....	13.0	0	0	0	0.00	0.00	0.00	...	...
15.....	12.0	0	1	1	0.00	8.33	8.33	...	...
1-15	769.5	6	100	106	0.78	13.00	13.78	...	...

TABLE 1—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Age-at-Appointment Group: All Ages									
1.....	8,909.0	10	400	410	0.11	4.49	4.60	36.8	35.9
2.....	7,812.5	24	968	992	0.31	12.39	12.70	36.7	36.8
3.....	6,790.0	32	1,069	1,101	0.47	15.74	16.22	36.7	36.7
4.....	5,664.5	18	852	870	0.32	15.04	15.36	36.7	36.7
5.....	4,763.5	13	681	694	0.27	14.30	14.57	36.8	36.9
6.....	4,050.5	27	472	499	0.67	11.65	12.32	36.8	37.3
7.....	3,553.0	33	361	394	0.93	10.16	11.09	36.8	37.6
8.....	3,128.5	24	297	321	0.77	9.49	10.26	36.8	37.0
9.....	2,764.5	36	246	282	1.30	8.90	10.20	36.8	36.4
10.....	2,457.5	40	183	223	1.63	7.45	9.07	37.0	38.1
11.....	2,209.0	33	152	185	1.49	6.88	8.37	37.0	37.5
12.....	1,985.0	36	137	173	1.81	6.90	8.72	37.2	37.6
13.....	1,781.0	35	113	148	1.97	6.34	8.31	37.3	39.0
14.....	1,608.5	41	77	118	2.55	4.79	7.34	37.3	39.6
15.....	1,461.0	46	69	115	3.15	4.72	7.87	37.3	39.9
1-15	58,938.0	448	6,077	6,525	0.76	10.31	11.07	36.8	37.0

Given the ungraduated nature of the figures shown in Table 1, and keeping in mind the significance of the underlying experience as suggested by the absolute numbers of terminations, the following explanations and conclusions are offered:

1. Termination rates attributable to disability, death, or retirement increase, as would be expected, by age at appointment and by duration of contract.
2. For other causes, terminations by contract year decline until ages at appointment 40-49; thereafter, no clear pattern emerges. A possible explanation for the mixed results at the upper ages is that the other-cause termination data still include retirements.
3. Other-cause terminations are low in the first year of the contract, increase rapidly to a peak at duration 2 or 3, and then generally decline. This pattern of termination can be attributed partially to company practices as to the amount and duration of financial support given to new agency heads and also to postselection standards in the industry.

Some research has been done to see whether patterns of termination have changed noticeably over the exposure period. There does not appear to be any pattern of decrease of termination rates such as might be associated with financial aid without imposition of adequate safeguards and postselection standards.

Ultimate (over Fifteen Years) Experience

The ultimate results of the entire sample are given in Table 2. Exposure is significant for attained ages from the late 40s to around 70. As to cause of termination, the "disability, death, or retirement" category is predominant, with retirement assumed to be the most significant cause. The peaks in the number of terminations at exact ages 50, 55, and 60 that are found also in the "all other causes" category may be an indication of early retirements. (Note the influence of the age-last-birthday tabulating rule on attained age at retirement.)

RESULTS BY TYPE OF AGENCY

Select (Years 1-15) Experience

The select results subdivided by type of agency are given in Table 3. In general, termination rates for general agents are slightly lower than termination rates for branch managers. The reader should keep in mind that the managerial results represent the experience for Canada and the United States combined, whereas the general agent results are based exclusively on United States experience. Removing the Canadian experience would make the difference between general agent and managerial experience greater (see Table 5).

TABLE 2
AGGREGATE RESULTS
ULTIMATE (OVER 15 YEARS) TERMINATION EXPERIENCE

ATTAINED AGE	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)		
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes
34.....	1.5	0	0	0	0.00	0.00	0.00
35.....	2.0	0	0	0	0.00	0.00	0.00
36.....	2.0	0	0	0	0.00	0.00	0.00
37.....	3.5	0	0	0	0.00	0.00	0.00
38.....	4.5	0	0	0	0.00	0.00	0.00
39.....	6.5	0	0	0	0.00	0.00	0.00
40.....	15.5	0	1	1	0.00	6.45	6.45
41.....	20.5	0	0	0	0.00	0.00	0.00
42.....	33.5	0	2	2	0.00	5.97	5.97
43.....	51.0	0	2	2	0.00	3.92	3.92
44.....	80.5	0	4	4	0.00	4.97	4.97
45.....	118.5	1	4	5	0.84	3.38	4.22
46.....	155.5	0	4	4	0.00	2.57	2.57
47.....	221.0	0	5	5	0.00	2.26	2.26
48.....	304.5	3	9	12	0.99	2.96	3.94
49.....	361.0	4	23	27	1.11	6.37	7.48
50.....	411.5	5	16	21	1.22	3.89	5.10
51.....	476.5	5	24	29	1.05	5.04	6.09
52.....	529.0	8	38	46	1.51	7.18	8.70
53.....	575.0	9	24	33	1.57	4.17	5.74
54.....	626.0	17	28	45	2.72	4.47	7.19
55.....	655.0	26	34	60	3.97	5.19	9.16
56.....	685.5	25	25	50	3.65	3.65	7.29
57.....	715.5	28	21	49	3.91	2.94	6.85
58.....	739.0	50	20	70	6.77	2.71	9.47
59.....	747.5	68	32	100	9.10	4.28	13.38
60.....	721.0	76	24	100	10.54	3.33	13.87
61.....	671.0	70	18	88	10.43	2.68	13.11
62.....	622.5	73	17	90	11.73	2.73	14.46
63.....	581.5	99	12	111	17.02	2.06	19.09
64.....	502.0	285	20	305	56.77	3.98	60.76
65.....	208.0	50	6	56	24.04	2.88	26.92
66.....	158.0	28	3	31	17.72	1.90	19.62
67.....	132.5	18	5	23	13.58	3.77	17.36
68.....	118.5	23	1	24	19.41	0.84	20.25
69.....	98.5	22	4	26	22.34	4.06	26.40
70.....	72.0	7	3	10	9.72	4.17	13.89
71.....	61.5	10	2	12	16.26	3.25	19.51
72.....	49.5	4	0	4	8.08	0.00	8.08
73.....	45.5	4	0	4	8.79	0.00	8.79
74.....	40.0	3	0	3	7.50	0.00	7.50
75.....	35.0	3	0	3	8.57	0.00	8.57
76.....	30.0	2	0	2	6.67	0.00	6.67
77.....	27.5	1	0	1	3.64	0.00	3.64
78.....	25.0	1	1	2	4.00	4.00	8.00
79.....	20.5	3	1	4	14.63	4.88	19.51
80.....	64.0	13	0	13	20.31	0.00	20.31
All ages	11,826.0	1,044	433	1,477	8.83	3.66	12.49

TABLE 3
ANALYSIS BY TYPE OF AGENCY
SELECT (YEARS 1-15) TERMINATION EXPERIENCE

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: General Agent; Age-at-Appointment Group 20-29									
1.....	305.0	0	17	17	0.00	5.57	5.57	27.6	26.9
2.....	267.0	0	38	38	0.00	14.23	14.23	27.7	27.4
3.....	230.5	0	35	35	0.00	15.18	15.18	27.7	27.5
4.....	194.5	1	31	32	0.51	15.94	16.45	27.7	27.4
5.....	161.5	0	23	23	0.00	14.24	14.24	27.7	27.3
6.....	139.5	1	18	19	0.72	12.90	13.62	27.8	26.8
7.....	115.5	0	12	12	0.00	10.39	10.39	28.0	28.0
8.....	98.0	0	10	10	0.00	10.20	10.20	27.9	27.7
9.....	85.5	0	7	7	0.00	8.19	8.19	27.8	26.7
10.....	76.0	1	3	4	1.32	3.95	5.26	27.8	28.3
11.....	69.0	0	5	5	0.00	7.25	7.25	27.8	27.8
12.....	63.0	1	7	8	1.59	11.11	12.70	27.8	27.4
13.....	52.0	0	1	1	0.00	1.92	1.92	27.9	29.0
14.....	49.0	0	2	2	0.00	4.08	4.08	27.9	27.0
15.....	47.0	0	3	3	0.00	6.38	6.38	27.9	28.7
1-15	1,953.0	4	212	216	0.20	10.86	11.06	27.8	27.4

TABLE 3—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: 20-29									
1.....	476.0	0	24	24	0.00	5.04	5.04	27.8	27.5
2.....	394.5	3	59	62	0.76	14.96	15.72	27.8	27.3
3.....	325.0	0	66	66	0.00	20.31	20.31	27.9	27.7
4.....	252.5	0	37	37	0.00	14.65	14.65	28.0	28.2
5.....	208.5	1	36	37	0.48	17.27	17.75	27.9	27.6
6.....	169.0	1	21	22	0.59	12.43	13.02	28.0	27.9
7.....	146.5	0	18	18	0.00	12.29	12.29	28.0	28.3
8.....	127.0	1	17	18	0.79	13.39	14.17	27.9	27.8
9.....	106.0	0	13	13	0.00	12.26	12.26	27.9	28.5
10.....	88.0	0	6	6	0.00	6.82	6.82	27.8	26.7
11.....	79.5	0	6	6	0.00	7.55	7.55	27.9	27.5
12.....	73.5	0	12	12	0.00	16.33	16.33	27.9	27.7
13.....	62.5	1	7	8	1.60	11.20	12.80	27.9	28.3
14.....	52.5	0	3	3	0.00	5.71	5.71	27.8	29.0
15.....	44.5	0	1	1	0.00	2.25	2.25	27.6	28.0
1-15	2,605.5	7	326	333	0.27	12.51	12.78	27.9	27.7

TABLE 3—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: General Agent; Age-at-Appointment Group: 30-39									
1.....	1,671.0	2	69	71	0.12	4.13	4.25	34.6	34.7
2.....	1,486.0	3	174	177	0.20	11.71	11.91	34.6	34.8
3.....	1,303.5	3	158	161	0.23	12.12	12.35	34.6	34.5
4.....	1,151.0	0	134	134	0.00	11.64	11.64	34.6	34.9
5.....	1,016.0	3	103	106	0.30	10.14	10.43	34.6	34.7
6.....	913.5	3	80	83	0.33	8.76	9.09	34.6	34.5
7.....	849.5	1	63	64	0.12	7.42	7.53	34.7	35.2
8.....	787.5	2	74	76	0.25	9.40	9.65	34.7	34.9
9.....	708.0	2	48	50	0.28	6.78	7.06	34.6	34.2
10.....	658.5	5	37	42	0.76	5.62	6.38	34.7	34.6
11.....	611.5	11	35	46	1.80	5.72	7.52	34.7	34.2
12.....	551.5	3	28	31	0.54	5.08	5.62	34.8	35.2
13.....	506.5	4	28	32	0.79	5.53	6.32	34.8	35.1
14.....	458.0	4	22	26	0.87	4.80	5.68	34.9	35.2
15.....	414.5	2	25	27	0.48	6.03	6.51	35.0	35.8
1-15	13,086.5	48	1,078	1,126	0.37	8.24	8.60	34.7	34.8

TABLE 3—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: 30-39									
1.....	3,349.5	2	138	140	0.06	4.12	4.18	34.7	34.7
2.....	2,970.5	4	346	350	0.13	11.65	11.78	34.7	34.8
3.....	2,619.5	8	446	454	0.31	17.03	17.33	34.7	34.5
4.....	2,144.5	5	350	355	0.23	16.32	16.55	34.8	34.7
5.....	1,768.5	2	274	276	0.11	15.49	15.61	34.8	35.0
6.....	1,481.0	4	201	205	0.27	13.57	13.84	34.7	35.0
7.....	1,259.5	6	131	137	0.48	10.40	10.88	34.6	34.7
8.....	1,086.0	2	106	108	0.18	9.76	9.94	34.7	34.1
9.....	943.5	4	110	114	0.42	11.66	12.08	34.7	35.0
10.....	805.5	3	83	86	0.37	10.30	10.68	34.7	34.7
11.....	693.0	1	60	61	0.14	8.66	8.80	34.7	34.7
12.....	600.5	8	48	56	1.33	7.99	9.33	34.8	34.4
13.....	522.5	4	40	44	0.77	7.66	8.42	34.9	34.6
14.....	472.5	2	29	31	0.42	6.14	6.56	34.9	34.6
15.....	433.5	6	20	26	1.38	4.61	6.00	35.0	35.2
1-15	21,150.0	61	2,382	2,443	0.29	11.26	11.55	34.7	34.7

TABLE 3—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: General Agent; Age-at-Appointment Group: 40-49									
1.....	814.0	1	48	49	0.12	5.90	6.02	43.2	43.6
2.....	704.5	0	83	83	0.00	11.78	11.78	43.2	43.5
3.....	620.0	6	93	99	0.97	15.00	15.97	43.1	43.4
4.....	526.5	3	66	69	0.57	12.54	13.11	43.1	43.2
5.....	470.0	1	57	58	0.21	12.13	12.34	43.1	43.0
6.....	422.5	2	44	46	0.47	10.41	10.89	43.1	43.2
7.....	387.5	2	38	40	0.52	9.81	10.32	43.2	43.4
8.....	355.0	3	23	26	0.85	6.48	7.32	43.1	42.3
9.....	330.5	9	17	26	2.72	5.14	7.87	43.2	43.1
10.....	316.0	6	16	22	1.90	5.06	6.96	43.3	44.1
11.....	309.0	3	18	21	0.97	5.83	6.80	43.3	43.0
12.....	300.0	2	17	19	0.67	5.67	6.33	43.3	43.5
13.....	286.5	4	10	14	1.40	3.49	4.89	43.4	43.9
14.....	270.0	7	10	17	2.59	3.70	6.30	43.4	43.4
15.....	248.5	8	10	18	3.22	4.02	7.24	43.4	44.4
1-15	6,360.5	57	550	607	0.90	8.65	9.54	43.2	43.4

TABLE 3—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: 40-49									
1.....	1,843.0	5	74	79	0.27	4.02	4.29	43.3	43.5
2.....	1,605.0	5	211	216	0.31	13.15	13.46	43.3	43.5
3.....	1,374.0	8	234	242	0.58	17.03	17.61	43.2	43.3
4.....	1,119.0	3	202	205	0.27	18.05	18.32	43.2	43.0
5.....	898.5	1	153	154	0.11	17.03	17.14	43.2	43.4
6.....	727.0	4	91	95	0.55	12.52	13.07	43.1	42.8
7.....	619.5	9	89	98	1.45	14.37	15.82	43.2	43.4
8.....	518.0	5	52	57	0.97	10.04	11.00	43.1	42.9
9.....	455.5	6	42	48	1.32	9.22	10.54	43.1	42.5
10.....	398.0	9	29	38	2.26	7.29	9.55	43.2	44.1
11.....	355.5	8	23	31	2.25	6.47	8.72	43.1	43.7
12.....	319.5	12	22	34	3.76	6.89	10.64	43.1	43.7
13.....	282.5	11	25	36	3.89	8.85	12.74	43.2	43.9
14.....	246.0	14	11	25	5.69	4.47	10.16	43.1	43.6
15.....	223.5	21	8	29	9.40	3.58	12.98	43.1	44.1
1-15	10,984.5	121	1,266	1,387	1.10	11.53	12.63	43.2	43.3

TABLE 3—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: General Agent; Age-at-Appointment Group: Over 49									
1.....	94.0	0	6	6	0.00	6.38	6.38	52.9	50.5
2.....	82.0	1	17	18	1.22	20.73	21.95	53.2	54.2
3.....	69.5	0	7	7	0.00	10.07	10.07	53.2	51.3
4.....	68.5	1	4	5	1.46	5.84	7.30	53.6	52.0
5.....	68.5	3	7	10	4.38	10.22	14.60	53.8	56.0
6.....	63.5	5	6	11	7.87	9.45	17.32	53.4	53.1
7.....	58.0	3	2	5	5.17	3.45	8.62	53.4	54.6
8.....	56.5	3	5	8	5.31	8.85	14.16	53.2	54.3
9.....	52.0	5	1	6	9.62	1.92	11.54	53.1	56.2
10.....	49.0	11	1	12	22.45	2.04	24.49	52.7	54.5
11.....	38.5	6	1	7	15.58	2.60	18.18	52.3	52.9
12.....	33.5	5	1	6	14.93	2.99	17.91	52.3	52.7
13.....	29.5	3	1	4	10.17	3.39	13.56	52.2	52.8
14.....	26.5	6	0	6	22.64	0.00	22.64	52.0	50.8
15.....	22.5	5	1	6	22.22	4.44	26.67	52.2	51.2
1-15	812.0	57	60	117	7.02	7.39	14.41	53.0	53.4

TABLE 3—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: Over 49									
1.....	225.0	0	8	8	0.00	3.56	3.56	52.9	51.3
2.....	186.5	7	20	27	3.75	10.72	14.48	52.9	54.2
3.....	148.0	7	18	25	4.73	12.16	16.89	52.7	52.9
4.....	121.0	3	15	18	2.48	12.40	14.88	52.7	53.2
5.....	103.0	2	15	17	1.94	14.56	16.50	52.7	53.0
6.....	85.0	7	8	15	8.24	9.41	17.65	52.7	52.3
7.....	72.5	12	1	13	16.55	1.38	17.93	52.6	53.6
8.....	61.0	7	8	15	11.48	13.11	24.59	52.4	52.8
9.....	46.5	8	1	9	17.20	2.15	19.35	52.5	55.1
10.....	39.5	5	4	9	12.66	10.13	22.78	51.9	52.9
11.....	31.5	4	2	6	12.70	6.35	19.05	51.7	51.7
12.....	26.5	5	1	6	18.87	3.77	22.64	51.6	51.2
13.....	24.0	8	1	9	33.33	4.17	37.50	51.4	51.1
14.....	20.0	8	0	8	40.00	0.00	40.00	51.5	50.6
15.....	14.0	4	0	4	28.57	0.00	28.57	52.4	50.3
1-15	1,204.0	87	102	189	7.23	8.47	15.70	52.6	52.8

TABLE 3—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: General Agent; Age-at-Appointment Group: All Ages									
1.....	2,946.0	3	146	149	0.10	4.96	5.06	36.1	36.0
2.....	2,600.0	5	320	325	0.19	12.31	12.50	36.0	36.3
3.....	2,281.0	9	298	307	0.39	13.06	13.46	35.9	36.4
4.....	1,993.0	7	239	246	0.35	11.99	12.34	35.9	35.7
5.....	1,760.5	7	201	208	0.40	11.42	11.81	36.1	35.4
6.....	1,568.0	11	148	159	0.70	9.44	10.14	36.4	37.4
7.....	1,437.0	6	118	124	0.42	8.21	8.63	36.5	37.1
8.....	1,320.5	8	114	122	0.61	8.63	9.24	36.6	36.6
9.....	1,197.5	16	75	91	1.34	6.26	7.60	36.7	36.9
10.....	1,118.0	23	59	82	2.06	5.28	7.33	36.9	38.9
11.....	1,043.0	20	60	80	1.92	5.75	7.67	37.0	37.3
12.....	960.5	11	53	64	1.15	5.52	6.66	37.2	38.3
13.....	886.5	11	40	51	1.24	4.51	5.75	37.3	38.8
14.....	814.0	17	34	51	2.09	4.18	6.27	37.4	39.4
15.....	741.5	15	39	54	2.02	5.26	7.28	37.5	40.0
1-15	22,667.0	169	1,944	2,113	0.75	8.58	9.32	36.4	36.7

TABLE 3—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: All Ages									
1.....	5,963.0	7	254	261	0.12	4.26	4.38	37.1	35.9
2.....	5,212.5	19	648	667	0.36	12.43	12.80	37.1	37.1
3.....	4,509.0	23	771	794	0.51	17.10	17.61	37.1	36.9
4.....	3,671.5	11	613	624	0.30	16.70	17.00	37.1	37.1
5.....	3,003.0	6	480	486	0.20	15.98	16.18	37.1	37.6
6.....	2,482.5	16	324	340	0.64	13.05	13.70	37.0	37.2
7.....	2,116.0	27	243	270	1.28	11.48	12.76	37.0	37.8
8.....	1,808.0	16	183	199	0.88	10.12	11.01	36.9	37.3
9.....	1,567.0	20	171	191	1.28	10.91	12.19	36.9	36.1
10.....	1,339.5	17	124	141	1.27	9.26	10.53	37.1	37.6
11.....	1,166.0	13	92	105	1.11	7.89	9.01	37.1	37.6
12.....	1,024.5	25	84	109	2.44	8.20	10.64	37.2	37.2
13.....	894.5	24	73	97	2.68	8.16	10.84	37.4	39.1
14.....	794.5	24	43	67	3.02	5.41	8.43	37.3	39.6
15.....	719.5	31	30	61	4.31	4.17	8.48	37.2	39.7
1-15	36,271.0	279	4,133	4,412	0.77	11.39	12.16	37.1	37.2

Terminations by disability, death, or retirement are slightly lower for general agents than for managers, although the small number of such terminations makes the significance of this difference very doubtful.

Terminations from other causes are lower for general agents than for managers. Although for both general agents and managers the rates appear to peak at about the same contract year, the rates for managers peak at a higher level and tend to decline more slowly for some period of time. Much of the difference disappears by the end of the select period.

It is interesting to speculate about the underlying reasons for the differences between general agent and managerial termination rates. Because of their method of compensation and the nature of their duties, are less successful general agents more secure in their positions than similar managers? Do the more successful general agents find it financially advantageous to remain with their agencies instead of accepting offers of promotion to home office positions, while managers do not? Are general agents less likely to accept positions from other companies than managers?

Ultimate (over Fifteen Years) Experience

The ultimate results subdivided by type of agency are given in Table 4. In general, the results reaffirm the differences exhibited in the select table presentation. At the retirement ages, terminations by disability, death, or retirement are much lower for general agents than for managers. Once again, one must keep in mind that the managerial results include Canadian experience whereas the general agent results do not; the reader should refer to Table 6 to see what effect this has on the overall results. Rates of termination from other causes are slightly lower for general agents than for managers.

MANAGERIAL RESULTS BY COUNTRY

Select (Years 1-15) Experience

Table 5 shows the results by country of the managerial experience in the select period. Although there are some small random differences, the overall patterns of the termination experience are strikingly similar for the two countries. In the aggregate, termination rates are slightly lower in Canada than in the United States. The difference is greatest in the group containing some retirement experience (over age 49). The results are closer for the other age groups, and actuaries may be inclined to use a combined table for their calculations rather than separate tables for each country.

TABLE 4
ANALYSIS BY TYPE OF AGENCY
ULTIMATE (OVER 15 YEARS) TERMINATION EXPERIENCE
TYPE OF AGENCY: GENERAL AGENT

ATTAINED AGE	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)		
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes
34.....	0.5	0	0	0	0.00	0.00	0.00
35.....	1.0	0	0	0	0.00	0.00	0.00
36.....	1.0	0	0	0	0.00	0.00	0.00
37.....	1.5	0	0	0	0.00	0.00	0.00
38.....	2.5	0	0	0	0.00	0.00	0.00
39.....	4.5	0	0	0	0.00	0.00	0.00
40.....	9.5	0	1	1	0.00	10.53	10.53
41.....	11.5	0	0	0	0.00	0.00	0.00
42.....	19.0	0	1	1	0.00	5.26	5.26
43.....	24.5	0	0	0	0.00	0.00	0.00
44.....	45.0	0	2	2	0.00	4.44	4.44
45.....	67.0	1	2	3	1.49	2.99	4.48
46.....	84.0	0	2	2	0.00	2.38	2.38
47.....	112.5	0	2	2	0.00	1.78	1.78
48.....	156.5	3	4	7	1.92	2.56	4.47
49.....	186.0	2	10	12	1.08	5.38	6.45
50.....	204.5	3	8	11	1.47	3.91	5.38
51.....	238.0	1	12	13	0.42	5.04	5.46
52.....	261.5	3	18	21	1.15	6.88	8.03
53.....	287.0	1	9	10	0.35	3.14	3.48
54.....	318.5	5	12	17	1.57	3.77	5.34
55.....	336.0	11	15	26	3.27	4.46	7.74
56.....	354.0	12	9	21	3.39	2.54	5.93
57.....	378.0	12	9	21	3.17	2.38	5.56
58.....	394.0	17	10	27	4.31	2.54	6.85
59.....	400.5	19	14	33	4.74	3.50	8.24
60.....	411.5	31	10	41	7.53	2.43	9.96
61.....	399.5	31	4	35	7.76	1.00	8.76
62.....	384.5	44	10	54	11.44	2.60	14.04
63.....	357.5	50	6	56	13.99	1.68	15.66
64.....	317.5	158	12	170	49.76	3.78	53.54
65.....	157.5	30	6	36	19.05	3.81	22.86
66.....	125.0	17	2	19	13.60	1.60	15.20
67.....	109.0	13	4	17	11.93	3.67	15.60
68.....	99.0	19	1	20	19.19	1.01	20.20
69.....	82.0	20	3	23	24.39	3.66	28.05
70.....	59.5	6	1	7	10.08	1.68	11.76
71.....	54.0	10	1	11	18.52	1.85	20.37
77.....	43.0	3	0	3	6.98	0.00	6.98
73.....	40.5	4	0	4	9.88	0.00	9.88
74.....	35.5	2	0	2	5.63	0.00	5.63
75.....	32.0	3	0	3	9.38	0.00	9.38
76.....	27.5	2	0	2	7.27	0.00	7.27
77.....	25.5	1	0	1	3.92	0.00	3.92
78.....	23.0	1	1	2	4.35	4.35	8.70
79.....	18.5	3	1	4	16.22	5.41	21.62
80.....	53.0	12	0	12	22.64	0.00	22.64
All ages	6,753.5	550	202	752	8.14	2.99	11.13

TABLE 4—Continued
TYPE OF AGENCY: MANAGER

ATTAINED AGE	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)		
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes
34.....	1.0	0	0	0	0.00	0.00	0.00
35.....	1.0	0	0	0	0.00	0.00	0.00
36.....	1.0	0	0	0	0.00	0.00	0.00
37.....	2.0	0	0	0	0.00	0.00	0.00
38.....	2.0	0	0	0	0.00	0.00	0.00
39.....	2.0	0	0	0	0.00	0.00	0.00
40.....	6.0	0	0	0	0.00	0.00	0.00
41.....	9.0	0	0	0	0.00	0.00	0.00
42.....	14.5	0	1	1	0.00	6.90	6.90
43.....	26.5	0	2	2	0.00	7.55	7.55
44.....	35.5	0	2	2	0.00	5.63	5.63
45.....	51.5	0	2	2	0.00	3.88	3.88
46.....	71.5	0	2	2	0.00	2.80	2.80
47.....	108.5	0	3	3	0.00	2.76	2.76
48.....	148.0	0	5	5	0.00	3.38	3.38
49.....	175.0	2	13	15	1.14	7.43	8.57
50.....	207.0	2	8	10	0.97	3.86	4.83
51.....	238.5	4	12	16	1.68	5.03	6.71
52.....	267.5	5	20	25	1.87	7.48	9.35
53.....	288.0	8	15	23	2.78	5.21	7.99
54.....	307.5	12	16	28	3.90	5.20	9.11
55.....	319.0	15	19	34	4.70	5.96	10.66
56.....	331.5	13	16	29	3.92	4.83	8.75
57.....	337.5	16	12	28	4.74	3.56	8.30
58.....	345.0	33	10	43	9.57	2.90	12.46
59.....	347.0	49	18	67	14.12	5.19	19.31
60.....	309.5	45	14	59	14.54	4.52	19.06
61.....	271.5	39	14	53	14.36	5.16	19.52
62.....	238.0	29	7	36	12.18	2.94	15.13
63.....	224.0	49	6	55	21.88	2.68	24.55
64.....	184.5	127	8	135	68.83	4.34	73.17
65.....	50.5	20	0	20	39.60	0.00	39.60
66.....	33.0	11	1	12	33.33	3.03	36.36
67.....	23.5	5	1	6	21.28	4.26	25.53
68.....	19.5	4	0	4	20.51	0.00	20.51
69.....	16.5	2	1	3	12.12	6.06	18.18
70.....	12.5	1	2	3	8.00	16.00	24.00
71.....	7.5	0	1	1	0.00	13.33	13.33
72.....	6.5	1	0	1	15.38	0.00	15.38
73.....	5.0	0	0	0	0.00	0.00	0.00
74.....	4.5	1	0	1	22.22	0.00	22.22
75.....	3.0	0	0	0	0.00	0.00	0.00
76.....	2.5	0	0	0	0.00	0.00	0.00
77.....	2.0	0	0	0	0.00	0.00	0.00
78.....	2.0	0	0	0	0.00	0.00	0.00
79.....	2.0	0	0	0	0.00	0.00	0.00
80.....	11.0	1	0	1	9.09	0.00	9.09
All ages	5,072.5	494	231	725	9.74	4.55	14.29

TABLE 5
ANALYSIS BY COUNTRY
SELECT (YEARS 1-15) TERMINATION EXPERIENCE

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: 20-29; Country: Canada									
1.....	135.5	0	3	3	0.00	2.21	2.21	27.7	27.0
2.....	119.0	0	18	18	0.00	15.13	15.13	27.7	27.3
3.....	100.0	0	19	19	0.00	19.00	19.00	27.8	27.4
4.....	79.5	0	9	9	0.00	11.32	11.32	27.9	27.9
5.....	70.0	0	11	11	0.00	15.71	15.71	27.8	27.5
6.....	59.0	0	8	8	0.00	13.56	13.56	27.8	27.6
7.....	49.5	0	6	6	0.00	12.12	12.12	27.7	27.8
8.....	41.5	0	7	7	0.00	16.87	16.87	27.7	27.0
9.....	34.0	0	4	4	0.00	11.76	11.76	27.7	28.5
10.....	30.0	0	4	4	0.00	13.33	13.33	27.6	27.0
11.....	26.5	0	2	2	0.00	7.55	7.55	27.7	27.0
12.....	25.0	0	3	3	0.00	12.00	12.00	27.7	27.3
13.....	23.5	1	4	5	4.26	17.02	21.28	27.6	28.2
14.....	21.0	0	2	2	0.00	9.52	9.52	27.5	29.0
15.....	19.0	0	1	1	0.00	5.26	5.26	27.3	28.0
1-15	833.0	1	101	102	0.12	12.12	12.24	27.7	27.5

TABLE 5—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: 20-29; Country: United States									
1.....	340.5	0	21	21	0.00	6.17	6.17	27.8	27.6
2.....	275.5	3	41	44	1.09	14.88	15.97	27.8	27.3
3.....	225.0	0	47	47	0.00	20.89	20.89	27.9	27.8
4.....	173.0	0	28	28	0.00	16.18	16.18	28.0	28.4
5.....	138.5	1	25	26	0.72	18.05	18.77	27.9	27.6
6.....	110.0	1	13	14	0.91	11.82	12.73	28.1	28.1
7.....	97.0	0	12	12	0.00	12.37	12.37	28.1	28.5
8.....	85.5	1	10	11	1.17	11.70	12.87	28.1	28.3
9.....	72.0	0	9	9	0.00	12.50	12.50	28.0	28.6
10.....	58.0	0	2	2	0.00	3.45	3.45	27.9	26.0
11.....	53.0	0	4	4	0.00	7.55	7.55	28.0	27.8
12.....	48.5	0	9	9	0.00	18.56	18.56	28.0	27.8
13.....	39.0	0	3	3	0.00	7.69	7.69	28.0	28.3
14.....	31.5	0	1	1	0.00	3.17	3.17	27.9	29.0
15.....	25.5	0	0	0	0.00	0.00	0.00	27.8	0.0
1-15	1,772.5	6	225	231	0.34	12.69	13.03	27.9	27.8

TABLE 5—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes,	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: 30-39; Country: Canada									
1.....	706.5	0	39	39	0.00	5.52	5.52	34.8	34.8
2.....	631.5	0	77	77	0.00	12.19	12.19	34.8	35.2
3.....	558.5	1	85	86	0.18	15.22	15.40	34.8	34.6
4.....	469.5	1	81	82	0.21	17.25	17.47	34.9	34.7
5.....	384.5	0	52	52	0.00	13.52	13.52	34.9	35.5
6.....	333.5	0	35	35	0.00	10.49	10.49	34.9	35.1
7.....	301.5	0	22	22	0.00	7.30	7.30	35.0	34.3
8.....	269.5	1	19	20	0.37	7.05	7.42	35.1	35.8
9.....	235.5	0	25	25	0.00	10.62	10.62	35.0	35.2
10.....	206.0	0	27	27	0.00	13.11	13.11	35.0	35.0
11.....	176.0	0	13	13	0.00	7.39	7.39	35.0	34.8
12.....	155.5	2	8	10	1.29	5.14	6.43	35.0	33.7
13.....	141.0	0	8	8	0.00	5.67	5.67	35.1	35.3
14.....	135.0	0	9	9	0.00	6.67	6.67	35.1	33.8
15.....	128.5	1	8	9	0.78	6.23	7.00	35.1	35.4
1-15	4,832.5	6	508	514	0.12	10.51	10.64	34.9	34.9

TABLE 5—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: 30-39; Country: United States									
1.....	2,643.0	2	99	101	0.08	3.75	3.82	34.7	34.6
2.....	2,339.0	4	269	273	0.17	11.50	11.67	34.7	34.7
3.....	2,061.0	7	361	368	0.34	17.52	17.86	34.7	34.5
4.....	1,675.0	4	269	273	0.24	16.06	16.30	34.7	34.7
5.....	1,384.0	2	222	224	0.14	16.04	16.18	34.7	34.8
6.....	1,147.5	4	166	170	0.35	14.47	14.81	34.6	35.0
7.....	958.0	6	109	115	0.63	11.38	12.00	34.5	34.7
8.....	816.5	1	87	88	0.12	10.66	10.78	34.5	33.7
9.....	708.0	4	85	89	0.56	12.01	12.57	34.7	34.9
10.....	599.5	3	56	59	0.50	9.34	9.84	34.7	34.5
11.....	517.0	1	47	48	0.19	9.09	9.28	34.7	34.7
12.....	445.0	6	40	46	1.35	8.99	10.34	34.7	34.5
13.....	381.5	4	32	36	1.05	8.39	9.44	34.8	34.4
14.....	337.5	2	20	22	0.59	5.93	6.52	34.9	35.0
15.....	305.0	5	12	17	1.64	3.93	5.57	34.9	35.1
1-15	16,317.5	55	1,874	1,929	0.34	11.48	11.82	34.7	34.6

TABLE 5—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: 40-49; Country: Canada									
1.....	569.0	0	28	28	0.00	4.92	4.92	43.6	43.8
2.....	499.0	0	67	67	0.00	13.43	13.43	43.6	43.7
3.....	426.0	4	65	69	0.94	15.26	16.20	43.5	43.9
4.....	352.5	2	58	60	0.57	16.45	17.02	43.4	43.3
5.....	293.0	1	51	52	0.34	17.41	17.75	43.4	43.7
6.....	238.5	2	24	26	0.84	10.06	10.90	43.3	43.4
7.....	207.5	4	29	33	1.93	13.98	15.90	43.3	43.9
8.....	176.0	1	21	22	0.57	11.93	12.50	43.2	43.1
9.....	155.0	1	14	15	0.65	9.03	9.68	43.1	41.6
10.....	133.5	6	10	16	4.49	7.49	11.99	43.2	43.8
11.....	110.5	3	3	6	2.71	2.71	5.43	43.2	44.3
12.....	102.0	5	10	15	4.90	9.80	14.71	43.2	44.7
13.....	85.0	4	9	13	4.71	10.59	15.29	43.1	44.0
14.....	68.5	4	6	10	5.84	8.76	14.60	43.1	43.9
15.....	57.0	7	2	9	12.28	3.51	15.79	43.0	44.6
1-15	3,473.0	44	397	441	1.27	11.43	12.70	43.4	43.7

TABLE 5—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: 40-49; Country: United States									
1.....	1,274.0	5	46	51	0.39	3.61	4.00	43.2	43.4
2.....	1,106.0	5	144	149	0.45	13.02	13.47	43.2	43.4
3.....	948.0	4	169	173	0.42	17.83	18.25	43.1	43.0
4.....	766.5	1	144	145	0.13	18.79	18.92	43.1	42.9
5.....	605.5	0	102	102	0.00	16.85	16.85	43.1	43.2
6.....	488.5	2	67	69	0.41	13.72	14.12	43.0	42.6
7.....	412.0	5	60	65	1.21	14.56	15.78	43.1	43.1
8.....	342.0	4	31	35	1.17	9.06	10.23	43.1	42.7
9.....	300.5	5	28	33	1.66	9.32	10.98	43.1	43.0
10.....	264.5	3	19	22	1.13	7.18	8.32	43.2	44.4
11.....	245.0	5	20	25	2.04	8.16	10.20	43.1	43.6
12.....	217.5	7	12	19	3.22	5.52	8.74	43.1	42.9
13.....	197.5	7	16	23	3.54	8.10	11.65	43.2	43.9
14.....	177.5	10	5	15	5.63	2.82	8.45	43.2	43.5
15.....	166.5	14	6	20	8.41	3.60	12.01	43.2	44.0
1-15	7,511.5	77	869	946	1.03	11.57	12.59	43.1	43.2

TABLE 5—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: Over 49; Country: Canada									
1.....	75.0	0	4	4	0.00	5.33	5.33	52.1	51.3
2.....	63.5	2	6	8	3.15	9.45	12.60	52.0	53.3
3.....	50.5	0	5	5	0.00	9.90	9.90	51.8	50.6
4.....	42.5	1	6	7	2.35	14.12	16.47	51.9	52.7
5.....	33.5	0	2	2	0.00	5.97	5.97	51.9	57.5
6.....	31.0	4	3	7	12.90	9.68	22.58	51.7	52.3
7.....	27.0	5	0	5	18.52	0.00	18.52	51.6	53.0
8.....	22.5	2	2	4	8.89	8.89	17.78	51.4	51.8
9.....	17.5	4	0	4	22.86	0.00	22.86	51.7	56.5
10.....	14.5	1	1	2	6.90	6.90	13.79	50.6	50.5
11.....	13.0	2	1	3	15.38	7.69	23.08	50.7	51.3
12.....	10.0	2	0	2	20.00	0.00	20.00	50.7	51.0
13.....	8.5	3	0	3	35.29	0.00	35.29	50.8	51.0
14.....	6.5	3	0	3	46.15	0.00	46.15	50.8	50.3
15.....	4.0	1	0	1	25.00	0.00	25.00	51.0	50.0
1-15	419.5	30	30	60	7.15	7.15	14.30	51.7	52.4

TABLE 5—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: Over 49; Country: United States									
1.....	150.0	0	4	4	0.00	2.67	2.67	53.3	51.3
2.....	123.0	5	14	19	4.07	11.38	15.45	53.4	54.6
3.....	97.5	7	13	20	7.18	13.33	20.51	53.2	53.5
4.....	78.5	2	9	11	2.55	11.46	14.01	53.1	53.5
5.....	69.5	2	13	15	2.88	18.71	21.58	53.1	52.4
6.....	54.0	3	5	8	5.56	9.26	14.81	53.3	52.4
7.....	45.5	7	1	8	15.38	2.20	17.58	53.3	54.0
8.....	38.5	5	6	11	12.99	15.58	28.57	53.0	53.2
9.....	29.0	4	1	5	13.79	3.45	17.24	52.9	54.0
10.....	25.0	4	3	7	16.00	12.00	28.00	52.7	53.6
11.....	18.5	2	1	3	10.81	5.41	16.22	52.4	52.0
12.....	16.5	3	1	4	18.18	6.06	24.24	52.1	51.3
13.....	15.5	5	1	6	32.26	6.45	38.71	51.7	51.2
14.....	13.5	5	0	5	37.04	0.00	37.04	51.8	50.8
15.....	10.0	3	0	3	30.00	0.00	30.00	53.0	50.3
1-15	784.5	57	72	129	7.27	9.18	16.44	53.1	53.0

TABLE 5—Continued

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: All Ages; Country: Canada									
1.....	1,503.5	0	75	75	0.00	4.99	4.99	37.9	38.3
2.....	1,328.0	2	173	175	0.15	13.03	13.18	37.9	37.5
3.....	1,144.5	5	177	182	0.44	15.47	15.90	37.9	37.2
4.....	951.0	4	156	160	0.42	16.40	16.82	37.9	37.9
5.....	787.5	1	118	119	0.13	14.98	15.11	37.9	38.3
6.....	667.0	6	70	76	0.90	10.49	11.39	37.8	38.7
7.....	592.5	9	60	69	1.52	10.13	11.65	37.7	38.2
8.....	515.5	5	49	54	0.97	9.51	10.48	37.6	38.2
9.....	447.0	5	45	50	1.12	10.07	11.19	37.6	36.9
10.....	387.0	7	42	49	1.81	10.85	12.66	37.6	37.8
11.....	328.5	5	19	24	1.52	5.78	7.31	37.6	38.6
12.....	294.5	9	21	30	3.06	7.13	10.19	37.6	39.7
13.....	260.0	8	21	29	3.08	8.08	11.15	37.4	39.6
14.....	233.5	7	17	24	3.00	7.28	10.28	36.9	39.7
15.....	211.5	9	12	21	4.26	5.67	9.93	36.4	38.0
1-15	9,651.5	82	1,055	1,137	0.85	10.93	11.78	37.7	38.0

TABLE 5—Continued¹

CONTRACT YEAR	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)			AVERAGE AGE AT APPOINTMENT	
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes	Exposure	Terminations
Type of Agency: Manager; Age-at-Appointment Group: All Ages; Country: United States									
1.....	4,459.5	7	179	186	0.16	4.01	4.17	36.8	34.9
2.....	3,884.5	17	475	492	0.44	12.23	12.67	36.9	36.9
3.....	3,364.5	18	594	612	0.53	17.65	18.19	36.8	36.8
4.....	2,720.5	7	457	464	0.26	16.80	17.06	36.8	36.8
5.....	2,215.5	5	362	367	0.23	16.34	16.57	36.9	37.4
6.....	1,815.5	10	254	264	0.55	13.99	14.54	36.8	36.8
7.....	1,523.5	18	183	201	1.18	12.01	13.19	36.7	37.7
8.....	1,292.5	11	134	145	0.85	10.37	11.22	36.6	36.9
9.....	1,120.0	15	126	141	1.34	11.25	12.59	36.7	35.8
10.....	952.5	10	82	92	1.05	8.61	9.66	36.9	37.4
11.....	837.5	8	73	81	0.96	8.72	9.67	36.9	37.3
12.....	730.0	16	63	79	2.19	8.63	10.82	37.0	36.2
13.....	634.5	16	52	68	2.52	8.20	10.72	37.3	38.8
14.....	561.0	17	26	43	3.03	4.63	7.66	37.5	39.6
15.....	508.0	22	18	40	4.33	3.54	7.87	37.6	40.7
1-15	26,619.5	197	3,078	3,275	0.74	11.56	12.30	36.9	36.9

TABLE 6
ANALYSIS BY COUNTRY
ULTIMATE (OVER 15 YEARS) TERMINATION EXPERIENCE
TYPE OF AGENCY: MANAGER; COUNTRY: CANADA

ATTAINED AGE	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)		
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes
34.....	1.0	0	0	0	0.00	0.00	0.00
35.....	1.0	0	0	0	0.00	0.00	0.00
36.....	1.0	0	0	0	0.00	0.00	0.00
37.....	2.0	0	0	0	0.00	0.00	0.00
38.....	.0	0	0	0	0.00	0.00	0.00
39.....	2.0	0	0	0	0.00	0.00	0.00
40.....	4.5	0	0	0	0.00	0.00	0.00
41.....	6.5	0	0	0	0.00	0.00	0.00
42.....	8.5	0	0	0	0.00	0.00	0.00
43.....	13.5	0	1	1	0.00	7.41	7.41
44.....	16.0	0	1	1	0.00	6.25	6.25
45.....	21.5	0	1	1	0.00	4.65	4.65
46.....	27.5	0	1	1	0.00	3.64	3.64
47.....	34.5	0	1	1	0.00	2.90	2.90
48.....	52.0	0	2	2	0.00	3.85	3.85
49.....	60.0	1	3	4	1.67	5.00	6.67
50.....	73.0	1	2	3	1.37	2.74	4.11
51.....	92.5	0	5	5	0.00	5.41	5.41
52.....	98.0	2	6	8	2.04	6.12	8.16
53.....	108.5	2	3	5	1.84	2.76	4.61
54.....	119.5	4	8	12	3.35	6.69	10.04
55.....	122.5	4	8	12	3.27	6.53	9.80
56.....	120.0	2	8	10	1.67	6.67	8.33
57.....	121.5	3	5	8	2.47	4.12	6.58
58.....	123.5	6	3	9	4.86	2.43	7.29
59.....	130.5	20	7	27	15.33	5.36	20.69
60.....	108.5	23	5	28	21.20	4.61	25.81
61.....	84.5	18	5	23	21.30	5.92	27.22
62.....	66.0	11	1	12	16.67	1.52	18.18
63.....	59.5	15	2	17	25.21	3.36	28.57
64.....	46.0	25	2	27	54.35	4.35	58.70
65.....	20.0	5	0	5	25.00	0.00	25.00
66.....	16.0	5	0	5	31.25	0.00	31.25
67.....	12.0	2	0	2	16.67	0.00	16.67
68.....	11.0	1	0	1	9.09	0.00	9.09
69.....	9.5	1	1	2	10.53	10.53	21.05
70.....	6.0	0	0	0	0.00	0.00	0.00
71.....	4.5	0	1	1	0.00	22.22	22.22
72.....	3.0	0	0	0	0.00	0.00	0.00
73.....	2.5	0	0	0	0.00	0.00	0.00
74.....	2.0	0	0	0	0.00	0.00	0.00
75.....	2.0	0	0	0	0.00	0.00	0.00
76.....	1.5	0	0	0	0.00	0.00	0.00
77.....	1.0	0	0	0	0.00	0.00	0.00
78.....	1.0	0	0	0	0.00	0.00	0.00
79.....	1.0	0	0	0	0.00	0.00	0.00
80.....	1.5	0	0	0	0.00	0.00	0.00
All ages	1,822.0	151	82	233	8.29	4.50	12.79

TABLE 6—Continued

TYPE OF AGENCY: MANAGER; COUNTRY: UNITED STATES

ATTAINED AGE	EXPOSURE	NUMBER OF TERMINATIONS			TERMINATION RATE (%)		
		Disability, Death, or Retirement	All Other Causes	Total, All Causes	Disability, Death, or Retirement	All Other Causes	Total, All Causes
34.....	0.0	0	0	0	0.00	0.00	0.00
35.....	0.0	0	0	0	0.00	0.00	0.00
36.....	0.0	0	0	0	0.00	0.00	0.00
37.....	0.0	0	0	0	0.00	0.00	0.00
38.....	0.0	0	0	0	0.00	0.00	0.00
39.....	0.0	0	0	0	0.00	0.00	0.00
40.....	1.5	0	0	0	0.00	0.00	0.00
41.....	2.5	0	0	0	0.00	0.00	0.00
42.....	6.0	0	1	1	0.00	16.67	16.67
43.....	13.0	0	1	1	0.00	7.69	7.69
44.....	19.5	0	1	1	0.00	5.13	5.13
45.....	30.0	0	1	1	0.00	3.33	3.33
46.....	44.0	0	1	1	0.00	2.27	2.27
47.....	74.0	0	2	2	0.00	2.70	2.70
48.....	96.0	0	3	3	0.00	3.13	3.13
49.....	115.0	1	10	11	0.87	8.70	9.57
50.....	134.0	1	6	7	0.75	4.48	5.22
51.....	146.0	4	7	11	2.74	4.79	7.53
52.....	169.5	3	14	17	1.77	8.26	10.03
53.....	179.5	6	12	18	3.34	6.69	10.03
54.....	188.0	8	8	16	4.26	4.26	8.51
55.....	196.5	11	11	22	5.60	5.60	11.20
56.....	211.5	11	8	19	5.20	3.78	8.98
57.....	216.0	13	7	20	6.02	3.24	9.26
58.....	221.5	27	7	34	12.19	3.16	15.35
59.....	216.5	29	11	40	13.39	5.08	18.48
60.....	201.0	22	9	31	10.95	4.48	15.42
61.....	187.0	21	9	30	11.23	4.81	16.04
62.....	172.0	18	6	24	10.47	3.49	13.95
63.....	164.5	34	4	38	20.67	2.43	23.10
64.....	138.5	102	6	108	73.65	4.33	77.98
65.....	30.5	15	0	15	49.18	0.00	49.18
66.....	17.0	6	1	7	35.29	5.88	41.18
67.....	11.5	3	1	4	26.09	8.70	34.78
68.....	8.5	3	0	3	35.29	0.00	35.29
69.....	7.0	1	0	1	14.29	0.00	14.29
70.....	6.5	1	2	3	15.38	30.77	46.15
71.....	3.0	0	0	0	0.00	0.00	0.00
72.....	3.5	1	0	1	28.57	0.00	28.57
73.....	2.5	0	0	0	0.00	0.00	0.00
74.....	2.5	1	0	1	40.00	0.00	40.00
75.....	1.0	0	0	0	0.00	0.00	0.00
76.....	1.0	0	0	0	0.00	0.00	0.00
77.....	1.0	0	0	0	0.00	0.00	0.00
78.....	1.0	0	0	0	0.00	0.00	0.00
79.....	1.0	0	0	0	0.00	0.00	0.00
80.....	9.5	1	0	1	10.53	0.00	10.53
All ages	3,250.5	343	149	492	10.55	4.58	15.14

Ultimate (over Fifteen Years) Experience

Table 6 illustrates the differences between United States and Canadian termination experience during the ultimate period. Canadian termination rates are lower, but the differences are concentrated largely at the retirement ages. These results must be interpreted carefully, since the amount of experience in the Canadian sample is extremely small.

EPILOGUE

In presenting these tables to the Society of Actuaries, the authors recognize that actuaries need significant additional information about managerial termination in order to perform calculations involving modeling and to evaluate managerial turnover. The most important is information regarding the production of the agency or branch office and its relationship to the general agent's or branch manager's survival. LIMRA is currently expanding its research in order to be able to match agency heads with agencies and to study the characteristics of agency heads and their agencies. Production will be one of the characteristics studied.

The LIMRA study already has been expanded to try to answer some of the speculative questions presented in this paper. The termination categories have been refined so that promotions are identified separately. It will be several years, however, before sufficient additional experience is available for analysis.

It should be noted that managerial survival will continue to be affected by programs that companies initiate to develop new agencies and to support agency heads during their developmental period. The pattern of increasing termination rates by duration of contract can be attributed partially to such programs. However, one should be aware of any natural selection processes that also may be behind this pattern. In modeling expansion programs and/or evaluating their cost, actuaries should be aware of these various influences so that they can evaluate more carefully the probable effect of their own company's expansion program on managerial termination.

DISCUSSION OF PRECEDING PAPER

ALAN J. DUBIN:

Messrs. Brzezinski and Edgar are to be commended for adding field management survival tables to the actuarial literature. Before the publication of their paper, no tables based on actual experience had appeared. These tables will be invaluable tools for actuarial forecasting and other calculations.

Select Experience

The authors present both select and ultimate tables. I feel that this is a conceptual breakthrough in the presentation of all agent survival tables (general agents, managers, and producing agents). Since calculations often assume an average age at appointment for agents, the use of an ultimate table can reflect survival better at longer contract durations.

At early contract durations, agents' survival probably is affected more by duration than by attained age. During the later contract years, the reverse is true: agent survival rates are most influenced by advancing age with its associated deaths, disabilities, and retirements. Therefore, it is of paramount importance to use a select period of appropriate duration. It seems to me that the cause of termination indicates whether age or duration is the major factor influencing survival. Disability, death, or retirement imply age; all other causes imply contract duration.

Table 1 for age-at-appointment group 30-39 is based on over half the exposure. The table shows that even at contract year 15 disability, death, and retirement clearly are secondary causes of termination. This also is true in Table 1 for all ages at appointment combined, although here disability, death, and retirement are more significant causes of termination.

In Table 2, which shows the ultimate experience, disability, death, and retirement do not become the primary causes of termination until attained age 57. Not until age 60 are they the overwhelming causes of termination.

The implication is that the select period should be longer. Assuming an average appointment age of 35, the select period should be at least twenty-five (60 minus 35) years.

Fringe Benefit Pricing

The Brzezinski-Edgar tables will influence the general agent fringe benefit pricing calculations required to comply with section 213 of the New York Insurance Law. This is demonstrated by the simplified calculations shown in Table 1 of this discussion, which are based upon proce-

TABLE 1
A. SECTION 213 COMPLIANCE EARNINGS CALCULATION

Age	One Year's Overriding Com- missions	Total Overriding Com- missions	One Year's Personal Com- missions	Total Personal Com- missions	Total Earnings	Base Earnings Rate
37.....	\$5,000	\$ 5,000	\$6,188	\$ 6,188	\$11,188	\$ 0
38.....	4,480	9,480	560	6,748	16,228	11,188
39.....	4,190	13,670	524	7,271	20,941	13,708
40.....	3,955	17,625	494	7,766	25,391	16,119
41.....	3,755	21,380	469	8,235	29,615	20,853
42.....	1,432	22,812	448	8,683	31,495	25,316
43.....	1,368	24,180	428	9,110	33,290	28,833
44.....	1,312	25,492	410	9,520	35,012	31,467
45.....	1,262	26,754	394	9,914	36,668	33,266
46.....	1,216	27,970	380	10,294	38,264	34,990
47.....		27,970		10,294	38,264	36,648
48.....		27,970		10,294	38,264	37,732
49.....		27,970		10,294	38,264	38,264
50.....		27,970		10,294	38,264	38,264
51.....		27,970		10,294	38,264	38,264
52.....		27,970		10,294	38,264	38,264
53.....		27,970		10,294	38,264	38,264
54.....		27,970		10,294	38,264	38,264
55.....		27,970		10,294	38,264	38,264
56.....		27,970		10,294	38,264	38,264
57.....		27,970		10,294	38,264	38,264
58.....		27,970		10,294	38,264	38,264
59.....		27,970		10,294	38,264	38,264
60.....		27,970		10,294	38,264	38,264
61.....		27,970		10,294	38,264	38,264
62.....		27,970		10,294	38,264	38,264
63.....		27,970		10,294	38,264	38,264
64.....		27,970		10,294	38,264	38,264

TABLE 1—Continued
B. PENSION COMPUTATION

AGE	BASE EARNINGS RATE	CONTRIBUTIONS	TOTAL DIS-COUNTED CONTRIBUTIONS	McCONNERY-GUEST+ 10		1956-73 GENERAL AGENT EXPERIENCE	
				Terminations	Pension Cost	Terminations	Pension Cost
37.....	\$ 0	\$ 0	\$ 0	740	\$ 0	425	\$ 0
38.....	11,188	336	324	574	5,513	1,140	5,837
39.....	13,708	411	708	443	12,747	1,042	12,747
40.....	16,119	484	1,144	338	21,742	861	19,453
41.....	20,853	626	1,689	253	35,479	681	28,721
42.....	25,316	759	2,329	214	51,236	532	39,592
43.....	28,833	865	3,033	186	72,782	400	51,554
44.....	31,467	944	3,775	181	98,139	475	67,942
45.....	33,266	998	4,532	177	126,908	314	77,052
46.....	34,990	1,050	5,303	172	159,079	263	95,448
47.....	36,648	1,832	6,602	168	1,109,081	291	1,921,087
48.....	37,732	1,887	7,894	164	1,294,600	201	1,586,675
49.....	38,264	1,913	9,160	160	1,465,607	213	1,951,089
50.....	38,264	1,913	10,383	156	1,619,804	180	1,869,005
51.....	38,264	1,913	11,565	152	1,757,928	194	2,243,671
52.....	38,264	1,913	12,707	148	1,880,680	224	2,846,434
53.....	38,264	1,913	13,811	144	1,988,735	89	1,229,149
54.....	38,264	1,913	14,877	141	2,097,616	132	1,963,726
55.....	38,264	1,913	15,907	137	2,179,220	182	2,895,022
56.....	38,264	1,913	16,902	134	2,264,853	128	2,163,442
57.....	38,264	1,913	17,863	160	2,858,145	113	2,018,565
58.....	38,264	1,913	18,792	97	1,822,864	131	2,461,806
59.....	38,264	1,913	19,690	124	2,441,560	148	2,914,119
60.....	38,264	1,913	20,557	131	2,692,997	163	3,350,829
61.....	38,264	1,913	21,395	136	2,909,739	130	2,781,368
62.....	38,264	1,913	22,205	146	3,241,888	189	4,196,691
63.....	38,264	1,913	22,987	150	3,448,036	181	4,160,630
64.....	38,264	1,913	23,743	4,274	101,477,527	978	23,220,314
Total.					\$139,134,505		\$66,171,966

TABLE 1—Continued
C. LIFE INSURANCE COMPUTATION

AGE	LIFE INSURANCE BENEFIT	McCONNAY-GUEST+10			1956-73 GENERAL AGENT EXPERIENCE		
		Survivors	Deaths	Discounted Death Payments	Survivors	Deaths	Discounted Death Payments
37.....	\$25,000	10,000	17	\$ 425,000	10,000	17	\$ 425,000
38.....	28,000	9,260	17	459,903	9,575	18	486,957
39.....	35,000	8,686	18	588,112	8,435	18	588,112
40.....	41,000	8,243	19	702,613	7,393	17	628,654
41.....	53,000	7,905	21	969,915	6,532	17	785,169
42.....	64,000	7,652	22	1,185,498	5,851	17	916,067
43.....	73,000	7,438	24	1,425,253	5,319	17	1,009,554
44.....	79,000	7,252	26	1,614,425	4,919	18	1,117,679
45.....	84,000	7,071	28	1,786,136	4,444	17	1,084,440
46.....	88,000	6,894	30	1,937,050	4,130	18	1,162,230
47.....	92,000	6,722	32	2,087,057	3,867	19	1,239,190
48.....	95,000	6,554	35	2,277,444	3,576	19	1,236,327
49.....	96,000	6,390	37	2,350,654	3,375	20	1,270,624
50.....	96,000	6,230	40	2,455,312	3,162	20	1,227,656
51.....	96,000	6,074	43	2,550,203	2,982	21	1,245,448
52.....	96,000	5,922	46	2,635,869	2,788	22	1,260,633
53.....	96,000	5,774	49	2,712,825	2,564	22	1,218,003
54.....	96,000	5,630	53	2,835,053	2,475	23	1,230,306
55.....	96,000	5,489	57	2,945,912	2,343	24	1,240,384
56.....	96,000	5,352	62	3,095,967	2,161	25	1,248,374
57.....	96,000	5,218	66	3,184,257	2,033	26	1,254,404
58.....	96,000	5,058	70	3,263,036	1,920	27	1,258,600
59.....	96,000	4,961	75	3,377,885	1,789	27	1,216,038
60.....	96,000	4,837	80	3,481,234	1,641	27	1,174,916
61.....	96,000	4,706	84	3,531,686	1,478	26	1,093,141
62.....	96,000	4,570	89	3,615,368	1,348	26	1,056,175
63.....	96,000	4,424	93	3,650,103	1,159	24	941,962
64.....	96,000	4,274	98	3,716,275	978	22	834,266
Total.....	.....	.....	.....	\$64,860,047	.....	.....	\$29,450,309

TABLE 1—Continued

D. CALCULATIONS

Discounted Value of One Year's Commission:

Agency: 25.28% of \$100,000...	\$25,280.00
Personal: 77.58% of \$12,500...	9,697.50
Total agency and personal....	\$34,977.50

	McConney-Guest+ 10	1956-73 General Agent Experience
Discounted number of survivors.....	124,050	82,821
Discounted value of all commissions.....	$124,050 \times \$34,977.50 =$ \$4,338,958,875	$82,821 \times \$34,977.50 =$ \$2,896,871,528
Pension as percentage of commissions.....	$\$139,134,505 \div$ $\$4,338,958,875 =$ 3.21%	$\$66,171,966 \div$ $\$2,896,871,528 =$ 2.28%
Preretirement life insurance benefit.....	\$64,860,047	\$29,450,309
Number of retirees (all terminations after age 60 by reasons other than death)	4,443	1,516
Postretirement life insurance benefit (0.38165 is the discount factor).....	$\$9,533.12 \times 4443 \times$ $0.38165 = \$16,165,035$	$\$9,533.12 \times 1516 \times$ $0.38165 = \$5,515,686$
Total life insurance benefit..	\$81,025,082	\$34,965,995
Life insurance as percentage of commissions.....	$\$81,025,082 \div$ $\$4,338,958,875 =$ 1.87%	$\$34,965,995 \div$ $\$2,896,871,528 =$ 1.21%

dures found in "Life Agents' Retirement Plans under New York State Expense Limitations" by Peter M. Tompa (*TSA*, Vol. VIII). The assumptions used are as follows:

Agency production: \$5 million annually; average premium \$20 per M.

Personal production: \$500,000 annually; average premium \$25 per M.

Commission scale: 49.5 percent first year; nine 5 percent renewals fully vested.

Overriding commission scale: 5 percent years 1-5; 2 percent years 6-10, all fully vested.

Interest rate: 3½ percent.

Persistency: Linton's A.

Life insurance benefit: 2½ times the base earnings rate, rounded to the higher thousand. The base earnings rate is the average of the earnings of the previous three years. After retirement the life insurance benefit is reduced to \$25,000. After age 70, there is a \$2,500 annual benefit reduction, until an ultimate benefit of \$12,500 is reached. The cost of the postretirement life insurance benefit is \$9,533.12 using the *Ga-1951* Table at 3½ percent.

Pension plan: Company contributes 3 percent of the base earnings rate for the first ten years and 5 percent thereafter; contributions fully vested upon death or after ten employment years.

Age at appointment: 37.

Retirement age: 65.

General agent survival: Calculated for both McConney-Guest + 10 and for 1956-73 general agent experience for entry ages 30-39, select and ultimate.

Mortality rate: Based on 1950-59 group insurance experience for nonrated industries (*TSA, 1960 Reports*, p. 104).

These calculations show that costs based on the 1956-73 general agent experience tables are about 65-70 percent of costs based on the earlier table. These savings result from the higher termination rates.

In Mr. Tompa's 1956 paper, a uniform average production level was assumed for all contract years. This assumption does not reflect the growth in production as an agency matures or the effect of terminating agencies on average production on a contract-year basis. Adding these factors to the calculations increases their complexity several times. In the precomputer age, adjustment of the calculations for these factors was a tedious undertaking.

As termination rates increase, the accuracy of calculations that do not include the above factors decreases as a result of the larger variations from the average production level in contract years with high rates of termination.

The uniform average production assumption overstates commissions during the early contract years when termination rates are high and when surviving agencies have not yet reached their ultimate peak production. During these years fringe benefit costs as a percentage of commissions are low (low death and disability rates, nonvested pension terminations). Likewise, during the later contract years, commissions are understated when fringe benefit costs as a percentage of commissions are high. The overall effect is to understate fringe benefit costs as a percentage of commissions.

The production information mentioned in the epilogue of the paper will be helpful in improving the accuracy of the section 213 calculations using the survival tables for general agents.

Retirement

The contract-year incidence of retirement is highly dependent upon each company's retirement program. Therefore, if technically feasible, it would be helpful to have retirement terminations separated from death and disability terminations. Calculations then could be modified to

reflect each company's retirement experience. The upcoming changes in the mandatory retirement age may change the retirement pattern considerably.

Producing-Agent Survival

The LIMRA Manpower and Production Survey for 1976 shows four-year retention rates of 13-15 percent (average for all companies, 1974-76). This four-year calendar retention rate is approximately equivalent to a three-and-one-half-year contract-year rate. The McConney-Guest four-(contract-)year retention rate is 20 percent. This indicates the need for a new intercompany producing-agent survival table. I presume that it would be difficult to transform calendar-year data into contract-year data because agent terminations are not uniform in the first two contract years. However, if this problem could be overcome, the results of such a study would be invaluable.

(AUTHORS' REVIEW OF DISCUSSION)

JOSEPH R. BRZEZINSKI AND ARCHER L. EDGAR:

In writing this paper, we were extremely concerned about being unable to illustrate the usefulness of the new experience with practical calculations. We are indebted to Mr. Dubin for providing some illustrative calculations based upon the Tompa procedures.

Although such calculations are almost always done in conjunction with submissions to New York to prove compliance with section 213, we would hope that they will become commonplace in any consideration of changes in fringe benefits for agents, general agents, and managers. Mr. Dubin's calculations indicate that the costs of fringe benefits can be substantial. Such costs are also likely to be heavily deferred in practice, so it is even more important that companies be able to estimate the future commitments being made by changing fringe benefits.

Our experience at LIMRA indicates that knowledge of the current and deferred pension and other fringe benefit costs for field personnel is not very widespread. We encourage all companies to calculate the costs of their own plans as Mr. Dubin has done.

The only point of contention that we might have with Mr. Dubin is in the selection of a "select period." Admittedly, our choice of fifteen years was purely arbitrary, as were our choices of age-at-hire groupings. We thought that the select period might be slightly longer than actually needed, since we expected durational effects to be heavily related to the maximum time to achieve full vesting and stable commission income (at least for general agents)—a period usually not in excess of ten years.

We expected that thereafter the survival rate would have both a fixed component and a component related to attained age.

We thought that in the early contract years there would be a much more pronounced difference in the experience by age-at-hire groupings, as had been found in our lapse research. Figure 1 of this review shows the

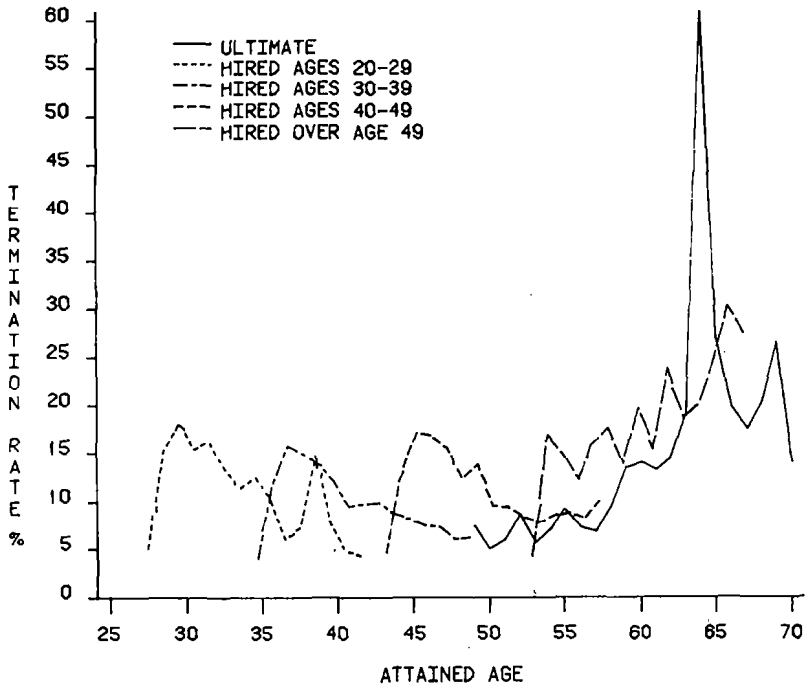


FIG. 1.—Total termination rate by attained age

total termination rate by attained age. At least for the 30-39 and 40-49 age groups, it appears that a select period longer than fifteen years would be unwarranted, since the select and ultimate experiences merge fairly well. In fact, a select period as short as ten years might be justified.

For several years, LIMRA has been studying the feasibility of conducting an agent survival study as Mr. Dubin has suggested. Industry opinion is mixed as to whether the McConney-Guest Tables need to be updated and as to whether the results would be valuable. We would be interested in hearing more opinions.