Report of the Credit Insurance Experience Committee

2009 Credit Life Mortality Study

I. Introduction and Summary Results

The 2009 credit life mortality study covers a four-calendar year period, years 2003 - 2006. Death claims incurred during this four-year period and paid by the data collection date were included. The data was primarily collected during the summer and fall of 2008 which would allow a minimum of 18 months following date of death for a claim to be paid. The study was limited to single premium credit life insurance.

Companies that submitted data to the study comprise over 70% of the 2008 credit life net written premium in the United States. The study included a cross section of all major distribution systems including automobile dealer, retail, bank, credit union and finance company-produced business.

The expected mortality table was the 2001 Commissioner Standard Ordinary Ultimate Male Age Last Birthday Mortality Table (2001 CSO), which is the current valuation standard for credit life insurance for the majority of states. The overall result of the study is that the Actual-to-Expected (A/E) Ratio was 63.68% when measured by amount of insurance and 63.41% by number of contracts.

II. Description of the Data

Companies were given the option of submitting data that was combined for all business or separately based on the administrating company or for acquired blocks of business. For those companies that submitted multiple data files, no effort was made to combine these into a single dataset. Some of these business segments are small and/or in a runoff status, so the reader is cautioned to keep this in mind when interpreting individual company results presented herein. For convenience in this report, we have referred to each block of business where data was reported separately as a "company."

Forty-one of the 48 companies which contributed data were used in the study. The list of the 48 contributors is shown in Appendix A.

The claim and in-force data for each company was compiled in Microsoft Access database tables. A Visual Basic program calculated the exposures and compiled the claims for each company. The resulting exposures and claims by face amount and certificate count were exported to an Excel spreadsheet for further processing.

III. Adjustment of the Data

Similar to the last study, several adjustments were required to adjust for various anomalies on the raw data. These fall into three general categories. One is where invalid ages were associated with individual certificates. Two, it was obvious that some business was processed using "default ages" because there was a large "spike" in the raw exposure data. Third, certain companies exhibited extreme age-to-age fluctuations in exposure. The adjustments to compensate for these are discussed below.

Invalid Age Adjustment

It was assumed that all in-force and claims data for both number and amount had incorrect ages if the recorded age was less than 16 or greater than 74. We calculated an Exposure Data Adjustment, the total of which was equal to the sum of the raw exposure data for these "incorrect ages."

The Exposure Data Adjustment was allocated to the other ages based on the raw exposure data age distribution for these valid ages.

Default Age Adjustment

For in-force data for both number and amount, many companies assign a default age when applications are submitted without an age or date of birth rather than reject the application. These companies will select and assign a default age that on average will result in a reserve value that will match the average reserve value for their business.

To smooth out the exposure data by company, the Karup King formula was used. Thus, for specified ages, the raw exposure data was replaced by the smoothed exposure data. An example of the process used to smooth the exposures is illustrated in the first chart in Appendix B.

Extreme Age-to-Age Fluctuations

For some companies, extreme age-to-age fluctuations occurred in in-force data by both number and amount due to the small amount of exposure data.

To smooth out the exposure data by company, the Karup King formula was used. In this case, the raw exposure data was replaced by the smoothed exposure data. An illustration of the process used to smooth the exposures is shown in the second chart in Appendix B.

As a last step, it was verified that the final total exposure was equal to the total exposure calculated before application of the adjustment process.

IV. All Companies Combined Results

Mortality rates were computed by both amount and number of claims. The results are shown in the two tables in Appendix C by five-year age brackets for all companies combined. The expected mortality table was the 2001 Commissioner Standard Ordinary Ultimate Male Age Last Birthday Mortality Table (2001 CSO), which is the current valuation standard for credit life insurance for the majority of states. The last column shows the Actual to Expected Claim ratios. Overall, the Actual-to-Expected (A/E) Ratio was 63.68% by amount and 63.41% by count. No dramatic differences in the various age segments were noted, validating the use of the 2001 table as an appropriate expected mortality basis.

V. Results by Individual Company

Appendix D shows actual mortality rates by central age for the 41 individual companies in the study. A letter was assigned to each company in order to keep their specific data confidential.

Appendix E shows listings of total company results "By Amount" and "By Number." To preserve the confidentiality of company data, the company identifiers were removed from the tables.

Table 1 – Summary of Exposures and Actual Claims by Amount of Insurance
Table 2 – Summary of Actual-to-Expected Ratios by Amount sorted by A/E Ratio
Table 3 – Summary of Exposures and Actual Claims by Number of Certificates
Table 4 – Summary of Actual-to-Expected Ratios by Count sorted by A/E Ratio

Excluding the six companies with zero claims, 26 of the 35 companies had an actual-to-expected mortality ratio of 100% or less by amount and 31 out of 35 had a ratio of 100% or less by number. This means that (excluding the six companies with zero claims) 74% (26/35) of the companies had actual mortality less than the "2001 CSO" by amount and 89% (31/35) by number.

It is important to note that of the companies which had more than 1,000 claims incurred during the four-year study period, 11 of the 12 had A/E ratios of less than 100% by number of claims and all 12 had A/E ratios of less than 100% by amount of claims.

VI. Comparison to the Prior Study

Item	2009 Study	2002 Study
Exposure Period	2003 – 2006	1998 - 1999
Data Collection Date	Summer-Fall 2008	Summer 2001
# Companies Contributing Data	48	29
# Companies Used In the Study	41	27
# Companies Without Zero Claims	35	26
All Companies Total "A/E"		
By Amount	63.68%	76.05%
By Number	63.41%	80.09%
# Companies Where "A/E" < 100% *		
By Amount	26	21
By Number	31	20
% Companies Where "A/E" < 100% *		
By Amount	74%	81%
By Number	89%	77%
Average Claim Amount	$9,556	$7,452
Average In-Force Exposure	$8,568	$7,361
# Companies With Less Than 100 Claims	20	4

*Companies with zero claims were excluded from both numerator and denominator.

The Actual-to-Expected results show a significant reduction from the 2002 study. By amount, the A/E reduced from 76.05% to 63.68%. No reason for this decrease is immediately evident; however, there are several changes to overall composition of the data that are worth noting.

The companies that contributed data have shifted. While both studies include a large share of the business being written, several carriers who contributed significantly to the 2002 study have changed or reduced their writings. Several significant carriers have recently ceased writing entirely.

The composition of the business has changed. Much of the longer term single premium coverages that insured real-estate secured loans have all but run out, having been replaced by closed-end monthly premium plans. Monthly premium plans are not included in either study.

There is a smaller component of automobile dealer business in the current study. The regulatory and legal environments regarding refunds on indirect loans have caused several large carriers to cease writing new business. While other carriers have increased writings of automobile dealer business, it is our impression that the overall proportion of automobile dealer business is reduced from the 2002 to the 2009 study.

It would be instructive to separate the business by source of production (e.g., bank, credit union, etc.). However, the confidentiality of the data would be difficult to protect, especially in business segments that are dominated by a few major writers. The data request included a field for source of business, but most multi-source writers do not separate their business by producer type, so this field was frequently left blank or "unknown." In future studies, we will look for ways to overcome these obstacles to studying experience by producer type.

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Appendix A

Mortality Study Participating Companies

	Company Name	Company Group
1	Company/Block 1	Aegon
2	Company/Block 2	
3	Company/Block 3	
4	Company/Block 4	
5	Company/Block 5	
6	Company/Block 6	
7	Company/Block 1	Assurant
8	Company/Block 2	
9	Company/Block 3	
10	Company/Block 4	
11	Company/Block 1	American Health & Life
12	Company/Block 2	
13	Company/Block 3	
14	Company/Block 4	
15	Company/Block 5	
16	Company/Block 6	
17	Company/Block 7	
18	Company/Block 8	
19	Company/Block 9	
20	Company/Block 10	
21	Company/Block 11	
22	Company/Block 12	
23	Company/Block 13	
24	Company/Block 14	
25	Company/Block 15	
26	Company/Block 16	
27	Company/Block 17	
28	Company/Block 18	
29	Company/Block 19	
30	Company/Block 20	
31	Company/Block 21	

Appendix A - Continued

Mortality Study Participating Companies

	Company Name	Company Group
32	American Modern Life Insurance Co.	American Modern
33	American United Life Insurance Co.	Securian
34	Cardif Life Insurance Company	Cardif Holdings
35	Central States Health and Life	Central States
36	Cherokee National Life Insurance Co.	Securian
37	CUNA Mutual Insurance Society	CUNA
38	Company/Block 1	HSBC
39	Company/Block 2	
40	Company/Block 3	
41	Company/Block 4	
42	Company/Block 5	
43	Company/Block 6	
44	Company/Block 7	
45	Individual Assurance Company	IAC Group
46	Minnesota Life Insurance Co.	Securian
47	Pekin Life	Pekin
48	Plateau Insurance Company	Plateau

Appendix B

Karup-King Four Point Interpolation Formula

The Karup-King formula was applied as follows:

Each quinquinneal age ending in 2 or 7 was set equal to the average of the surrounding five ages, and treated as successive values of F(x). These central ages were interpolated to intervening individual ages using the formula below:

Default Ages – Chart 1
A graphical example of one of the companies' data appears below. The default ages are apparent by the spike shown at ages 41 and 42. A new line was drawn that was equal to the original line at all points except these default points, and the Karup-King line at these points.

Extreme Age-To-Age Fluctuations – Chart 2
A graphical example of one of the companies' data appears below. The data fluctuations are apparent by the multiple spikes shown between the ages of 42 through 61. A new line was drawn that was equal to the original line at all points except these default points, and the Karup-King line at these points.

Karup-King Formula

F(x+s) = s * F(x+1) - (1/2) * (s ^ 2) * (1-s) * (2CD) F(x+1)
+ (1-s) F(x) - (1/2) * ((1-s) ^ 2) * (s) * (2CD) F(x)
Where: (2CD) x = (x+1) - 2 * (x) + (x-1)

In Lagrange Form:

$$F(x+s) = F(x-1) * (-s^3/2 + s^2 - s/2) + F(x) * (1.5s^3 - 2.5s^2 + 1) + F(x+1) * (-1.5s^3 + 2s^2 + s/2) + F(x+2) * (.5s^3 - .5s^2)$$

Chart 1 – Default Ages

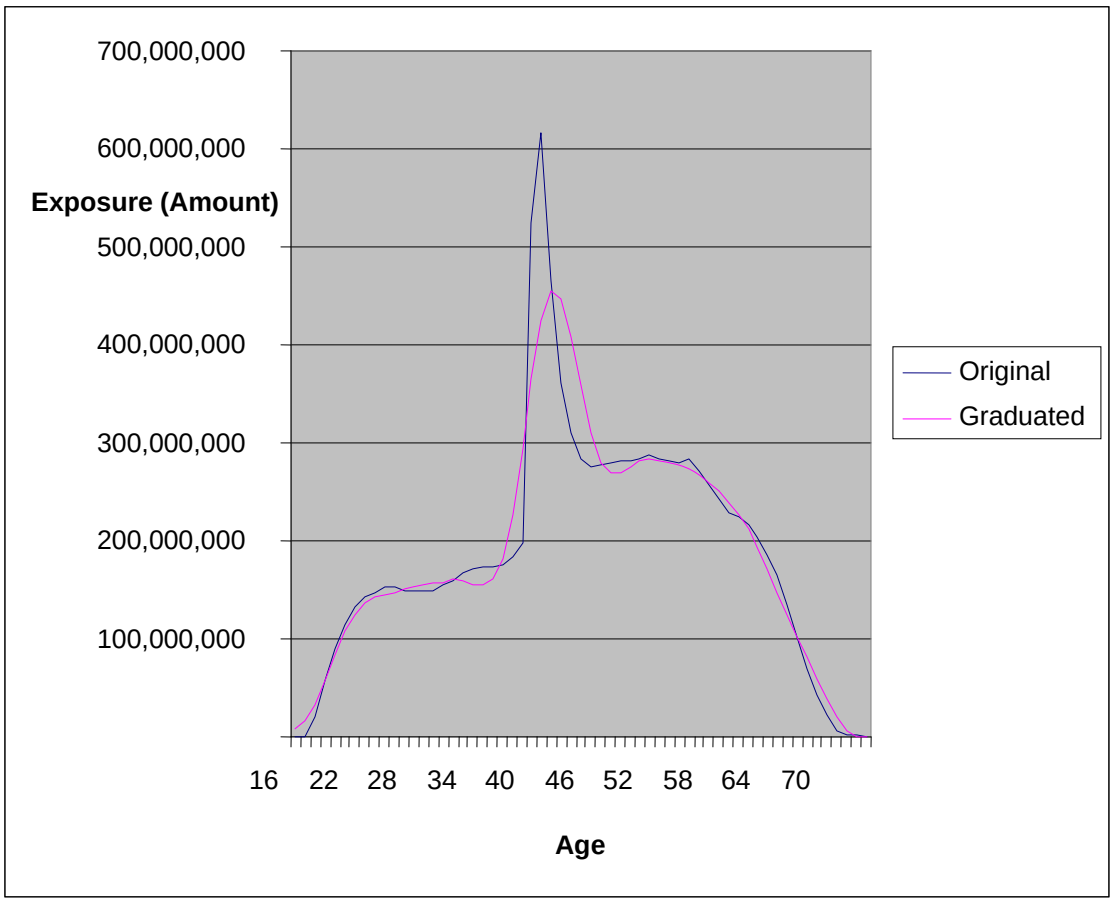
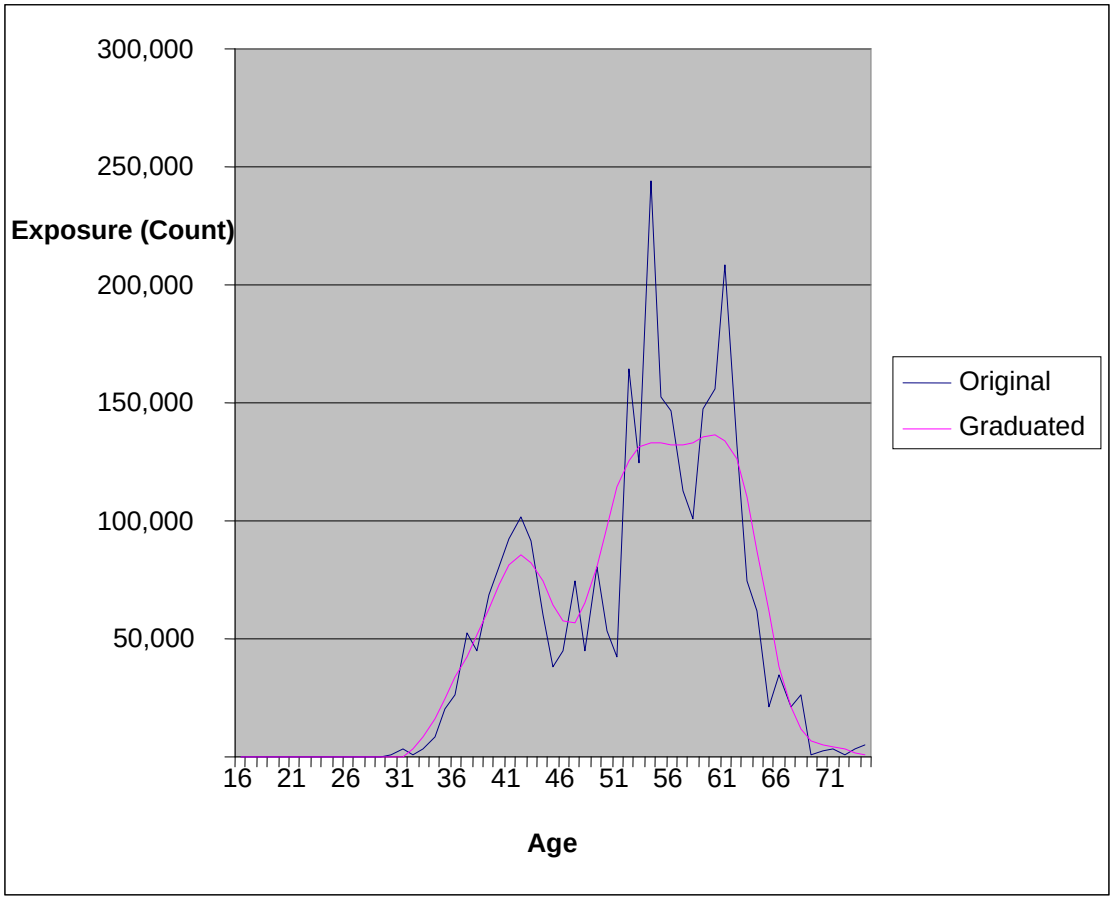


Chart 2 – Extreme Age-To-Age Fluctuation



Appendix C

Table 1 by Amount

Age Range	Central Age	Grouped Exposures	Grouped Claims	Mortality Rate	Expected Mortality Rate	Expected Claims	Actual to Expected
		All Cos Grouped Exposures			[2001 CSO]	(GE+GC/2)x EMR	(GC / EC)
16 - 24	22	5,520,754,636	5,485,571	0.994	0.970	5,357,792	102.38%
25 - 29	27	8,679,047,891	6,140,418	0.707	1.142	9,914,979	61.93%
30 - 34	32	12,473,062,965	8,654,500	0.694	1.152	14,373,954	60.21%
35 - 39	37	16,337,233,523	15,142,788	0.927	1.404	22,948,106	65.99%
40 - 44	42	22,082,441,230	31,341,737	1.419	2.086	46,096,662	67.99%
45 - 49	47	23,968,601,289	50,124,736	2.091	3.222	77,307,584	64.84%
50 - 54	52	23,748,590,875	79,678,894	3.355	4.782	113,756,274	70.04%
55 - 59	57	21,043,095,286	113,074,372	5.373	7.956	167,868,676	67.36%
60 - 64	62	14,848,987,683	117,409,251	7.907	13.096	195,231,138	60.14%
65 - 69	67	6,102,253,062	71,865,323	11.777	21.062	129,282,468	55.59%
70 - 74	72	799,850,350	16,184,226	20.234	33.174	26,802,683	60.38%
	Total	155,603,918,790	515,101,818	3.310	5.199	808,940,316	63.68%

Table 2 by Number

Age Range	Central Age	Grouped Exposures	Grouped Claims	Mortality Rate	Expected Mortality Rate	Expected Claims	Actual to Expected
		All Cos Grouped Exposures			[2001 CSO]	(GE+GC/2)x EMR	(GC / EC)
16 - 24	22	1,074,401	1,036	0.965	0.970	1,043	99.39%
25 - 29	27	1,439,031	1,000	0.695	1.142	1,644	60.86%
30 - 34	32	1,780,376	1,230	0.691	1.152	2,052	59.97%
35 - 39	37	2,081,567	1,936	0.930	1.404	2,924	66.21%
40 - 44	42	2,537,469	3,550	1.399	2.086	5,297	67.02%
45 - 49	47	2,577,267	5,465	2.121	3.222	8,313	65.75%
50 - 54	52	2,401,805	8,224	3.424	4.782	11,505	71.48%
55 - 59	57	2,059,505	11,187	5.432	7.956	16,430	68.09%
60 - 64	62	1,485,559	12,016	8.088	13.096	19,534	61.51%
65 - 69	67	647,647	7,077	10.927	21.062	13,715	51.60%
70 - 74	72	76,588	1,184	15.454	33.174	2,560	46.23%
	Total	18,161,217	53,906	2.968	4.681	85,016	63.41%

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Actual Mortality Rates per $1,000 by Company

Company A		Company B		Company C		Company D		Company E		Company F	
By Amount		By Amount		By Amount		By Amount		By Amount		By Amount	
Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000
22	0.97	22	0.48	22	0.96	22	0.00	22	0.00	22	0.00
27	0.92	27	0.62	27	0.58	27	0.00	27	0.00	27	0.00
32	0.85	32	0.32	32	0.58	32	0.00	32	0.00	32	0.00
37	1.13	37	0.78	37	1.04	37	0.00	37	0.00	37	0.00
42	1.95	42	0.96	42	1.59	42	0.00	42	0.00	42	0.00
47	2.85	47	1.67	47	2.15	47	0.00	47	0.00	47	0.29
52	4.61	52	2.70	52	3.64	52	0.00	52	0.36	52	0.83
57	6.85	57	4.58	57	6.48	57	0.00	57	5.15	57	9.18
62	11.20	62	7.44	62	9.40	62	0.00	62	16.98	62	15.88
67	16.89	67	9.33	67	14.47	67	0.00	67	30.48	67	33.09
72	19.82	72	17.27	72	19.70	72	0.00	72	83.32	72	122.11

By Number		By Number		By Number		By Number		By Number		By Number	
Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000
22	1.05	22	0.49	22	0.86	22	0.00	22	0.00	22	0.00
27	0.86	27	0.65	27	0.62	27	0.00	27	0.00	27	0.00
32	0.78	32	0.40	32	0.71	32	0.00	32	0.00	32	0.00
37	1.04	37	0.75	37	1.09	37	0.00	37	0.00	37	0.00
42	1.62	42	1.03	42	1.52	42	0.00	42	0.00	42	0.00
47	2.45	47	1.68	47	2.46	47	0.00	47	0.00	47	1.68
52	3.82	52	3.30	52	3.85	52	0.00	52	2.67	52	1.60
57	6.40	57	4.99	57	6.81	57	0.00	57	11.59	57	8.08
62	9.22	62	7.46	62	9.63	62	0.00	62	6.97	62	9.54
67	11.81	67	8.57	67	13.64	67	0.00	67	14.67	67	31.87
72	14.23	72	14.64	72	17.02	72	0.00	72	29.18	72	159.93

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Actual Mortality Rates per $1,000 by Company

Company G		Company H		Company I		Company J		Company K		Company L	
By Amount		By Amount		By Amount		By Amount		By Amount		By Amount	
Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000
22	0.00	22	0.76	22	0.00	22	1.06	22	0.00	22	0.00
27	0.00	27	0.57	27	0.00	27	0.00	27	0.00	27	0.00
32	0.00	32	0.56	32	0.00	32	0.36	32	0.00	32	0.00
37	5.29	37	0.86	37	0.00	37	0.47	37	10.20	37	0.00
42	0.00	42	1.33	42	0.00	42	1.31	42	0.00	42	4.61
47	4.68	47	2.18	47	0.00	47	2.86	47	1.07	47	7.04
52	10.78	52	3.54	52	0.00	52	5.84	52	6.22	52	1.43
57	29.11	57	5.67	57	0.00	57	8.62	57	1.86	57	13.14
62	7.32	62	9.72	62	0.00	62	17.19	62	26.35	62	13.80
67	0.00	67	15.21	67	0.00	67	25.73	67	7.48	67	17.72
72	0.00	72	22.59	72	0.00	72	52.09	72	14.01	72	80.15

By Number		By Number		By Number		By Number		By Number		By Number	
Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000
22	0.00	22	0.75	22	0.00	22	1.53	22	0.00	22	0.00
27	0.00	27	0.55	27	0.00	27	0.00	27	0.00	27	0.00
32	0.00	32	0.59	32	0.00	32	0.32	32	0.00	32	0.00
37	2.84	37	0.87	37	0.00	37	0.59	37	1.59	37	0.00
42	0.00	42	1.31	42	0.00	42	0.85	42	0.00	42	2.16
47	4.43	47	2.15	47	0.00	47	1.89	47	0.80	47	3.15
52	2.26	52	3.55	52	0.00	52	3.48	52	3.01	52	0.96
57	13.54	57	5.71	57	0.00	57	5.14	57	2.27	57	7.55
62	6.29	62	9.75	62	0.00	62	10.28	62	8.28	62	7.73
67	0.00	67	14.97	67	0.00	67	16.03	67	5.92	67	13.23
72	0.00	72	21.98	72	0.00	72	24.12	72	6.24	72	41.92

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Actual Mortality Rates per $1,000 by Company

Company M		Company N		Company O		Company P		Company Q		Company R	
By Amount		By Amount		By Amount		By Amount		By Amount		By Amount	
Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000
22	0.00	22	0.00	22	0.00	22	0.00	22	0.00	22	0.00
27	0.00	27	0.35	27	0.00	27	0.00	27	0.00	27	0.00
32	0.00	32	0.00	32	0.00	32	7.08	32	0.00	32	0.00
37	0.00	37	0.56	37	0.00	37	0.00	37	0.00	37	0.00
42	0.00	42	0.20	42	0.00	42	0.00	42	0.00	42	0.00
47	0.00	47	1.44	47	2.37	47	4.63	47	0.00	47	0.00
52	0.00	52	4.73	52	1.22	52	1.30	52	0.00	52	0.00
57	83.28	57	5.77	57	0.00	57	13.22	57	0.00	57	0.00
62	0.00	62	7.05	62	3.46	62	7.15	62	0.00	62	0.00
67	348.72	67	12.18	67	1.30	67	25.50	67	0.00	67	2.52
72	0.00	72	43.59	72	0.00	72	0.00	72	0.00	72	0.00

By Number		By Number		By Number		By Number		By Number		By Number	
Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate
22	0.00	22	0.00	22	0.00	22	0.00	22	0.00	22	0.00
27	0.00	27	0.28	27	0.00	27	0.00	27	0.00	27	0.00
32	0.00	32	0.00	32	0.00	32	2.05	32	0.00	32	0.00
37	0.00	37	0.41	37	0.00	37	0.00	37	0.00	37	0.00
42	0.00	42	0.21	42	0.00	42	0.00	42	0.00	42	0.00
47	0.00	47	1.59	47	3.93	47	1.93	47	0.00	47	0.00
52	0.00	52	3.96	52	1.81	52	4.02	52	0.00	52	0.00
57	21.28	57	5.16	57	0.00	57	7.26	57	0.00	57	0.00
62	0.00	62	7.46	62	6.01	62	8.73	62	0.00	62	0.00
67	51.67	67	11.38	67	6.85	67	9.05	67	0.00	67	28.06
72	0.00	72	28.05	72	0.00	72	0.00	72	0.00	72	0.00

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Actual Mortality Rates per $1,000 by Company

Company S		Company T		Company U		Company V		Company W		Company X	
By Amount		By Amount		By Amount		By Amount		By Amount		By Amount	
Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000
22	0.31	22	0.00	22	0.00	22	0.64	22	0.79	22	1.24
27	0.74	27	0.00	27	0.00	27	0.66	27	0.46	27	0.79
32	0.21	32	0.00	32	0.00	32	0.82	32	0.66	32	1.00
37	1.35	37	0.00	37	0.00	37	1.28	37	1.16	37	0.84
42	0.92	42	0.00	42	0.00	42	1.62	42	1.09	42	1.34
47	3.37	47	0.00	47	0.00	47	3.24	47	2.38	47	1.72
52	3.71	52	0.00	52	0.00	52	5.21	52	3.24	52	3.12
57	7.27	57	0.00	57	112.92	57	9.11	57	5.64	57	5.34
62	7.95	62	0.00	62	0.00	62	14.41	62	7.20	62	6.83
67	28.36	67	0.00	67	0.00	67	15.39	67	11.85	67	13.54
72	130.89	72	0.00	72	0.00	72	1110.63	72	5.13	72	9.78

By Number		By Number		By Number		By Number		By Number		By Number	
Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate
22	0.54	22	0.00	22	0.00	22	0.59	22	0.75	22	0.91
27	0.74	27	0.00	27	0.00	27	0.68	27	0.54	27	0.85
32	0.29	32	0.00	32	0.00	32	1.12	32	0.55	32	0.86
37	1.00	37	0.00	37	0.00	37	1.26	37	1.04	37	1.01
42	1.10	42	0.00	42	0.00	42	1.52	42	1.01	42	1.48
47	2.83	47	0.00	47	0.00	47	3.08	47	1.96	47	2.27
52	3.13	52	0.00	52	0.00	52	5.77	52	2.72	52	4.05
57	4.16	57	0.00	57	46.47	57	8.66	57	4.77	57	5.90
62	8.43	62	0.00	62	0.00	62	13.55	62	6.34	62	7.80
67	15.36	67	0.00	67	0.00	67	14.46	67	9.41	67	12.50
72	43.35	72	0.00	72	0.00	72	58.71	72	7.69	72	7.31

Appendix D – Page 5

Actual Mortality Rates per $1,000 by Company

Company Y		Company Z		Company AA		Company AB		Company AC		Company AD	
By Amount		By Amount		By Amount		By Amount		By Amount		By Amount	
Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000
22	1.50	22	1.22	22	0.90	22	0.00	22	0.00	22	0.54
27	0.89	27	1.04	27	0.71	27	0.00	27	0.00	27	0.27
32	1.15	32	1.03	32	1.00	32	0.00	32	0.00	32	0.43
37	1.24	37	1.02	37	0.99	37	0.00	37	9.23	37	0.64
42	2.09	42	1.88	42	1.66	42	0.00	42	0.00	42	0.96
47	2.48	47	2.29	47	2.09	47	0.00	47	6.65	47	0.89
52	4.15	52	4.56	52	3.27	52	0.00	52	4.59	52	2.15
57	5.61	57	5.70	57	5.22	57	0.00	57	12.70	57	2.92
62	7.49	62	7.86	62	7.66	62	26.70	62	0.52	62	5.36
67	6.15	67	8.85	67	14.33	67	103.74	67	13.03	67	7.90
72	1.09	72	32.89	72	20.44	72	11.03	72	11.48	72	0.00

By Number		By Number		By Number		By Number		By Number		By Number	
Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate
22	1.38	22	0.94	22	0.95	22	0.00	22	0.00	22	0.57
27	0.79	27	0.94	27	0.78	27	0.00	27	0.00	27	0.34
32	1.05	32	1.10	32	0.73	32	0.00	32	0.00	32	0.31
37	1.25	37	1.21	37	0.79	37	0.00	37	5.24	37	0.53
42	2.14	42	1.89	42	1.48	42	0.00	42	0.00	42	0.76
47	2.53	47	2.71	47	1.67	47	0.00	47	5.73	47	0.78
52	3.88	52	4.63	52	3.17	52	0.00	52	2.61	52	2.01
57	5.75	57	6.86	57	5.23	57	0.00	57	11.61	57	2.81
62	7.86	62	8.93	62	7.25	62	7.54	62	6.62	62	4.66
67	6.49	67	11.32	67	12.46	67	37.17	67	8.74	67	7.29
72	2.19	72	15.20	72	12.90	72	13.37	72	5.71	72	0.00

Appendix D – Page 6

Actual Mortality Rates per $1,000 by Company

Company AE		Company AF		Company AG		Company AH		Company AI		Company AJ	
By Amount		By Amount		By Amount		By Amount		By Amount		By Amount	
Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000
22	0.00	22	0.70	22	0.00	22	12.86	22	1.20	22	0.84
27	0.00	27	0.48	27	0.00	27	1.93	27	1.09	27	1.10
32	0.00	32	0.52	32	0.39	32	1.05	32	0.74	32	0.97
37	0.00	37	0.77	37	0.28	37	0.33	37	0.94	37	1.01
42	0.00	42	1.14	42	0.50	42	3.70	42	1.15	42	2.02
47	0.00	47	1.66	47	1.33	47	1.80	47	2.36	47	3.12
52	0.00	52	2.71	52	1.60	52	5.98	52	3.54	52	4.02
57	0.00	57	4.26	57	6.35	57	12.04	57	5.17	57	5.67
62	19.16	62	5.81	62	5.35	62	7.59	62	7.75	62	10.51
67	53.42	67	9.32	67	11.88	67	11.31	67	12.30	67	15.98
72	0.00	72	15.03	72	0.00	72	8.22	72	15.67	72	19.31

By Number		By Number		By Number		By Number		By Number		By Number	
Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate
22	0.00	22	0.61	22	0.00	22	3.07	22	1.04	22	0.75
27	0.00	27	0.48	27	0.00	27	0.47	27	0.80	27	0.71
32	0.00	32	0.48	32	0.89	32	0.56	32	0.80	32	0.85
37	0.00	37	0.75	37	0.59	37	0.66	37	0.80	37	1.14
42	0.00	42	1.07	42	1.05	42	1.12	42	1.06	42	1.72
47	0.00	47	1.66	47	3.41	47	1.46	47	2.18	47	2.38
52	0.00	52	2.78	52	3.75	52	2.89	52	2.88	52	3.65
57	0.00	57	4.09	57	5.84	57	5.71	57	4.78	57	5.39
62	43.39	62	6.06	62	5.66	62	5.41	62	7.05	62	9.40
67	144.94	67	8.83	67	5.25	67	12.40	67	9.94	67	12.33
72	0.00	72	12.32	72	0.00	72	8.07	72	14.39	72	12.95

Appendix D – Page 7

Actual Mortality Rates per $1,000 by Company

Company AK		Company AL		Company AM		Company AN		Company AO	
By Amount		By Amount		By Amount		By Amount		By Amount	
Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000	Age	Mortality Rate Per 1000
22	1.43	22	1.26	22	0.37	22	0.00	22	0.00
27	0.40	27	1.47	27	0.32	27	0.00	27	0.00
32	1.32	32	1.45	32	0.55	32	0.00	32	0.00
37	0.89	37	1.90	37	0.46	37	0.00	37	0.00
42	2.02	42	1.67	42	0.59	42	0.00	42	0.00
47	2.64	47	3.51	47	0.74	47	0.00	47	0.00
52	3.20	52	4.54	52	1.20	52	0.00	52	0.00
57	5.70	57	8.26	57	1.73	57	0.00	57	0.00
62	5.55	62	10.24	62	1.81	62	0.00	62	0.00
67	2.85	67	12.46	67	3.62	67	0.00	67	0.00
72	0.00	72	12.21	72	14.07	72	0.00	72	0.00

By Number		By Number		By Number		By Number		By Number	
Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate	Age	Mortality Rate
22	1.27	22	1.68	22	0.33	22	0.00	22	0.00
27	0.61	27	1.39	27	0.30	27	0.00	27	0.00
32	0.93	32	1.45	32	0.40	32	0.00	32	0.00
37	0.94	37	1.77	37	0.40	37	0.00	37	0.00
42	1.96	42	2.41	42	0.75	42	0.00	42	0.00
47	2.45	47	3.95	47	1.08	47	0.00	47	0.00
52	3.45	52	5.48	52	1.56	52	0.00	52	0.00
57	5.54	57	8.73	57	2.91	57	0.00	57	0.00
62	5.69	62	12.21	62	4.24	62	0.00	62	0.00
67	3.27	67	13.18	67	6.84	67	0.00	67	0.00
72	0.00	72	18.86	72	13.11	72	0.00	72	0.00

Appendix E – Table 1

2009 Mortality Study - Summary Results By Company

EXPOSURES AND ACTUAL CLAIMS BY AMOUNT OF INSURANCE

% Of Tot	Exposure Amts	Actual Claim Amts
25.2%	39,280,922,011	105,215,650
16.4%	25,536,469,000	86,505,508
10.1%	15,683,246,944	66,712,195
9.3%	14,527,368,119	70,660,772
7.2%	11,199,377,825	36,752,908
6.9%	10,760,471,052	23,938,087
3.6%	5,583,015,805	6,633,452
3.1%	4,805,130,677	14,009,176
2.7%	4,265,649,090	14,857,305
2.7%	4,153,830,392	13,988,669
2.5%	3,823,059,153	11,938,615
2.2%	3,485,157,209	13,561,931
1.8%	2,872,916,172	7,377,209
1.5%	2,339,617,133	6,085,719
1.2%	1,904,962,866	6,740,521
1.0%	1,548,313,832	13,819,240
0.8%	1,179,463,069	2,250,807
0.5%	719,676,570	3,618,241
0.3%	390,244,581	1,301,990
0.2%	311,978,872	2,563,260
0.2%	292,400,303	1,799,963
0.2%	281,061,592	982,432
0.1%	180,941,555	504,258
0.1%	125,653,947	1,139,094
0.1%	109,232,270	727,243
0.1%	86,347,994	97,149
0.0%	54,836,849	411,693
0.0%	51,499,428	326,327
0.0%	17,940,001	185,974
0.0%	8,980,065	225,508
0.0%	6,974,400	-
0.0%	4,088,013	29,830
0.0%	3,089,500	95,349
0.0%	2,805,680	10,405
0.0%	2,662,291	754
0.0%	2,328,750	34,584
0.0%	1,575,037	-
0.0%	428,060	-
0.0%	161,893	-
0.0%	20,487	-
0.0%	20,306	-
100.0%	155,603,918,790	515,101,818

Appendix E – Table 2

2009 Mortality Study - Summary Results By Company

ACTUAL-TO-EXPECTED RATIOS – BASED ON FACE AMOUNT	
	Actual / Expected
*	0.00%
*	0.00%
*	0.00%
*	0.00%
*	0.00%
*	0.00%
*	4.07%
	19.56%
	20.09%
	38.90%
	48.97%
	49.68%
	52.69%
*	59.54%
	61.13%
	61.41%
	61.80%
	62.84%
	64.62%
	65.59%
	65.63%
	70.28%
	70.89%
	71.74%
*	74.93%
	78.85%
	80.25%
	84.46%
	84.64%
	93.06%
	96.90%
*	98.08%
	102.32%
	113.36%
*	116.91%
	118.58%
	126.91%
	162.61%
*	195.09%
*	329.19%
*	422.18%
	63.68%

* Companies with extreme age-to-age fluctuations.

Appendix E – Table 3

2009 Mortality Study - Summary Results By Company

EXPOSURES AND CLAIMS BY NUMBER OF CERTIFICATES		
% Of Tot	Exposure #	Actual Claim #
19.9%	3,618,597	8,711
18.8%	3,409,411	11,334
10.5%	1,915,216	5,443
8.3%	1,512,074	6,252
6.4%	1,159,774	3,572
5.7%	1,043,145	2,278
4.6%	833,428	2,907
4.5%	815,435	1,972
3.3%	590,564	2,541
3.2%	574,563	1,699
2.5%	455,294	1,288
2.3%	425,016	833
2.2%	396,055	1,032
1.9%	354,126	993
1.8%	334,553	798
1.5%	278,087	476
0.7%	118,981	585
0.6%	111,265	534
0.3%	62,901	169
0.3%	56,576	148
0.2%	38,294	110
0.1%	13,636	41
0.1%	11,024	49
0.0%	8,224	23
0.0%	6,949	26
0.0%	3,689	21
0.0%	3,465	27
0.0%	2,798	15
0.0%	2,743	6
0.0%	2,562	9
0.0%	905	7
0.0%	455	3
0.0%	384	1
0.0%	379	-
0.0%	200	2
0.0%	147	1
0.0%	139	-
0.0%	84	-
0.0%	40	-
0.0%	31	-
0.0%	8	-
100.0%	18,161,217	53,906

Appendix E – Table 4

2009 Mortality Study - Summary Results By Company

ACTUAL-TO-EXPECTED RATIOS – BASED ON NUMBER OF CLAIMS	
	Actual / Expected
*	0.00%
*	0.00%
*	0.00%
*	0.00%
*	0.00%
*	0.00%
	33.45%
	34.46%
	34.92%
	40.10%
*	40.14%
	49.04%
	52.83%
	52.88%
	55.00%
	55.34%
	57.59%
	58.16%
*	59.84%
	60.47%
	60.68%
	64.80%
	64.83%
*	65.91%
*	67.36%
	69.38%
	69.74%
	69.92%
*	70.05%
	70.09%
	70.28%
	72.24%
	72.76%
	76.58%
	78.47%
*	91.13%
	98.82%
	102.72%
	103.79%
*	146.16%
*	156.00%
	63.41%

* Companies with extreme age-to-age fluctuations.

SOCIETY OF ACTUARIES
475 N. MARTINGALE RD., SUITE 800, SCHAUMBURG, IL 60173-2226 847/706-3500

Date: August 15, 2008

To:

From: The Credit Insurance Experience Committee
Christopher H. Hause, FSA, MAAA, Committee Chairman

cc: John A. Luff
Experience Studies Actuary, SOA

Re: Credit Life Mortality Study

In response to emerging Principles-Based initiatives, it is important that the credit insurance industry collect and maintain current mortality experience for reserving, pricing and experience analysis. To that end, we have been tasked to calculate updated Actual-to-Expected Claim Costs using recent Credit Life Insurance Industry loss experience and the 2001 CSO Male Composite Ultimate Table for Actual and Expected Claim Costs, respectively. **We are asking for your participation by submitting experience for direct written Single Premium Credit Life Insurance in-force during 2003 through 2006.** The specifications for the data call are attached. Please note that we need an extract from your certificate file for every certificate that was in-force at some point during 2003 through 2006. This will include all certificates issued prior to 2003, still active on January 1, 2003, as well as all certificates issued during 2003 through 2006. We will also need an extract from your claim file for all deaths incurred for these certificates.

Hause Actuarial Solutions, Inc. has contracted to perform the data collection and can be contacted if you have any questions. They have agreed that this data will only be used for the purpose of this study, and that the identity of the company will not be associated with its experience after it has been collected, thereby preserving confidentiality. If the agreement between Hause Actuarial Solutions, Inc. and the Society of Actuaries does not meet your needs, you may either send your experience to Jack Luff at the Society of Actuaries, or negotiate a direct confidentiality agreement with Hause Actuarial Solutions, Inc.

In order to be included in the study the data must be received by September 30, 2008.

This data request is limited to Single Premium Credit Life Insurance, but we also want to determine the amount of detail data Companies have on Closed-End Monthly Outstanding Balance (CE MOB) and/or Open-End MOB (OE MOB) Credit Life Insurance so that we can decide whether or not we could perform a similar study on MOB business in the next year or two. As a result, we have posed a few questions on the next page regarding your Company's availability of detail data on CE MOB and OE MOB Credit Life Insurance.

If you are not the appropriate person to receive this data call, we ask that you forward it to the responsible party. We encourage you to participate in this study to allow for the validation of the continued use of the 2001 CSO mortality valuation standard for Credit Life Insurance. The Credit Insurance Experience Committee thanks you in advance for your participation.

Credit Mortality Data Request
In-force and Terminated Business
Claim Data

Company Name _____

Company's 2007 Credit Life Single Premium Direct Writings _____

Percentage of Direct Business for Which Data is Provided _____

Contact: Name: _____
Address: _____
_____
Phone: _____
Fax: _____

Questions can be directed to:

Christopher Hause, FSA, MAAA
Hause Actuarial Solutions, Inc.
Phone (913) 685-2200
Fax (913) 685-2205
E-Mail: chrish@hauseactuarial.com

MOB Data

Does your Company write any **CE MOB** Credit Life Business? _____

If yes, what is the estimated annual premium production? _____

If yes, what percentage of the total **CE MOB** block is processed using detail data (as opposed to batch or bulk processing)? _____

Does your Company write any **OE MOB** Credit Life Business? _____

If yes, what is the estimated annual premium production? _____

If yes, what percentage of the total **OE MOB** block is processed using detail data (as opposed to batch or bulk processing)? _____

In-force File Description

The in-force file should contain all certificates that were in-force at any time during the study period. Policies not in-force at the end of the study period should be included. We will calculate exposures for each certificate, based on the type of coverage and face amount at the beginning and end of each month the certificate was in-force. We must have a valid issue age or date of birth so that exposures can be properly allocated to the correct attained age.

The data should be in ASCII text, comma delimited format. If dollars and cents are represented, the decimal point must be inserted in the field where appropriate. Date formats should be delimited by forward slashes.

In-force File

#	Name of Field	Field Type	Field Options or Description	Default/Not Available Value
1	Issuing Company Name	Alphanumeric	Full Name of Direct Carrier	NA
2	Group Policy Number	Alphanumeric	Identifier for Group	NA
3	Individual Certificate Number	Alphanumeric	Unique Certificate Number within the Group	NA
4	Primary Insured Date of Birth	Date (MM/DD/CCYY)	Either this field or the following must be supplied, or exposure will not be recorded.	Blank
5	Primary Insured Age Last Birthday at Issue	Numeric	Either this field or the previous must be supplied, or exposure will not be recorded. Will override date field.	99
6	Primary Insured Gender	Alpha	M = Male F = Female U = Unknown	U
7	Secondary Insured Date of Birth	Date (MM/DD/CCYY)	Either this field or the following must be supplied, or exposure will not be recorded.	Blank
8	Secondary Insured Age Last Birthday at Issue	Numeric	Either this field or the previous must be supplied, or exposure will not be recorded. Will override date field.	Primary Insured Age
9	Secondary Insured Gender	Alpha	M = Male F = Female U = Unknown	U
10	Coverage Type	Alpha	GD = Gross Decreasing ND = Net Decreasing GL = Level TN = Truncated Net O = Other, (please explain in transmittal)	GD
11	Single/Joint Indicator	Alpha	S = Single J = Joint	S
12	Effective Date	Date (MM/DD/CCYY)	Required field	01/01/1900
13	Term of Coverage in Months	Numeric	Required field	0
14	Initial Face Amount	Numeric	Required field	0
15	Face Amount Limitation Indicator	Alpha	M = Max. Exposure R = Ratio to Loan N = Not Used	N
16	Face Amount Limitation	Numeric	Maximum face Amount	0
17	Principal Amount of Loan	Numeric	Includes financed credit premiums	0
18	Gross Loan Amount	Numeric	Total of Payments	0
19	Term of Loan in Months	Numeric	Used for truncated coverage. We will use coverage term if 0.	0
20	APR of Loan	Numeric	Used for Net Pay coverage. Default will be 10%, if 0 is entered.	10
21	Cancellation Date	Date (MM/DD/CCYY)	Date of cancellation, blank if still in-force.	Blank
22	Reason for Cancellation	Alpha	D = Death E = Expiration of Term O = Other	O
23	Underwritten Indicator	Alpha	N = Not Underwritten U = Underwritten	N
24	Type of Lender	Alpha	A = Auto Dealer B = Bank C = Credit Union D = Other Dealer F = Finance Company O = Other not Specified U = Unknown	U
25	State of Issue	Alpha	Two Letter Postal Abbreviation	NA

Claim File Description

The data should be in ASCII text, comma delimited format. If dollars and cents are represented, the decimal point must be inserted in the field where appropriate. Date formats should be delimited by forward slashes. We must have at least one valid age or date of birth so claims can be properly allocated to the correct attained age.

#	Name of Field	Field Type	Field Options or Description	Default/Not Available Value
1	Issuing Company Name	Alphanumeric	Full Name of Direct Carrier	NA
2	Group Policy Number	Alphanumeric	Identifier for Group	NA
3	Individual Certificate Number	Alphanumeric	Unique Certificate Number within the Group	NA
4	Claim Number	Alphanumeric	Unique Claim Number	NA
5	Primary Insured Date of Birth	Date (MM/DD/CCYY)	Either this field or the following must be supplied, or claim will not be recorded.	Blank
6	Primary Insured Age Last Birthday at Death	Numeric	Either this field or the previous must be supplied, or claim will not be recorded. Will override date field.	99
7	Primary Insured Gender	Alpha	M = Male F = Female U = Unknown	U
8	Claimant Date of Birth	Date (MM/DD/CCYY)	Either this field or the following must be supplied, or Primary Insured date will be used.	Blank
9	Claimant Age Last Birthday at Issue	Numeric	Either this field or the previous must be supplied, or Primary Insured age will be used. Will override corresponding date field.	Primary Insured Age
10	Claimant Gender	Alpha	M = Male F = Female U = Unknown	U
11	Coverage Type	Alpha	GD = Gross Decreasing ND = Net Decreasing GL = Level TN = Truncated Net O = Other, (please explain in transmittal)	GD
12	Single/Joint Indicator	Alpha	S = Single J = Joint	S
13	Date of Death	Date (MM/DD/CCYY)	Required field	01/01/1900
14	Claim Amount	Numeric	Required field	0
15	Underwritten Indicator	Alpha	N = Not Underwritten U = Underwritten	N
16	Type of Lender	Alpha	A = Auto Dealer B = Bank C = Credit Union D = Other Dealer F = Finance Company O = Other not Specified U = Unknown	U
17	State of Issue	Alpha	Two Letter Postal Abbreviation	NA

Attachment 2 – Data Collection and Processing Documentation

Collection of Data

Data was collected in the form of text files, in the format in which it was received. It was converted to a standard format, then imported into an Access database. Where necessary, some files were combined, split, converted or ignored completely. Record counts were verified against the original data.

Processing of Exposures & Claims - The participating companies submitted In-force and Claim files. The data processed was either grouped together or split per the companies' request.

Data Collection and Processing Methods

The program used was a Visual Basic 6.0 application that extracted and stored the data in an Access Database which included six tables.

The total number of Claims records and total number of In-force records used for input for each company were recorded and stored on a spreadsheet. The total number of Claims and total number of In-force records used for input were then compared to the total number of Claims and total number of In-force records that were processed insuring that all records were accounted for.

There are 25 fields in the In-force File and 17 fields in the Claim File. If a required field in a record is not filled out, the record is written out to a bad record file. The process stopped if the number of bad records for either the In-force file or the Claim file exceeded 1,000. The client was contacted and sent the bad records so they could supply the missing information. After the client supplied the missing data, the entire process was rerun until all bad records were eliminated. If a record did not affect the study, such as in a case where the claim amount was zero, the record was ignored. A default value was used for fields that were blank but not required.

The six tables and their purpose are shown below:

1) Claim file table - used for importing the claims records.
2) Claim file bad record table - used for storing records that did not have all of the required fields. The records were reviewed once the program completed. The client was contacted if a bad record affected the results of the study.
3) Claim Summary - A summary of all of the claims records processed. This data was imported into an Excel spreadsheet for further calculations.
4) In-force file table - used for importing the in-force records.
5) In-force file bad record table - used for storing records that did not have all of the required fields. The records were reviewed once the program completed. The client was contacted if a bad record affected the results of the study.
6) In-force Summary - A summary of all of the in-force records processed. This data was imported into an Excel spreadsheet for further calculations.

Formulas Used

The formulas were based off the required fields in the Claims table and In-force table. The listings below show all of the fields for both the Claims and In-force tables. If the field is required, the appropriate action is listed next to the field description if the field was left blank on a given record:

Claim File Fields and Criteria

1) Claim Company - Default is "NA"
2) Claim Group Policy Number - Default is "NA"
3) Claim Individual Certificate Number - Default is "NA"
4) Claim Number - Default is "NA"
5) Claim Primary Insured's Date of birth - If blank use Primary Insured's Age
6) Claim Primary Insured's Age - If blank calculate from the Primary Insured's date of birth
7) Claim Primary Insured's Gender - Default is "U"
8) Claim Insured's Date of birth - If blank use Claim Insured's Age
9) Claim Insured's Last Birthday - If blank calculate from the Claim Insured's Date of birth
   If both Claim Primary Insured's Date of birth and the Claim Primary Insured's Age are blank use the Claim Insured's Age or calculate the age from the Claim Insured's Date of birth. If all fields are blank write out a bad record
10) Claim Insured's Gender - If blank the default is "U"
11) Claim Coverage Type - If blank, write out a bad record
12) Claim Single/Joint Indicator - If blank the default is "S"
13) Claim Date of Death - If blank, write out a bad record
14) Claim - If blank default is 0
15) Claim Underwritten Indicator - If blank the default is "N"
16) Claim Type of Lender - If blank the default is "U"
17) Claim State - If blank the default is "NA"

In-force File Fields and Criteria

1) Company - Default is "NA"
2) Group Policy Number - Default is "NA"
3) Individual Certificate Number - Default "NA"
4) Primary Insured's Date of birth - If blank use the Primary Insured's Last Birthday
5) Primary Insured's Last Birthday - If blank calculate from the Primary Insured's date of birth.
   If both Primary Insured's Date of birth and Primary Insured's Last Birthday are blank write out a bad record.
6) Primary Insured's Gender - If this is blank set the default to "U" for Unknown.
7) Insured's Date of birth - If blank use the Secondary Insured's Last Birthday
8) Sec Insured's Last Birthday - If blank calculate from Secondary Insured's date of birth.
   If both Secondary Insured's Date of birth and Secondary Insured's Last Birthday are blank write out a bad record.
9) Secondary Insured's Gender - If this is blank set the default to "U" for Unknown.
10) Coverage Type - If blank write a bad record. Required field.
11) Single/Joint Indicator - If this is blank use "S" for single.
12) Effective Date - If blank write a bad record. Required field.
13) Term Coverage in Months - If blank or zero, write a bad record. Required field.
14) Initial Face - If blank or zero, write a bad record. Required field.
15) Face Amount Limitation Indicator - If blank the default to "N"
16) Face Amount Limitation - If blank the default to zero.
17) Principal Amount of Loan - If blank the default to zero
18) Gross Loan Amount - If blank the default to zero.
19) Term of Loan in Months - If blank default to 0 and write a bad record. Required field.
20) APR of Loan - Used for Net Pay Calculations. If blank default to 10%
    If APR of Loan = 0 set APR of Loan to 10% as the default value
    If APR of Loan > 1 Then APR of Loan = APR of Loan / 100 to convert whole numbers to decimals
21) Cancellation Date - If blank the default is zero.
22) Reason for Cancellation - If blank the default is "O"
23) Underwritten Indicator - If blank the default is "N"
24) Type of Lender - If blank the default is "U"
25) State - If blank the default is "NA"

Calculation of Exposures

The formulas for the current months' exposure for the various coverage types are listed here. The exposure was measured at the beginning and end of each calendar month that the insurance was in-force at 1/24 of the face amount in-force as of that date. The face amount at any date was subject to the maximum exposure indicated by the company.

Gross Decreasing Term Coverage

Initial Face Amount * (1 – (Elapsed Months/Term of Coverage))

Level Term Coverage

Initial Face Amount

Net Payoff

Initial Face Amount * a(Term of Coverage – Elapsed Months) / a(Term of Coverage)
Where a() is an annuity immediate factor at the Annual Percentage Rate of the underlying loan

Truncated Net Payoff

Initial Face Amount * a(Term of Loan – Elapsed Months) / a(Term of Loan)
Where a() is an annuity immediate factor at the Annual Percentage Rate of the underlying loan

The total exposure by amount and by count was accumulated for each type of coverage. If the policy indicated joint coverage, the exposure routine was run again on the second insured. For any information missing from the second insured information, the first insured information was used.

The start date is 1/1/2003. The end date is 12/31/2006. The start date and end date was changed if the client requested to only include one year instead of two in the study.

Loop through the dates, 1/1/2003, 1/31/2003, 2/1/2003 all the way until 12/31/2006.

While the Evaluation Date is less than or equal to the End Date, do the following:
First check to see if the certificate has been issued. If Effective Date is less than or equal to Evaluation Date go to the next date, if this is the last date, go to next certificate.

If the evaluation date is after the termination date, end this certificate and go to next certificate.

Calculate the exposure and calculate the age last birthday for the exposure if the certificate is included in the study.
If the Primary Insured's Last Birthday is not given, calculate the Primary Insured's Last Birthday from the date of birth.
Set the calculated Primary Insured's last Birthday to the Attained Age.

If the Primary Insured's Last Birthday is less than 0 set the Primary Insured's Last Birthday equal to 0.

Get the Attained Age by adding the Primary Insured's Last Birthday to the number of whole years that have elapsed from the Effective date to the Evaluation date.

If the Attained Age is greater than 100, set the Attained Age equal to 100.