

DETERMINATION OF OUTSTANDING LIABILITIES FOR UNALLOCATED LOSS ADJUSTMENT EXPENSES

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Abstract

Little has been published to date on the determination of outstanding liabilities for unallocated loss adjustment expenses (ULAE). The only method mentioned in the literature is the calendar year paid-paid method, and upon reflection it is apparent that this method will only give good results for very short-tailed, stable lines of business. This paper presents a conceptual approach to estimating ULAE liabilities which is significantly more flexible, based directly on claim reporting and closure patterns, and which allows one to take into direct consideration changes in claim department operating cost levels. The paper describes the approach using an example from medical malpractice insurance, and discusses and evaluates the sensitivity of the results to specific factors in the claim settlement environment.

Little has been published to date on the determination of outstanding liabilities for unallocated loss adjustment expenses. To a large extent, this may be because the attentions of insurance company management and the actuary are usually directed to the much larger and therefore more important outstanding liabilities for losses and allocated loss adjustment expenses. For example, typical ratios of paid ULAE to paid loss and allocated loss adjustment expenses (ALAE) range from four to twenty percent. However, when the subject does become the focus of attention for any reason, the actuary has few sources for ideas on how to estimate the liability.

The classical method, according to such recognized experts as Strain and Salzmann [1], has been to base the ULAE reserve on the ratio of calendar year ULAE payments to calendar year loss payments. Using the assumption that 50% of the ULAE is paid when the claim is opened and the other 50% when it is closed, the ULAE reserve is set by applying 50% of the historical ratio of paid ULAE to paid loss to the full outstanding loss reserve, and 50% of the same ratio to the IBNR reserve.

This method came into use at a time when most lines developed in well under five years, cost inflation was low and level if it existed at all, most calculations were made using only pencil and paper, and claim reporting and payment patterns were stable. We no longer live in this kind of environment. Our estimation methods should be adapted to fit the current environment and grounded firmly in our understanding of the claims process, even for estimation of peripheral liabilities like ULAE.

The conceptual approach to be presented in this paper relies on a claim reporting pattern and a claim closure pattern. It allows the actuary to recognize directly the sixteen considerations in setting loss reserves enumerated in the Casualty Actuarial Society "Statement of Principles Regarding Property and Casualty Loss and Loss Adjustment Expense Liabilities." The actuary must have available historical calendar year ULAE payments, historical numbers of open claims at year end, and historical numbers of claims opened during the year. This data is somewhat more extensive than that required for the Annual Statement, which does not require numbers of claims opened during a year or historical calendar year ULAE payments. However, it is data that is also highly useful for evaluating loss reserves, and the historical calendar year ULAE payments can usually be obtained from successive Schedules O and P.

To see how the approach can be applied, consider an example from some medical malpractice data from a state with a relatively low level of litigation activity. Like many medical malpractice carriers, the company from which this data was derived was formed in the late 1970's, so the first several years of data presented arose while the company was just getting started.

Exhibit 1 shows the first several steps in the application of the approach. The underlying assumption is that ULAE will be incurred throughout the life of the claim, from the time that it is reported until it is closed, but that the effort associated with maintaining the claim file will be twice as great in the first year as in subsequent years. Thus, if there were no inflation in claim department expense levels, ULAE in the year in which the claim file is opened would be twice as great as in any subsequent year. This assumption seems to have some factual basis for this particular body of data, based on conversations with company claims personnel.

The example in the exhibit does not, of course, precisely reflect this assumption because it makes no allowance for the claims closed within

the year. This could be of greater significance for lines with shorter tails than medical malpractice. One simple modification would be to use the average of the numbers of claims open at year end and the number of claims open at the previous year end. Another might be to assume that all claims open at the end of one year continue to be open throughout the subsequent year. *More sophisticated modifications could also be developed.* One might assume, for example, that the effort associated with maintaining the claim file will be twice as great in both the year in which the claim is opened and the year it is closed. Other modifications may be necessary in situations where the line of business is growing rapidly or the claim disposal rate is changing.

The calculations are based on the assumption that unallocated loss adjustment expenses have little or nothing to do with the nature of particular claims; ULAE are effectively file maintenance costs. For some companies that make use of internal counsel and do not allocate claim defense expenses according to New York Rule 42 this assumption will not be appropriate. In these cases, either the approach must be modified or an allocation procedure for defense expenses must be devised. For example, the internal counsel staff could charge their time to the various files on which they work, at a rate commensurate with their salary and benefits costs.

The exhibit shows that historical calendar year ULAE payments from the Annual Statement are divided by the historical numbers of weighted open claims to determine the historical expense per weighted open claim. The historical numbers of weighted open claims are the sums of the historical numbers of open claims at year end, and the historical numbers of claims opened during the year, in keeping with the underlying assumption stated above. They are called "weighted" because there is essentially twice as much weight assigned to the newly opened claims as to the already open claims.

It should be emphasized that other assumptions about the relative ULAE payment levels throughout the life of the claim could very well be appropriate. The important point is that the approach can easily be tailored to a variety of assumptions. The assumption used here seems to be appropriate for this body of data and the exposure from which it arose. One of the problems with unallocated loss adjustment expenses is that it is difficult to test one's assumptions about them because the expenses by definition are generally hard to allocate and therefore hard

to track. The only real way that comes to mind to test assumptions would be to conduct a claim expense study, such as a time and motion study, which establishes artificial expense allocation procedures for a temporary time period.

Exhibit 1 shows that the historical expenses per open claim for this company show a rather dramatic upward trend of 17.4% per year. While a trend of this magnitude is not surprising for medical malpractice losses, it is surprising for ULAE. It is possible that other choices of cost weightings for newly opened, closing, and ongoing claims would have yielded slightly different expense trends, and thus different estimates of outstanding ULAE liabilities. However, it is rather apparent in this particular example that the company has a high claim expense cost trend, and different weightings in applying the approach will not change that conclusion. One of the first benefits of the method is that it highlights claim department cost levels from a possibly different viewpoint, and may help management to identify areas where costs are out of control.

Exhibit 2 shows the way the claims arising from accident years prior to December 31, 1986 (the date at which the outstanding liability is being estimated) can be expected to be reported and settled, based on the claim reporting and closure patterns developed for the data. Again, the weighted totals are the sums of the numbers of open claims at each year end and the numbers of claims opened during the year. The numbers of claims for each year have been rounded to the nearest whole number. After 1991, the assumption is that no new claims will be reported, so the numbers of open claims at each year end are not adjusted.

It should be clear, from the year by year unfolding of the numbers of open claims at year end and numbers of claims opened during the year, that it is possible to assume more complicated claim reporting and payment patterns which allow for varying proportions of claims to be reported, reopened, and closed from year to year. For example, if tort reform legislation could be expected to reduce the numbers of claims reported after a certain date, then the effects of that legislation could be taken into consideration directly when using this approach.

The estimated outstanding liability is calculated in Exhibit 3, based on the observed expense cost trend of 17.4% per year. The weighted numbers of open claims for each future year are multiplied by the estimated cost per claim for that year, and the total outstanding liability is the sum of the products for each year.

If it can be assumed that the company can control its expense cost levels more carefully in the future, the approach can easily be modified to allow for a lower expense cost trend. Exhibit 4 shows the outstanding liability that results if the assumed expense cost trend is 5%.

An example of the results of the approach if the numbers of late-reported claims are drastically reduced is given in Exhibit 5. The weighted numbers of open claims for each of the future years have been calculated assuming that only half as many claims will be reported after 12/31/86 for each accident year and reporting period.

Exhibit 6 shows the results of the application of the classical calendar year paid-paid method to the same body of data. Note that the observed historical ratio of ULAE payments to loss payments is very high, on the order of 20%. The ratio is so high because the ultimate loss dollars for each accident year are being paid out much more slowly than the unallocated expense dollars. This would tend typically to be true for very long-tailed lines like medical malpractice, but it would also be true for newly established or rapidly growing lines of business in highly inflationary loss cost environments.

The exhibit shows that the outstanding liability estimate resulting from the classical ULAE method is significantly greater than that from the approach presented here. This is the result of the very high observed ratio of ULAE to loss payments, which in turn is a result of the fact that the larger claims typically take longer to settle. Even though the alternate approach presented here relies on the assumption that less than 50% of the ULAE are paid in the year in which the claim is opened in a long-tail line, it provides a lower estimated outstanding liability than the classical method because the ULAE are not assumed to be proportional to the loss payments. The difference is that the classical method relies on the assumption that much of the ULAE are paid when the claim is paid, while the approach presented here relies on the assumption that there are ongoing expenses associated with maintaining a claim file.

What is really at issue in reviewing the different results provided by the two methods is the allocation of calendar year ULAE payments between claims outstanding at any given point in time and newly arising claims. When thought of in this way another variation in the approach immediately comes to mind. For many smaller companies, the claims department staff, and therefore the unallocated expenses, are relatively fixed. Unless the company changes significantly in size, no new person-

nel will be hired or office space acquired. Thus it may be reasonable to think in terms of a fixed rate of ULAE payments over the next several years, perhaps increasing at a moderate rate commensurate with increases in the cost of living. Then estimating the outstanding liability becomes a matter of estimating the proportion of the total numbers of open claims on the books in future years that will be attributable to past years. This is shown in Exhibit 7.

The approach presented here leads naturally to a method of allocating the outstanding liability to accident year. The calculation is shown in Exhibit 8. Currently the NAIC requires its own specific allocation procedure, a variation of the classical 50-50 rule. ULAE reserves determined using the approach presented in this paper but booked into the Annual Statement according to its rules will show adverse runoff according to that procedure, both in total and by accident year and sometimes significantly so. This may require explanation to the regulators.

In conclusion, this paper has presented an approach to the calculation of the outstanding liability for unallocated loss adjustment expenses. The approach is straightforward, flexible, and makes use of relevant, readily available data. It also gives results significantly different in many cases from those of the classical method generally in use.

Of course, medical malpractice data typically has many extreme characteristics, but actuarial methods should be flexible enough to handle the extreme cases. In many respects, the extreme cases are the best tests of whether a method or approach has been developed to a sufficient level of detail.

REFERENCES

- [1] Robert W. Strain, *Property-Liability Insurance Accounting*, New York: The College of Insurance, 1984, p. 82 and p. 189.

EXHIBIT 1

CALENDAR YEAR EXPENSE PER OPEN CLAIM

Year	(a) Calendar Year Paid ULAE	(b) Number of Open Claims at Year End	(c) Number of Claims Opened During Year	(d) Weighted Number of Open Claims	(e) Expense Per Open Claim	(f) Fitted Values
1977	\$ 9,459	50	20	70	135	119
1978	13,715	56	33	89	155	140
1979	19,886	75	49	124	161	165
1980	29,023	106	70	176	165	193
1981	42,355	156	80	236	179	227
1982	64,071	174	60	234	274	266
1983	78,898	199	63	261	302	313
1984	138,600	246	79	325	426	367
1985	214,991	343	127	470	457	431
1986	281,593	436	124	560	503	507

(g) 1987 Value Based on Fit of Data to Exponential Curve:

595

(h) Indicated Trend in Expenses per Open Claim:

17.4%

Notes:

(a) Calendar year ULAE payments from the annual statement. The most likely source of this information would be successive Schedule O's and Schedule P's.

(b) From Schedule P of the Annual Statement.

(c) From company records.

(d) (b) + (c). The assumption here is that a claim costs twice as much in absolute dollars to handle in the year it is opened than it does in subsequent years, and is closed at the beginning of the year of closure. Other assumptions may be more relevant for other bodies of data.

(e) (a)/(d)

(f) Curve is $y = a(\exp(bx))$, $y =$ column (e), $a = -312.867$, $b = .16067$, and coefficient of determination is .941.

(g), (h) From exponential curve fit.

EXHIBIT 2

Page 1

NUMBER OF OPEN CLAIMS BY ACCIDENT YEAR

Year	Number Open at 12/31/87	Number Opened in Year	Number Open at 12/31/88	Number Opened in Year	Number Open at 12/31/89	Number Opened in Year	Number Open at 12/31/90	Number Opened in Year	Number Open at 12/31/91	Number Opened in Year
1977	3	0	1	0	0	0	0	0	0	0
1978	7	0	3	0	1	0	0	0	0	0
1979	9	0	3	0	3	0	1	0	0	0
1980	15	4	8	0	6	0	4	0	3	0
1981	23	0	10	0	8	0	6	0	4	0
1982	39	8	15	1	11	0	8	0	6	0
1983	61	5	26	3	17	1	12	0	9	0
1984	112	15	51	8	30	2	20	1	14	0
1985	139	44	82	19	59	9	35	2	23	1
1986	122	48	158	60	98	23	71	10	42	2
Totals	530	124	357	91	233	35	157	13	101	3
Weighted Totals		654		448		268		170		104

Notes.

Based on the following claim reporting and closure patterns:

Year	Percent Reported	Percent Closed
1	46.5	0.8
2	64.4	2.3
3	86.8	27.9
4	95.3	58.9
5	99.2	72.9
6	100.0	84.5
7		89.9
8		93.0
9		94.6
10		96.1
11		97.7
12		98.4

EXHIBIT 2
Page 2

NUMBER OF OPEN CLAIMS BY ACCIDENT YEAR

<u>Year</u>	<u>Number Open at 12/31/92</u>	<u>Number Open at 12/31/93</u>	<u>Number Open at 12/31/94</u>	<u>Number Open at 12/31/95</u>	<u>Number Open at 12/31/96</u>	<u>Number Open at 12/31/97</u>	<u>Number Open at 12/31/98</u>
1977	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0
1981	1	0	0	0	0	0	0
1982	3	1	0	0	0	0	0
1983	7	4	3	0	0	0	0
1984	11	8	5	3	0	0	0
1985	16	12	9	5	3	0	0
1986	<u>27</u>	<u>19</u>	<u>15</u>	<u>10</u>	<u>6</u>	<u>3</u>	<u>1</u>
Totals	65	44	32	18	9	3	1

UNALLOCATED LOSS ADJUSTMENT EXPENSES

EXHIBIT 3

ESTIMATED OUTSTANDING LIABILITY FOR ULAE

Year	(a) Weighted Number of Open Claims	(b) Expense Per Open Claim	(c) Indicated ULAE Paid
1987	654	\$ 595	\$ 389,130
1988	448	699	312,941
1989	268	820	219,780
1990	170	963	163,670
1991	104	1,130	117,550
1992	65	1,327	86,252
1993	44	1,558	68,545
1994	32	1,829	58,525
1995	18	2,147	38,649
1996	9	2,521	22,687
1997	3	2,959	8,878
1998	1	3,474	3,474
Total Estimated Outstanding Liability for ULAE as of 12/31/86			\$1,490,083

Notes:

(a) From Exhibit 2.

(b) Based on 17.4% expense level trend indicated by the data in Exhibit 1.

(c) (a)x(b)

EXHIBIT 4

ESTIMATED OUTSTANDING LIABILITY FOR ULAE
ASSUMING LEVEL EXPENSE TREND OF 5%

<u>Year</u>	<u>(a) Weighted Number of Open Claims</u>	<u>(b) Expense Per Open Claim</u>	<u>(c) Indicated ULAE Paid</u>
1987	654	\$ 595	\$ 389,130
1988	448	625	279,888
1989	268	656	175,805
1990	170	689	117,094
1991	104	723	75,216
1992	65	759	49,360
1993	44	797	35,084
1994	32	837	26,791
1995	18	879	15,824
1996	9	923	8,307
1997	3	969	2,908
1998	1	1,018	<u>1,018</u>
Total Estimated Outstanding Liability for ULAE as of 12/31/86			\$1,176,423

Notes:

(a) From Exhibit 2.

(b) Based on an arbitrary expense level trend of 5%, under the assumption that the company can bring its expenses under control.

(c) (a) x (b)

EXHIBIT 5

ESTIMATED OUTSTANDING LIABILITY FOR ULAE
ASSUMING FEWER LATE-REPORTED CLAIMS

<u>Year</u>	<u>(a) Weighted Number of Open Claims</u>	<u>(b) Expense Per Open Claim</u>	<u>(c) Indicated ULAE Paid</u>
1987	530	\$ 595	\$ 315,350
1988	363	699	253,566
1989	209	820	171,396
1990	119	963	114,569
1991	77	1,130	87,032
1992	49	1,327	64,689
1993	33	1,558	51,409
1994	24	1,829	43,894
1995	14	2,147	28,986
1996	7	2,521	17,015
1997	2	2,959	6,659
1998	1	3,474	<u>2,606</u>
Total Estimated Outstanding Liability for ULAE as of 12/31/86			\$1,157,171

Notes:

- (a) Based on the assumption that only half as many claims will be reported after the close of the accident year, for each accident year and report period.
- (b) From Exhibit 2.
- (c) (a) x (b)

EXHIBIT 6

INDICATED CLASSICAL ULAE RESERVE

<u>Year</u>	(a) <u>Calendar Year Paid Losses</u>	(b) <u>Calendar Year Paid ULAE</u>	(c) <u>Paid to Paid Ratio</u>
1977	\$ 17,341	\$ 9,459	0.545
1978	51,969	13,715	0.264
1979	111,898	19,886	0.178
1980	215,746	29,023	0.135
1981	292,559	42,355	0.145
1982	396,168	64,071	0.162
1983	522,313	78,898	0.151
1984	694,288	138,600	0.200
1985	934,070	214,991	0.230
1986	<u>1,265,029</u>	<u>281,593</u>	<u>0.223</u>
Total/ Average	\$4,501,379	\$892,590	0.198
(d) Estimated Loss Reserve:			\$12,458,095
(e) Estimated IBNR Reserve:			\$ 7,575,485
(f) Indicated Classical ULAE Reserve:			\$ 1,986,255

Notes:

(a) From Annual Statement.

(b) From Exhibit 1.

(c) (b)/(a). Obviously, averages other than the dollar-weighted could be selected if desired.

(d) From Annual Statement.

(e) From Annual Statement.

(f) $(.5 \times .198 \times (d)) + (.5 \times .198 \times (e))$

EXHIBIT 7

ESTIMATED OUTSTANDING LIABILITY FOR ULAE
ASSUMING OVERHEAD LEVELS ARE FIXED

Year	(a) Calendar Year Paid ULAE	(b) Weighted Number of Open Claims from Past Years	(c) Weighted Number of Subsequent Open Claims	(d) Total Weighted Claims	(e) ULAE for Claims from Past Years
1986	\$281,593	560	0	560	\$281,593
1987	296,000	654	202	856	226,000
1988	311,000	448	377	825	169,000
1989	327,000	268	557	825	106,000
1990	343,000	170	656	826	71,000
1991	360,000	104	722	826	45,000
1992	378,000	65	758	823	30,000
1993	397,000	44	780	824	21,000
1994	417,000	32	795	827	16,000
1995	438,000	18	807	825	10,000
1996	460,000	9	812	821	5,000
1997	483,000	3	816	819	2,000
1998	507,000	1	818	819	1,000
1999	532,000	0	818	818	0

Total Estimated Outstanding Liability for
ULAE as of 12/31/86

\$ 702,000

Notes:

(a) Assuming that total ULAE payments increase at 5% per year.

(b) From Exhibit 3.

(c) Assuming 220 claims per future year and applying the reporting and payment patterns from Exhibit 2.

(d) (b) + (c)

(e) (a) x (b)/(d)

EXHIBIT 8

ALLOCATION OF OUTSTANDING LIABILITY TO ACCIDENT YEAR 1986

Year	(a) Total Number of Weighted Open Claims	(b) Number of Weighted Open Claims from 1986	(c) Indicated ULAE Paid on Past Claims	(d) Outstanding Liability Attributable to 1986
1987	654	170	\$389,000	\$101,000
1988	448	218	313,000	152,000
1989	268	121	220,000	99,000
1990	170	81	164,000	78,000
1991	104	44	118,000	50,000
1992	65	27	86,000	36,000
1993	44	19	69,000	30,000
1994	32	15	59,000	28,000
1995	18	10	39,000	22,000
1996	9	6	23,000	15,000
1997	3	3	9,000	9,000
1998	1	1	3,000	3,000
Total Liability Attributable to 1986				\$623,000

Notes:

- (a) From Exhibit 3.
- (b) From Exhibit 2.
- (c) From Exhibit 3.
- (d) (c) x (b)/(a)

PART 7

Corrections to Exhibits 2-5

**Johnson, W.A., "Determination of Outstanding Liabilities for
Unallocated Loss Adjustment Expenses," PCAS LXXVI, 1989,
p. 111-125.**

Number of Open Claims By Accident Year

Year	Number Open at 12/31/87	Number Opened in Year	Number Open at 12/31/88	Number Opened in Year	Number Open at 12/31/89	Number Opened in Year	Number Open at 12/31/90	Number Opened in Year
1977	2	0	1	0	1	0	0	0
1978	5	0	3	0	2	0	1	0
1979	7	0	5	0	3	0	2	0
1980	11	0	8	0	6	0	3	0
1981	15	0	11	0	8	0	6	0
1982	23	1	15	0	10	0	8	0
1983	44	7	26	1	17	0	12	0
1984	70	18	50	7	30	2	19	0
1985	131	50	81	19	59	9	35	2
1986	166	48	158	60	98	23	70	10
Totals	474	122	358	87	234	34	156	12
Weighted Totals		596		445		268		168

Notes:

Based on the following claim reporting and closure patterns, and the following estimated ultimate numbers of claims:

Year	% Reported	% Closed	Year	% Closed	Year	Number of Claims	Year	Number of Claims
1	46.5	0.8	9	94.6	1977	77	1985	223
2	64.4	2.3	10	96.1	1978	127	1986	268
3	86.8	27.9	11	97.7	1979	129		
4	95.3	58.9	12	98.4	1980	152		
5	99.9	72.9	13	99.2	1981	151		
6	100.0	84.5	14	100.0	1982	148		
7		89.9			1983	168		
8		93.0			1984	192		

Number of Open Claims By Accident Year

Year	Number Open at 12/31/91	Number Opened in Year	Number Open at 12/31/92	Number Open at 12/31/93	Number Open at 12/31/94	Number Open at 12/31/95	Number Open at 12/31/96	Number Open at 12/31/97	Number Open at 12/31/98
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	1	0	0	0	0	0	0	0	0
1980	2	0	1	0	0	0	0	0	0
1981	3	0	2	1	0	0	0	0	0
1982	6	0	3	2	1	0	0	0	0
1983	9	0	7	4	3	1	0	0	0
1984	13	0	10	7	4	3	2	0	0
1985	23	0	16	12	9	5	4	2	0
1986	42	2	27	19	14	10	6	4	2
Totals	99	2	66	45	31	19	12	6	2
Weighted Totals		101							

Estimated Outstanding Liability for ULAE

Year	Weighted Number of Open Claims	Expense Per Open Claim	Indicated ULAE Paid
<u> </u>	<u> </u>	<u> </u>	<u> </u>
	(a)	(b)	(c)
1987	596	595	\$ 354,620
1988	445	699	311,055
1989	268	820	219,760
1990	168	963	161,784
1991	101	1,130	114,130
1992	66	1,327	87,582
1993	45	1,558	70,110
1994	31	1,829	56,699
1995	19	2,147	40,793
1996	12	2,521	30,252
1997	6	2,959	17,754
1998	2	3,474	6,948
			<u> </u>
Total Estimated Outstanding Liability for ULAE at 12/31/86:			\$ 1,471,487

Notes:

(a) From Exhibit 2.

(b) Based on 17.4% expense trend indicated by the data in Exhibit 1.

(c) (a) x (b).

Estimated Outstanding Liability for ULAE

Year	Weighted Number of Open Claims	Expense Per Open Claim	Indicated ULAE Paid
<u> </u>	<u> </u>	<u> </u>	<u> </u>
	(a)	(b)	(c)
1987	596	595	\$ 354,620
1988	445	625	278,125
1989	268	656	175,808
1990	168	689	115,752
1991	101	723	73,023
1992	66	759	50,094
1993	45	797	35,865
1994	31	837	25,947
1995	19	879	16,701
1996	12	923	11,076
1997	6	969	5,814
1998	2	1,018	2,036
			<u> </u>
Total Estimated Outstanding Liability for ULAE at 12/31/86:			\$ 1,144,861

Notes:

- (a) From Exhibit 2.
- (b) Based on an arbitrary expense level trend of 5%, under the assumption that can get its expenses under control.
- (c) (a) x (b).

Estimated Outstanding Liability for ULAE

Year	Weighted Number of Open Claims	Expense Per Open Claim	Indicated ULAE Paid
<u> </u>	<u> </u>	<u> </u>	<u> </u>
	(a)	(b)	(c)
1987	536	595	\$ 318,920
1988	378	699	264,222
1989	227	820	186,140
1990	144	963	138,672
1991	89	1,130	100,570
1992	58	1,327	76,966
1993	40	1,558	62,320
1994	28	1,829	51,212
1995	18	2,147	38,646
1996	9	2,521	22,689
1997	6	2,959	17,754
1998	2	3,474	6,948
			<u> </u>
Total Estimated Outstanding Liability for ULAE at 12/31/86:			\$ 1,285,059

Notes:

- (a) Based on the assumption that only half as many claims will be reported after the close of the accident year, for each accident year and report period.
- (b) From Exhibit 3.
- (c) (a) x (b).