Commutation Pricing in the Post Tax Reform Era

by Vincent P. Connor & Richard A. Olsen

BIOGRAPHY

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ABSTRACT

This paper discusses how a reinsurer prices the commutation of a group of claims. A commutation is when an insurer and a reinsurer agree to settle a group of claims with one payment by the reinsurer when they have not been settled by (or perhaps reported to) the insurer. After discussing the reasons for commutations, an example is used to discuss the after tax interest rate that is used to present value the claims. Also discussed is how to determine the value of the unwinding of the discount, as well as the tax on the underwriting gain normally generated by a commutation. Also covered is a formula used to determine price and why the commutation price normally looks low to insurance companies. The second more complicated example develops a commutation price for a typical property/casualty line. The overall discussion in this example touches upon a number of different points to keep in mind when pricing commutations. Some of these points include contract analysis, handling of adjustable features, IBNR development, and payment profile selection. The last part of the paper deals with sensitivity analysis where interest rates, tax rates, and payment profiles are varied to see their effect on the indicated price. While initially appearing complex, it is hoped that this step by step approach with examples will make this subject more understandable.

In today's marketplace, reinsurers receive premiums from ceding companies in exchange for a promise to make loss payments, under certain fortuitous conditions, at some future date. The conditions governing the timing and method of the loss payments are in the reinsurance contract. For the most part, reinsurance losses are paid shortly after the ceding company makes payments.

In response to its promise to reimburse the ceding company for the future loss payments, the reinsurer sets up loss reserves. The level of the reserves is continually monitored and adjusted by the reinsurer as new information becomes available and actual loss payments are made. This process continues until the reinsurer's financial obligations to the ceding company are fulfilled.

Sometimes though, the reinsurer and insurer form an agreement that lets the reinsurer pay for claims before they are actually paid by the ceding company. In essence, through this transaction known as a Commutation of Claims, the reinsurer and insurer finalize the reinsurance agreement. This paper will describe how to price commutations with special attention being given to the effects of the Tax Reform Act (TRA) of 1986 on the pricing of commutations.

There are a number of reasons for commutations. Commutations can be entered into in order to improve the underwriting results of a contract as the commutation price is normally less than the reserves carried.

They can evolve as a result of disagreements over the proper reserve to carry. Commutations can also develop out of different investment philosophies and forecasts of investment income. Different tax situations for insurer and reinsurer may also promote commutations. Commutations can also stem from insurer/reinsurer insolvencies and disputes over contract terms.

For whatever the reason(s), reinsurers are occasionally asked to develop an overall commutation price for one or more claims.

As a start, let's consider an elementary case. As the chief actuary for the Random Reinsurer Corporation, you receive the following information regarding a requested commutation:

1. The commutation is for a single claim that occurred 1/1/89.
2. The current reserve is $100,000.
3. The claim will be paid in equal annual installments of $20,000 beginning 6/30/90.
4. Today's date is 6/30/89.

Given this information, you are asked to calculate a commutation price. In order to develop an equitable price, you basically have to determine the answer to the following two simple questions:

A. What are the costs of making payments according to the contract terms (i.e., no commutation)?

B. What is the cost if there is a commutation?

The general approach is to develop a commutation price that balances these two costs. Let's first look at the costs associated with not commuting.

1. Present Value of the Paid Loss.

   The first cost involved is the estimated five annual payments of $20,000. In order to express this figure in current dollars, thus taking into account the time value of money, you should calculate the present value of the future loss payments at an appropriate interest rate.

   In the selection of an appropriate interest rate, you would consider several possibilities. You might consider using the average portfolio rate for the reinsurance company. You might also consider using the rate the company was investing in when the policy was written. The rate that you should use, though, should reflect current yields. This is because, to the extent possible, the commutation will be funded out of current cash flow. Even if current cash flow is not sufficient, and the reinsurer must sell securities, it will sell securities at a market price that will reflect current yields.

   Before the Tax Reform Act of 1986, many insurance companies were not paying taxes. Assuming investments effectively yielded 7% for the five year period, and that the investment income is reinvested at the same rate, then the present value of the loss is $82,004. However, as a result of the new tax law, taxes are now paid on investment income. Consequently,

interest rates used for discounting must be tax affected.

Let's assume then, after consulting with tax and investment personnel, that the Random Insurance Company will be a minimum tax payer[1] at a 20% tax rate for 1989-1991 and a regular tax payer at 34% for the remaining three calendar years. Let us also assume a 7% taxable rate of return (before tax) for each of the six calendar years. Consequently, the tax effective rates of interest are as follows:

Calendar Year	Expected Nominal Rate of Interest	Expected Tax Factor	Tax Affected Interest Rate
1989	7%	.80	5.60%
1990	7%	.80	5.60%
1991	7%	.80	5.60%
1992	7%	.66	4.62%
1993	7%	.66	4.62%
1994	7%	.66	4.62%

As a result, the present value of the five loss payments becomes $85,837. Regarding this figure, the expected tax factor for 1989 and 1990 assumes that the "extra" tax paid under an AMT scenario can not be carried forward and used as an offset against future regular taxes. If carried forwards were allowed the expected tax factor would be .66. Recent legislation is currently dealing with this issue.

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1 - A good description of the Tax Reform Act of 1986 as it applies to insurance companies is contained in "Analysis of Impact of the Tax Reform Act on the Property/Casualty Industry" by Owen M. Gleason and Gerald I. Lenrow printed in the Financial Analysis of Insurance Companies 1987 Discussion Paper Program , Casualty Actuarial Society, Page 119. This paper also deals with the special requirements for municipal bond income. Another good reference on this subject can be found in "Federal Income Taxes Provisions Affecting Property/Casualty Insurers" by Manuel Almagro and Thomas L. Ghezzi printed in PCAS LXXV, p. 95.

Thus, as can be seen, when performing the present value calculations, the two key considerations to remember regarding your tax affected interest rate are:

a. The future expected rate of return (before tax).
b. The anticipated tax situation of the company. Regarding this point, one item to keep in mind is whether or not the commutation will affect your anticipated tax situation.

2. Present Value of Tax Benefit on the Unwinding of the Discount. The next part of developing the cost of not commuting is to calculate the present value of the tax benefit on the unwinding of the discount. This is quite a mouthful, but the concept behind it is really not all that complicated.

Before the Tax Reform Act, the outstanding reserves for tax purposes were the same as those on the annual statement. The new law requires the discounting of reserves.

Tax basis discounted reserves can be based on individual company history or industrywide factors. Because losses are discounted, the tax basis reserves will be less than current nominal reserves. Because you expect to eventually pay out losses that equal current nominal reserves, the Random Reinsurance Corporation will, over time, realize a change in taxable income equal to the difference between the nominal and tax basis reserves. This change in taxable income is expected

to produce a tax benefit in total (although not necessarily in every calendar year) to the reinsurer which should be quantified in the commutation price.

The amount of benefit that "unwinds" or is realized over each calendar year will be equal to the change in tax basis reserves plus the amount of calendar year payments (i.e. the tax basis incurred). The change in taxes for the reinsurer will be equal to the change in taxable income multiplied by the anticipated tax rate for that particular calendar year. The present value of these amounts must then be calculated using the same tax affected interest rate as that assumed for the present value calculation of the paid losses. This calculation, using industry discount factors to calculate the tax basis reserves, is presented below:

Cal. Year	Paid in Cal. Yr	Year End Reserve	Tax Factor	Disc. Tax Res.	Change in Tax Income	Tax Rate	Tax Ben.	*Pres. Value
1989	0	100,000	.82889	82,889	---	---	--	---
1990	20,000	80,000	.79812	63,850	961	.20	192	182
1991	20,000	60,000	.77935	46,761	2,911	.20	582	522
1992	20,000	40,000	.75561	30,224	3,463	.34	1,177	1,004
1993	20,000	20,000	.73577	14,715	4,491	.34	1,527	1,245
1994	20,000	0	.70271	0	5,285	.34	1,797	1,401
				Total:	17,111		5,275	4,354

* With estimated tax payments, you assume that the benefit unwinds midway through the calendar year. The interest rates used to form the present value are the tax affected rates presented previously.

Thus, the present value of the tax benefit on the unwinding of the discount is calculated to be $4,354. The calendar year 1989 change in taxable income will be reflected elsewhere.

And so, the cost of not commuting is the present value of the losses, equal to $85,837, less the present value of the tax benefit on the unwinding of the discount, equal to $4,354. This value of $81,483 is the amount of money the reinsurer needs to pay off claims. This amount, as it is increased by investment income earned as well as the tax benefit of the unwinding of the discount will be sufficient for the payment of taxes on the investment income as well as for payment of the loss if your assumptions are correct.

Now, lets look at the costs associated with commuting the claim.

1. The commutation price.

   This is the amount of money, to be calculated below, that the reinsurer will pay the ceding company to assume the nominal $100,000 liability.

2. The tax on the underwriting gain/loss generated by the commutation.

   Before the Tax Reform Act of 1986, many insurance companies might not have been too concerned about the taxable gain or loss generated by a commutation because they were probably not paying taxes. As a result of the new tax law, most insurance companies are now paying taxes or they soon will be. Consequently, the taxable underwriting gain or loss should be taken into account when pricing the commutation.

   In order to quantify this amount, consider the following. If

the commutation were done at year end, the change in taxable income would be equal to the difference between the amount of tax basis reserves taken down as a result of the commutation and the commutation price. Because taxes are only calculated once a year, a different approach is necessary when the commutation is not done at year end.

Your approach is to contrast taxable income if there is no commutation relative to taxable income if there is a commutation. This is shown in Exhibit 1. This exhibit shows the change in taxable income if you do the commutation, which includes the unwinding of the discount, for the calendar year. This change is equal to the estimated year end tax basis reserves plus the estimated paid losses subsequent to the date of the commutation less the commutation payment. While appearing a little odd, the estimated paid losses plus the year end tax basis outstanding can be viewed as an estimate of the tax basis reserves at the time of the commutation. This calculation is consistent with the formula used at year end. You can then apply the appropriate tax rate to this figure to determine the amount of taxes. If estimated taxes are paid over the calendar year, it isn't usually necessary to present value the tax payment.

Once the above values have been calculated, save for the commutation price, you can set up a formula to determine the commutation price by equating the cost of not commuting with the cost of commuting. Since

you are not including any profit loading in your costs, you are seeking to determine a point of indifference between commuting or not commuting.

This formula is given as follows:

Cost of not Commuting = PV of the Paid Losses -

PV of Tax Benefit on Unwinding of Discount

equals

Cost of Commuting = Commutation Price + Tax on Commutation

= Commutation Price + Tax rate * (Expected payments remainder of current Cal. Year + Year End Tax Basis O/S - Commutation Price)

Using our inputs:

Cost of not Commuting = 85,837 - 4,354 = 81,483

equals

Cost of Commuting = Commutation Price + .20 * (0 + 82,889 - Commutation Price)

Then, using simple algebra, you arrive at a commutation price of $81,131.

Regarding this commutation price, it is interesting to note that in many cases, primary companies might think that the commutation price is low. This occurs because the offer is lower than the present value of the estimated paid losses. You note though that this will tend to happen because of the tax effects created by the unwinding of the

discount and the taxable gain generated by the transaction.

Now that we have considered a relatively elementary case and laid a good foundation, lets move towards a more complex example. Lets assume you receive the following information regarding a requested commutation:

1. The commutation is for a monoline long tailed liability contract.
2. The current case reserves are as follows:

Accident Year	Reserves
1988	5,000,000
1987	4,000,000
1986	6,000,000
1985	3,000,000
Total	18,000,000

3. The timing of the individual claim payments are unknown.
4. Today's date is 6/30/89.

Given this data, you are again asked to calculate a commutation price.

As a start you would perform a thorough review of the contract. This investigation should include a detailed analysis of contract terms and limits as well as discussions with various legal and underwriting personnel. In this way, potential areas of coverage dispute and confusion can be identified and appropriately resolved.

If there are adjustable features such as retrospectively rated premium amounts payable by or to the reinsurer, these values should be included in the analysis. Sometimes these amounts are payable over time and

therefore must be present valued. To keep this example simple, there will not be any adjustable features.

The next step is to estimate the IBNR reserves. In this calculation any of the standard IBNR techniques could be used and it is advisable to use more than one. If a loss development approach is being taken and if the business is excess, it is important that excess loss development factors be used. Normally unallocated loss adjustment expense is not included in the contract, however, if the losses are commuted the Random Reinsurance Corporation will not have this expense. This assumes the expenses are not fixed. An estimate of this amount can also be included in the calculation.

For this example, lets assume that you estimate IBNR, ALAE, and ULAE to be as follows:

Accident Year	IBNR & ALAE & ULAE	Case Reserves	Total Reserves
1988	3,000,000	5,000,000	8,000,000
1987	2,000,000	4,000,000	6,000,000
1986	1,000,000	6,000,000	7,000,000
1985	500,000	3,000,000	3,500,000
Total	6,500,000	18,000,000	24,500,000

Now that you have estimated total O/S by accident year you can start the commutation cost analysis. As before, you begin with the cost of not commuting:

1. Present Value of the Paid Loss

   In this case, because the timing of loss payments are not known, you must make an estimate of how the accident year reserves will pay out over future calendar years. In order to

make this estimate you would consider various economic, legal, and type of business (i.e., long tailed vs short tailed lines, monoline vs multiline policy) factors. Ideally, the estimated payment pattern would be based on the experience of the ceding company however reinsurance industry factors can also be used. As with the IBNR reserves, if the business is excess of a retention, an excess payment pattern must be used. If this contract covered multiple lines, you would use several different payment patterns for your projections.

Lets assume that you feel that the payment pattern displayed in Exhibit 2 is reflective of the type of business in this monoline contract. Based upon this pattern, you develop an estimated future calendar year payment profile. This calculation is displayed in Exhibit 3.

At this point, you must present value the estimated payments of the $24,500,000 in reserves. As in the elementary case, the interest rate(s) that you use must be reflective of the future expected rate of return (before tax) and the anticipated tax scenario of the reinsurer. For this calculation, you assume a nominal 7% before tax rate of return for the first five years and 8% for subsequent years. Lets also assume that you anticipate that the company will be a minimum tax payer for the first three years at a 20% tax rate and a regular tax payer for all remaining years at a 34% tax rate. Based upon these inputs, you calculate the present value of the paid losses to

be $19,347,000. This calculation is presented in Exhibit 4.

2. Present Value of Tax Benefit on the Unwinding of the Discount. This amount, whose calculation (using industry factors to calculate the tax basis reserves) is displayed in Exhibit 5, emerges as a result of the difference between the discounted value of the $24,500,000 in reserves carried for tax purposes and the ultimate value that will be paid. This difference will be a reduction in taxable income in the future and the present value of this amount can be determined.

   As with the elementary case, the amount of benefit that "unwinds" or is realized over each ensuing calendar year will be equal to the estimated tax basis incurred (i.e., change in tax basis reserves plus estimated loss payments) multiplied by the anticipated calendar year tax rate. The present value of these amounts are then obtained using the same tax affected interest rates assumed in the calculation of the present value of the paid losses.

   For this example, the taxable income effect on the unwinding of the discount is estimated to be $4,853,000 in Exhibit 5. The present value of the tax is calculated to be $1,145,000 in Exhibit 6.

Thus, for this example, you determine that the cost of not commuting is equal to $18,202,000 (i.e., PV Paid Loss - PV Tax Benefit on Unwinding

of Discount). Now that this value has been calculated, the rest of the analysis follows the same routine developed for the elementary case. Using the theoretical relationships that balance the two costs, you can easily calculate the tax on the change in taxable income generated by the commutation as well as the commutation price.

Cost of not Commuting = PV of Paid Losses -

PV of Tax Benefit on Unwinding of Discount

equals

Cost of Commuting = Commutation Price + Tax on Commutation

= Commutation Price + Tax Rate * (Expected payments remainder of current Cal. Year +

Year End Tax Basis O/S - Commutation Price)

Using our inputs:

Cost of not Commuting = 19,347,000 - 1,145,000 = 18,202,000

equals

Cost of Commuting = Commutation Price + .20 * (1,478,000 + 18,169,000 - Commutation Price)

Then, again using algebra, you arrive at a commutation price of $17,841,000.

Exhibit 7 summarizes the information for this case in a useful format. The reinsurer is expected to make payments of $24,500,000. Taking into account the time value of money you estimate that $19,347,000 will be sufficient to fund these payments. Taking into account the benefit of the unwinding of the discount ($1,145,000) only $18,202,000 is

necessary.

The reinsurer is willing to pay this amount, but must deduct the tax due on the commutation of $361,000 to develop the indicated price of $17,841,000. This is more than a $1,500,000 less than the present value of the losses.

While commutation pricing may appear quite complex, the study becomes much more manageable when the individual pieces are looked at one at a time. Throughout this paper, we have made only a single set of assumptions for each example. Due to the fact that the input values can vary substantially, it is prudent to perform an analysis using different assumptions. If the study is programed, perhaps using any one of the many spread sheet software packages, sensitivity testing can be performed easily.

Exhibit 8 shows developed commutation prices for the first case using different interest rate and tax situation assumptions. Please note that the interest rate and tax assumptions given apply to all the calendar years. Exhibit 9 shows commutation prices for the payment profile case using varying tax situations, interest rate, and payment profiles. Regarding these various outcomes, the following points can be noted:

1. The effects created by differing the payment schedules can be quite significant. Great care should be taken when the future payment stream is estimated.

2. For cases with a long payout pattern, the tax on the underwriting gain can be significant.

Thus, as can be seen, there are a large number of assumptions made in pricing a commutation. The present value of the future expected losses is only the starting point in determining the price of the commutation. In addition to this, assumptions can include future yields and tax positions going out 20, 30, or more years. The use of a spread sheet allows you to vary assumptions to determine their effect on the indicated price. The bottom line is that the indicated commutation price is still an estimate based on many assumptions.

One last word of caution, it is usually a good idea to put a time limit on a commutation offer. Changes in economic outlook can affect any or all of your input parameters (i.e., interest rates, tax assumptions etc.). This can lead to significant changes in the commutation price.

Determination of Change in Taxable Income
As a Result of a Commutation

No Commutation

A. Current Year Taxable Income = Change in Tax Basis Reserves -
Paid Losses in Current Year

= Beginining of Year Tax Basis Reserves -
Estimated Year End Tax Basis Reserves -
Cal. Year Paid Losses prior to Date of Commutation -
Expected Cal. Year Paid Losses after the Date of Commutation

Commutation

B. Current Year Taxable Income = Change in Tax Basis Reserves -
Paid Losses in Current Year

= Beginining of Year Tax Basis Reserves -
Estimated Year End Tax Basis Reserves (=0) -
Cal. Year Paid Losses prior to Date of Commutation -
Expected Cal. Year Paid Losses after the Date of Commutation (=0) -
Commutation Price

Change in Taxable Income as a result of a commutation equals B - A
which is:

Estimated Year End Tax Basis Reserves +
Cal. Year Paid Losses after the Date of Commutation -
Commutation Price

Estimated Payment Profile
Random Reinsurance Corporation

Year	Payout Percentage
1	2.00
2	3.00
3	16.00
4	11.00
5	10.00
6	10.00
7	9.00
8	8.00
9	6.00
10	5.00
11	4.00
12	3.00
13	3.00
14	3.00
15	2.00
16	2.00
17	1.00
18	1.00
19	1.00
Total	100.00

Development of Future Paid Loss Stream
Random Reinsurance Corporation

Step 1: Develop Expected Nominal Paid Losses by Acc. Year

Accident Year	Reserves at 6/30/89	Percentage of Total Acc. YR Losses Paid to Date	*Expected Total Losses for Accident Year
1985	3,500	37.00	5,556
1986	7,000	26.50	9,524
1987	6,000	13.00	6,897
1988	8,000	3.50	8,290

Step 2: Develop Paid Loss Stream

Year	Expected Pay. Patt. Acc. Yr 85-88	Calendar Year	Accident Yr 85 Payout Stream	Accident Yr 86 Payout Stream	Accident Yr 87 Payout Stream	Accident Yr 88 Payout Stream	Total
1	2.00	1985	111				111
2	3.00	1986	167	190			357
3	16.00	1987	889	286	138		1,313
4	11.00	1988	611	1,524	207	166	2,508
5	10.00	1/1/89-6/30/89	278	524	552	124	1,478
6	10.00						
7	9.00	7/1/89-12/31/89	278	524	552	124	1,478
8	8.00	1990	556	952	759	1,326	3,593
9	6.00	1991	500	952	690	912	3,054
10	5.00	1992	444	857	690	829	2,820
11	4.00	1993	333	762	621	829	2,545
12	3.00	1994	278	571	552	746	2,147
13	3.00	1995	222	476	414	663	1,775
14	3.00	1996	167	381	345	497	1,390
15	2.00	1997	167	286	276	415	1,143
16	2.00	1998	167	286	207	332	991
17	1.00	1999	111	286	207	249	852
18	1.00	2000	111	190	207	249	757
19	1.00	2001	56	190	138	249	633
		2002	56	95	138	166	455
Total	100.00	2003	56	95	69	166	386
		2004	0	95	69	83	247
		2005	0	0	69	83	152
		2006	0	0	0	83	83
		2007	0	0	0	0	0
		**Future Total	3,500	7,000	6,000	8,000	24,500

* Based on estimated payout pattern.

** Total does not include payments prior to 7/1/89.

Note - Paid in a Year = Total Expected Loss * Payout Percentage for Year.

Present Value of Future Paid Losses
Random Reinsurance Corporation

Present Value Calendar Year	*Paid Losses	Nominal Interest Rate	Tax Factor	Net of Tax Rate	Discount Factor	Present Value of Paid
1989	1,478	7.0%	0.800	5.6%	0.9865	1,458
1990	3,593	7.0%	0.800	5.6%	0.9470	3,402
1991	3,054	7.0%	0.800	5.6%	0.8968	2,739
1992	2,820	7.0%	0.660	4.6%	0.8532	2,406
1993	2,545	7.0%	0.660	4.6%	0.8155	2,075
1994	2,147	8.0%	0.660	5.3%	0.7770	1,668
1995	1,775	8.0%	0.660	5.3%	0.7381	1,310
1996	1,390	8.0%	0.660	5.3%	0.7010	974
1997	1,143	8.0%	0.660	5.3%	0.6659	761
1998	991	8.0%	0.660	5.3%	0.6325	627
1999	852	8.0%	0.660	5.3%	0.6008	512
2000	757	8.0%	0.660	5.3%	0.5706	432
2001	633	8.0%	0.660	5.3%	0.5420	343
2002	455	8.0%	0.660	5.3%	0.5148	234
2003	386	8.0%	0.660	5.3%	0.4890	189
2004	247	8.0%	0.660	5.3%	0.4645	115
2005	152	8.0%	0.660	5.3%	0.4412	67
2006	83	8.0%	0.660	5.3%	0.4191	35
2007	0	8.0%	0.660	5.3%	0.3981	0
	24,500					19,347

* - For 1989, assume payment is made 10/1/89. All other years assume June 30.

Determination of Unwinding of Discount Payout Stream

Random Reinsurance Corporation

Calendar Year	(1) Nominal Paid Losses	(2) Accident Year 88 O/S at 12/31	(3) IRS Factor	(4) Tax Basis Accident Year 88 O/S at 12/31	(5) Accident Year 87 O/S at 12/31	(6) IRS Factor	(7) Tax Basis Accident Year 87 O/S at 12/31	(8) Accident Year 86 O/S at 12/31	(9) IRS Factor	(10) Tax Basis Accident Year 86 O/S at 12/31	(11) Accident Year 85 O/S at 12/31	(12) IRS Factor	(13) Tax Basis Accident Year 85 O/S at 12/31	(14) Nominal O/S at 12/31	(15) Total Tax Basis O/S at 12/31	(16) Discount Unwind
1989	1,478	7,876	0.805296	6,342	5,448	0.798700	4,352	6,476	0.776806	5,031	3,222	0.758586	2,444	23,022	18,169	
1990	3,593	6,549	0.787052	5,155	4,690	0.776806	3,643	5,524	0.758586	4,190	2,667	0.728501	1,943	19,429	14,930	355
1991	3,054	5,637	0.764042	4,307	4,000	0.758586	3,034	4,571	0.728501	3,330	2,167	0.716837	1,553	16,375	12,225	348
1992	2,820	4,808	0.744839	3,581	3,310	0.728501	2,412	3,714	0.716837	2,663	1,722	0.713613	1,229	13,555	9,885	480
1993	2,545	3,979	0.712961	2,837	2,690	0.716837	1,928	2,952	0.713613	2,107	1,389	0.716331	995	11,010	7,867	527
1994	2,147	3,233	0.700375	2,264	2,138	0.713613	1,526	2,381	0.716331	1,706	1,111	0.746667	830	8,863	6,325	605
1995	1,775	2,570	0.696588	1,790	1,724	0.716331	1,235	1,905	0.746667	1,422	889	0.780160	693	7,088	5,141	591
1996	1,390	2,073	0.698986	1,449	1,379	0.746667	1,030	1,524	0.780160	1,189	722	0.817540	590	5,698	4,258	507
1997	1,143	1,658	0.730679	1,211	1,103	0.780160	861	1,238	0.817540	1,012	556	0.859831	478	4,555	3,562	447
1998	991	1,326	0.765829	1,016	897	0.817540	733	952	0.859831	819	389	0.908514	353	3,564	2,921	350
1999	852	1,078	0.805246	868	690	0.859831	593	667	0.908514	606	278	0.965834	268	2,712	2,335	266
2000	757	829	0.850059	705	483	0.908514	439	476	0.965834	460	167	0.965834	161	1,955	1,764	187
2001	633	580	0.901909	523	345	0.965834	333	286	0.965834	276	111	0.965834	107	1,322	1,240	108
2002	455	415	0.963277	399	207	0.965834	200	190	0.965834	184	56	0.965834	54	867	837	52
2003	386	249	0.963277	240	138	0.965834	133	95	0.965834	92	0	0.965834	0	482	465	14
2004	247	166	0.963277	160	69	0.965834	67	0	0.965834	0	0	0.965834	0	235	226	9
2005	152	83	0.963277	80	0	0.965834	0	0	0.965834	0	0	0.965834	0	83	80	5
2006	83	0	0.963277	0	0	0.965834	0	0	0.965834	0	0	0.965834	0	0	0	3
2007	0	0	0.963277	0	0	0.965834	0	0	0.965834	0	0	0.965834	0	0	0	0
	24,500															4,853

(16) = Paid in Current Year + Change in Tax Basis Reserves = Tax Basis Incurred.

Exhibit 5

Present Value of Unwinding of Discount
Random Reinsurance Corporation

Calendar Year	Nominal Unwinding Discount	*Nominal Interest Rate	Tax Factor	Net of Tax Rate	**Discount Factor	Present Value of UWD	Tax Rate	Present Value of Tax on UWD
1989	0	7.0%	0.800	5.6%				
1990	355	7.0%	0.800	5.6%	0.9470	336	20%	67
1991	348	7.0%	0.800	5.6%	0.8968	312	20%	62
1992	480	7.0%	0.660	4.6%	0.8532	409	34%	139
1993	527	7.0%	0.660	4.6%	0.8155	430	34%	146
1994	605	8.0%	0.660	5.3%	0.7770	470	34%	160
1995	591	8.0%	0.660	5.3%	0.7381	436	34%	148
1996	507	8.0%	0.660	5.3%	0.7010	355	34%	121
1997	447	8.0%	0.660	5.3%	0.6659	298	34%	101
1998	350	8.0%	0.660	5.3%	0.6325	221	34%	75
1999	266	8.0%	0.660	5.3%	0.6008	160	34%	54
2000	187	8.0%	0.660	5.3%	0.5706	106	34%	36
2001	108	8.0%	0.660	5.3%	0.5420	59	34%	20
2002	52	8.0%	0.660	5.3%	0.5148	27	34%	9
2003	14	8.0%	0.660	5.3%	0.4890	7	34%	2
2004	9	8.0%	0.660	5.3%	0.4645	4	34%	1
2005	5	8.0%	0.660	5.3%	0.4412	2	34%	1
2006	3	8.0%	0.660	5.3%	0.4191	1	34%	0
2007	0	8.0%	0.660	5.3%	0.3981	0	34%	0
	4,853					3,634		1,145

* Tax factor and net of tax rate same as those used to present value the losses given in Exhibit 4

** Assume Discount unwinds on June 30 of Each Year.

General Summary
Random Reinsurance Corporation Commutation

Current Outstanding Losses (000's)	$24,500
*PV of Outstanding Losses	$19,347
PV of Tax Affected Unwinding of Discount	$1,145
Initial Cost without Commutation	$18,202
Tax on Underwriting Gain	$361
Balance Commutation Price	$17,841

* In the present value calculation, the discount factor is a function of our expected tax situation.

Exhibit 8

Sensitivity Analysis
Elementary Case

*Tax Situation	Nominal Interest Rate	Present Value	PV of Unwinding of Discount	Tax on Underwriting Gain	Commutation Price
Minimum	6%	87,071	2,896	(321)	84,496
Minimum	7%	85,171	2,819	134	82,218
Minimum	8%	83,338	2,746	574	80,018
Minimum	9%	81,566	2,675	999	77,892
Minimum	10%	79,853	2,606	1,410	75,837
Regular	6%	89,137	5,065	(609)	84,681
Regular	7%	87,507	4,953	173	82,381
Regular	8%	85,923	4,845	932	80,146
Regular	9%	84,385	4,739	1,671	77,975
Regular	10%	82,890	4,637	2,389	75,864

* Minimum indicates 20% tax rate for all years, Regular indicates 34% tax rate for all years.

Sensitivity Analysis

Payout Profile using Example Payment Pattern

*Tax Situation	Nominal Interest Rate	Present Value	PV of Unwinding of Discount	Tax on Underwriting Gain	Commutation Price
Minimum	6%	19,728	744	165	18,819
Minimum	7%	19,099	714	315	18,070
Minimum	8%	18,506	685	456	17,365
Minimum	9%	17,948	659	589	16,700
Minimum	10%	17,422	633	714	16,075
Regular	6%	20,433	1,322	276	18,835
Regular	7%	19,876	1,276	540	18,060
Regular	8%	19,346	1,233	790	17,323
Regular	9%	18,843	1,192	1,028	16,623
Regular	10%	18,364	1,153	1,255	15,956

Payout Profile using Slower Payment Pattern

*Tax Situation	Nominal Interest Rate	Present Value	PV of Unwinding of Discount	Tax on Underwriting Gain	Commutation Price
Minimum	6%	18,885	732	335	17,818
Minimum	7%	18,155	697	509	16,949
Minimum	8%	17,471	664	672	16,135
Minimum	9%	16,829	633	824	15,372
Minimum	10%	16,226	604	968	14,654
Regular	6%	19,706	1,312	567	17,827
Regular	7%	19,056	1,259	874	16,923
Regular	8%	18,441	1,208	1,165	16,068
Regular	9%	17,859	1,160	1,440	15,259
Regular	10%	17,306	1,115	1,701	14,490

Payout Profile using Faster Payment Pattern

*Tax Situation	Nominal Interest Rate	Present Value	PV of Unwinding of Discount	Tax on Underwriting Gain	Commutation Price
Minimum	6%	22,876	713	(393)	22,556
Minimum	7%	22,629	702	(333)	22,260
Minimum	8%	22,387	692	(276)	21,971
Minimum	9%	22,152	682	(219)	21,689
Minimum	10%	21,923	673	(164)	21,414
Regular	6%	23,144	1,231	(679)	22,592
Regular	7%	22,933	1,216	(579)	22,296
Regular	8%	22,727	1,201	(481)	22,007
Regular	9%	22,526	1,186	(384)	21,724
Regular	10%	22,328	1,172	(290)	21,446

* Minimum indicates 20% tax rate for all years, Regular indicates 34% tax rate for all years.

Additional Payment Patterns

Year	Slow Pattern	Fast Pattern
1	1.00	10.00
2	3.00	15.00
3	5.00	25.00
4	7.00	25.00
5	9.00	15.00
6	9.00	5.00
7	11.00	5.00
8	11.00	
9	9.00	
10	7.00	
11	5.00	
12	5.00	
13	4.00	
14	4.00	
15	3.00	
16	2.00	
17	2.00	
18	2.00	
19	1.00	
Total	100.00	100.00