

Response to Invitation to Comment on Bifurcation of Insurance and Reinsurance Contracts for Financial Reporting

Guy Carpenter is pleased to provide this response to the Financial Accounting Standards Board's (FASB) Invitation to Comment (ITC). Guy Carpenter is a global reinsurance broker and each year advises clients on the purchase of approximately \$14 billion of reinsurance. Although Guy Carpenter does not provide accounting advice to its clients, it has extensive knowledge of the insurance and reinsurance business and is also a user of reinsurance company financial statements. It is in this context that we provide our comments in response to the ITC.

While our comments do not specifically respond to all the issues raised by FASB, we have tried to address the issues where our experience gives us insight. Where our comments relate to specific issues identified in the ITC, we have identified them in the section headers. For the benefit of certain readers of our letter we have begun this comment letter with some background and a summary of the key points.

Background

In 2003, the American Institute of Certified Public Accountants' (AICPA) Insurance Expert Panel wrote to the FASB seeking guidance on the assessment of risk transfer in reinsurance contracts. Attached to the AICPA letter was a paper which described differing practices for accounting for certain insurance contracts with risk limiting features.

More recently, insurance regulators, through the NAIC, required expanded reinsurance disclosures and CEO/CFO attestations beginning in the 2005 statutory financial statements. Companies as well as their actuaries and accountants invested considerable time and effort to comply with the new requirements as well as to propose alternative methodologies to assess risk transfer in reinsurance contracts. With these evolutions in accounting and disclosure, the industry has made great progress in addressing concerns regarding risk transfer.

In May, FASB released its Invitation to Comment (ITC) on bifurcation. In it, FASB proposed two approaches to bifurcation of insurance and reinsurance contracts which we have labeled "narrow" and "broad":

- The ITC states that Approach A (the narrow approach) is intended to apply to a limited number of insurance and reinsurance contracts that incorporate risk limiting features. However, the rules-based screens defined in the ITC to determine which contracts are subject to bifurcation have the potential to include a significant number of traditional contracts in the process.

- Approach B (the broad approach) proposes splitting all insurance and reinsurance contracts that do not meet the new definition of unequivocally transferring risk (i.e. those with little or no anticipated claims and no risk-limiting features) into financing and risk transfer elements. The broad approach is a drastic change from current practice.

We observe that the divergent purposes of the two approaches (risk-limiting features as compared to “financing” elements) concern us, as they cloud the discussion of the bifurcation in general and its application and ramifications. Before FASB considers our comments, and others, we suggest that it first determine its purpose in proposing bifurcation and then evaluate the applicability of each comment.

Executive Summary

We wish to make four main points in response to the ITC.

- I. Our answer to the threshold question of whether or not bifurcation improves financial reporting by providing users of financial statements with better information about the economic substance of insurance arrangements relative to the current account rules is “no.” The proposed approaches to bifurcation of insurance and reinsurance into the financing and risk transfer components diminishes, rather than strengthens, the clarity of the economic substance of insurance and reinsurance contracts in financial statements. There are two principal reasons for this conclusion.
 - A. Bifurcation, as proposed, does not accurately depict the underlying nature of insurance or reinsurance. Rather, it would artificially distinguish between financial and risk transfer costs when such distinctions do not in fact exist and are not motivating factors in the negotiation and purchase of these policies.
 - B. Bifurcation fails to meet several fundamental FASB objectives as it would reduce the (1) consistency, (2) reliability and verifiability, and (3) comprehension of financial statements by reducing the decision-usefulness of the information contained therein. Specifically:
 - The proposed rules would require different accounting treatment for companies with policies written on an individual (non-bifurcated) basis as opposed to a group (potentially bifurcated) basis, even though the risks of those policies, when viewed collectively, might be identical.
 - A distortion of a company’s net economic position can result when individual policies are recorded as insurance while, at the same time, reinsurance of the identical risk is bifurcated.
 - The estimation of various risk and expected loss factors will vary among professionals significantly so that cedants and reinsurers with the same risk portfolio may have very different financial statements under this proposal.

In addition, under the narrow approach, inconsistent reporting of similar contracts would appear to be a likely outcome due to several unnecessary steps in the proposed flow charts and the reliance on rules to screen for risk-limiting features.

- II. The costs of obtaining and tracking the data to perform the proposed bifurcation would be substantial in many, if not most, cases. Moreover, bifurcation would create another form of recording and reporting, in addition to statutory, statistical and tax reporting. There would also have to be on-going tracking of losses relative to the assumed level of expected losses to determine the portion thereof that needs to be initially recorded as a deposit and adjusted in the future.

- III. In light of the pending proposals to change international accounting standards with respect to accounting for insurance contracts and potentially to implement fair value accounting (which has a goal of better reflecting economic substance of reinsurance transactions) it appears premature to enact a less global, but no less substantial change.
- IV. The proposed bifurcation is likely to disrupt the marketplace for reinsurance, reducing both the supply of and demand for reinsurance.

I. Diminished Clarity of Economic Substance (Issue 3)

We believe that bifurcation of insurance and reinsurance into the financing and risk transfer components poorly represents the economic substance of those contracts in the financial statements. We also find that bifurcation is inconsistent with many of FASB's objectives in setting accounting standards.

A. Bifurcation is Inconsistent with the Nature of Insurance

Insurance and reinsurance are purchased to transfer an individual's, a company's or an insurer's exposure to loss. Neither buyers of insurance and reinsurance nor users of their financial statements consider these transactions as deposits with an anticipated investment return. The broad approach to bifurcation assumes that there is an explicit financing component to each contract, separate from the risk transfer component, in insurance and reinsurance transactions.

The fallacy of this view is clearly evident in the manner in which insurance and reinsurance premiums are established. In general, our experience is that insurance and reinsurance are not priced by explicitly estimating the highly probable and less than highly probable elements of risk separately. Instead insurance and reinsurance premiums include provisions for expected (the average amount of) losses and expenses for a portfolio of risks and the profit provision to compensate for the uncertainty around the estimate of expected losses for the portfolio.

Diversification through the aggregation of risks is also a key component of the nature of the insurance/reinsurance process. The risk charges in an individual policy already anticipate the diversification expected in the insurer's portfolio through the Law of Large Numbers. The degree of risk at the level of the individual transaction is relevant only to the extent that it affects the aggregate risk of the insurer or reinsurer. To bifurcate the premium is to suggest that these pricing elements can be split out and added up to a cost, when in fact they are mutually dependent and evaluated in a combined manner.

The defining characteristic of insurance/reinsurance recoveries is that they are based on uncertain events as opposed to repayment of a financing contract, such as a loan in which the recoveries are fixed contractual obligations. The development of some degree of statistical predictability neither changes the uncertain nature nor converts it to a fixed contractual obligation. The distinction between uncertain and contractual is well-defined and unambiguous. As such, an insurance premium has a well-defined meaning.

Bifurcating reinsurance contracts could lead readers of insurance or reinsurance company financial statements to assume that there is a component of an insurance or reinsurance contract that has the same characteristics as a bank loan including a fixed and determinable amount borrowed, a contractually determined interest rate and payback schedule and a value contingent only on the financial condition of the borrower. These features are not present in insurance or reinsurance contracts.

B. Bifurcation is Inconsistent with FASB Objectives

We find that bifurcation is not consistent with the following objectives that FASB considers in establishing accounting standards:

1. Consistency in implementation both across entities and for different entities with similar exposures.
2. Reliability and verifiability
3. Understandable and decision-useful information

1. Consistency

The ITC proposes that individual risks should not be bifurcated whereas policies written on aggregated risks should be subject to bifurcation. There are a number of examples where such treatment would lead to inconsistent accounting for entities with the same risk profile.

- Group vs. individual – an insurer that insures 100 people individually compared to an insurer that insures these same individuals as a group because they all happen to work for the same company or are part of the same group association.
- Personal lines vs. Commercial lines – an insurer that insures 100 individual cars compared to an insurer that covers a fleet of 100 autos. Not only would there be inconsistencies across entities, but, if one insurer writes the individual auto policies and the fleet it would have different accounting in its own financial statements for the same risk exposure. Such a company will need to use completely different financial metrics to evaluate similar businesses. In addition, the consolidated results will be hard to explain.
- Insurance vs. reinsurance - a personal lines insurer who aggregates numerous individual homeowners policies compared to a reinsurer that reinsures that book of business on an unlimited quota share basis or a workers compensation insurer who cedes risk on a facultative basis. Each of these examples causes a company's primary business to be accounted for differently than its ceded business. It is like netting apples picked against oranges sold to see how many apples are left in inventory. The relevance of net premium written would be significantly decreased.

The financial statement reader does not gain additional helpful information when similar risks are recorded differently in the financial statements. In addition, each of these aggregated types of contracts could be structured on an individual basis to obtain completely different accounting.

If accounting is dependent on the extent of aggregation in the specific policies written, as is the case in the proposed Expected Payout Method and possibly the Cash Flow Yield Method, then premiums and losses for a company will not be meaningful indicators of the company's risk portfolio. When transaction accounting is dependent on that aggregation, the total premium for a company will vary considerably based on the form of the transactions by which the company assembled its risk portfolio, rather than the riskiness of the portfolio itself. An insurer that assembles its portfolio in individual transactions will have more premiums and losses than a

reinsurer that assembles the same portfolio in aggregated transactions. An insurer that assembles a portfolio of individual transactions and cedes a portion of that portfolio in aggregated transactions will have net premiums and losses that are close to, if not, meaningless. These points are best illustrated through examples, as shown in Appendix A.

At the extreme, under the broad bifurcation approach many insurance and reinsurance premiums will be recorded on the balance sheet with only the risk (profit) margin shown on the income statement. Under the narrow approach, the same situation could arise, but is less likely.

Using a manufacturing analogy, given a certain level of revenues, a manufacturing entity would expect to have certain variable costs. Should this entity record the estimated cost of goods sold and related component of revenue on its balance sheet and only its profit margin on the income statement?

Bifurcation will cause premiums and losses to lose all consistent meaning as indicators of portfolio risk. In particular, net premiums and losses will sometimes be severely distorted and not amenable to any consistent analysis or interpretation.

2. Reliability and Verifiability

The ITC provides definitions of reliability and verifiability. The key aspect of these definitions on which we would like to comment is the “high degree of consensus among independent measurers using the same measurement methods.”

All three of the proposed bifurcation methods are heavily dependent on the probability distribution of ceded losses. As such, we anticipate that it will be difficult in many situations, to attain a high degree of consensus as to how a contract should be bifurcated under any of the three proposed methods. It would not be unusual for actuaries to differ in opinion by 10 percentage points on the estimate of the average ceded loss ratio, by 20% on the variability assumption and on acceleration of the expected payment pattern. Varying assumptions such as these can have a very significant impact on how much of the premium has to be deposit accounted.

If a contract were significant relative to the insurer’s overall financial position, such as a large quota share contract might be, the differences of opinion regarding the assumptions could have a significant impact on the financial statements of the insurer. It is important to understand, as well, that the differences of opinion are likely to increase as the size of the contracts being evaluated gets smaller.

As such, it is questionable whether financial statements would be reliable or verifiable.

3. Understandable and Decision-Useful Information

Historically, financial statement readers have evaluated the business of insurers and reinsurers based on key profitability, leverage and capital adequacy ratios. Examples of these ratios include loss, expense and combined ratios as well as premium to surplus ratios. Bifurcation would significantly change the premium and loss components of these ratios in that direct premium would be more often recorded on a non-bifurcated basis than would ceded premium. Since restatement of prior years for bifurcation would likely not be feasible, all comparisons to prior years would be meaningless. Therefore, companies would be encouraged by financial statement users to provide the key ratios based on the “new” and “old” accounting model for a considerable period of time. Going forward, all the benchmarks used to evaluate ratios would have to be recalibrated.

For insurance and reinsurance companies, written and/or earned premiums in a given period are used as (approximate) indicators of the amount of risk assumed by the company in that period in some contexts. Premiums net of ceded reinsurance are especially important and are the basis of or important components of various leverage ratios, risk metrics and models, including premium-to-surplus ratios, IRIS tests, Risk Based Capital, and rating agency models. Net incurred losses and loss reserves are similarly important.

Additional issues with ratios are created when the insurance product is not bifurcated but the associated reinsurance is. It will also occur when both insurance and reinsurance are bifurcated using different methodologies and assumptions. Companies that write both personal lines business and commercial business would have different metrics by line of business, making their overall ratios difficult to assess.

A frequent criticism of reinsurance with risk-limiting features is that net premiums and losses may be reduced to a degree that is excessive relative to the amount of risk ceded, thus distorting leverage ratios and other risk metrics. These same ratios will be rendered completely meaningless especially under bifurcation.

C. Unnecessary Steps in Flow Charts and Reliance on Rules-Based Screens (Issue 5)

Before examining the flowchart sequence for determining the accounting for insurance and reinsurance contracts, we first discuss the decision flow as it has evolved up to this point under the current accounting rules.

Current Practice

The process is now most clearly defined for reinsurance. Companies first determine if risk transfer in a reinsurance contract is reasonably self-evident. The American Academy of Actuaries (AAA) November 2005 Risk Transfer Practice Note¹ provides guidance on the definition of reasonably self-evident.

If risk transfer is deemed reasonably self-evident, then the contract is accounted for as reinsurance; if not, then SFAS 113 risk transfer testing is performed. If the contract is determined to transfer adequate risk then it is accounted for as reinsurance. If not, then it is accounted for as a deposit.

Comments on Proposed Processes

While we believe that bifurcation will poorly reflect economic intent in financial statements, we have prepared alternate flowcharts for each of the narrow and broad approaches. We believe that the FASB's proposed flowchart has too many screens and that the same flowchart cannot be used for both approaches. The flowcharts are discussed in greater detail in Appendix B.

We believe the screen regarding unequivocal risk is flawed. The rules-based screens, as defined in the ITC, have the potential to include a significant number of traditional contracts in the process. Therefore, what is defined as narrow may not be.

The ITC's definition of unequivocal risk transfer presumes that, once a portfolio of insurance risks is accumulated, the aggregation no longer unequivocally transfers risk. As illustrated elsewhere in this response, we believe that this approach does not appropriately reflect the nature of the risk retained by an insurer or reinsurer when comparing risks insured on an individual basis as compared to a group basis.

Including specific features as a screen to determine bifurcation is not in the spirit of GAAP accounting principles, which are meant to be principles-based versus rules-based. It is also in direct conflict with the international accounting model. Screening for risk-limiting features requires a defined list of features, which, based on our experience as a global reinsurance intermediary, is extremely difficult to compile. Features change on a constant basis due to changing demands of both ceding and assuming companies and due to changing market conditions in general. It is noteworthy that most reinsurance and many insurance contracts have

¹ American Academy of Actuaries' Committee on Property and Liability Financial Reporting's August 2005 paper entitled "Risk Transfer Testing Practice Note," November 2005. This paper can be found at http://www.actuary.org/pdf/practnotes/pc_transfer05.pdf.

some risk limiting feature(s) because reinsurers and insurers are not willing to expose their full capital base on a specific transaction.

Risk-limiting features should be evaluated in an appropriate context. For example, a loss ratio cap of 600% on a WC treaty does not limit the risk in the same way as a loss ratio cap of 125% on a similarly exposed treaty. We agree with the current guidance in SFAS 113 that contracts be evaluated in the circumstance in which they are used. Defining a list of features not only includes too many contracts in the decision stream, it also prevents analysis in the context of the features within the policy or contract.

In addition to finding the concept of a list of risk-limiting features inappropriate, we have concerns specifically about profit commissions and limits. These concerns are discussed in Appendix B.

II. Data Capture Costs will be High (Issue 10)

Insurance Contracts

Bifurcation of insurance contracts requires the creation of two records for each premium transaction which will complicate cash application. All losses on a contract would need to be tracked relative to the threshold used to determine the deposit portion. For insurers and reinsurers, bifurcation will create additional balance sheet accounts and therefore increase the number of related reconciliations.

Complicated additional processes are created that require significant systems changes for both the insureds and insurers. In addition to the data requirements for statutory accounting, tax and statistical reporting, another set of records will be necessary for bifurcation. Also, since bifurcated data are not used for pricing and managing insurance business, re-aggregation will be necessary.

Many corporate insureds may not be sufficiently sophisticated to bifurcate their insurance purchases. Even those that do may lack access to a large enough volume of data to derive the analytical assumptions. Because of a lack of scale, the loss experience of a single corporate insured is likely to have insufficient credibility to perform these calculations. As such, it may fall upon insurers to provide analyses to each insured showing the results of the insurer's bifurcation calculation for the insured's premium and losses. This type of additional analysis would increase the frictional costs of providing insurance to corporate insureds.

Clearly, bifurcation will result in additional costs for all parties involved.

Reinsurance Contracts

The complexities of bifurcation are compounded when considering the bifurcation of reinsurance contracts. Similar issues arise for reinsurers and ceding companies with respect to keeping multiple records for reinsurance transactions and incurring all the associated costs of additional processes, reconciliations and system changes. From a practical perspective, the potential to bifurcate what is already bifurcated on the primary side may only increase the difficulty of understanding an insurer's or reinsurer's portfolio based on reviewing its financial statements.

III. Coordination with International Accounting Changes (Issues 11 and Issue 1)

We suggest that further action on bifurcation as presented in this ITC be delayed until the IASB is further along in Phase II of its project on accounting for insurance contracts. We are aware that convergence of accounting standards is an expressed desire of both the FASB and IASB, as reiterated in the Memorandum of Understanding dated Feb. 27, 2006. It seems to be apparent that both organizations would like to have similar standards for insurance. A move by FASB towards bifurcation would be inconsistent with this goal.

Noteworthy to this discussion is that the IFRS definition of insurance risk does not require the transfer of both underwriting and timing risk, as does FASB 113, rather it requires only one of the following areas of uncertainty:

- Uncertainty in the occurrence of an event.
- Uncertainty in the timing of an event.
- Uncertainty in the ultimate loss amount of an event.

If FASB continues to maintain its desire for consistency with International Accounting Standards, it will need to consider whether to adopt this definition which, in turn, is significant to its deliberation on the appropriateness of bifurcation.

IV. Marketplace Disruptions

As with prior changes in accounting for reinsurance contracts, there will likely be a disruption in the marketplace when the new methodologies are implemented, with a transition period until they are completely understood. We anticipate that insurers will strive to retain predictable losses, i.e. the 'deposit,' and cede only the risk premium, using such contract features as annual aggregate deductibles and increased use of excess of loss contracts in place of quota share contracts.

It is possible that reinsurers will resist such changes as their risk profiles would change significantly and their results will become much more volatile. History has shown that it is difficult for most reinsurers to produce adequate returns over the long term when only highly volatile business is assumed, particularly long tail business. The recent history of the property catastrophe marketplace is also instructive. Most mono-line property catastrophe reinsurers have found that diversification of their portfolio to include more predictable lines is an imperative for stability of long term results.

Other Observations Regarding the ITC

Use of Statistical Terms

The words "expects" and "expected" are used frequently in the ITC. As used in the ITC, the meaning appears to differ, at least in some contexts, from the meaning in probability and statistics, where the expected value is the statistical mean or average and the adjective "expected" indicates the average of whatever is being measured. "Expected" most often appears to mean "probable" or "highly probable" when used in the ITC. Given the importance of statistical concepts in the matters under consideration, and in the interest of avoiding potential confusion and/or ambiguity, we believe that future documents and discussions should be precise and that the use of "expects" and "expected" be restricted to their more precise statistical meaning.

The Three Bifurcation Methods

While we do not support bifurcation, we reviewed the three proposed bifurcation methodologies and provided detailed illustrations of our interpretations in Appendices C through E. More detailed guidance is needed on the exact implementation of these methodologies, as we had to make numerous assumptions to prepare the examples. The examples are based on a personal lines insurer purchasing three different types of reinsurance contracts - quota share, excess of loss and property catastrophe - with varying degrees of risk limiting features. Our key observations are:

- All the examples include significant distortions in the ceding insurer's income statement under all three methods because the reinsurance is bifurcated but the primary, personal lines business is not.
- The Proportional Method produces very different results than the Expected Loss Method and the Cash Flow Yield Method. When reviewing the examples, it becomes clearer that the Proportional Method attempts to measure the impact of risk limiting features for bifurcation. In contrast, the Expected Loss and Cash Flow Yield Methods separate the purported loan portion of insurance and reinsurance contracts from the portion of the contract that transfers the uncertain losses. In the Expected Loss Method, we interpret the deposit portion to be composed of highly probable losses, whereas we interpret the ITC to include the entire amount of mean (average) losses in the deposit portion under the Cash Flow Yield Method.
- The Proportional Method supports the narrow bifurcation approach as it focuses on risk-limiting features. The amounts of premium, losses and ceding commissions are reduced based on the relationship between the sum of uncapped subject losses and a fixed ceding commission and the sum of capped subject losses and contractual ceding commissions, where the capping is the result of any risk-limiting features in the contract.
- Although not evident by reviewing the examples, it is important to recognize that the Proportional Method double counts the impact of risk limiting features. The risk transfer

ratio is multiplied by each of ceded premium, ceded losses and the ceding commission. However these amounts already reflect the impact of the risk-limiting features. This double counting is easiest to conceptualize on the recovery side. Losses and ceding commissions, which have already been reduced for the impact of any risk-limiting features such as caps, sliding scale commissions or corridors, are multiplied by the risk transfer percentage. Concurrently, ceded premium, which includes a risk margin that already reflects the impact of the risk-limiting features, is also multiplied by the risk-transfer percentage.

- Deposit accounting under the Expected Loss and Cash Flow Yield Methods will reflect any statistical predictability of the transferred portfolio, whether that predictability arises from risk-limiting features or simply from aggregation of risk. The impact of aggregation of risk often greatly exceeds the impact of risk-limiting features.
- The Expected Loss and Cash Flow Yield Methods do not measure the impact of risk limiting features well. In the examples in Appendix D, when an aggregate cap is added to a reinsurance contract, there is little or no change in the cedant's net premium or underwriting income under these two methods.
- In several of our examples, the Expected Loss and/or the Cash Flow Yield Methods show a net loss for the cedant initially, even when the cedant has no retained business or exposure and therefore should show no profit or loss. We note that the net losses in these situations would be amortized over the life of the contract. Concurrently, the reinsurer shows an underwriting gain that is larger than its actual gain on the contract, with the difference being amortized over the life of the contract. These methodologies do not match revenue and expenses appropriately.

Closing

We appreciate the FASB's interest in obtaining comments from interested and knowledgeable parties. We believe that our examples demonstrate that the bifurcation approaches and the methodologies discussed in the ITC would not increase the decision usefulness of financial statements and would yield inconsistent and concerning results.

We are available to answer any questions regarding our comments and the issues we raised in this response. Questions should be directed to Susan Witcraft, Managing Director, Guy Carpenter & Company, 3600 Minnesota Drive, Suite 400, Edina, MN 55435 or susan.witcraft@guycarp.com.

This response to the Invitation to Comment, including the attached exhibits, sets forth the opinions of Guy Carpenter & Company, Inc., the world's lead risk and reinsurance specialist and a part of the Marsh & McLennan Companies, Inc. These views are formulated from our experience as reinsurance brokers and risk consultants, are offered only as a response to the FASB pursuant to its invitation to comment, and are not intended to be relied upon by anyone as professional advice on any subject.

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Individual versus Aggregated Risks

In this appendix, we illustrate the inconsistencies in accounting for exposures written on individual policies and the same exposures written on group policies. In the examples, the Expected Payout Method is used. (See Appendix D for a detailed description of our interpretation of the Expected Payout Method.) Investment income and cash flows are ignored in our illustration in this appendix.

We start with an insurance example:

- Insurer A writes 10,000 individual auto policies with premium of \$1,000 each. Total premium is \$10,000,000. Expected losses are 70% of premium, or \$7,000,000.
- Insurer B writes 10 fleet policies of 1,000 autos each. Coverage and risk are identical to the exposures written by Insurer A. Total consideration on each policy is \$1,000,000. Expected losses per policy are \$700,000 of which \$400,000 are highly probable. Therefore the consideration per policy is \$400,000 deposit, \$600,000 premium.

The accounting for Insurers A and B for these policies would be:

	<i>A</i>	<i>B</i>
Premiums	\$10,000,000	\$6,000,000
Incurred Losses	\$7,000,000	\$3,000,000
Loss ratio	70%	50%

In reality, Insurers A and B have identical portfolios with identical risk exposure.

We continue with a reinsurance contract applied to the business written by Insurer A.

- Reinsurer X provides a 100% quota-share on the business written by Insurer A with a 25% ceding commission. The expected ceded losses are \$7,000,000 of which \$5,500,000 are highly probable. (The highly probable amount for the reinsurer is greater than the highly probable amount for Insurer B, because the reinsurer has a single \$10 million transaction whereas Insurer B has 10 \$1 million transactions.) The ceding commission is known with certainty to be \$2,500,000. Therefore the reinsurance consideration is \$8,000,000 deposit (composed of \$5,500,000 of highly probable losses and \$2,500,000 of ceding commission), \$2,000,000 premium.

Adding Reinsurer X to our comparison of the accounting values and reducing Insurer A's accounts by ceded premium and losses, we have:

	<i>A-net</i>	<i>B</i>	<i>X</i>
Net Premiums	\$8,000,000	\$6,000,000	\$2,000,000
Net Incurred Losses	\$5,500,000	\$3,000,000	\$1,500,000
Loss ratio	68.75%	50%	75%

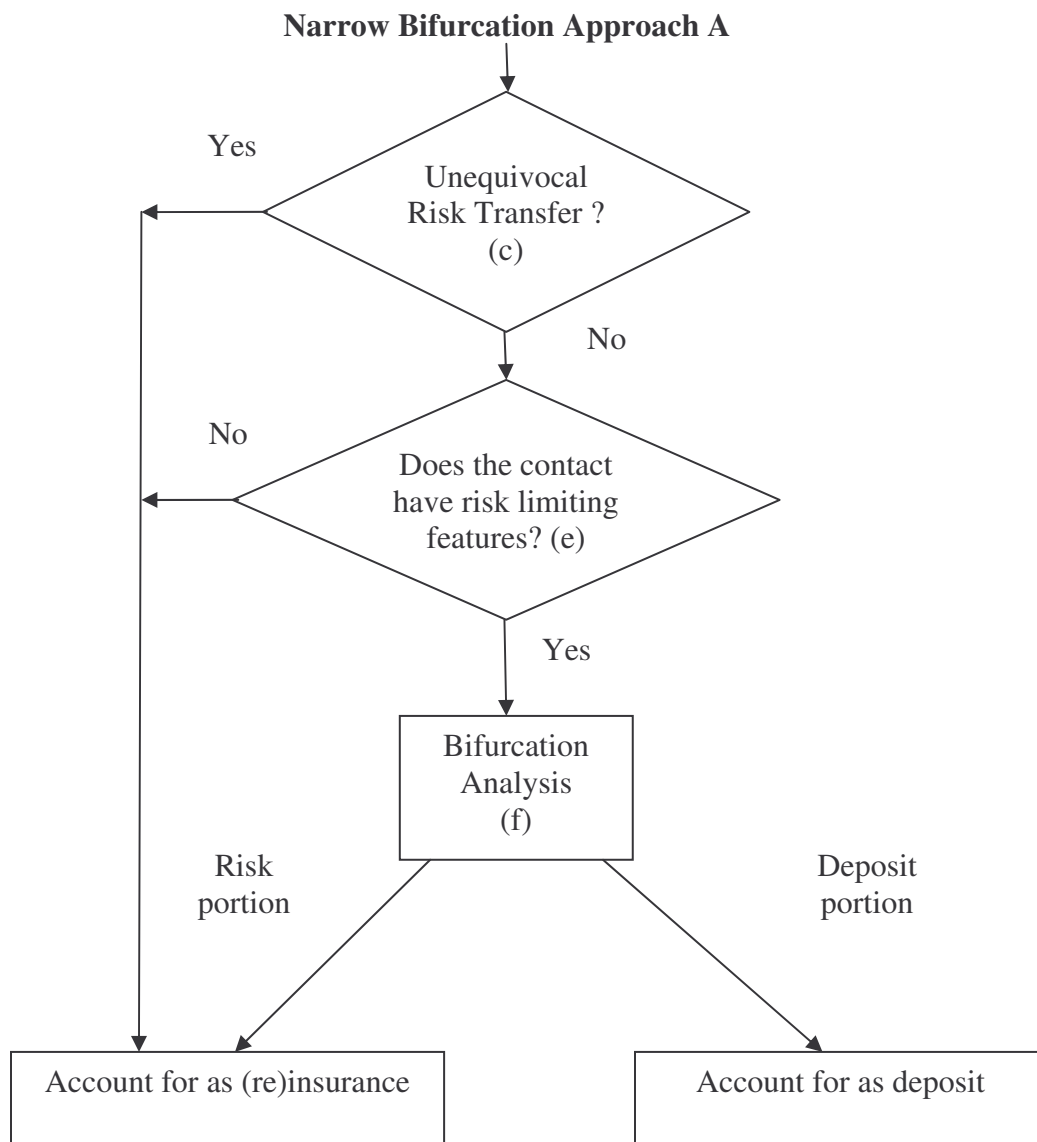
In reality, Insurer A on a gross basis, Insurer B, and Reinsurer X have identical portfolios with identical risk exposure, whereas bifurcation would leave the three entities with very different financial pictures. On a net basis, Insurer A, which has the second highest premiums and losses, has no risk exposure at all.

Flow Chart Enhancements

While we believe that bifurcation will poorly reflect economic intent in financial statements, we have prepared alternate flowcharts for each of the narrow and broad approaches and comments about the treatment of certain contract features.

Flowchart for Narrow Bifurcation Approach (A)

As shown below in the alternate flowchart for the narrow bifurcation approach (A)², the first step would be to determine if the contract has unequivocally transferred risk.



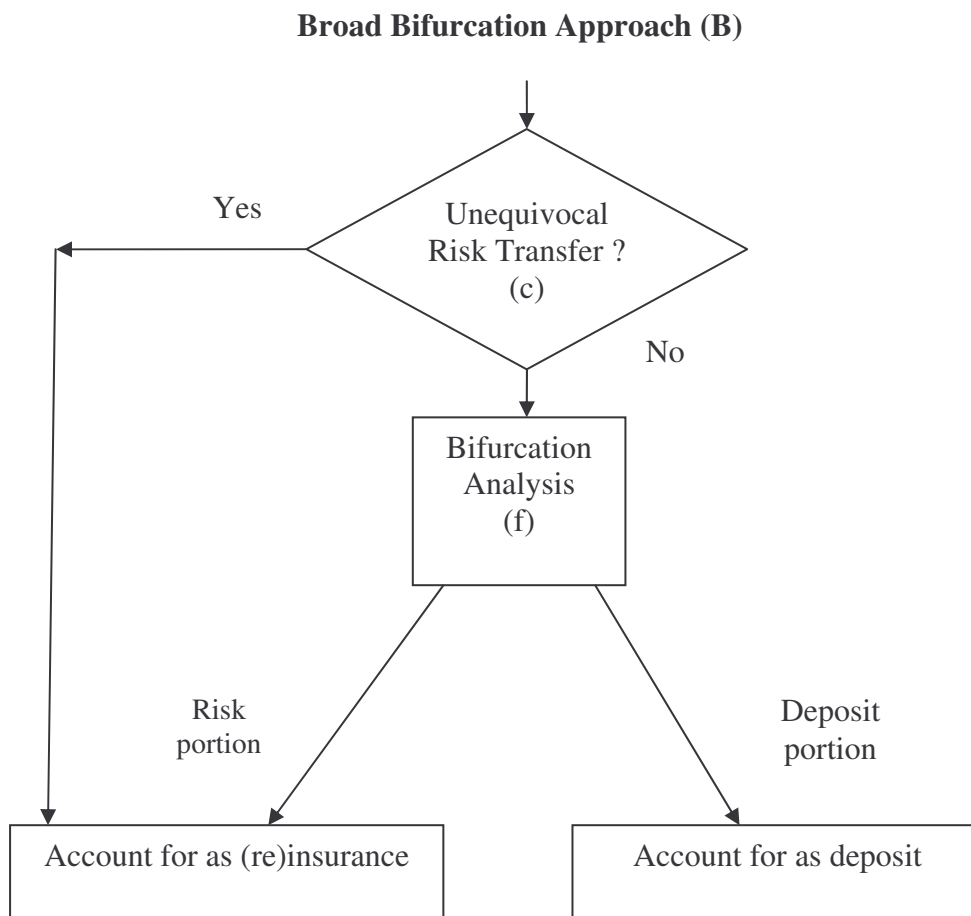
² For simplicity in the flow charts, we have omitted Screens (a) and (b) and our revisions begin with Screen (c).

As stated in the body of our response, we believe that Screen (c) should be changed and either be a completely principles based version or defined in a manner similar to the reasonably self-evident concept described in the AAA Practice Note.

- If so (no risk limiting features), it is accounted for as insurance or reinsurance.
- If there are risk-limiting features then a bifurcation analysis would be performed. Risk transfer testing would be replaced by the process of evaluating bifurcation. While any of the three bifurcation methods could be used to support narrow bifurcation Approach A, the Proportional Method appears to be most in line with the objectives of the narrow bifurcation Approach A as the impact of the risk limiting features would tend to be isolated for deposit accounting.

Flowchart for Broad Bifurcation Approach (B)

We have prepared an alternate flowchart for Approach B, as shown below.



Under the broad bifurcation approach (B), the first step should be to determine whether a contract has unequivocal risk transfer. If so, then account for the entire contract as insurance or

reinsurance. If not, perform a bifurcation analysis (similar to either the Expected Cost Method or the Cash Flow Yield Method) to identify the risk transfer and financing components accordingly and account for them as insurance or reinsurance and deposits, respectively.

Existence of risk-limiting features should not be included in the process flow. While, these features, along with others, can affect the cash flows and may make a contract more or less likely to return a certain level of payments, using such a screen under the broad approach increases accounting ambiguity and discontinuity. The bifurcation analysis will identify risk-limiting features without these screens and the result may be that a greater proportion of the premium would have to be deposit accounted in the presence of risk-limiting features.

As shown in both flowcharts, we do not believe that is necessary to perform a separate SFAS 113 risk transfer test, as it is already included in the bifurcation analysis. Even contracts which do not pass SFAS 113 risk transfer tests almost always involve some level of insurance risk, which, under a broad bifurcation approach, should be given insurance accounting treatment.

Specific Features

Traditionally, sliding scale and profit commissions have been used in reinsurance contracts to ensure that the cedant is underwriting in a disciplined manner. These features promote a positive outcome for both the cedant and the reinsurer. Profit sharing mechanisms are used in many traditional contracts and reward a company for good results.

More recently, with the many sophisticated tools and techniques available to determine an appropriate price for reinsurance contracts and differing opinions that go into those tools and techniques, it is not uncommon for the insurer and reinsurer to disagree on the amount of loss exposure. When differences of opinion occur, profit sharing mechanisms are often used to bridge the gap so that each side feels it is getting a fair price. Profit sharing typically comes into play if the actual loss experience is favorable compared to what the reinsurer viewed as expected and included in pricing at the inception of the contract, i.e. the actual loss experience is possibly more in line with the insurer's view at inception. In an effort to avoid the costly complex bifurcation procedures certain cedants may decide to forgo a profit commission. This change would penalize only the cedant by forcing it to pay higher reinsurance prices.

The ITC identifies limits on the reinsurer's obligations as a possible trigger for further analysis. Most insurance and reinsurance contracts have limits on one or both of the amount indemnified on either a per claim or per occurrence basis. For example, the coverage provided by traditional excess of loss and property catastrophe contracts is stated in terms of a limit and an attachment point. If FASB proceeds with the adoption of a specified list of risk-limiting features, we suggest that "limit" be defined to specifically refer to limits on the aggregate amount of coverage provided by the insurer or reinsurer and not limits on the amount per claim or per occurrence.

Explanation of Examples

This appendix provides an explanation of the three bifurcation methodologies and some information about the examples that follow in Appendix D. The examples in Appendix D apply the different bifurcation methodologies to three different types of reinsurance treaties with varying degrees of risk-limiting features. Appendix E includes a step by step explanation of our interpretation of each of the methodologies as applied to one of the examples.

The Three Bifurcation Methods

Expected Loss Method

In the Expected Loss Method, we assumed that “expected” was intended to mean highly probable. We defined highly probable (i.e., the amounts to be deposit-accounted) as those amounts that were estimated to occur at least 90% of the time. In estimating the amount of ceded premium accounted for as a deposit, we calculated the present value at the risk-free rate of the deposit-accounted ceded losses and ceding commissions.

Proportional Method

The methodology we used for the Proportional Method is based on the paper, “Partial Risk Transfer Reinsurance – Addressing the Accounting Difficulties.”³ This methodology reflects one possible interpretation of the description in the ITC, though it is not completely consistent.

For those examples with risk-limiting features in the sample contracts, we first discounted the ceded loss payments and ceding commissions with and without the risk-limiting features (i.e., capped and uncapped) at the risk-free rate. In Example 2 with the sliding scale ceding commission, we assumed that the sliding scale ceding commission would be the amount corresponding to the expected value of ceded losses for all loss amounts in the portion of the calculations without the risk-limiting features. In all examples with risk-limiting features, we then determined those scenarios in which the unlimited ceded losses and ceding commissions were higher than the mean and the cedant had an underwriting loss. Based on those scenarios, we calculated overall measures of the uncapped risk and the capped risk. The Percentage of Risk Transferred (“PRT”) was calculated as the ratio of the capped risk measure to the uncapped risk measure. Each of losses, ceding commissions and premiums was multiplied by [one minus PRT] to determine the portion to be deposit-accounted. The uncapped and capped risk measures are analogous to the statistical concepts “variance” and “covariance” and are more specifically defined in Appendix D.

³ Gluck, Spencer, “Reinsurance Involving Partial Risk Transfer – Addressing the Accounting Difficulties,” Casualty Actuarial Society Forum, Volume: Winter 2006.

There is one aspect of the Proportional Method for which there are at least two interpretations and the selection among the two has a significant impact on the results. In the referenced paper, risk is defined as downside risk. That is, risk is only considered when actual losses are higher than average. As such, in the illustrations in Appendix D, we have only considered downside risk in calculating the percentage of each contract that is accounted for as reinsurance. An alternative interpretation is to consider both favorable and adverse deviations from mean losses. In our examples, we note the Percentage of Risk Transferred (*PRT*) that would result from such a two-sided test when applied using the squared differences. A key difference between these two interpretations is that the former would not consider a profit commission as a risk-limiting feature, whereas the latter would.

Cash Flow Yield Method

In the Cash Flow Yield Method, we assumed that “expected” took on its statistical definition meaning the average value across all possible scenarios. As such, we assumed that the average value of ceded losses and ceding commissions would be deposit-accounted. The ceded premium that was assumed to be deposit-accounted was determined as the present value of the deposit-accounted ceded losses and ceding commissions using an estimated loan rate.

Terminology

To avoid ambiguity, we use the following terms consistently.

1. *Cedant*: The entity purchasing reinsurance coverage.
2. *Reinsurer*: The entity providing reinsurance coverage.
3. *Recoveries*: Amounts paid by the Reinsurer to the Cedant under the contract.
4. *Consideration*: The total amount paid by the Cedant to the Reinsurer in exchange for Recoveries under the contract.
5. *Highly Probable*: The relative level of probability describing the “Expected Payout” under the Expected Payout Method.
6. *PV*: Present Value.

Ceding Commission

The ITC is silent regarding the treatment of ceding commission. Several interpretations are possible. In these examples, we have treated ceding commissions as Recoveries, similar to losses. As such, the ceded premium is recorded by the cedant net of the entire amount of a fixed ceding commission.

Assumptions

A key component of all three of the methods is the probability distribution of subject loss payments. For these distributions, we made the following simplifying assumptions:

1. For all examples other than the catastrophe example, we assumed that the aggregate distributions of loss payments would be Lognormal with means and coefficients of variation (“CV’s”) as specified.
2. For the catastrophe example, we used a simulated distribution from an actual catastrophe model.
3. In all examples, we assumed a fixed payout pattern. In other words, the exact same percentage payout pattern was assumed to apply in all scenarios.

For contract terms, we considered only two variations in contract terms: aggregate limits and adjustable (sliding-scale) ceding commissions.

In all examples, we made the following assumptions.

1. We used 4% for the risk-free rate and 6% for the debt rate.
2. We assumed that the Cedant and Reinsurer would each base its accounting on the same cash flow models. In practice, each would probably develop its assumptions independently. Ceded losses in the example are based on mean subject cash flows, that is the cash flows of the direct business subject to the reinsurance contract being reviewed.
3. The reinsurance pricing is not adjusted when profit-sharing features and risk-limiting features are added; thus the different examples are not necessarily priced comparably.
4. To be consistent with our proposed flowchart, we have interpreted each method as an alternative to a SFAS 113 risk transfer test rather than applying in addition to a SFAS 113 risk transfer test.
5. The underlying book of business was personal lines, so the potential impact and distortion of bifurcating the direct business as well as the ceded has not been shown as we understand that it is not applicable in these situations.

Bifurcation Examples

In this appendix, we present illustrations of the direct, ceded and net premiums, losses and expenses under each of the three proposed bifurcation methodologies for each of the following contracts:

1. Unlimited quota share with a flat ceding commission.
2. Quota share with a sliding-scale commission.
3. Quota share with aggregate limit with a flat ceding commission.
4. Quota share with a remote aggregate limit with a flat ceding commission.
5. Unlimited casualty excess of loss (XoL).
6. Casualty excess of loss with aggregate limit.
7. Casualty excess of loss with remote aggregate limit.
8. Property catastrophe excess of loss.

Examples 1 through 4 – Quota Share

The key characteristics of the subject business and quota share reinsurance contract for Examples 1 through 4 are listed below.

1. \$100M Consideration (direct premium from individual personal auto liability policies)
2. 75% Expected Loss Ratio
3. 20% Expense Ratio
4. Coefficient of Variation (= standard deviation/mean) of Subject Losses = 20%
5. Payment Pattern: Industry average personal auto liability. Losses are paid at the midpoint of each year. Reinsurance recoveries are immediate.
6. Consideration is paid at the beginning of Year 1.
7. In contracts with adjustable commissions, the commission is assumed to be adjusted once, at the end of Year 3.

This example is intended to be indicative of a profitable book of personal auto liability business. The premiums, losses and expenses for the subject business are shown in the following table.

Premium	100,000
Losses	75,000
Expenses	20,000
Underwriting profit	5,000
Loss ratio	75%

Example 1 – Unlimited Quota Share

Contract: 20% fixed ceding commission. No risk-limiting features.

Discussion/Rationale: This example shows unlimited quota-share reinsurance. After the transaction, the Cedant will hold no residual risk and the Reinsurer’s risk position will be identical to that of the Cedant before the transaction.

- Existing rules: Qualifies for reinsurance accounting under Paragraph 11 of SFAS 113.
- Expected Payout Method and Cash Flow Yield Method: Bifurcation will apply.
- Proportional Method: Reinsurance accounting due to the absence of risk-limiting features.

Results: In Table 1, we show the illustrations.

Table #1 - Premiums and Losses for Unlimited Quota-Share										
	Reinsurer					Cedant Net				
	Premium	Loss	Expense	U/W Gain	L/R	Premium	Loss	Expense	U/W Gain	L/R
Existing and Proportional	100,000	75,000	20,000	5,000	75%	0	0	0	0	
Expected Payout	26,550	17,942	0	8,608	68%	73,450	57,058	20,000	-3,608	78%
Cash Flow Yield	11,862	0	0	11,862	0%	88,138	75,000	20,000	-6,862	85%

Observations

Although all risk has been transferred to the Reinsurer, under the Expected Payout and Cash Flow Yield Methods, the Cedant records net premium, losses and expenses and a net underwriting loss. Similarly, the reinsurer would record a larger underwriting gain under the Expected Payout and Cash Flow Yield Methods. These results are not reflective of the substance of the transaction.

Example #2 - Quota-Share with Sliding Scale Commission

Contract: Sliding scale ceding commission, adjustable as follows:

- 20% at loss ratios of 75% or greater;
- Commission adjusts upward 0.5 points for each reduction of 1 loss ratio point, to a maximum of
- 30% at loss ratios of 55% or lower.

No other features.

Discussion/Rationale: This example illustrates the impact of a sliding scale commission feature. The example has been constructed so that, after the transaction, the Cedant cannot suffer a loss, but has the possibility of an uncertain profit. The Reinsurer is equally as exposed to losses as in Example #1, but profits are potentially reduced. In all possible outcomes, the Cedant is equal to or better off than Example #1, and the Reinsurer is equal to or worse off than Example #1.

- Existing rules: Under some interpretations, the profit-sharing feature may negate the SFAS 113, Paragraph 11 exception. If so, the contract will be subject to a risk transfer analysis under SFAS 113, Paragraph 9.
- Expected Payout Method, Proportional Method⁴, and Cash Flow Yield Method: Bifurcation will apply.

Contrasts with Example #1 illustrate the impact of a profit-sharing feature on accounting under each of the methods.

Table 2A, on the next page, displays some statistics that might be used to form the SFAS 113 risk transfer determination.

⁴ As applied in our illustrations, the Percentage Risk Transfer under the Proportional Method is 100%. If a two-sided test were applied, the Percentage Risk Transfer is estimated to be 82%.

Table #2A – Quota-Share with Profit Sharing Risk Transfer Statistics for SFAS 113		
VaR-90⁵	TVaR-90⁶	ERD⁷
-9%	-18%	-2.4%

Results: In Table 2B, we have shown the illustrations of both reinsurance and deposit accounting under existing rules, as the choice depends on the SFAS 113 risk transfer determination.

Table #2B - Premiums and Losses for Quota-Share with Profit Sharing										
	Reinsurer					Cedant Net				
	Premium	Loss	Expense	U/W Gain	L/R	Premium	Loss	Expense	U/W Gain	L/R
Reinsurance Accounting	100,000	75,000	20,000	5,000	75%	0	0	0	0	
Deposit Accounting	0	0	0	0		100,000	75,000	20,000	5,000	75%
Expected Payout	18,020	8,971	0	9,049	50%	81,980	66,029	20,000	-4,049	81%
Proportional	100,000	75,000	20,000	5,000	75%	0	0	0	0	
Cash Flow Yield	8,711	0	0	8,711	0%	91,289	75,000	20,000	-3,711	82%

Observations

- Although all downside risk has been transferred to the Reinsurer, the Cedant is recording net premium, losses and expenses and a net underwriting loss after this reinsurance in the Expected Payout Method and Cash Flow Yield Method. These results are not reflective of the substance of the transaction. When compared with Example #1, the net loss recorded by the cedant increases in the Expected Payout Method and decreases in the Cash Flow Yield Method due to the addition of this profit sharing feature.
- Although the Proportional Method technically applies, the calculation as we have applied it is sensitive to only downside risk; therefore, the $PRT = 100\%$ and reinsurance accounting applies.

⁵ Value-at-Risk-90 (VaR-90) = (PV of Reinsurer's cash flow)/(PV of Reinsurer's premium) at the 90th percentile. VaR-90 < -10% indicates that the "10/10 rule" has been satisfied.

⁶ Tail Value-at-Risk-90: The probability weighted average of VaR at the 90th and higher percentiles.

⁷ The Expected Reinsurer's Deficit (ERD) is the expected value of all of the present value underwriting loss scenarios. The methodology for calculating this statistic is provided in Section 4 of the Casualty Actuarial Society's Research Working Party on Risk Transfer Testing's paper entitled "Risk Transfer Testing of Reinsurance Contracts: Analysis and Recommendations." This paper is included in Appendix 2, Item 1, of the American Academy of Actuaries' Committee on Property and Liability Financial Reporting's August 2005 paper entitled "Risk Transfer in P&C Reinsurance: Report to the Casualty Actuarial Task Force of the NAIC." This paper can be found at www.actuary.org.

- If Paragraph 11 of SFAS 113 does not apply and the Paragraph 9 risk transfer test were judged to have been failed, existing rules would show all premium net to the cedant, even though all downside risk has been transferred to the reinsurer.

Example #3 - Quota-Share with Aggregate Limit

Contract: 20% fixed Ceding Commission, aggregate loss ratio cap of 95%.

Discussion/Rationale: After the transaction, the Cedant is less exposed to risk than without the contract, but retains some risk exposure. The Reinsurer has assumed risk, but less than in Examples #1 and #2.

- Existing rules: The Paragraph 11 exception does not apply. This contract is subject to a risk transfer test under SFAS 113, Paragraph 9.
- Expected Payout Method, Proportional Method⁸, and Cash Flow Yield Method: Bifurcation will apply.

The differences from Example #1 illustrate the impact of a risk-limiting feature on accounting under each of the methods.

Table 3A displays some statistics that might be used to form the SFAS 113 risk transfer determination.

Table #3A – Quota-Share with Aggregate Limit Risk Transfer Statistics for SFAS 113		
VaR-90	TVaR-90	ERD
-9%	-10%	-1.5%

Results: In Table 3B, we show the illustrations of both reinsurance and deposit accounting under existing rules, as the choice depends on the SFAS 113 risk transfer determination.

Table #3B - Premiums and Losses for Quota-Share with Aggregate Limit										
	Reinsurer					Cedant Net				
	Premium	Loss	Expense	U/W Gain	L/R	Premium	Loss	Expense	U/W Gain	L/R
Reinsurance Accounting	100,000	75,000	20,000	5,000	75%	0	0	0	0	
Deposit Accounting	0	0	0	0		100,000	75,000	20,000	5,000	75%
Expected Payout	26,550	17,942	0	8,608	68%	73,450	57,058	20,000	-3,608	78%
Proportional	65,495	49,121	13,099	3,275	75%	34,505	25,879	6,901	1,725	75%
Cash Flow Yield	12,584	946	0	11,638	8%	87,416	74,054	20,000	-6,638	85%

⁸ As applied in our illustrations, the Percentage Risk Transfer under the Proportional Method is 65%. If a two-sided test were applied, the Percentage Risk Transfer is estimated to be 86%.

Observations

- The results of the Expected Payout Method and Cash Flow Yield Method are nearly identical to Example #1. That is, the calculations underlying the Expected Payout Method and Cash Flow Yield Method either do not react or barely react to risk-limiting features.
- Under existing rules, if the Paragraph 9 risk transfer test of SFAS 113 is judged to have been failed, all premium is net to the Cedant, though significant risk has been transferred to the Reinsurer. If the Paragraph 9 risk transfer test is judged to have been passed, all premium is ceded to the Reinsurer, though some risk remains with the Cedant.

Example #4 - Quota-Share with Remote Aggregate Limit

Contract: 20% Ceding Commission, aggregate loss ratio cap of 105%.

Discussion/Rationale: For contrast with Example #3, this example illustrates a risk-limiting feature having a very modest impact. After the transaction, the Cedant retains some risk exposure, but it is fairly remote. The Reinsurer has assumed most of the risk, but has its worst-case losses limited.

- Existing rules: The Paragraph 11 exception does not apply. This contract is subject to a risk transfer determination under SFAS 113, Paragraph 9.
- Expected Payout Method, Proportional Method⁹, and Cash Flow Yield Method: Bifurcation will apply.

The differences from Examples #1 and #3 illustrate the impact of risk-limiting features of varying impact on accounting under each of the methods.

Table 4A displays some statistics that might be used to form the SFAS 113 risk transfer determination.

Table #4A – Quota-Share with Remote Aggregate Limit Risk Transfer Statistics for SFAS 113		
VaR-90	TVaR-90	ERD
-9%	-15%	-2.0%

Results: In Table 4B, we show the illustrations of both reinsurance and deposit accounting under existing rules, as the choice depends on the SFAS 113 risk transfer determination.

Table #4B - Premiums and Losses for Quota-Share with Remote Aggregate Limit										
	Reinsurer					Cedant Net				
	Premium	Loss	Expense	U/W Gain	L/R	Premium	Loss	Expense	U/W Gain	L/R
Reinsurance Accounting	100,000	75,000	20,000	5,000	75%	0	0	0	0	
Deposit Accounting	0	0	0	0		100,000	75,000	20,000	5,000	75%
Expected Payout	26,550	17,942	0	8,608	68%	73,450	57,058	20,000	-3,608	78%
Proportional	85,351	64,013	17,070	4,268	75%	14,649	10,987	2,930	732	75%
Cash Flow Yield	12,103	320	0	11,783	3%	87,897	74,680	20,000	-6,783	85%

⁹ As applied in our illustrations, the Percentage Risk Transfer under the Proportional Method is 85%. If a two-sided test were applied, the Percentage Risk Transfer is estimated to be 94%.

Observations

- As noted in the previous example, changing the aggregate cap has no significant impact on the Expected Payout Method and Cash Flow Yield Method.
- In the Proportional Method, the higher aggregate limit increases the Percentage of Risk Transferred from 65% to 85%.

Examples #5 through #7 – Excess of Loss

These examples are intended to be indicative of working layer, per occurrence excess-of-loss coverage on the previous book of personal auto liability business. In keeping with the most common form of such treaties, the reinsurance contracts will not provide ceding commissions.

The key characteristics of the business to be ceded are listed below.

1. \$5M Consideration (allocated premium from individual personal auto liability policies)
2. 100% Expected Loss Ratio
3. Coefficient of Variation of subject losses = 40%
4. Payment Pattern: Industry average excess personal auto liability. Losses are paid at the midpoint of each year. Reinsurance recoveries are immediate.
5. Consideration is paid at the beginning of Year 1.

The premiums, losses and expenses for the subject business are shown in the following table.

Premium	5,000
Losses	5,000
Underwriting Gain	0
Loss Ratio	100%

Example #5 - Unlimited Casualty XOL

Contract: No risk-limiting features.

Discussion/Rationale: This example illustrates unlimited excess-of-loss reinsurance. After the transaction, the Cedant will hold no residual risk for the defined layer and the Reinsurer's risk position will be identical to that of the Cedant before the transaction.

- Existing rules: Subject to Paragraph 9 of SFAS 113.
- Expected Payout Method and Cash Flow Yield Method: Bifurcation will apply.
- Proportional Method: Reinsurance accounting will apply due to the absence of risk-limiting features.

Table 5A displays some statistics that might be used to form the SFAS 113 risk transfer determination.

Table #5A – Unlimited Casualty XOL Risk Transfer Statistics for SFAS 113		
VaR-90	TVaR-90	ERD
-35%	-62%	-9.4%

Results: In Table 5B, we show the illustrations of both reinsurance and deposit accounting under existing rules, as the choice depends on the SFAS 113 risk transfer determination.

Table #5B - Premiums and Losses for Unlimited Casualty XOL								
	Reinsurer				Cedant Net			
	Premium	Loss	U/W Gain	L/R	Premium	Loss	U/W Gain	L/R
Reinsurance Accounting	5,000	5,000	0	100%	0	0	0	
Deposit Accounting	0	0	0		5,000	5,000	0	100%
Expected Payout	2,492	2,167	325	87%	2,508	2,833	-325	113%
Proportional	5,000	5,000	0	100%	0	0	0	
Cash Flow Yield	820	0	820	0%	4,180	5,000	-820	120%

Observations: Similar to Example #1. Although all risk has been transferred to the Reinsurer, the Expected Payout Method and Cash Flow Yield Method show significant premiums and losses net to the Cedant. The Cedant is recording an underwriting loss which is not reflective of the substance of the risk transferred.

Example #6 - Casualty XOL with Aggregate Limit

Contract: Aggregate loss ratio cap of 125%.

Discussion/Rationale: This example illustrates a risk-limiting feature having significant impact. After the transaction, the Cedant retains significant risk exposure in the defined layer. The Reinsurer has assumed some significant risk, but less than in Example #5.

- Existing rules: Subject to Paragraph 9 of SFAS 113.
- Expected Payout Method, Proportional Method¹⁰, and Cash Flow Yield Method: Bifurcation will apply.

The differences from Example #5 illustrate the impact of a risk-limiting feature on accounting under each of the methods.

Table 6A displays some statistics that might be used to form the SFAS 113 risk transfer determination.

Table #6A – Casualty XOL with Aggregate Limit Risk Transfer Statistics for SFAS 113		
VaR-90	TVaR-90	ERD
-13%	-14%	-3.3%

Results: In Table 6B, we show the illustrations of both reinsurance and deposit accounting under existing rules, as the choice depends on the SFAS 113 risk transfer determination.

Table #6B - Premiums and Losses for Casualty XOL with Aggregate Limit								
	Reinsurer				Cedant Net			
	Premium	Loss	U/W Gain	L/R	Premium	Loss	U/W Gain	L/R
Reinsurance Accounting	5,000	5,000	0	100%	0	0	0	
Deposit Accounting	0	0	0		5,000	5,000	0	100%
Expected Payout	2,492	2,167	325	87%	2,508	2,833	-325	113%
Proportional	1,969	1,969	0	100%	3,031	3,031	0	100%
Cash Flow Yield	1,093	372	721	34%	3,907	4,628	-721	118%

¹⁰ As applied in our illustrations, the Percentage Risk Transfer under the Proportional Method is 39%. If a two-sided test were applied, the Percentage Risk Transfer is estimated to be 61%.

Observations

- The failure of the aggregate limit to have a direct impact on the Expected Payout Method and Cash Flow Yield Method is again noted.
- Under the Proportional Method, this example has the lowest Percentage of Risk Transferred of any excess of loss examples as would be expected.

Example #7 - Casualty XOL with Remote Aggregate Limit

Contract: Aggregate loss ratio cap of 200%.

Discussion/Rationale:

For contrast with Examples #5 and #6, this example illustrates an aggregate limit having a very modest impact.

- Existing rules: Subject to Paragraph 9 of SFAS 113.
- Expected Payout Method, Proportional Method¹¹, and Cash Flow Yield Method: Bifurcation will apply.

The differences from Examples #5 and #6 illustrate how risk-limiting features have varying impact on accounting under each of the methods.

Table 7A displays some statistics that might be used to form the SFAS 113 risk transfer determination.

Table #7A – Casualty XOL with Remote Aggregate Limit Risk Transfer Statistics for SFAS 113		
VaR-90	TVaR-90	ERD
-35%	-57%	-8.8%

Results: In Table 7B, we show the illustrations of both reinsurance and deposit accounting under existing rules, as the choice depends on the SFAS 113 risk transfer determination.

Table #7B - Premiums and Losses for Casualty XOL with Remote Aggregate Limit								
	Reinsurer				Cedant Net			
	Premium	Loss	U/W Gain	L/R	Premium	Loss	U/W Gain	L/R
Reinsurance Accounting	5,000	5,000	0	100%	0	0	0	
Deposit Accounting	0	0	0		5,000	5,000	0	100%
Expected Payout	2,492	2,167	325	87%	2,508	2,833	-325	113%
Proportional	4,446	4,446	0	100%	554	554	0	100%
Cash Flow Yield	848	38	810	5%	4,152	4,962	-810	119%

¹¹ As applied in our illustrations, the Percentage Risk Transfer under the Proportional Method is 89%. If a two-sided test were applied, the Percentage Risk Transfer is estimated to be 93%.

Observations

- As noted in the Example 4, changing the aggregate cap has no significant impact on the Expected Payout Method and Cash Flow Yield Method.
- In the Proportional Method, the substantially higher aggregate limit increases the Percentage of Risk Transferred from 39% to 89%.

Example #8 - Catastrophe Reinsurance

This example is intended to be indicative of working layer, catastrophe excess-of-loss coverage on the previous book of personal auto liability business. In keeping with the most common form of such treaties, the reinsurance contracts will not provide ceding commissions.

The key characteristics of the business to be ceded and the contract are listed below.

1. \$10M Consideration
2. 36.25% Expected Loss Ratio
3. Probability distribution based on a typical catastrophe model.
4. Probability of zero losses = 96%.
5. Limit = \$100M per occurrence, no reinstatement.
6. Payment Pattern: 50% year 1, 50% year 2.

The premiums, losses and expenses for the subject business are shown in the following table.

Premium	10,000
Losses	3,625
Underwriting Gain	6,375
Loss Ratio	36.25%

Discussion/Rationale: Catastrophe reinsurance has generally been deemed to contain adequate risk transfer under SFAS 113. Reinsurance accounting would also apply in each of the Proportional and Expected Payout Methods, but not the Cash Flow Yield Method.

Results: Table 8 contrasts reinsurance accounting with bifurcation under the Cash Flow Yield Method.

Table #8 - Premiums and Losses for Catastrophe Reinsurance								
	Reinsurer				Cedant Net			
	Premium	Loss	U/W Gain	L/R	Premium	Loss	U/W Gain	L/R
Existing, Proportional, and Expected Payout	10,000	3,625	6,375	36%	0	0	0	
Cash Flow Yield	6,579	0	6,579	0%	3,421	3,625	-204	106%

Observations: As in all of the prior examples, under the Cash Flow Yield method, the Reinsurer records essentially only the profit margin in its Income Statement.

Detailed Explanation of Example 3

In this appendix, we provide a detailed description of the specific calculations we have applied for the bifurcation methods using Example 3 from Appendix D. Similar calculations were used in the other examples.

We have interpreted the language of the ITC; where the language was ambiguous, we made assumptions. A question mark in parenthesis, “(?)”, indicates an assumption not specified in the ITC.

The Expected Payout Method

Steps		Exhibit References and Discussion
(1)	Estimate a probability distribution of cash flows.	Exhibit E-1 displays the probability distribution, represented as a discrete distribution. Each row represents a cash flow scenario, and "Weight" is the probability associated with each. The mean cash flow, displayed at the top, is highlighted.
(2)	Apply contract terms to (1) to calculate a probability distribution of Recoveries.	Exhibit E-2 is similar to Exhibit E-1, except that the cash flows in each scenario have been limited to the aggregate limit. The 10 th percentile row has been highlighted.
(3)	Determine the Highly Probable Recoveries. For these examples, the Highly Probable Recoveries are defined as the Recoveries at the 10 th percentile (?) of the probability distribution.	Exhibit E-3, Column (3) displays the 10 th percentile Recoveries from Exhibit E-2.
(4)	Calculate the sum of (3).	Exhibit E-3, Column (3), Total. 77,058
(5)	Calculate the PV of (3), discounted to the date of receipt of Consideration at the risk-free rate. (?) The risk-free rate is defined as free of default risk, and at a maturity consistent with the duration of the cash flows in (3). (?)	Exhibit E-3. The discount factors are calculated at 4%, discounted from the midpoint of each payment year to the beginning of Year 1. The total PV, 73,450 , is at the bottom of Column (5).
(6)	Items for deposit accounting:	
(6a)	Initial Deposit: Item (5).	73,450
(6b)	Returns of Deposit: Actual Recoveries, up to a maximum of (4).	The first 77,058 of Recoveries are treated as returns of deposit. These first 77,058 of Recoveries are 20,000 expenses and 57,058 of losses.
(7)	Items for insurance/reinsurance accounting:	
(7a)	Premium: Consideration minus Item (5).	100,000 – 73,450 = 26,550
(7b)	Losses and/or expenses: Actual Recoveries in excess of (4).	Any Recoveries in excess of 77,058 are treated as ceded losses (or expenses if applicable). In this example, expected Recoveries are 20,000 expenses + 75,000 losses = 95,000 . The excess, 95,000 – 77,058 = 17,942 are ceded losses.

The Proportional Method

Steps		Exhibit References and Discussion
(1)	Estimate a probability distribution of cash flows.	Exhibit E-1
(2)	Identify Risk-Limiting Features.	In this example, the only risk-limiting Feature is the aggregate limit of 95,000 .
(3)	Calculate two probability distributions of Recoveries:	
(3a)	Applying all contract provisions other than Risk-Limiting Features.	Exhibit E-1. In this example there are no other contract provisions, so the applicable distribution is the distribution in Exhibit E-1.
(3b)	Applying all contract provisions including Risk-Limiting Features.	Exhibit E-2 displays the cash flows limited to the aggregate limit.
	Calculate the PV at the risk-free rate for each scenario in (3a) and (3b).	Exhibit E-4, Sheet 1. The rows correspond to the rows on Exhibits I and II. For each of the scenarios in Exhibits I and II, the total PV has been calculated at 4%, discounted from the midpoint of each payment year to the beginning of Year 1. The results are displayed in Columns (3a) & (3b).
(4)	Identify the Base cash flow. The Base cash flow is defined as the higher of: <ul style="list-style-type: none"> • The mean cash flow, or • For reinsurance, the cash flow corresponding to breakeven underwriting for the Cedant. 	Exhibit E-4, Sheet 2, Column (4). In this example, the mean losses are 75,000 plus 20,000 of direct expenses, an underwriting profit of 5,000 . Therefore, the breakeven losses are 80,000 , which is higher than the mean. The Base cash flow, totaling 80,000 , is in Column (4). An adverse scenario is defined as one that is worse than the Base. Therefore, to be considered adverse, a scenario must be worse than average <i>and</i> create an underwriting loss.
(5)	Calculate the PV of Recoveries at the Base cash flow two ways:	Exhibit E-4, Sheet 2. The values for steps (5a) and (5b) would only be different if Risk-Limiting Features had an effect on the Base scenario. In this example, there are no applicable contract provisions, so both values are the same, equal to the PV of the Base cash flows. The result is the total of Column (5), 94,940 .
(5a)	Applying all contract provisions other than Risk-Limiting Features.	
(5b)	Applying all contract provisions including Risk-Limiting Features.	

Steps		Exhibit References and Discussion
(6)	For each scenario, calculate two “adverse deviations”:	Exhibit E-4, Sheet 1, Columns (6a) and (6b). The first row in which the PV of recoveries exceeds the Base, 94,940 , is the 67 th percentile: 95,163 – 94,940 = 223 . The first row in which the aggregate cap causes the adverse deviations to be different is the 90.25 th percentile. Although the aggregate cap applies to all subsequent scenarios, the values in Columns (3b) and (6b) continue to creep up due to acceleration of the payments.
(6a)	(3a) minus (5a), but not less than zero.	
(6b)	(3b) minus (5b), but not less than zero.	
(7)	Calculate the probability weighted averages of:	Exhibit E-4, Sheet 1. The weighted average at the bottom of Column (7a) is the mean square adverse deviation, or downside variance, an overall measure of the risk in column (6a). The value is displayed in scientific notation: 7.14E+07 . The weighted average at the bottom of Column (7b) is the downside covariance, a measure of column (6b)’s share of the risk: 4.68E+07
(7a)	(6a) ² .	
(7b)	(6a) times (6b).	
(8)	The percentage of risk transferred (“ PRT ”) equals (7b) divided by (7a).	Exhibit E-4, Sheet 1, at the bottom. 4.68E+07 ÷ 7.14E+07 = 65.5% .
(9)	Items for deposit accounting:	
(9a)	Initial Deposit: Consideration times (1.0 minus PRT).	100,000 x 34.5% = 34,505
(9b)	Returns of Deposit: Actual Recoveries times (1.0 minus PRT).	At expected value: Losses: 75,000 x 34.5% = 25,879 Expenses: 20,000 x 34.5% = 6,901
(10)	Items for insurance/reinsurance accounting:	
(10a)	Premium: Consideration times PRT .	100,000 x 65.5% = 65,495 .
(10b)	Losses and/or expenses: Actual Recoveries times PRT .	At expected value: Losses: 75,000 x 65.5% = 49,121 Expenses: 20,000 x 65.5% = 13,099

The Cash Flow Yield Method

Steps		Exhibit References and Discussion
(1)	Estimate a probability distribution of cash flows.	Exhibit E-1
(2)	Apply contract terms to (1) to estimate a probability distribution of Recoveries.	Exhibit E-2 displays the cash flows limited to the aggregate limit. The row labeled "Mean" at the top is the probability weighted average of the individual scenarios. Note that the overall mean of 75,000 on Exhibit E-1 is reduced to 74,054 in Exhibit E-2 due to the aggregate limit.
(3)	Determine the mean Recoveries. (?)	Exhibit E-5, Column (3) displays the mean Recoveries from Exhibit E-2.
(4)	Calculate the sum of (3).	Exhibit E-5, Column (3), Total. 94,054
(5)	Calculate the PV of (3), discounted to the date of receipt of Consideration at the debt rate appropriate for the credit quality provided by the Reinsurer.	Exhibit E-5. The discount factors are calculated at 6%, discounted from the midpoint of each payment year to the beginning of Year 1. The total PV, 87,416 , is at the bottom of Column (5).
(6)	Items for deposit accounting:	
(6a)	Initial Deposit: Item (5).	87,416
(6b)	Returns of Deposit: Actual Recoveries, up to a maximum of (4).	The first 94,054 of Recoveries are treated as returns of deposit. These first 94,054 of Recoveries reimburse 20,000 of direct expenses and 74,054 of direct losses.
(7)	Items for insurance/reinsurance accounting:	
(7a)	Premium: Consideration minus Item (5).	100,000 – 87,416 = 12,584
(7b)	Losses and/or expenses: Actual Recoveries in excess of (4).	Any Recoveries in excess of 94,054 are treated as ceded losses (or expenses if applicable). In this example, expected Recoveries are 20,000 expenses + 75,000 losses = 95,000 . The excess, 95,000 – 94,054 = 946 are ceded losses.

Cash Flow Distribution -- Subject Payments												
Mean:		75,000	30,000	22,500	11,250	5,250	3,000	1,500	750	375	225	150
		Total										
Cumulative Probabilities	Weight	Total Subject Payments	Subject Payments by Year									
			1	2	3	4	5	6	7	8	9	10
0.00%	0.13%	42,181	16,872	12,654	6,327	2,953	1,687	844	422	211	127	84
0.25%	0.25%	42,181	16,872	12,654	6,327	2,953	1,687	844	422	211	127	84
0.50%	0.25%	44,157	17,663	13,247	6,624	3,091	1,766	883	442	221	132	88
0.75%	0.25%	45,430	18,172	13,629	6,814	3,180	1,817	909	454	227	136	91
1.00%	0.25%	46,394	18,557	13,918	6,959	3,248	1,856	928	464	232	139	93
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8.00%	2.00%	55,680	22,272	16,704	8,352	3,898	2,227	1,114	557	278	167	111
10.00%	2.00%	57,058	22,823	17,118	8,559	3,994	2,282	1,141	571	285	171	114
12.00%	2.00%	58,275	23,310	17,483	8,741	4,079	2,331	1,166	583	291	175	117
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46.00%	2.00%	72,095	28,838	21,629	10,814	5,047	2,884	1,442	721	360	216	144
48.00%	2.00%	72,817	29,127	21,845	10,923	5,097	2,913	1,456	728	364	218	146
50.00%	1.50%	73,544	29,417	22,063	11,032	5,148	2,942	1,471	735	368	221	147
51.00%	1.00%	73,910	29,564	22,173	11,086	5,174	2,956	1,478	739	370	222	148
52.00%	1.00%	74,278	29,711	22,283	11,142	5,199	2,971	1,486	743	371	223	149
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90.00%	0.62%	94,791	37,917	28,437	14,219	6,635	3,792	1,896	948	474	284	190
90.25%	0.25%	95,062	38,025	28,519	14,259	6,654	3,802	1,901	951	475	285	190
90.50%	0.25%	95,338	38,135	28,601	14,301	6,674	3,814	1,907	953	477	286	191
90.75%	0.25%	95,620	38,248	28,686	14,343	6,693	3,825	1,912	956	478	287	191
91.00%	0.25%	95,909	38,364	28,773	14,386	6,714	3,836	1,918	959	480	288	192
91.25%	0.25%	96,205	38,482	28,862	14,431	6,734	3,848	1,924	962	481	289	192
91.50%	0.25%	96,509	38,603	28,953	14,476	6,756	3,860	1,930	965	483	290	193
91.75%	0.25%	96,820	38,728	29,046	14,523	6,777	3,873	1,936	968	484	290	194
92.00%	0.25%	97,139	38,856	29,142	14,571	6,800	3,886	1,943	971	486	291	194
92.25%	0.25%	97,467	38,987	29,240	14,620	6,823	3,899	1,949	975	487	292	195
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99.96%	0.01%	142,861	57,144	42,858	21,429	10,000	5,714	2,857	1,429	714	429	286
99.97%	0.01%	145,109	58,043	43,533	21,766	10,158	5,804	2,902	1,451	726	435	290
99.98%	0.01%	148,259	59,304	44,478	22,239	10,378	5,930	2,965	1,483	741	445	297
99.99%	0.01%	153,607	61,443	46,082	23,041	10,753	6,144	3,072	1,536	768	461	307
100.00%	0.00%	153,607	61,443	46,082	23,041	10,753	6,144	3,072	1,536	768	461	307

Expected Payout Method				
		(3)		(5)
		Recoveries	Discount	
		at the	Factor	Discounted
		10th Percentile:	@ 4%	Recoveries
Ceding Commission:		20,000	1.000	20,000
Loss Recoveries:	1	22,823	0.981	22,380
	2	17,118	0.943	16,140
	3	8,559	0.907	7,759
	4	3,994	0.872	3,482
	5	2,282	0.838	1,913
	6	1,141	0.806	920
	7	571	0.775	442
	8	285	0.745	213
	9	171	0.717	123
	10	114	0.689	79
Total Loss Recoveries		57,058		53,450
Total Recoveries		134,117		126,899

Proportional Method							
		(3a)	(3b)	(6a)	(6b)	(7a)	(7b)
		PV Recoveries		Adverse Deviation			
Cumulative		Before	After	Before	After		
Probability	Weight	Cap	Cap	Cap	Cap	(6a)^2	(6a) x (6b)
0.00%	0.13%	59,513	59,513	0	0	0.00E+00	0.00E+00
0.25%	0.25%	59,513	59,513	0	0	0.00E+00	0.00E+00
0.50%	0.25%	61,364	61,364	0	0	0.00E+00	0.00E+00
•	•						
•	•						
•	•						
66.00%	1.00%	94,756	94,756	0	0	0.00E+00	0.00E+00
67.00%	1.00%	95,163	95,163	223	223	4.98E+04	4.98E+04
68.00%	1.00%	95,578	95,578	638	638	4.07E+05	4.07E+05
69.00%	1.00%	96,001	96,001	1,060	1,060	1.12E+06	1.12E+06
70.00%	1.00%	96,432	96,432	1,491	1,491	2.22E+06	2.22E+06
71.00%	1.00%	96,872	96,872	1,931	1,931	3.73E+06	3.73E+06
•	•						
•	•						
•	•						
90.00%	0.62%	108,796	108,796	13,856	13,856	1.92E+08	1.92E+08
90.25%	0.25%	109,049	109,007	14,109	14,067	1.99E+08	1.98E+08
90.50%	0.25%	109,308	109,071	14,368	14,131	2.06E+08	2.03E+08
90.75%	0.25%	109,573	109,129	14,632	14,189	2.14E+08	2.08E+08
91.00%	0.25%	109,844	109,185	14,903	14,245	2.22E+08	2.12E+08
91.25%	0.25%	110,121	109,234	15,180	14,294	2.30E+08	2.17E+08
91.50%	0.25%	110,405	109,284	15,464	14,343	2.39E+08	2.22E+08
•	•						
•	•						
•	•						
99.50%	0.05%	134,740	111,084	39,799	16,144	1.6E+09	6.4E+08
99.55%	0.05%	135,566	111,120	40,625	16,180	1.7E+09	6.6E+08
99.60%	0.05%	136,485	111,160	41,545	16,219	1.7E+09	6.7E+08
99.65%	0.05%	137,523	111,205	42,582	16,264	1.8E+09	6.9E+08
•	•						
•	•						
•	•						
Weighted Mean						7.14E+07	4.68E+07
(8) PRT							65.5%

Proportional Method (Cont.)				
		(4)		(5)
		Base	Discount	
		Cash	Factor	Discounted
		Flow	@ 4%	Recoveries
Ceding Commission:		20,000	1.000	20,000
Loss Recoveries:	1	32,000	0.981	31,379
	2	24,000	0.943	22,629
	3	12,000	0.907	10,879
	4	5,600	0.872	4,882
	5	3,200	0.838	2,682
	6	1,600	0.806	1,290
	7	800	0.775	620
	8	400	0.745	298
	9	240	0.717	172
	10	160	0.689	110
Total Loss Recoveries		80,000		74,940
Total		180,000		169,881

Cash Flow Yield Method				
		(3)		(5)
		Mean Recoveries	Discount Factor @ 6%	Discounted Recoveries
Ceding Commission:		20,000	1.000	20,000
Loss Recoveries:	1	30,000	0.971	29,139
	2	22,495	0.916	20,612
	3	11,130	0.864	9,621
	4	5,017	0.816	4,091
	5	2,760	0.769	2,123
	6	1,341	0.726	973
	7	659	0.685	452
	8	327	0.646	211
	9	195	0.609	119
	10	130	0.575	75
	Total	94,054		87,416