



**Michael Monahan**  
Senior Director, Accounting Policy

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Mr. Hans Hoogervorst, Chairman  
International Accounting Standards Board  
30 Cannon Street  
London EC4M 6XH, United Kingdom

Ms. Leslie F. Seidman, Chairman  
Financial Accounting Standards Board  
401 Merritt 7  
Norwalk, CT 06856-5116

Re: Insurance Contracts – November 2012 Agenda Paper 2A/95A- *Discount rate - Contracts' whose cash flows to which mirroring does not apply to but are affected by expected asset returns*

Dear Mr. Hoogervorst and Ms. Seidman:

At the November 20, 2012 joint IASB/FASB meeting to discuss accounting for insurance contracts, Agenda Paper 2A/95A: *Discount rate - Contracts' whose cash flows to which mirroring does not apply to but are affected by expected asset returns*, the boards tentatively decided:

- To clarify that, for cash flows in the insurance contract that are not subject to mirroring and are affected by asset returns, the discount rates that reflect the characteristics of the contract's cash flows should reflect the extent to which the estimated cash flows are affected by the return from those assets. This would be the case regardless of whether the:
  1. Transfer of the expected returns of those assets are the result of the exercise of the insurer's discretion, or
  2. The specified assets are not held by the insurer.
- That, for cash flows in the insurance contract that are not subject to mirroring and that are affected by asset returns, upon any change in expectations of those cash flows (for example, the crediting rate) used to measure the insurance contracts liability, an insurer should reset the locked-in discount rates that are used to present interest expense for those cash flows.

### Summary Overview

Many companies, accountants, and actuaries have concerns about these clarifying decisions, particularly when taken in conjunction with discussion at the November board meeting and the example contained in Appendix C of the November Agenda Paper. The example illustrates an approach that insurers might use to determine the discount rate and separates cash flows into two categories, one deemed asset dependent and one not deemed asset dependent. Any (implementation) guidance that implies or requires separate discount rates for non-guaranteed cash flows and for guaranteed cash flows poses significant theoretical and operational problems and may lead to incorrect measurement of the insurance liability.

While we have no objection to the words of the tentative decisions as drafted, we believe the illustration in Appendix C is problematic. Even though the general approach used is not unreasonable, the approach is simplistic and lacks clarity in distinguishing between the guaranteed rate and the risk-free rate, makes reference to unspecified additional possible adjustments that might be required to value the guarantee and does not address other complications such as additional options that may be available to the insurer or insured. We are also concerned that the language in Appendix C advocating the separation of cash flows could be (or is being) interpreted to mean that the cash flows must be split between those that are guaranteed and those that are non-guaranteed (i.e., interest-sensitive) in a way that differs from Appendix C. Under that interpretation, within any given scenario, the guaranteed cash flows would be discounted at a rate that does not depend on the assets, and non-guaranteed cash flows would be discounted at a different rate that depends on the assets.

The boards should not provide detailed implementation guidance on this subject; however, if detailed implementation guidance is drafted, it should not be too prescriptive. Prescriptive implementation guidance cannot possibly address the whole continuum of real world products with their varying degree of guarantee, risk sharing and optionality. Any implementation guidance should also recognize that a single discount rate (or single set of yield curves) for all cash flows in any measurement may be appropriate.

For measurement of interest expense and other comprehensive income (OCI), discussion at the November board meeting suggested that the tentative guidance would require disaggregation of the cash flows into guaranteed and non-guaranteed portions and locking of the discount rate for the guaranteed portion. This achieves what might be called a partial lock-in of the discount rate. We believe that a partial lock-in of the discount rate for measurement of interest expense can better be achieved through use of a single discount rate that reflects the interest sensitivity of the entire liability. This would produce a better measurement that is more reliable and understandable by analysts, than a current market discount rate.

The remainder of this letter provides detailed support for our views including the determination of such a discount rate.

### **Measurement of Insurance Liability and Reporting**

The determination of the appropriate discount rate for valuation of the non-guaranteed cash flows on their own poses great difficulty on theoretical grounds if interpreted incorrectly. We are concerned that the boards' first clarification is being interpreted to mean that within any given scenario, the guaranteed cash flows should be discounted at a rate that does not depend on the assets, and non-guaranteed cash flows should be discounted at a different rate that depends on the assets. Appendix I to this letter more fully illustrates in very theoretical and technical detail the problems associated with setting the discount rate for non-guaranteed cash flows in that context. Because of the theoretical problems, we believe that use of a split discount rate approach could lead to incorrect measurement of the insurance liability. We strongly recommend that such an approach not be advocated or illustrated. An approach using a single discount rate based on the characteristics of the contract as a whole (including the degree to which contract cash flows depend on the assets) should be used instead.

For measuring the insurance liability, a single discount rate approach is consistent with the decision that the discount rate should reflect the extent to which the estimated cash flows are affected by the assets. Without further consideration, use of a single discount rate might seem inconsistent with the intent of the decision that the discount rate used to measure interest expense shall be re-set whenever expectations regarding the credited rate change. Discussions at the November board meeting seemed

to suggest that this decision was made with an understanding that only the discount rate used for non-guaranteed cash flows would be re-set, and the separate discount rate for guaranteed cash flows would remain locked. That would accomplish a partial lock-in of the discount rate used to measure interest expense.

A single discount rate approach can more appropriately accomplish the desired partial lock-in if the single discount rate used to measure interest expense is set in a specific way.

- When business is first issued, the “lock-in” discount rate for interest expense would be the same rate used to measure the insurance liability. That is necessary to prevent the creation of OCI upon issuance of the contract.
- When the discount rate for interest expense is re-set, it would not change by the same amount as the discount rate used for the balance sheet. Instead, the rate used to measure interest expense would change in a manner consistent with the change in the non-guaranteed elements such as crediting rates. This could be accomplished in one of two ways both of which have their advantages and disadvantages but still produce the desired effect:
  - *Portfolio Book Yield Approach:* the locked-in discount rate would change by the amount of change in the portfolio book yield (weighted average of market yield and yield based on amortized cost for assets reported at market and amortized cost, respectively) rather than the change in portfolio market yield. In most cases (in the U.S., for example) crediting rates are based on book yields, but individual companies or contract forms may use something different.
  - *Crediting Rate Approach:* the locked-in discount rate would change by the amount of change in the portfolio crediting rate rather than the change in portfolio market yield.

Since both portfolio book yields and crediting rates typically change more slowly than market yields, these approaches accomplish a partial lock-in of the discount rate used for measuring interest expense with the remainder of interest rate movements reported in OCI. As we understand the boards’ intent, cash flows that are dependent on the credited rate would use a discount rate that is updated to the current market rate whenever the credited rate is revised. This would effectively eliminate use of OCI for a substantial portion of the cash flows within the majority of insurance contracts that are not subject to mirroring, since the discount rate would be reset to current market rates often, possibly every reporting period. We do not believe this is appropriate, necessary, or consistent with previous board decisions on OCI.

Suppose that when the contract is issued, the discount rate is 5.00%. This same discount rate would be used for both measuring the liability and for measurement of interest expense. In the period during which the contract is issued, these rates must be the same to prevent creation of OCI upon issuance of a contract. However, since market yields, portfolio book yields and crediting rates are rarely the same, let us suppose that the book yield of the supporting portfolio in the period during which the contract is issued is not 5.00% but is instead 5.50%. Let’s also assume 5.50% is the initial crediting rate.

Suppose that at the next reporting date, the discount rate for measuring the liability changes to 4.50%, a decline of 0.50% due to changes in current market interest rates. Let us also assume that the portfolio book yield changes from 5.50% at issue to 5.25% on the next reporting date, a decline of 0.25%. Let’s also assume that the crediting rate changes from 5.50% to 5.30% on the next reporting date, a decline of 0.20%. The discount rates for use at the next reporting date should be:

- For measurement of the insurance liability: 4.50%. This is the discount rate based on current market conditions.

#### *Change in Portfolio Book Yield Approach*

- For measurement of interest expense: 4.75%. This is the discount rate of 5.00% from the previous period adjusted for the 0.25% decline in book yields. Note that this is not the book yield itself. Instead, the change in discount rate for measurement of interest expense is based on the 0.25% change in portfolio book yield from 5.50% to 5.25%. The difference of 0.25%  $[(5.0\% - 4.5\%) - (5.0\% - 4.75\%)]$  is the portion of the interest rate movement reported in OCI.

#### *Change in Crediting Rate Approach*

- For measurement of interest expense: 4.80%. This is the discount rate of 5.00% from the previous period adjusted for the 0.20% decline in the crediting rate. Again, note that this is not the crediting rate itself. Instead, the change in discount rate for measurement of interest expense is based on the 0.20% change in the crediting rate from 5.50% to 5.30%. The difference of 0.30%  $[(5.0\% - 4.5\%) - (5.0\% - 4.80\%)]$  is the portion of the interest rate movement reported in OCI.

As a matter of principle, the change in discount rate for measurement of interest expense should be the change in a rate consistent with the determination of projected non-guaranteed elements such as crediting rates. We believe that this principle, rather than any specific formula, should drive changes in the discount rate for measurement of interest expense.

### **Practical and Operational Constraints in Splitting Cash Flows**

We believe any interpretation that requires the split of cash flows between those that are guaranteed and those that are non-guaranteed (i.e., interest-sensitive) for a universal life contract is based on a misunderstanding of the nature of the guarantees. In fact, the guarantees under the contract are constantly changing, and every incremental non-guaranteed credit results in a change in guarantees going forward. Therefore the non-guaranteed credits affect the guaranteed cash flows in the following ways:

*Guaranteed benefits:* Under a typical universal life contract, benefits are only guaranteed as long as the account value from which the cost of providing those benefits remains positive. If only the minimum guaranteed interest rate is credited, one can determine the exact length of time before the contract will terminate. When extra non-guaranteed interest is credited, however, this lengthens the time before the contract will terminate and thereby increases the guaranteed benefits. This means that the guaranteed benefits under the contract are constantly changing due to interest credits that depend on the performance of the assets.

*Guaranteed premiums:* Under a universal life contract, premiums are paid into an account that is credited with interest and used to pay for guaranteed benefits. When only the minimum guaranteed interest rate is credited, one can determine the exact premium required to keep the contract in force. However, when extra non-guaranteed interest is credited, the amount of premium required to keep the contract in force declines because the account is being replenished by interest in place of required premiums. This means that the minimum guaranteed premium is constantly changing due to interest credits that depend on the return on the assets.

In the U.S., generally when a company credits non-guaranteed amounts to a contract, those non-guaranteed amounts become subject to the guarantees at the next crediting date. So for example, a contract with an account balance of CU 1,000 at time 0 and a guarantee of 3% would have guaranteed interest at time 2 of CU 30.9 if the company credited 3% at time 1, but if the time 1 credited interest were 5%, the time 2 guaranteed interest would be CU 31.5.

Appendix II to this letter more fully illustrates these challenges with a detailed set of examples showing where difficulties would arise. In many instances it is impractical, if not impossible, to separate the cash flows between the “guaranteed” and “non-guaranteed” elements.

There are other issues that are created by splitting the cash flows as well. For example, there are no assets that would match the characteristic of using FV-NI for some cash flows and FV-OCI for other cash flows. This would virtually insure that accounting mismatches would occur. Such mismatches would occur even if the change in discount rate applied to the non-guaranteed cash flows were based on the change in book yield or change in credited rate, since no asset would match this split cash flow characteristic. And even if an accounting match could be achieved at inception of the insurance contract by investing in some assets at FV-NI and other assets at FV-OCI, the match would certainly deteriorate over time, since the asset classifications would be locked in at inception.

These issues can be avoided, and a better measurement achieved, by allowing cash flows from a contract to be treated as a single aggregate cash flow stream for discounting purposes rather than attempting to split them into guaranteed and non-guaranteed elements.

## **Recommendation**

To avoid becoming too prescriptive for diverse and complex actuarial valuations (and risk improper valuation) and to be faithful to a principle-based approach, a detailed implementation guidance is not warranted. Over time, as preparers and users adjust to the new accounting guidance for insurance contracts, best practices will emerge. If detailed implementation guidance is desired, we recommend the following:

“No single prescribed method to determine the discount rate is contained in this standard since to do so would be limiting and counter to the principles-based objective. In determining the discount rate, all relevant cash flows associated with the portfolio of insurance contracts, i.e., cash flows related to options, guarantees, and nonguaranteed components, should be taken into account. To the extent projected liability cash flows are dependent on asset returns, the discount rate should reflect that dependence. This guidance should not be interpreted to require the separation of cash flows into guaranteed and non-guaranteed components with different discount rates. ”

“For cash flows in the insurance contract that are not subject to mirroring and that are affected by asset returns, upon any change in expectations of those cash flows (for example, the crediting rate or surrenders) used to measure the insurance contracts liability, an insurer should reset the locked-in discount rates that are used to present interest expense for those cash flows. The initial locked-in discount rate should be the then current market-consistent rate at the time of issuance. It shall be changed in a manner consistent with the determination of the projected non-guaranteed elements such as crediting rates which may often be based on amortized cost or ‘book yield.’”

We welcome the opportunity to discuss this matter in greater detail at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "M Monahan". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael Monahan  
Senior Director, Accounting Policy

cc: IASB and FASB members  
Peter Clark, IASB staff  
Andrea Pryde, IASB staff  
Jennifer Weiner, FASB staff

## APPENDIX I

### Concerns Associated with Requiring a Separate Discount Rate for Non-Guaranteed Cash Flows

It has been suggested that the valuation of contracts with both guarantees (guaranteed elements) and discretionary participation features that are not subject to the mirroring approach (non-guaranteed elements) should be done in two parts. The suggestion is that the cash flows associated with the guaranteed elements should be discounted using the risk-free rate (setting aside illiquidity for simplicity), while the cash flows associated with the non-guaranteed elements such as a discretionary crediting rate that is found in a typical universal life contract should be discounted at a higher risk-adjusted rate. This discussion explains why a simpler approach using a single discount rate for all cash flows is more appropriate for this business.

A simple example will illustrate the calculation issues that are involved. Assume we have a five-year insurance contract under which \$1.00 of the premium is added to an account value at the beginning of the first year (just as with a universal life insurance contract). The policyowner does not have the right to surrender the policy and at the end of the fifth year the contract expires and the account value is returned to the policyowner with interest. The contract guarantees that the crediting rate will be at least  $g$  (the guaranteed rate). However, it is anticipated that the rate credited will actually be  $c$  (the crediting rate). The actual crediting rate will be determined based upon the actual investment performance of the invested assets held to support the contract less a spread retained to reflect the risk that the invested assets earn less than the guaranteed rate. Therefore, the expected cash flows for this part of the contract include a fifth year-end payout of guaranteed benefits of  $(1+g)^5$  and a discretionary payment of  $(1+c)^5 - (1+g)^5$  for a total payout of  $(1+c)^5$ . The question at hand is what the present value of this payout should be at time of issue of the contract.

For the sake of discussion, let's assume that the risk-free rate  $r$  lies between  $g$  and  $c$ . That is, the guaranteed rate is less than the risk-free rate, and the projected crediting rate is greater than the risk-free rate. This is the typical situation for non-onerous participating universal life contracts. For the sake of discussion let's also ignore all other cash flows that would be included in valuation of the full contract and focus just on the account value. It is understood that the account value is not an insurance contract by itself, but it is important to understand the implications of any valuation technique when applied in the simplest context – to just the account value.

As background, we know that if we have a similar account value that guarantees a return equal to the risk-free rate, but does not have a discretionary participating feature, the present value would be \$1.00  $[(1+r)^5 / (1+r)^5]$ . The guarantee requires no separate valuation because it is at or less than the risk-free rate and it does not apply to future potential deposits made at a time when the risk-free rate might be less than the guarantee.

Similarly, we can ignore the separate valuation of the guarantee in our example with a discretionary participating crediting rate because 1) the guarantee is less than the risk-free rate 2) there are no future potential deposits to which the guarantee applies and 3) the insurer retains a spread to reflect the risk that the actual investment performance is less than the guaranteed minimum crediting rate. With this in mind, we already know what the present value of the account value should be. If this is not an onerous contract, the value should be the account value itself. At the beginning of the first year this is \$1.00. This clearly suggests that discounting the expected payout of  $(1+c)^5$  at a discount rate equal to the expected crediting rate  $c$  will provide the appropriate valuation. This is similar to valuing a floating rate debt instrument. The updated discount rate is not applied solely to the interest payments, whose amount varies, but also to the principal, whose amount is fixed. This is necessary to achieve a coherent value of the instrument, because the floating crediting rate applies not just to the interest payments, but

to the principal itself. But, let us see what happens if we attempt to discount the guaranteed payout at the risk-free rate and the non-guaranteed elements at a risk-adjusted rate.

As an example, assume that the guaranteed rate  $g$  is 3%, the risk-free rate  $r$  is 4%, and the projected crediting rate  $c$  is 5%.

The guaranteed payout is \$1.16 ( $1.03^5$ ), and its present value at the risk-free rate is \$0.95 ( $1.16/1.04^5$ ). The additional projected discretionary credited interest is \$0.12 ( $1.05^5 - 1.16$ ), and its present value at a risk-adjusted rate of 5% is \$0.09 ( $0.12/1.05^5$ ).

The total present value is  $\$0.95 + \$0.09 = \$1.04$ . This is greater than the proper value of \$1.00. So what went wrong?

The problem is that the discount rate applied to the non-guaranteed elements is too low; it does not reflect all the risk associated with those cash flows. In this case there is proportionally a great deal of risk associated with the non-guaranteed elements. In fact, all of the risk associated with this contract is associated with the \$0.12 of discretionary projected credited interest, and none of it is associated with the \$1.16 of guaranteed value. In order to reflect this degree of risk, the discount rate applied to the discretionary credited interest cash flow would need to be 20%:

1.0 (proper value of whole contract)  
- 0.95 (guaranteed value discounted at  $r$ )  
0.05 (theoretical value of discretionary cash flows)\*

\* requires a discount rate of 20% [i.e.,  $0.05 = 0.12 / 1.2^5$ ]

Only a discount rate that is ridiculously high will properly discount the discretionary credited interest if guaranteed elements are to be valued separately from the non-guaranteed elements. Compounding the practical and operational challenges of separating guaranteed and non-guaranteed cash flows illustrated in Appendix II, there is neither a market rate nor a reliable way to determine this discount rate other than by backing into it in a manner consistent with determination of the 20% discount rate above.

By way of analogy, consider a block of fixed-rate mortgages with default risk. Investment bankers often securitize a block of such mortgages by splitting it into two or more tranches with different levels of credit risk. Suppose there are just two tranches, an AAA-rated tranche with virtually no default risk, and a “junk” tranche that holds virtually all of the credit risk. One can think of this process as separating the mortgage repayments into those that are guaranteed and those that are non-guaranteed. The market will value the cash flows from the AAA tranche at a discount rate lower than that of the underlying mortgages, and the market will value the “junk” tranche at a discount rate much higher than that of the underlying mortgages. This is similar to what would be expected to be done with the cash flows from a universal life contract in splitting them between guaranteed and non-guaranteed amounts. However, consider the consequences of doing this:

1. The discount rate for the “junk” tranche is higher than the rate on the underlying mortgages. In the universal life situation this means that the discount rate for the analogous non-guaranteed cash flows may be higher than the return on the assets underlying the contract as a whole, that is, higher than the return on the assets upon whose returns any non-guaranteed elements depend. It is not clear what the basis for that discount rate should be. In the case of the mortgages the discount rate for the “junk” or non-guaranteed tranche is set by the market, but there is no market for the non-guaranteed benefits under universal life contracts so any estimate of the discount rate for non-guaranteed benefits alone would be speculative at best (unless backed into which only needlessly complicates the calculation).

2. Investment bankers undertake this securitization in order to change the market value of the whole package – the sum of the market values for the AAA tranche and the “junk” tranche is greater than the market value of the underlying mortgages because the two parts are sold to different buyers with different risk preferences. In the universal life case the contract is not split between two buyers, so there is no need to disaggregate its value. It is much simpler and more appropriate to value the contract as a whole.

One can also demonstrate algebraically that the discount applied separately to discretionary credited interest in any example like this should be significantly greater than the discretionary credited interest rate itself. This makes intuitive sense when one considers how the market price of risk is reflected under this methodology.

The market price of risk can be characterized by  $M = \frac{\mu - r}{\sigma}$  where  $\sigma$  is the standard deviation (i.e., risk) of the return,  $r$  is the risk-free rate and  $\mu$  is the expected return.  $M$  is theoretically a constant, so that the expected return of a financial instrument increases with its variability.  $\mu = r + M\sigma$ .

Consider the application of this to valuation of the full contract, and then to separate valuation of the discretionary credited interest cash flows. We have discussed the idea that the valuation of the full contract can be done with a discount rate of  $c$ . In the formula above, the discount rate is analogous to  $\mu$ , and  $\sigma$  represents the standard deviation of contract cash flows as a percentage of their total. However, if we apply this to the valuation of just the discretionary cash flows, suddenly  $\sigma$  represents the standard deviation of those cash flows as a percentage of just the discretionary credited interest, not the full contract. So  $\sigma$  is much larger, and the discount rate analogous to  $\mu$  should therefore be much larger. Since the standard deviation of discretionary credited interest could easily be +/-80% or more, this variability is much greater than that of a typical equity portfolio and the discount rate needs to reflect that by being greater than a typical equity portfolio return.

To summarize, we agree with the board decision that discount rate for contracts with discretionary non-guaranteed elements should reflect the degree to which cash flows are dependent on asset returns. However, we believe that the numerical example above, the discussion of mortgage securitization and the theoretical justification demonstrate that it is appropriate to apply that decision by using a single discount rate that applies to contract cash flows in the aggregate, rather than to use two or more discount rates applied to different portions of the contract cash flows. If the latter were required, determination of the discount rate for non-guaranteed cash flows would be problematic and could easily lead to inaccurate valuation of the contract as a whole.

Our example is also not meant to suggest applying the technique used given the sophistication of real world products and guarantees, but rather to show how inappropriate it is to value discretionary cash flows separately from guaranteed benefits. A more comprehensive illustration of appropriate determination of a discount rate for contracts with discretionary participation features can be found on page 18 of the ACLI report entitled, “An Analysis of the Insurance Contracts Project Tentative Decisions, An ACLI Report June 2012” previously shared with the boards.

## APPENDIX II

### Practical and Operational Constraints in Splitting Cash Flows

Following are a list of contracts where difficulties would arise with an interpretation that requires the split of cash flows between those that are guaranteed and those that are not guaranteed. These issues can be avoided by allowing cash flows from a contract to be treated as a single aggregate cash flow stream for discounting purposes rather than attempting to split them into guaranteed and non-guaranteed elements.

*Universal life with fixed death benefit* – Many universal life contracts have a fixed death benefit equal to the face amount, even though the account balance is subject to change based on the crediting rate and policyholder behavior. Surrender payments on such contracts would appear to be interest sensitive because the amount of surrender benefit depends on the interest credited. However, it is not clear that the death benefit would be considered interest sensitive. The amount of the death benefit may be fixed under most circumstances,<sup>1</sup> and so may appear to be non-interest sensitive. However, the death benefit payment depends on the contract remaining in force, and the length of time the contract remains in force depends on the interest credited. For example, assume:

Current account balance = CU10,000  
Monthly cost of insurance charge = CU500

It may appear that the contract will remain in force for at least 20 months regardless of interest credited. But if the credited rate is greater than “0”, the contract would still have a positive account value after 20 months so it would remain in force, possibly leading to the payment of the fixed death benefit after 20 months have expired. And in scenarios in which partial withdrawals are taken, the fixed death benefit may expire in less than 20 months. This demonstrates that projected payments of the fixed death benefit are dependent on the crediting rate, which depends on the underlying assets.

If cash flows on this contract had to be split between guaranteed and non-guaranteed amounts, then one might suggest that cash payments of death benefits would need to be included in guarantees for the first 20 months and then switch to non-guaranteed amounts after 20 months. However, this ignores the fact that the policyowner can also pay premiums under the contract. Any payment of premium increases the account value and extends the period for which the fixed death benefit is guaranteed. A universal life contract typically allows flexible premium payments so no future premiums are required. However, the contract guarantees that if such payments are made, the period for which death benefits are guaranteed will be extended. In this situation it is impossible to determine exactly when future death benefit payments should be considered guaranteed versus non-guaranteed because doing so depends on policyowner behavior which is not guaranteed.

*Universal life with death benefit equal to fixed amount plus account balance* – Many universal life contracts have a death benefit equal to a fixed amount plus the account balance. Such contracts raise all the issues as with universal life contracts with fixed death benefits. However, where the contract has a death benefit equal to the face amount plus the account balance, it would appear that at least the account balance portion of the death benefit would be considered interest sensitive, even if the death benefits in universal life contracts with fixed death benefit are considered non-interest sensitive. The

<sup>1</sup> Due to U.S. tax regulations, even fixed death benefit universal life contracts generally have a provision to automatically increase the death benefit if the ratio of death benefit to account balance is too low. Also, fixed death benefit universal life contracts often have a provision that permits policyholders to change their death benefit option to be the fixed face amount plus the account balance.

additional question on contracts with death benefit equal to the face amount plus the account balance is whether the entire death benefit would be considered sensitive to the credited rate, or would the death benefit cash flows themselves need to be split between an interest sensitive portion and a non-interest sensitive portion. Such a split may be unnecessarily burdensome and confusing. As with universal life contracts with fixed death benefits, under a strict definition of interest sensitivity virtually all cash flows, including death benefit cash flows, have some degree of sensitivity to the credited rate.

*Fixed deferred annuities* – Fixed deferred annuities are similar to bank CDs, but are classified as insurance contracts due to the giving the policyholder the right to convert their contract to a payout annuity at maturity with guaranteed minimum rates. These minimum rates are typically stated in terms of the account balance at the time (e.g., payout of \$X per month per \$1000 of account balance at a given age). Thus, virtually all cash flows in a fixed deferred annuity during the accumulation phase are interest sensitive. The only exception may be maintenance expenses, which mostly do not depend on the account balance, since unlike universal life the duration of the contract is independent of interest rates.

If the contract goes into payout mode, the cash flows are no longer interest sensitive. At that point, it would make sense to treat the cash flows as fixed, non-interest sensitive, similar to a purchased income annuity. However, this would best be accomplished by revising the interest rate approach at the time the contract goes into payout mode, rather than by attempting to split cash flows within a contract (indeed, during the accumulation phase, even cash flows projected to occur during the payout phase would be interest sensitive, since the amount of fixed payouts will depend on the account balance at the time the payout phase begins). This could be accomplished by recognizing a change in status in the contract – at the point the payout phase begins the contract status has changed from a contract with interest dependent cash flows to a contract with non-interest dependent cash flows. In many companies, the contract's supporting assets are moved to a different portfolio at that point, so the recognition of change in status of the contract would parallel a change in the supporting assets.

*Participating whole life* – U.S.-style participating whole life raises similar issues to universal life. One might argue that the face amount portion of the death benefits is not interest sensitive. One might further argue that the guaranteed surrender values provided in the contract are not interest sensitive. Under that approach, only dividends and surrender and death benefits emanating from dividends left with the company would be considered interest sensitive.

However, although participating whole life has more guarantees and fewer policyholder options, a strict interpretation of interest sensitivity would consider most cash flows in a par whole life to be interest sensitive. That is because the policyholder still has options to pay premiums or not, invest future dividends in the contract or not, withdraw some or all (or none) of dividends previously invested in the contract, or take policy loans. Thus, most cash flows beyond the next dividend payment (typically paid on policyholder anniversaries) are likely to have at least some dependence on the rate credited in the dividend, depending on the policyholder's behavior.

*Treatment of premiums* – For any contract with split cash flows, it is unclear how to treat future premium cash flows. Unless substantially all the cash flows are treated as interest sensitive (or all are treated as non-interest sensitive), it is not clear whether future expected premiums should be included with:

1. Non-sensitive cash flows, under the assumption that the premium amount itself is not dependent on the credited rate
2. Split between sensitive and non-sensitive, based on the proportion of premiums assumed to depend on the credited rate to the extent the credited rate is assumed to influence policyholder behavior

3. Split between sensitive and non-sensitive in proportion to the split of the future cash outflows generated from the premiums (e.g., if 65% of future cash outflows are deemed to be interest sensitive, 65% of future premiums would be included with interest sensitive cash flows)

The 3<sup>rd</sup> approach seems to make the most theoretical sense, by treating premiums consistently with the cash outflows they generate, but may be the most complex to implement because the cash out flow split would need to be projected and allocated before allocating premiums, and only then could the present values be determined.

In addition to the theoretical challenges related to splitting cash flows, the boards' decision on splitting cash flows will create operational challenges. Valuation systems will need to be modified to accommodate multiple cash outflow flow streams from a single contract, with cash flows potentially moving between the guaranteed and non-guaranteed stream each reporting period. This is a significant challenge exacerbated by attempting to allocate premiums.

Because of the dynamic relationships between the guaranteed and non-guaranteed elements of a universal life contract, we believe it is appropriate to view the aggregate cash flows under the contract as a package, and make the discount rate depend on the extent to which the aggregate estimated cash flows are affected by returns from the assets.