The Fair Value of Insurance Contracts

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Executive summary

Over the last decades, accounting standard setters have given greater emphasis to the use of fair value as a financial reporting measurement basis. Among the reasons for this trend are the increased importance of the financial markets as a source of capital and funds for risk-taking and a growing emphasis on economic related values. Many accounting standard setters have reached the conclusion that properly established and reliably measured fair values for financially-related assets and liabilities provide more meaningful information than alternative approaches for the users of financial statements.

We explore recent developments in the application of market consistent concepts to fair values used for financial reporting purposes. We present a set of criteria that should be useful to evaluate proposed fair value measurement methods where input based on prices observed in an active market with reliable transaction prices are not available. Based on these criteria, we examine one approach that might serve as a basis for fair value measurement of life insurance contracts liabilities and other financial instruments issued by insurance companies. To support our examination we have used the current treatment of a funding agreement issued in a Funding Agreement backed Note Issuance Program (FANIP), an investment contract, under U.S. GAAP as a model. We expand on this model to a 20 year term insurance contract to illustrate the concepts involved as applied to insurance contracts. In part this illustrates that a consistent approach to the measurement of these two types of contracts is practical and we contend desirable.

In the examples given, the price for risk was held constant over the contract duration for simplicity of illustration. Nevertheless, in the case in which it would be appropriate for this margin to vary over time, we believe it can be easily adapted.

Several additional issues that are relevant to fair value measurement are discussed. The risk margin is assessed in relation to a theoretical treatment of expenses implied by the transaction price of a contract. Possible alternative treatments of the credit standing associated with a funding agreement as part of a FANIP is explored. We also discuss the advantages of elimination of the demand deposit floor, although we recognize that without changes to fair value measurement guidance to non-insurance contracts, this may introduce an inconsistency of treatment between types of contracts.

Background

In 2000, the Joint Working Group of Standard Setters recommended that all financial assets and financial liabilities be measured on a fair value basis. However, their recommendation was not advanced – it was too large a step to take at the time.

Subsequently, in 2001 the Financial Accounting Standard Board ("FASB") published Concept Statement No. 7, *Using Cash Flow Measurement and Present Value in Accounting Measurement* ("CON 7"). CON 7 deals with various measurement aspects of fair value, but does not address when fair value should be applied. It recognizes that reliable market-based price information from which to measure fair value is not always available by establishing a "hierarchy" of fair

value measurement that ranges from directly observable relevant transaction prices to model based values on entity-specific inputs.

In June 2004, the FASB followed with an exposure draft entitled *Fair Value Measurement,* whose objective was to provide guidance on how to measure fair value, again not addressing when such measures should be applied. At the time this was written, it is expected that a standard will be adopted in the second quarter of 2006 by the FASB and will subsequently be exposed by the International Accounting Standards Board ("IASB") to its constituents for comments and possible future adoption. If adopted, the resulting Statement of Financial Accounting Standard would effectively upgrade an enhanced CON 7 to a standard in the accounting hierarchy. On March 15, 2006, the FASB produced a working draft of Accounting Standard No. 15X, *Fair Value Measurement* ("Working Draft").

Even after many years of discussion, a consensus regarding when to recognize and how to reliably measure fair values using a mark-to-model approach is still being sought. We believe that a principle-based approach is critical to the development a viable fair value accounting model for insurance contracts, where reliable market prices are seldom observable. Such an approach should be one capable of accommodating the spectrum of product variation and enhancing the consistency of financial reporting values across jurisdictions and products. Such a fair value methodology should be based on the present value of all future cash flows relating to an insurer's current obligations. In contrast with loss recognition or liability adequacy tests that only recognize impairments or increases in expected costs, a fair value approach should reflect both improvements and deterioration in projected experience.

We recognize that, although clearly applicable to the accounting for business combinations and embedded insurance derivatives, a consensus has not been reached regarding whether the fair value accounting objective will apply to the general accounting of insurance contracts. In any event, we hope that this paper will assist in the deliberations underway by the IASB in phase 2 of its Insurance Contracts project and subsequently by the FASB in its convergence efforts.

Although we specifically address contracts in which no contractual or legal link between assets and liabilities exist, the criterion and principles discussed should be applicable to those contracts as well. In addition, although the paper should equally apply to life and property & casualty insurance contracts, it does not address post-claim liabilities.

Definition

A fair value financial reporting system is an accounting system in which values of assets and liabilities that are not contractually or legally linked are measured independently (1) based on observed transaction prices from a relevant active market from which reliable prices or market based inputs can be obtained or (2) if these criteria cannot be met, based on estimates of such prices as if such a market did exist.

Two quite similar but not identical definitions of fair value measurement are[1]:

[1] Note that it is anticipated that the IASB will consider converging with the proposed FASB definition

1. "The price that would be received for an asset or paid to transfer a liability in a transaction between marketplace participants at the measurement date." (FASB – Working Draft)

2. "The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction." (IASB – IAS 39.11)

Fair value estimates

Based on comments received on its exposure draft and subsequent deliberations, the FASB has revised its hierarchy of valuation inputs to be used as a basis for fair value estimates. This hierarchy consists of three levels, with level 1 being the most reliable, all else being equal. It should be noted that in all circumstances, a fair value is an estimate, even when based on current observed prices. The following is a summary of the Working Draft's categorization of fair value inputs.

- Level 1 inputs. Whenever observable, quoted prices for identical assets or liabilities in the principal market that the entity has the ability to access at the measurement date. If such prices are quoted in terms of bid and asked prices, the estimate represents the price within the bid-asked spread at which marketplace participants would currently transact exchanges.

- Level 2 inputs. If quoted prices for identical assets or liabilities are not available or if observed market prices are not reliable, level 2 inputs include:
    a. quoted prices for similar assets or liabilities in an active market,
    b. identical or similar assets or liabilities in markets that are not active in which there are few transactions, the prices are not current, quotations vary substantially, or for which little information is available publicly,
    c. market inputs other than quoted prices such as interest rates, and
    d. market inputs derived principally from or corroborated by other observable market data through such techniques as extrapolation and interpolation.

- Level 3 inputs. Fair value estimates that include level 3 inputs incorporate unobservable market inputs that are not able to be corroborated by observable market data. These would arise in situations in which there is little, if any, market activity for the assets or liabilities. These however have to be developed considering the assumptions that market participants would use to price the assets or liabilities. The entity's own data can be used, as long as information is not available to indicate that market participants would use different assumptions.

According to this hierarchy, fair values are estimated on the basis of the results of one or more valuation techniques that make maximum use of market inputs, with as little reliance on unobservable market inputs as possible. It is important to realize that to be characterized as a fair value method, the inputs made within level 3 have to be considered from the perspective of market participants. By necessity this may have to involve internally developed assumptions of theoretical market inputs based on the entity's own data. These assumptions would be adjusted to exclude factors specific to the reporting entity if information is available that indicates that

market participants would use different assumptions. The primary difference between level 2 and level 3 inputs is that level 2 inputs are based on a model that reflect some form of reliable market data, while level 3 inputs are totally based on models.

In any case, a fair value measurement technique should reasonably reflect how the market could be expected to price the asset or liability by incorporating all the factors that market participants would consider in agreeing to a price and be as consistent as possible with accepted economic methodologies. In addition, the inputs to the valuation technique should reasonably represent market expectations and measures of the risk-return factors inherent in the asset or liability being measured. Since the liabilities of few insurance contracts are traded in an active market, the fair value of most such liabilities would be considered to be based on level 3 inputs.

Discussions of fair value measurement often focus on the measurement of fair value at contract inception, sometimes referred to as a "day 1" value, rather than its value subsequent to origination, sometimes referred to as "day 2".

Day 1 values

The IASB's guidance with respect to financial instruments in IAS 39 AG76 indicates that "the best evidence of the fair value of a financial instrument at initial recognition is the transaction price," the so-called *day 1 value*. AG76 goes on to say that this is the case "unless the fair value of that instrument is evidenced by comparison with other observable current market transactions in the same instrument (i.e., without modification or repackaging) or based on a valuation technique whose variables include only data from observable markets."

To the extent that a relevant and reliable transaction price or market input is not observable, a fair value would be estimated reflecting prices that market participants would be expected to pay (or demand) at day 1, whether it was acquired or assumed. Such inputs are currently used as a basis for most historical cost and deferral and matching accounting systems whose accounting objective is to match costs and corresponding revenue.

The Working Draft (paragraph 17) indicates that the reporting entity must consider specific factors for that transaction price to represent the fair value of the asset or liability at initial recognition. For example the reporting entity considers whether the transaction is between related parties, whether it occurred under duress, when the unit of account represented by the transaction price is different from the unit of account for the asset or liability measured at fair value, and whether the market in which the transaction occurs is different from the principal (the most advantageous) market.

Day 2 and subsequent values

Since most insurance contracts are long-term in nature, financial statements of companies issuing them are greatly affected by the subsequent measurement of their liabilities, it is critical that day 1 and day 2 values be systematically and consistently measured. The IASB has concluded in IAS 39 AG76A that for financial instruments, "The subsequent measurement of the financial asset or financial liability and the subsequent recognition of gains and losses shall be consistent with the

requirements of this Standard. The application of paragraph AG76 may result in no gain or loss being recognized on the initial recognition of a financial asset or financial liability. In such a case, IAS 39 requires that a gain or loss shall be recognized after initial recognition only to the extent that it arises from a change in a factor (including time) that market participants would consider in setting a price."

As an example, IAS 39 AG77 indicates that "if the financial instrument is a debt instrument (such as a loan), its fair value can be determined by reference to the market conditions that existed at its acquisition or origination date and current market conditions or interest rates currently charged by the entity or by others for similar debt instruments (i.e. similar remaining maturity, cash flow pattern, currency, credit risk, collateral and interest basis) …" and "If conditions have changed since the most recent market transaction, the corresponding change in the fair value of the financial instrument being valued is determined by reference to current prices or rates for similar financial instruments, adjusted as appropriate, for any differences from the instrument being valued."

According to the Working Draft, changes since initial recognition are considered in subsequent remeasurements, considering changes in the market and other relevant factors.

The principal market

The determination of the principal market is an important consideration in the application of market based inputs to fair value measurement in the Working Draft. Paragraph 8 describes the principal market as "the market in which the reporting entity would sell or otherwise dispose of the asset or transfer the liability with the greatest volume and level of activity for the asset or liability."

Two common families of markets have been identified that should be considered:

1. The retail or so-called *business-to-consumer* market. The use of observed transaction prices of the asset or liability in a retail market is also referred to as an *entry price* or *customer consideration* model.

2. The wholesale or so-called *business-to-business* market. The derivation of values based on information from a wholesale or re-sale market has been referred to as an *exit price* model. A fair value based on this market represents an estimate of the price that market participants would be expected to pay or demand when an asset is sold or a liability is exchanged or settled. As discussed later, it may be problematic to rely on a business-to-business principal market for insurance contracts.

According to paragraph 15 of the Working Draft, if there are multiple markets, the principal market for a liability is the market with the price that minimizes the amount that would be paid to transfer the liability to a marketplace participant of comparable credit standing. In most cases this would lead to the use of a business-to-business or exit price model.

Yet in the principal market in which a transaction for an asset or a liability occurs, entry and exit prices are presumed to be the same at initial recognition, absent persuasive evidence to the contrary[2]. Nevertheless, using a business-to-business market as the principal market would usually be expected to produce the smallest measurement of the liability, at least because of the higher profit margins sometimes associated with a retail rather than a wholesale market. It should be noted that any model used reflects the risk characteristics, product features and expected policyholder behavior of the specific contract. Also, given the diverse nature of product lines offered and distribution channels used by many insurers, the principal market may differ for an entity's business activities and may depend on the unit of account being considered.

In contrast to many financial instruments traded in active markets, there have been few, if any, markets in which the liabilities of insurance and related contracts have been traded or transferred or from which reliable market-based inputs can be observed. Although reinsurance, mergers/acquisition and life settlement (U.S.) markets have been put forth as possible sources of price information, they currently do not provide appropriate day 2 market inputs. The limited breadth, liquidity and frequency of observable prices in these markets make it a challenge to develop reliable information that is also relevant. In addition, transaction prices in these markets may not be consistent with underlying costs as subsequently expected by a market participant. Any large market transaction, such as a reinsurance treaty or merger/acquisition is impacted by entity-specific and strategic considerations, such as the achievement of scale, desire to enter certain markets, and attainment of desired diversification.

If an insurer expects to reduce its average cost of administration or to reduce the potential volatility of its mortality/morbidity experience through the purchase of an additional volume of life insurance contracts, the insurer may be willing to pay a higher average price per contract for these additional contracts than if the insurer were buying a single individual contract. However, those factors are specific to that entity and that purchase. When the unit of account is the individual contract these factors are not relevant to its fair value; rather, it would affect economic capital.

A similar situation arises in the asset management market. For example, an investment manager can reduce its average custodial fees and reduce the volatility of expected credit losses through the purchase of a greater volume of different bonds. These benefits are not considered relevant in determining the fair value of an individual bond, although the market may recognize this in the sale price of an investment manager. However, the market value of the investment manager is not relevant in determining the market value of a bond.

An additional example is the life settlement market in which third party market participants reflect very different margins and incentives than in the normal life insurance contract. The price one entity is willing to pay for the acquisition of an entire company can be very different than what another market participant would be willing to pay, in part due to a control premium and the value associated with potential future sales and renewals. The less relevant or reliable the market inputs, the greater the need to rely on models to estimate the hypothetical price at which

[2] Examples of possible exceptions include the relatively low combined ratio often experienced by many accident-only lump sum benefit contracts and market prices in a very hard or underpriced market.

market participants would be willing to buy or sell identical or similar assets or liabilities had there been a market with reliable price information.

It is important to note that there is no unrestricted active business-to-business reference market in the U.S. and certain other countries for insurance contracts, as under insurance laws an insurance company cannot unilaterally transfer its obligations to a third party and novate them to the policyholder. Unless policyholder consent is obtained under an assumption reinsurance arrangement, the original writer of the contract retains the primary obligation to the policyholder. For example, if a non-assumption reinsurer was to fail before an insured event occurs, the direct insurance company would still be obligated to fulfill the contractual obligations to the policyholder. The scarcity of assumption reinsurance transactions in the U.S. market indicates that an active business-to-business market does not currently exist in the U.S. that can provide reliable market inputs).

Thus, the only current market where insurance liabilities are traded with minimal transaction specific distortion is the business-to-consumer market on day 1. In this business-to-consumer reference market, the customer consideration (including future premiums) is the basis for the fair value that both a policyholder is willing to pay and a life insurance company is willing to provide those insurance benefits.

In contrast, the use of inputs from a business-to-business market involving insurance companies with a similar rating may yield somewhat different fair value estimates, because observable inputs may not be sufficient to provide a sufficiently reliable fair value relative to a hypothetical market participant. Observable inputs include variations in the extent of competition and price-sensitivity in the market and development and acquisition costs necessary to access the market. Expense levels, including the cost of novation for a contract that theoretically should be minimal if the companies' credit rating and brand value are equivalent but which might involve considerable frictional costs, are other assumptions that market participants would use in pricing the insurance contract but which are typically unobservable.

In a perfectly competitive market a company should be indifferent between an insurance contract from a new policyholder and a similar contract originated from another insurance carrier, as long as the expected return is the same. Similarly, in such a market a policyholder should be indifferent between the ultimate obligor of its benefits, so long as the credit standing of the two obligors is the same and the future premiums, credits, charges and non-guaranteed elements are the same. This indifference and the criteria set out below will be satisfied if the unit of account is the individual insurance contract. We contend that the primary difference between estimates based on exit value and a customer consideration model relates to the different use of the unit of account between the portfolio and the individual contract, respectively. Both reflect the exposure-specific nature of the insurance risks. A unit of account based on a portfolio reflects the effect of the purchase of that portfolio that might include a smaller amount of volatility (i.e., reduction in process risk) and possibly an improvement to economies of scale, both of which should not be reflected in the fair value of liabilities; rather, it should be reflected in capital as an intangible that should be reflected when the benefits are achieved.

An assuming insurance company would ordinarily be willing to continue coverage at the same premium rate the policyholder is currently paying since the return to the assuming company would be the same as it would have received if it had directly issued the contract. In other words, in the customer consideration model the assuming company should be indifferent as to whether it received this sum from the transferring company or directly from the insured, since the company's return would be the same. An important corollary is that the value would also equal the amount a policyholder would demand to release a company from its obligations (settlement value as defined by the IASB), since the policyholder would pay the same amount to a different insurance company with the same credit standing and receive identical benefits while maintaining future premiums at the same level. Although non-guaranteed element payments may vary depending on the entity's non-guaranteed element policy, it has to be assumed that the current policy will continue, unless it can be demonstrated that market participants would not continue the current entity's non-guaranteed element policy.

Therefore, although conceptually an exit value would be more consistent with fair value concepts, due to the lack of relevant and reliable values, the fall-back market that is not the same time the principal market for insurance contracts, can be estimated through use of a customer consideration model. When entity- specific characteristics are eliminated and the unit of account is the individual insurance contract these values are the same.

Criteria

Reflecting the above discussion, we believe that the following criteria should be applied to assess the merits of an accounting model for the measurement of the fair value of liabilities for insurance contracts:

1. Consistency between day 1 and day 2 measurement approaches.

2. Consistency between components of and between insurance contracts. It is important to measure a contract's component parts on a consistent basis. Most insurance contracts consist of a bundle of components (e.g., deposit, insurance, service and embedded derivatives, as well as options and guarantees) that for many contracts can be quite difficult to measure separately in an other than arbitrary manner. To avoid discontinuities between the liabilities for insurance contracts, financial instruments and service contracts, as well as their various components, it would be desirable to use a consistent measurement framework across contracts and contractual components.

   The importance of this inconsistency can be seen from the experience of U.S. GAAP measurement of liabilities and revenue of various contracts issued by insurance companies (e.g., the distinction between SFAS 60 traditional life, SFAS 97 universal life-type and SFAS 97 investment contracts). Examples of the importance of consistency across contract types can be inferred from the recent discussions regarding contract classification and risk transfer of reinsurance contracts.

3. Consistency between the measurement approaches used for all financial contracts, whether assets or liabilities, financial instruments or insurance contracts. This concern for

consistency is particularly relevant between the measurement of insurance contracts and long-term contracts subject to IAS 39 (sometimes referred to as investment contracts). Measurement consistency would reduce the importance of classifying contracts and their components as insurance contracts to achieve a particular accounting treatment. In addition, consistent measurement of well matched assets and liabilities would allow both the asset and liability side of the balance sheet to be similarly responsive to changes in interest rates and other economic factors. In the event they are not well matched, this would enable the economic impact of the mismatch to be properly reflected in earnings.

Inconsistent accounting treatment currently exists for apparently similar products offered in different jurisdictions and industries within the same jurisdiction, and even in the same industry where minor changes in the economics or even the form of a product create large differences in measurement and presentation. Most jurisdictions have some form of mixed attribute model of accounting. For example, certain jurisdictions specify the use of deposit accounting for certain insurance contract liabilities with significant financial instrument-like components and fair value accounting for certain derivative-like features within insurance contracts. Differences in the definition of revenue can significantly affect the financial statement presentation of a contract, which in turn can affect its desirability.

4. Use of a principal market, even if a hypothetical one, from which relevant market inputs could be observed or estimated which is liquid, free of the influence of diversification, economies of scale and other influences, as well as to the extent possible free of constraints that may distort pricing (e.g., the need for policyholder consent in the business to business market).

5. Consistency with accepted economic pricing methodologies. Since the fair value of a financial instrument is independent of the holder of the instrument, it should not recognize entity-specific factors, including diversification benefits and benefits of economies of scale. Nevertheless, such factors associated with the contract would be reflected. Some view market-based prices as amounts that include provisions such as expenses and cost of capital and would expect a fair value method to do the same. However, the price assumed to cover these costs is independent of the specific company's actual or projected costs. A company whose actual costs are less then this market based expense charge would have an additional source of profit, while a company whose costs are higher than that of a hypothetical market participant would have a negative impact on earnings.

6. Consistency between standards. Fair value measurement should be consistent with other key standards, such as revenue recognition. Similar features and components in these products should be measured in a similar and logical manner. Current discussions of these potential standards or concepts appear to be moving in the direction of reflecting customer considerations, although exposure drafts addressing this concept have not yet emerged. If this approach is adopted, consistency with a customer consideration measurement model would become even more appropriate. The cost of services provided or risk borne might alternatively be used as a common basis for recognizing revenue.

Other approaches that might be used to resolve these inconsistencies in measurement include a wider use of fair value or a consistently derived basis for their prospective measurement.

7. Consistency across unit of account. Similar to the case of a financial instrument, it is appropriate to recognize the individual life insurance contract as the unit of the account so that the liability is not influenced by the size of the book of business, although it would be appropriate to reflect exposure-specific risk characteristics. As in any financial institution, an insurance company's assets are equal to its liabilities plus capital. Some of the factors that influence the amount of capital an insurer needs to hold include the expected effect of volatility of operating results, expense losses until critical mass is achieved and the level of expected profitability. These items in turn are influenced by the size of the company's book of business and hence the capital per unit is a function of the size of the book. Although a larger and more diversified entity should be able to hold lower capital per unit, this does not imply that a lower liability per unit is appropriate.

A proposed approach

A measurement method that can meet both the definition of fair value and this set of criteria is similar to one used in U.S. GAAP for a *total return swap*. Although this approach has had limited application to date in the measurement of insurance liabilities, exceptions in U.S. GAAP include the guidance included in DIG Issue B-36 for derivatives and for certain guaranteed living benefits included in variable annuities. What follows describes this method and suggests that it should be considered for wider application.

Since market participants are generally risk averse, a risk premium or cost of risk (an amount greater than the expected cost, sometimes referred to as a risk margin, risk adjustment or market value margin) in market prices is always needed. For example, the premium payable for term life insurance is greater than the expected mortality claims cost and associated expenses. This effect can also be seen in (1) credit spreads on debt securities that almost always exceed the corresponding expected default losses and (2) forward rates in the yield curve that typically overestimate where future rates head. Through risk mitigation strategies such as diversification, pooling, underwriting, risk sharing, contract participation and hedging, insurance companies attempt to take advantage of this risk premium. We believe a financial reporting system using fair value objectives should provide for recognition of earnings when an entity demonstrates their success in implementing these strategies rather than at inception of the contract, i.e., an insurer recognizes the benefits of diversification when the gain from diversification is realized and not earlier. Net income in such a system would be recognized with the release of a marketplace participant's risk premium, as well as differences between actual and expected experience which could generate either gains or losses.

Perhaps one of the simplest products an insurance company can provide is the guarantee of a specified level of interest for a given number of years. In the U.S. these contracts are referred to as funding agreements. In return for a cash premium, the policyholder is guaranteed to receive this cash consideration with interest on a certain date in the future. The policyholder in this instance is a special purpose vehicle which uses the funding agreement as collateral in order to

issue medium term notes. These programs are typically referred to as a Funding Agreement backed Note Issuance Program ("FANIP"). The yield on the funding agreement is equal to the yield on the note plus a spread to cover acquisition costs and depends on the credit quality of the insurance entity over the period of the contract, expressed as a spread over the risk free rate, on a fixed or floating rate basis. The insurer typically invests the premiums (proceeds from the Funding Agreement) in fixed income securities such that the difference in the spreads from these securities and the spreads available from the Funding Agreement, minus expected defaults produces an acceptable expected profit margin. To the extent that the contractual terms of the assets and liabilities are perfectly matched, defaults do not occur over the contract period, and credit spreads don't change, the use of fair value accounting will result in the emergence of profits in a manner consistent with the difference in spreads.

The funding agreement is considered an insurance liability under insurance law but is not an insurance contract under U.S. GAAP. Nevertheless, we believe that the approach is a useful one to examine, because of its simplicity and to help determine whether a consistent approach might be used for the measurement of the fair value of the liabilities for both investment and insurance contracts. To further examine such a consistent approach, its application to a 20 year term life insurance contract follows.

The following describes the measurement of the liability for a FANIP. When we refer to FANIP we mean the funding agreement sold in the manner described above. The insurer agrees to exchange or swap the cash flows on its liability for the cash flows on a matching asset. For simplicity, the cash flow payments/benefits are assumed to occur at the end of the period. The premiums are paid at the beginning of the period.

At issue, the two sets of cash flows are equalized according to the equation:

$$\mathrm{Pr}\,em = \sum_{t=1}^{n} LCF_t \,/(1 + S_t + CS)^t$$

where

$\mathrm{Pr}\,em$	= single premium for the FANIP
n	= number of cash flow payment periods
t	= time period
S_t	= LIBOR spot rate measured as of the valuation date for time period t
LCF_t	= liability cash flow during time period t
CS	= credit spread the borrower must pay in order for the market to accept the borrower's credit risk relative to the FANIP[3]. This is equal to the sum of expected defaults of the borrower, plus the risk premium demanded by the market to take on the credit risk of the borrower as it relates to the FANIP.

The premium is then exchanged for a matching asset such that:

[3] See *The use of credit spread in determining liabilities* below for further discussion.

$$\sum_{t=1}^{n} ACF_t /(1 + S_t + ED_t + R)^t = \sum_{t=1}^{n} LCF_t /(1 + S_t + CS)^t$$

where:

ACF_t = asset cash flows during period t

ED_t = expected default losses for the asset during period t

R = risk premium, the amount in excess of the expected default rate that risk averse market participants demand to take on credit risk over the period of the FANIP and that sellers are willing to pay to mitigate its associated credit risk.

Should market expectations be met, the insurance company's earnings during a period would equal the difference in the risk premium and the company's credit spread times the amount borrowed:

$$\sum_{t=x-1}^{n} LCF_t /(1 + S_t + CS)^t \, x(R - CS)$$

So for example if a company issued a FANIP for $100 paying LIBOR + 0.55% and used the proceeds to purchase a 5 year bond yielding LIBOR + 1.00%, then earnings would equal $100 x (.01 - .0045) or $0.45 in each year.

A total return swap valuation is a generalized version of the FANIP example. Under a total return swap, the insurance company borrows money by issuing a contract whose liability can exclude insurance risk as in the FANIP example whose benefit is conditional on the occurrence of the insured event as in term life insurance. In the more specific case of the FANIP, by paying the premium the purchaser of the total return swap exchanges a current defined amount of cash for the right to receive future cash flows. This obligation to pay the future cash flows represents the liability of the entity providing the FANIP (the swap counterparty). At issue, the value of the assets and the liabilities are equal. In this example, the asset is initially cash which is then exchanged for one or more other assets.

Analogously in a term life insurance contract, the economic asset is the right to receive future premiums. The formula for equating the assets and liabilities for a term contract of n years/payment periods is:

$$\sum_{t=1}^{n} \Pr em_t /(1 + S_t + ED_t + R)^t = \sum_{t=1}^{n} EDB_t /(1 + S_t + CS)^t$$

where:

$\Pr em_t$ = expected premiums during time t

EDB_t = expected death benefits during time t

All the values in this equation are either known or can be estimated using either actuarial or financial methods.

A policyholder is under no contractual obligation to continue to pay premiums for the term insurance contract. The policyholder has the contractual option to discontinue premium payments and to allow the coverage to cease. Failure to pay is the exercise of an option and not a default. Given that a policyholder cannot default, the value of ED_t is 0. The value of R is then determined. R can be viewed as being equal to the risk premium at equilibrium (in this case the purchase price of the term insurance contract equals the amount that a policyholder is willing to pay and what an insurance company demands in order to accept the transfer of the insurance risk).

Having solved for the risk premium for the term contract and assuming the market does not indicate that the risk premium should be changed (we discuss the factors can lead to a change in the *Evaluating the risk premium* section below), the "fair value" liability at time y is equal to:

$$\mathrm{Re}\, s_y = \sum_{t=y}^{n} EDB_t /(1+S_t+CS)^t - \sum_{t=y}^{n} \mathrm{Pr}\, em_t /(1+S_t+R)^t \ .$$

Generalizing the model to handle acquisition costs

The sale of most insurance contracts sold to individuals usually requires significant up-front costs including commissions, marketing, and underwriting expense. Corresponding costs from the FANIP example consist primarily of sales and brokerage commissions, which are relatively small in comparison. As a result of these acquisition costs, the total net amount of cash or assets retained by the insurance company at the time of sale of an insurance contract is significantly less than the total amount received.

The approach currently followed for insurance contracts under U.S. GAAP is to capitalize acquisition costs of a variable cost nature in the form of a deferred acquisition cost asset (DAC). In part this avoids the recognition of a loss when insurance contracts are written at an expected economic profit over the lifetime of the contracts. Differences of opinion exist as to whether it is appropriate to recognize the capitalization of such costs, in part due to a concern that DAC does not satisfy the definition of an asset. An alternative approach that might address these concerns is to replace the DAC-type formulation (either as an asset or a contra-liability) by recognizing as an addition to the present value of expected future cash flows under the contract: the difference between the present value of the expected premiums to be received and the present value of expected benefits provided for the initial deferred cost in the following formulation.

In the case of the FANIP:

$$\mathrm{Pr}\, em - AcqCost = \sum_{t=1}^{n} LCF_t /(1+S_t+CS)^t$$

where:

$AcqCost$ = Acquisition Cost.

For the term life insurance contracts, a similar adjustment would be made:

$$(\sum_{t=1}^{n} \Pr em_t /(1+S_t+R)^t) - AcqCost = \sum_{t=1}^{n} EDB_t /(1+S_t+CS)^t$$

It is important to note that the acquisition cost in a fair value model is not the same as the acquisition cost as currently defined under U.S. GAAP, in which acquisition costs are defined as the actual variable expenses incurred by the insurance company to acquire the business. This is an entity-specific value which would be inconsistent with criteria 5 above.

Insurance products are priced based on entity-specific expected acquisition costs. A company entering into a contract either directly with a consumer or through the purchase of a contract from another insurer would expect to pay the equivalent of the acquisition cost if the company expects to earn the risk charge it demands. If expectations are achieved, the contract yields its expected pricing return if actual acquisition costs are equal to acquisition costs expected in pricing.

In a perfectly competitive market assumed in a fair value world, market implied acquisition costs would be equal to the acquisition costs assumed in market prices. In this market, a company that has lower acquisition costs than its competitor will tend to reduce its price to maximize its volume at its required return. Its prices will then have a lower market implied acquisition cost yet the same risk premium. Theoretically, the first company's product can not exist. The fact that it does exist implies either that the company selling this product provides some additional service that customers are willing to pay for or that the market isn't perfectly competitive after all. The additional service provided may be represented by nothing more then the additional cost to the company of providing information to the consumer in a market where reaching consumers is more costly.

This implies that a company that can acquire business at a lower acquisition cost than implied in market prices will experience a year 1 profit, and a company whose acquisition costs are greater then market implied will experience a year 1 loss. However market participants would expect year 1 expected gain/loss of 0.

Term life example of the proposed approach

The following example illustrates the proposed approach for our 20 year term life insurance contract, along with the assumptions used.

> A 20 year term life insurance contract issued at age 40, with a level face amount of $100,000
>
> Level annual premiums = $820
>
> Mortality = 35% of the 1990 – 95 Society of Actuaries' select and ultimate age nearest birthday mortality table for nonsmoking males

Commissions and other deferrable acquisition costs included in the price (not necessarily actual expenses) = 55% of first year premium

Credit spread of insurance company = 0.55%

The Appendix shows the detailed assumptions, including lapse rates, mortality rates and LIBOR spot rates by duration (the LIBOR spot rates were as of 6/15/04 with values interpolated for years 6, 11-14, and 16-19).

The resulting risk premium in this example is 6.72%. See the Appendix for more detailed assumptions and relevant calculations. This represents the risk premium the insurance company earns from its obligation to pay a death benefit when a covered mortality event occurs. This is equivalent to the insurance company investing the proceeds by borrowing an asset yielding LIBOR + 6.72%.

Assuming the risk premium is not updated and there is no change in the issuer's credit standing, then the fair value liability at the end of year y would be equal to:

$$\mathrm{Re}\,s_y = \sum_{t=y}^{20} EDB_t /(1+S_t+.0055)^t - \sum_{t=y}^{20} \mathrm{Pr}\,em_t /(1+S_t+.0672)^t .$$

Assuming future spot rates are equal to current forward spot rates, the liability at the end and net income in each of the next 10 years would be (assuming all assets are invested in 10 year zeros yielding LIBOR + 0.55%):

Policy year	Premium	Change in fair value of assets	Benefit payments	Acquisition costs	Liability	Change in liability	Net Income
1	$ 820	$ 11	$ 172	$ 451	- $ 5	- $ 5	$ 213
2	730	43	209		371	377	187
3	657	78	233		679	308	195
4	594	113	246		950	271	190
5	540	137	265		1,176	226	186
6	492	159	294		1,349	173	184
7	447	178	332		1,461	112	181
8	411	199	356		1,529	68	186
9	378	228	366		1,569	40	200
10	347	270	377		1,586	16	224

To the extent that the financial market and contract performance unwinds as expected, the assets and liabilities remain well matched, and the market's perception of risk doesn't change, earnings under the proposed approach will not experience significant volatility. When any of these factors change, their effect would be immediately recognized in income.[4]

[4] Since in this simplified example assets and liabilities are not perfectly matched, some earnings volatility is evident.

Evaluating the risk premium

In this term insurance example, the risk premium was held constant. The reality of markets is that risk premiums do not remain constant. In fact, not recognizing a change in the risk premium would be inconsistent with an important concept underlying the measurement of fair values. For example, recent experience has seen large swings in the value of the risk premium in credit instruments and in the property and casualty insurance underwriting cycle. While the risk premium in a life insurance product is likely to fluctuate less than in the case for credit instruments or property & casualty insurance (as the risk appetite in most life insurance markets does not normally change as often), the insurer still has to periodically assess the appropriateness of its risk premium.

Market factors that might indicate a change in risk premiums in a line of business include:

- The exit of companies or recent new entrants
- A change in prices in response to a shift in level of competition
- A dramatic swing in the volume of business sold
- A change in reinsurance capacity, especially due to the exit and entrance of reinsurers
- The development of alternative risk transfer mechanisms
- Emerging uncertainty regarding the effect on mortality of an epidemic
- Significant changes in persistency or other experience.

The risk premium is not necessarily the same across product types. For example, if expected dividends are reflected, a participating contract would not require as much risk margin as a non-participating contract because of the risk buffer that dividends provide. In any event, it would be appropriate to disclose a change in the risk premium.

Generally, given the stability of the life insurance rate-making process and the relatively long timeframes between changes in premium levels of many life insurance companies, we anticipate that in many instances the risk premium may prove relatively stable. However, further research is warranted to validate this assertion.

The use of credit standing in determining liabilities

An area of significant contention in the discussion of measurement of the fair value of liabilities of financial institutions has been the reflection of a company's own credit spread as a result of changes in its credit standing. The often cited cause for this concern is where deterioration in the credit outlook for a company results in a decrease in the fair value of its liabilities, resulting in an unwarranted and potentially misleading increase in both income and capital during the accounting period. Significant debate and emotion has been generated around the desirability of such a result.

The critics' concern with this result in a regulatory context is that it would create a potentially misleading assessment of the entity's financial condition. As a result, it is claimed that the use of

such an adjustment for solvency reporting could be contrary to public policy and thus not recommended for that purpose.

However, it has to be noted that insurance companies have reflect their credit spread in valuing their general debt relative to the duration of that debt. Since the amount of capital and a company's credit standing are directly related, the use of credit spread in valuing liabilities would explicitly recognize that companies that seek higher ratings need to hold a higher level of assets to support the same amount of obligations. Arguments supporting such an adjustment could use the FANIP programs as an example, which incorporates the company's credit rating as it would affects the measurement of its liabilities of such programs, in part to enhance matching its assets and liabilities. In addition, this can be viewed as better capturing the company's financial condition in a fair value world, as evidenced by the observable effect of a company buying back their notes at a discount upon a ratings downgrade. Note that this analogy is somewhat weak in the case of an insurance contract liability, as it is highly unlikely that such a company could similarly sell their obligations unless forced to by a regulator.

The amount of economic capital that a company holds to support its credit standing can provide useful information for an investor who is attempting to better understand the potential for its future dividend distributions. A company whose objective is to maintain a higher rating will usually have less available to distribute to shareholders since it must withhold a higher level of assets to support its obligations.

If a business-to-customer market is used as a basis for fair valuation, the effect of a company's credit rating, net of expected regulatory guarantees, is implicitly included in the premium level at issue (if credit standing were not recognized, the liability would have to be increased at that time, thus resulting in a loss at issue which would modify the above methodology). After issue, the entity (consistent with market expectations) would likely change its non-guaranteed elements to reflect the change in credit standing. Since the effect of credit rating is thus already implicitly reflected in the premiums, charges, and thus risk premiums in a contract, ignoring the rating would require a gross-up of the liability, that would be both difficult to estimate and quite minor if regulatory guarantees are also reflected.

Thus the concern with this issue is not with its effect at issue, but rather only to a change in credit standing after issue. But such a change in credit standing would likely be caused by changes in the market value of its assets. By reflecting changes in the amount of the liability, the liability would then become better matched with the assets, although admittedly a timing difference may arise.

Consistent with the implicit use of credit standing in measuring liabilities and recognizing the role of credit in measuring earnings, an approach to reflect credit standing would consist of the following:

- The difference in valuing the expected benefit stream in the examples above and valuing the benefit stream on a risk neutral basis would be better shown in the balance sheet as an allocation of capital.

- Changes in liabilities due to changes in credit standing might not be considered as part of operating earnings, but rather considered in a manner consistent with interest related capital gains/losses. Changes in liabilities due to changes in credit standing would then be shown on the balance sheet as a re-allocation between liabilities and the capital allocation.

Minimum cash value floor

One important option in contracts with a voluntary termination option in many financial instruments and insurance contracts is the option to surrender a contract for its current book value. While terms for products with cancellation rights can vary significantly, they all entail a put option for a value that is referred to as the demand deposit value. This has proven to be a controversial issue for several types of financial institutions. In banks, this is referred to as a "core deposit intangible." Proponents of the floor suggest that it represents the value of the customer relationship that should not be fair valued as it is an intangible asset. We agree with bankers who contend that it is appropriate to reflect this intangible in financial statements if its value can be reliably measured and that it is reflected in observable or expected transaction or transfer values. We believe that not only should this limitation be eliminated in the case of business combinations, but it should be eliminated in non-business combinations as well.

IAS 39 stipulates that the fair value of the liability of a financial instrument whose current account balance is available on demand (i.e., a demand deposit) cannot be less than the amount available on demand. It represents the amount the depositor would receive upon the cancellation of all rights and obligations of the contract, reflecting the de-recognition of a contract. However, the demand deposit (the cash value in the case of a life insurance contract) is rarely the amount that a third party would require for assuming the liability. Although this minimum liability may be appropriate for financial instruments traded in efficient markets where market transactions reflect this floor, we do not believe that it presents a reasonable economic constraint on economic values when used to measure the liabilities of insurance contracts. Its use in some cases can lead to an unwarranted loss at contract issue.

The primary argument in favor of this floor is that recording a liability less than this amount recognizes the effect of the customer relationship intangible involved. Except in the case of a business combination such customer relationship intangibles are generally not recognized in financial statements. In a business combination, it would be reflected as an identifiable customer relationship intangible. The liability, following this argument, is the current amount that can be demanded. This represents the worse case liability if all policyholders were to take advantage of the optionality available. We do not agree with this logic, in part due to its lack of recognition of observable values for these contracts. The more useful and meaningful and market-consistent approach for an insurance contract is through recognition of all expected contractual cash flows that can be reliably measured, as not only are all of these cash flows recognized in the transaction price of the contract in a business-to-consumer market, but it is also recognized in a business-to-business market as the exit price that a willing buyer would pay.

For example, a contract with a calculated liability of 100 and a cash value of 110 may imply that the cost to replace the contract is greater than 110 because of expenses (e.g., commissions and

premium taxes) not considered in a prospective measure of the liability. In addition, the calculated value properly reflects currently estimated probabilities for a portfolio of similar contracts, as well as the price a willing buyer would be willing to pay if such a purchase was possible. It also would not directly reflect that some policyholders' health had deteriorated and are no longer insurable. For them, replacing a contract may not be possible at any price. An alternative calculation, one that is specific to the health of each insured, would require information that is rarely available and impractical to obtain.

A large disparity between a contract's liability and the amount of its demand deposit might indicate a greater take-up rate of the put option than would occur when the difference is small or nonexistent. In an approach that incorporates policyholder behavior in the measurement of a liability, current expectations would capture the circumstances involved.

In summary, by ignoring expected policyholder behavior, the constraint of a demand deposit floor introduces a bias into the measurement of liabilities that is inconsistent with both entry and exit fair value models. Even if considered an intangible asset, a reliably measurable put option should not be ignored. Any concerns that the measurement does not adequately address the risk associated with the put option are more appropriately addressed in solvency assessment. However, we recognize that if this approach is implemented for insurance contracts and a change is not made for investment contracts, an inconsistency between products and industries would result. We encourage the appropriate accounting standard setters to reexamine their position for non-insurance contracts.

Consistency with the FASB's Working Draft

The approach described above relies upon the assessment of a hypothetical transaction between two willing parties: a life insurance company and its policyholder. Observation of such a transaction would measure how much the insurance company would need to charge a policyholder for a life insurance contract for an insurance risk for the policyholder's current demographic (e.g., attained age) and risk classification (e.g., preferred class), the current financial situation on day 1, and the current market based risk premium. The basis for the estimate would be the insurer's assessment of contract benefits and the consumer market in which insurance contracts are currently issued. Any day 2 estimates would reflect updates in these factors.

Paragraph 19 of the Working Draft refers to 3 different valuation approaches that can be used to measure a fair value: a market approach, an income approach and a cost approach. The method described here is most consistent with the market approach. The basis for measurement is the amount an individual purchasing a new contract from the insurer would pay to transfer the insurance risk as expressed in terms of an entry price or customer consideration model.

The liability for an insurance contract would be based on level 3 inputs of the Working Draft's fair value hierarchy, although it is preferable to base the estimate on market-based inputs, wherever possible. The only active current market from which reliable market observable input is available that can meet the set of fair value criteria described above is the new issue market.

The results of present value techniques that can be used as level 3 inputs for both day 1 and day 2 measurements are further clarified in Appendix A[5] of the Working Draft. The application of these techniques is consistent with the set of fair value criteria described above. Paragraph A2 lists the following 6 elements that a present value technique should capture in a fair value estimate:

1. An estimate of future cash flows
2. Possible variations in the amount and timing of cash flows
3. The price for bearing the uncertainty inherent in the cash flows
4. The time value of money represented by the risk free interest rate
5. Other case specific factors, such as liquidity and market imperfections
6. In the case of a liability the effect of an entity's creditworthiness.

Items 2, 3 and 5 are captured in the risk premium as described in the approach presented here, while items 1, 4 and 6 are directly computed in the expected cash flows. The discount rate adjustment technique describes the discounting of a single set of expected cash flows and a discount rate that can fully incorporate the risks inherent in the cash flows where the discount rate is derived from the risks of comparable assets or liabilities in the marketplace. The discount rate used would be derived from the new issue insurance market.

The method outlined above appears to satisfy the requirements of the Working Draft and in fact is the only method that has been presented to date that meets the fair value requirements included.

We believe that further development and testing of the total return swap methodology described should be conducted to ensure its practicality and the reasonableness of its results. A retrospective analysis of results for sample product lines or companies over a market cycle may provide additional insight into the reliability and relevance of the proposed approach. As with most financial reporting systems, detailed attribution analysis and appropriate disclosure of the results and their assumptions will be crucial for users to interpret and ensure their receptivity to rely upon them.

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[5] Although not included in the Working Draft, by reference it has been assumed that the substance of the corresponding Appendix A of the earlier Exposure Draft will be included in the final *Fair Value Measurement* Standard.

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Appendix

Term Life Insurance Contract Example

Policy Year	Expected Amount of Insurance	Expected Premium	Expected Benefits	LIBOR Spot Rates	Mortality Rates / 1,000	Withdrawal Rates	Credit Spread	Present Value of Benefits	Risk Premium	Present Value of Premiums
1	$1,000,000	$820	$172	2.43%	0.17	11%	0.55%	$167	6.72%	$820
2	889,847	730	209	3.22	0.23	10	0.55	194	6.72	668
3	800,675	657	233	3.79	0.29	10	0.55	205	6.72	543
4	724,400	594	246	4.21	0.34	9	0.55	204	6.72	440
5	658,980	540	265	4.53	0.40	9	0.55	207	6.72	357
6	599,431	492	294	4.77	0.49	9	0.55	215	6.72	288
7	545,215	447	332	5.01	0.61	8	0.55	227	6.72	233
8	501,292	411	356	5.16	0.71	8	0.55	228	6.72	189
9	460,861	378	366	5.31	0.79	8	0.55	219	6.72	154
10	423,655	347	377	5.46	0.89	8	0.55	210	6.72	125
11	389,416	319	386	5.55	0.99	8	0.55	201	6.72	101
12	357,908	293	406	5.64	1.13	8	0.55	197	6.72	82
13	328,902	270	428	5.73	1.30	8	0.55	194	6.72	67
14	302,196	248	446	5.82	1.48	8	0.55	188	6.72	54
15	277,610	228	455	5.91	1.64	8	0.55	178	6.72	44
16	254,983	209	482	5.95	1.89	8	0.55	176	6.72	35
17	234,141	192	497	5.99	2.12	8	0.55	169	6.72	28
18	214,952	176	512	6.04	2.38	8	0.55	162	6.72	23
19	197,286	162	510	6.08	2.59	8	0..55	151	6.72	19
20	181,033	148	513	6.12	2.83	8	0.55	141	6.72	15
							Total	$3,834		$4,285
							Less Acquisition Cost			- $451
							Net of Acquisition Cost	$3,834		$3,834