An Approach for Measurement of the Fair Value of Insurance Contracts

by Sam Gutterman, David Rogers, Larry Rubin, David Scheinerman

Abstract

The paper explores developments through 2006 in the application of market-consistent concepts to the measurement of fair values of liabilities for financial reporting purposes. A set of criteria is presented that should be useful in the evaluation of proposed fair value measurement approaches where inputs based on prices observed in an active market with reliable transaction prices are not available. Based on these criteria, one approach is examined that might serve as a basis for the fair value measurement of the liability of life insurance contracts and other financial instruments issued by insurers. The margin under this approach is determined in a manner similar to that currently used under U.S. GAAP for an investment contract, a Funding Agreement–Backed Note Issuance Program (FANIP), which is calibrated to its transaction price. The approach is generalized by use of an insurance example, a 20-year term life insurance policy, to illustrate the concepts involved as they might be applied to insurance contracts. In part, this indicates that a consistent approach to the measurement of the liability for these two types of contracts is practical and desirable, thus not requiring that contracts issued by insurers be classified (e.g., as insurance, investment, or derivative) and can be applied in a consistent manner between different types of reporting entities. Several additional issues that are relevant to fair value measurement are also discussed, including the treatment of expenses, nonperformance risk, and a cash value floor.

1. Background

Accounting standard setters have given increased emphasis to the use of fair value as a financial reporting measurement basis. Indeed, both the FASB and the IASB have indicated that their long-term objective is to have all financial assets and financial liabilities measured at their fair value. Among the reasons for this objective are the increased importance of the financial markets as a source of capital and funds for risk taking and a belief that economic-related values are the most relevant. Many accounting standard setters have reached the conclusion that properly established and reliably measured fair values for financial assets and financial liabilities provide more meaningful information than alternative approaches for users of financial statements.

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, this 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 Measurements,* whose objective was to provide guidance on how to measure fair value, again not addressing when such measures should be applied. SFAS 157, *Fair Value Measurements*, was adopted in September 2006 and was exposed in November 2006 by the International Accounting Standards Board (IASB) to its stakeholders for comments and possible future adoption. SFAS 157 effectively upgrades an enhanced CON 7 to a standard in the accounting hierarchy and is effective for fiscal years beginning after November 15, 2007.

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Even after many years of discussion, a consensus regarding when to recognize and how to measure fair values reliably using a mark-to-model approach is still being sought. We believe that a principle-based approach is critical to the development of a viable fair value accounting model for insurance contracts, where relevant and 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 recognize only 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 a business combination and embedded insurance derivatives when fair values are applicable, 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 criteria and principles discussed should be applicable to those contracts as well. In addition, although the paper should equally apply to life, health, and property & casualty insurance contracts, it does not address postclaim liabilities.

2. Definitions

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 the following:[1]

1. "The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between marketplace participants." (FASB, SFAS 157.5)

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)*

3. Fair Value Estimates
In SFAS 157 the FASB has developed a 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 is important to note that in all circumstances a fair value is an estimate, even when based on current observed prices. The following is a summary of SFAS 157's categorization of fair value inputs:

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

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- Level 1 inputs. Whenever observable, these are quoted prices for identical assets or liabilities in the principal market (or most advantageous market if there is no 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 directly or indirectly observed market prices are not reliable, level 2 inputs include those based on the following:
    a. Quoted prices for similar assets or liabilities in an active market
    b. Quoted prices for 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 analysis of correlations.
    If a significant adjustment is made to a level 2 input, then it might result in a type 3 fair value.
- 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 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, whereas 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."

4. 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 at that time. 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.

SFAS 157.17 indicates that the reporting entity shall consider factors specific to 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.

5. Day 2 and Subsequent Values

Since most insurance contracts are long term in nature, financial statements of entities issuing them are greatly affected by the subsequent measurement of their liabilities. As a result, 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 SFAS 157, changes since initial recognition are considered in subsequent remeasurements, considering changes in the market and other relevant factors.

6. The Principal Market

The determination of the principal market can be an important consideration in the application of market-based inputs to fair value measurement. SFAS 157.8 describes a principal market as "the

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market in which the reporting entity would sell the asset or transfer the liability with the greatest volume and level of activity for the asset or liability." It goes on to indicate that in the absence of a principal market, the most advantageous market (in the case of a liability, 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) for the asset or the liability should be used.

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

1. The retail or so-called *business-to-consumer* market. Observed transaction prices of the asset or liability in a retail market are used in an *entry price* or *customer consideration* model.
2. The wholesale or so-called *business-to-business* market. Values based on information from a wholesale or resale market are used in 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.

Since in most cases there is no active market for insurance contracts, the most advantageous market would presumably lead to the use of a business-to-business or exit price model.

In the principal market in which transactions involving an asset or a liability are observable, entry and exit prices are often presumed to be the same at initial recognition, absent persuasive evidence to the contrary.[2] Nevertheless, the use of a business-to-business market as the principal market usually would be expected to produce the smallest measurement of the liability, in part because of the higher profit margins often associated with a retail, in contrast with a wholesale, market. It should be noted that any model used would have to reflect the insureds' risk characteristics, product features, and expected policyholder behavior of the specific contracts being measured. Also, given the diverse nature of product lines offered and distribution channels used by many insurers, the principal market may differ between 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 & acquisitions, and life settlement (U.S.) markets have been put forth as possible sources of price information, (1) they currently do not provide appropriate day 2 market inputs, (2) the limited breadth, liquidity, and frequency of observable prices in these markets make it a challenge to develop reliable information that is also relevant, (3) transaction prices in these markets may not be consistent with underlying costs as subsequently expected by a market participant, and (4) any such large market transaction 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 a market participant 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, it may be willing to pay a higher average price per contract

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[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.

for these additional contracts than if it were buying a single individual contract. However, such considerations are specific to that market participant and that purchase. In any event, whether the unit of account of measurement is the individual contract or portfolio, the effect of these factors is 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 its 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. Nevertheless, 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 those in the "normal" life insurance market. Separately, the price one entity is willing to pay for the acquisition of an entire entity can be very different from what another market participant would be willing to pay, in part because of a control premium, the value associated with potential future sales and renewals, and different plans and abilities for operating the entity. The less relevant or reliable the market inputs represent, the greater the need to rely on models to estimate the hypothetical price at which 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 United States and certain other countries for insurance contracts, as under applicable insurance laws an insurer 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 were to fail before an insured event occurs, the direct insurer would remain 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 United States 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) may be viewed as being a reasonable basis for the fair value at which both a policyholder is willing to pay for and a life insurer is willing to provide a given set of insurance benefits.

In contrast, the use of inputs from a business-to-business market involving insurers 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 entities' credit rating and brand value are equivalent but that might involve considerable frictional costs, are other assumptions that market participants would use in pricing the insurance contract but that are typically unobservable.

In a perfectly competitive market, an entity 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 nonguaranteed 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 a significant 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, and both can be viewed as a surrogate for or an estimate of a market-based exit value. 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 in the inherent economies of scale, both of which should not be reflected in the fair value of liabilities; rather, they should be reflected in capital as an intangible that should be reflected when the benefits are achieved.

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

Therefore, although conceptually an exit value would be more consistent with fair value concepts, because of the lack of relevant and reliable values, the fall-back market that is not at 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 would be the same.

7. Accounting Model Criteria

Reflecting the above discussion, we believe that the following criteria should be applied to assess the merits of an accounting model for 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 for a contract's components to be measured on a consistent basis. Most insurance contracts consist of a bundle of such 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 insurers (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 type of consistency is particularly important in the measurement of insurance contracts and long-term contracts subject to IAS 39 (sometimes referred to as investment contracts). This measurement consistency would reduce the need for and 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 sides of the balance sheet to be similarly responsive to changes in interest rates and other pertinent economic factors. To the extent they are not well matched, the financial statement would properly reflect the economic impact of the mismatch in earnings.

   Inconsistent accounting treatment that can create large differences in measurement and presentation currently exists for apparently similar products offered in different jurisdictions, in industries within the same jurisdiction, and even in the same industry where there are only minor changes in the economics or even the form of a contract.

   Most accounting systems incorporate some form of mixed attribute model of accounting. For example, the systems of some 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 that in turn can affect its desirability.

4. 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, as they represent the essence of what is being measured. 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 entity's actual or projected costs. An entity whose actual costs are less then this market-based expense charge would have an additional source of profit, while an entity whose costs are greater than that of a hypothetical market participant would have a negative impact on earnings.

5. 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 alternatively might 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 prospective measurement.

6. 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 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 insurer's assets are equal to its liabilities plus equity. Some of the factors that influence the amount of equity 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 accounting elements in turn are influenced by the size of the entity's book of business, and hence the equity per unit is a function of the size of the book. Although a larger and more diversified entity should be able to hold lower equity per unit, this does not imply that a lower liability per unit is appropriate.

7. Use of information from a market, even if a hypothetical one, from which relevant market inputs can 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 a business-to-business market).

8. 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 have included the guidance included in Derivative Information Group (DIG) Issue B36 for derivatives and for certain guaranteed living benefits included in variable annuities. What follows describes this method and suggests that it might 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 needed. For example, the premium payable for term life insurance is usually greater than its 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 including diversification, pooling, underwriting, risk sharing, contract participation, and hedging, insurers 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 the inception of a contract: that is, an insurer would recognize 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 and service premium, as well as differences between actual and expected experience that could generate either gains or losses.

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Perhaps one of the simplest products an insurer can provide is the guarantee of a specified level of interest for a given number of years. In the United States 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 that uses the funding agreement as collateral in order to issue medium-term notes. This type of program is 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. It depends on the credit quality of the insurer 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 subsequently.

Reference to a FANIP is to 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 of the FANIP, the two sets of cash flows are equalized according to the equation

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

where

$PREM$ = 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 (relating to nonperformance risk) the borrower must pay 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

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[3] See section 12, "The Application of Nonperformance Risk in Determining Liabilities", for further discussion.

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

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 insurer's earnings during a period would equal the difference in the risk premium and the entity's credit spread times the amount borrowed:

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

So, for example, if an entity issued a FANIP for $100 paying LIBOR + 0.55% and used the proceeds to purchase a five-year bond yielding LIBOR + 1.00%, then earnings would equal $100 × (0.01 − 0.0055) or $0.45 in each year.

A valuation of a total return swap is similar to a generalized version of the FANIP example. Under a total return swap, the insurer 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 specific case of a 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

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

where

$PREM_t$ = 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 then is 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 insurer demands 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 that can lead to a

change in the section 11, "Evaluating the Risk Premium"), the "fair value" liability at time y is equal to

$$LIAB_y = \sum_{t=y}^{n} EDB_t /(1+S_t + CS)^t - \sum_{t=y}^{n} PREM_t /(1+S_t + R)^t .$$

9. 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 in 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 insurer 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). 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 regarding whether it is appropriate to recognize the capitalization of such costs, in part because of 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 contraliability) 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:

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

where $AcqCost$ = acquisition cost. For a term life insurance contract, a similar adjustment would be made:

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

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 insurer during the period to acquire the business. This is an entity-specific value that would be inconsistent with criteria 5 above.

Insurance products are priced based on entity-specific expected acquisition costs. An entity 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 contract's acquisition cost if the entity expects to earn the risk charge it demands. If expectations are achieved (i.e., actual acquisition costs are equal to acquisition costs expected in pricing), the contract yields its expected pricing return.

In the perfectly competitive market assumed in a fair value world, market-implied acquisition costs would equal the acquisition costs assumed in market prices. In such a market, an entity that has lower acquisition costs than its competitor will likely reduce its price to maximize its volume at its required return. Its prices will then have a lower market-implied acquisition cost, yet with the same risk premium. Theoretically, the first entity's product cannot

exist. The fact that it does exist implies either that the entity 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 than the additional cost to the entity of providing information to the consumer in a market where reaching consumers is more costly.

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

10. 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
- Nonperformance risk (credit spread) of insurer = 0.55%

The Appendix shows the detailed assumptions and results, including lapse rates, mortality rates, and LIBOR spot rates by duration (the LIBOR spot rates were as of June 15, 2004, 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 insurer earns from its obligation to pay a death benefit and is equivalent to the insurer 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

$$LIAB_y = \sum_{t=y}^{20} EDB_t /(1 + S_t + 0.0055)^t - \sum_{t=y}^{20} PREM_t /(1 + S_t + 0.0672)^t$$

Assuming future spot rates are equal to current forward spot rates, in each of the first 10 policy years the ending liability and net income would be (assuming all assets are invested in 10-year zero coupon bonds yielding LIBOR + 0.55%) as shown in Table 1.

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Table 1
First 10 Year Values for the Term Life Insurance Example

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		1176	226	186
6	492	159	294		1349	173	184
7	447	178	332		1461	112	181
8	411	199	356		1529	68	186
9	378	228	366		1569	40	200
10	347	270	377		1586	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. In contrast, when any of these factors change, their effect would be immediately recognized in income.[4]

11. Evaluating the Risk Premium
In the above term insurance example, the risk premium was held constant for simplicity of illustration. However, the reality of markets is that risk premiums do not remain constant. Nevertheless, if it is decided that it would be appropriate for this margin to be changed over time, it should be easy to adapt such a feature. In fact, not recognizing a change in the risk premium would be inconsistent with an important concept underlying the measurement of fair values, the use of current estimates and assumptions.

For example, it would reflect recent experience, which 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 or health insurance product is likely to fluctuate less than would be the case for credit instruments or property & casualty insurance (as the appetite for risk in most life insurance markets does not normally change as often), the insurer still has to assess periodically the appropriateness of its risk premium and update its assumptions accordingly.

Market factors that might indicate a change in the risk premium in a line of business include

- The exit of entities or recent new entrants
- A change in prices in response to a shift in level of competition
- A dramatic swing in the volume or mix 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 or morbidity of an epidemic
- Significant changes in persistency or other experience.

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

The risk premium is not necessarily the same across product types. For example, if expected dividends are reflected, a participating contract would not necessarily require as large a risk margin as a nonparticipating contract because of the risk buffer that dividends provide. Similar treatment of nonguaranteed elements would also be appropriate. In any event, it would be appropriate to disclose when a change in the risk premium is made.

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

12. The Application of Nonperformance Risk 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 an entity's own credit spread as a result of changes in its credit standing. SFAS 157.15 indicates that it is appropriate to reflect the nonperformance risk relating to the liability. This is "the risk that the obligation will not be fulfilled and affects the volume at which the liability is transferred." The entity's nonperformance risk includes, but may not be limited to, the effect of the reporting entity's own credit risk (or credit standing), as reflected in its credit spread over the expected duration of the obligation over the lifetime of the contract.

The often cited cause for this concern is where deterioration in the credit outlook for an entity results in a decrease in the fair value of its liabilities, resulting in what appears to be 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 insurers are required to reflect their credit spread in valuing their general debt over the duration of that debt (assuming that it is measured on a trading or available-for-sale basis). Since the amount of capital and an entity's credit standing are directly related, the use of credit spread in valuing liabilities would explicitly recognize that entities 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 treatment of a FANIP program under U.S. GAAP as an example, which incorporates the entity's credit rating as it would affect 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 entity's financial condition in a fair value world, as evidenced by the observable effect of an entity buying back its 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 an entity would be able to similarly sell its obligations unless forced to by a regulator.

The amount of economic capital that an entity holds to support its credit standing can provide useful information for an investor that is attempting to better understand the potential for its future dividend distributions. An entity whose objective is to maintain a higher rating will

usually have less capital 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 of fair valuation, the effect of an entity's credit rating, net of expected regulatory guarantees, is implicitly included in the premium level at issue (i.e., if credit standing were not recognized, the liability would have to be increased at that time, thus resulting in a loss at issue that would modify the above methodology). After issue, the entity (consistent with market expectations) would likely change its expected nonguaranteed elements to reflect the change in its credit standing. Since the effect of the 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, which would be both difficult to estimate and quite minor if the expected effect of regulatory guarantees are also reflected.

Thus, the concern with this issue is not with its effect at issue. Rather, it primarily relates to a change in credit standing after issue. But such a change in credit standing likely would be caused by changes in the market value of its assets. By reflecting changes in the amount of the liability, the liability in such cases then would 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 that might serve to reduce the dissatisfaction with both approaches 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 shown separately 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 then would be shown on the balance sheet as a reallocation between liabilities and capital.

13. 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 contracts with cancellation rights can differ 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 such a 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 those 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 nonbusiness 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. This difference represents the amount the depositor would receive (or at least netted against other payable amounts) upon the cancellation of all rights and obligations of the contract, reflecting the derecognition of a contract. Nevertheless, 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 might be appropriate for a financial instrument traded in efficient markets where market transactions reflect this floor, we do not believe that it presents a reasonable constraint on balance sheet values when used to measure the liabilities of insurance contracts. Its use in some cases could 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 a customer relationship intangible is generally not recognized in financial statements. In a business combination, it would be reflected in the balance sheet as an identifiable customer relationship intangible. The liability, following this argument, is the current amount that can be demanded. This represents the worst-case liability if all policyholders were to take advantage of the optionality available. We do not agree with this logic, in part because of its lack of recognition of observable transactions for these contracts. The more useful, meaningful, and market-consistent approach for an insurance contract is to recognize 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 both a business-to-consumer market and a business-to-business market as in the latter it represents the exit price that a willing buyer would pay.

For example, the use of 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 the effect 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 reflect that some policyholders' health had deteriorated and they are no longer insurable ("guaranteed insurability"). 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 the liability for a contract 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 regarding the fact that 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 currently result. We encourage accounting standard setters to reject such a position for non-insurance contracts as well.

14. Consistency with SFAS 157

The approach described above relies upon the assessment of a hypothetical transaction between two willing parties: a life insurer and its policyholder. Observation of such a transaction would measure how much the insurer would need to charge a policyholder for a life insurance contract to cover an insurance risk for the policyholder's current demographic characteristics (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.

SFAS 157.18 discusses three 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 in the approach described in this paper is closest to 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 SFAS 157's fair value hierarchy, even though it is preferable to base a fair value estimate on market-based inputs wherever possible. Nevertheless, 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 B of SFAS 157. The application of these techniques is consistent with the set of fair value criteria described in section 7, "Accounting Objectives Criteria." Paragraph B2 lists the following six 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 time value of money represented by the risk-free interest rate
4. The price for bearing the uncertainty inherent in the cash flows
5. Other case-specific factors, such as liquidity and market imperfections
6. In the case of a liability, the nonperformance risk that includes the entity's own creditworthiness.

Items 2, 4, and 5 are captured in the risk premium as described in the approach presented here, while items 1, 3, and 6 are directly incorporated in the calculation of 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 a market. The discount rate used would be derived from the new issue insurance market.

The method outlined above appears to satisfy SFAS 157's requirements, and we believe that it is the only method that has been presented to date that meets the fair value criteria given in this paper.

Further development and testing of the total return swap methodology described here should be conducted to ensure its practicality and the reasonableness of its results. A retrospective analysis of results for sample product lines or entities over a market cycle may provide additional insight into its reliability and the extent that it is representationally faithful. 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 relying upon them.

15. Acknowledgments

References

Financial Accounting Standards Board. 1985. Concept Statement No. 6, *Elements of Financial Statements*. Norwalk, CT: FASB**.**

-------. 2002. Concept Statement No. 7. *Using Cash Flow Measurement and Present Value in Accounting Measurement*. Norwalk, CT: FASB.

------- 2003. Derivatives Implementation Group, Statement 133 Implementation Issue No. B36, *Embedded Derivatives: Modified Coinsurance Arrangements and Debt Instruments That Incorporate Credit Risk Exposures That Are Unrelated or Only Partially Related to the Creditworthiness of the Obligor under Those Instruments*. Norwalk, CT: FASB.

------- 1982. Statement of Financial Accounting Standards No. 60, *Accounting and Reporting by Insurance Enterprises*. Norwalk, CT: FASB.

-------- 2006. Statement of Financial Accounting Standards No. 157, *Fair Value Measurements*. Norwalk, CT: FASB.

Gutterman, S., D. Y. Rogers, L. H. Rubin, and D. C. Scheinerman. "The Fair Value of Insurance Contracts." *Transactions of the 2006 International Congress of Actuaries.* Ottawa: International Actuarial Association.

International Accounting Standards Board. 2004. IAS 18, *Revenue.* March. London: IASB**.**

------- 2005. IAS 39, *Financial Instruments: Recognition and Measurement.* August. London: IASB.

Joint Working Group of Standard Setters. 2000. *Draft Standard and Basis for Conclusions, Financial Instruments and Similar Items*. December. London: International Accounting Standards Committee.

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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/1000	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	$3834		$3834