

A PUBLIC POLICY PRACTICE NOTE

# Treatment of VOBA, Goodwill and Other Intangible Assets under PGAAP

**EXPOSURE DRAFT**

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American Academy of Actuaries  
Life Financial Reporting Committee



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Developed by the Life Financial Reporting Committee  
of the American Academy of Actuaries



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## TREATMENT OF VOBA, GOODWILL AND OTHER INTANGIBLE ASSETS UNDER PGAAP

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The authors of this practice note are not accountants or tax experts. The reader should consult professionals with expertise in these areas.

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# Part A. Background

## Purchase Accounting – PGAAP

In 1970, Accounting Principles Board Opinion No. 16 (APB 16), *Business Combinations*, was issued along with its companion guidance, APB 17, *Intangible Assets*. APB 16 allowed both the “pooling-of-interests” and the more prevalent purchase method of accounting. The purchase method of accounting under Generally Accepted Accounting Principles (GAAP) is commonly referred to as Purchase GAAP, or simply “PGAAP,” the subject of this practice note.

Following APB 16, there were numerous interpretations by the American Institute of Certified Public Accountants (AICPA) and the Financial Accounting Standards Board (FASB), as well as issues addressed by the Emerging Issues Task Force (EITF), but little guidance for actuaries.

In 2001, Statement of Financial Accounting Standards 141 (SFAS 141), *Business Combinations*, and SFAS 142, *Intangible Assets*, superseded APB 16 and APB 17, respectively, and eliminated the pooling-of-interests method, requiring that all business combinations be accounted for under the purchase method. SFAS 141 incorporated most of pre-existing guidance related to the purchase method. Finally, SFAS 141R, superseded SFAS 141 in 2007 and requires all business combinations to be accounted for under the “acquisition” method (essentially a different name for the purchase method of SFAS 141).

The valuation of PGAAP liabilities is beyond the scope of this practice note, which focuses on the PGAAP treatment of value of business acquired (VOBA), goodwill, and other intangible assets. This practice note will refer, where possible, to the FASB Accounting Standard Codification (ASC) as the source of authoritative GAAP guidance. Detailed methodology for calculation of the value of after tax statutory income of a portfolio of insurance (Valuation of Insurance In Force, or VIF) is also beyond the scope of this Practice Note, other than to define in general what it represents and how it might be used in PGAAP.

SFAS 141R was codified into current GAAP guidance under ASC Topic 805.

References to tax and statutory in this practice note assume that the reporting entity is a U.S. taxpayer valuing business in a U.S. life insurance company. Further, the practice note makes no attempt to anticipate changes in the relevant U.S. tax or statutory accounting standards.

### Part A: Q1. When is PGAAP applied?

**A.** PGAAP is applied when a business combination occurs. In the insurance industry, business combinations may occur through merger and acquisition activity, including some reinsurance structures.

ASC 805-10-15-4 (Paragraph 2 of SFAS 141R) excludes joint ventures or the merger of companies already under common control (e.g., the merger of two wholly owned subsidiary companies) from the definition of business combinations. Similarly, the same paragraph excludes the acquisition of assets that do not constitute a business from the definition of business combinations.

### Part A: Q2. How is a business defined for purposes of PGAAP?

**A.** According to ASC 805-10-20, a business is defined as “An integrated set of activities and assets that is capable of being conducted and managed for the purpose of providing a return ... to investors or other owners, members, or participants.” A business consists of all of the following:

- a. Inputs,
- b. Processes applied to those inputs, and

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- c. Ability to produce outputs that have the ability to generate returns.

In short, an integrated set of assets and activities acquired must be “capable of being conducted and managed as a business by a market participant.” (ASC 805-10-55-8) As a result, coinsurance of a closed block where no staff or administration systems are transferred is unlikely to constitute a business combination, whereas a coinsurance deal that does transfer staff and distribution capability would typically constitute a business combination. The determination of whether an acquired group of assets constitutes a business is typically handled by accounting professionals, rather than actuaries.

### **Part A: Q3. What is required to apply PGAAP to a business combination?**

- A. According to ASC 805-10-05-4, in applying PGAAP:

“The acquisition method requires all of the following steps:

- a. Identifying the acquirer,
- b. Determining the acquisition date,
- c. Recognizing and measuring identifiable assets acquired, the liabilities assumed, and any non-controlling interests, and
- d. Recognizing and measuring goodwill or a gain from a bargain purchase.”

### **Part A: Q4. What is the objective of PGAAP with respect to measurement of assets and liabilities at the acquisition date?**

- A. Assuming a transaction has been determined to be a business combination, which requires that assets acquired and liabilities assumed constitute a business, a principal objective of PGAAP as described in ASC 805-20-30-1 (paragraph 20 of SFAS 141R) is to “measure the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree at their acquisition-date fair values.”

### **Part A: Q5. Does a PGAAP balance sheet require each asset and liability to be presented at fair value?**

- A. While the objective is to produce a fair value balance sheet, ASC 805 recognizes that many ongoing assets and liabilities related to insurance and reinsurance would not be measured at fair value at valuation dates subsequent to the date of acquisition. For insurance and reinsurance contracts acquired in a business combination, ASC 944-805-30-1 (SFAS 141R paragraph E16) specifies that an acquirer “shall recognize that fair value in components.” The first component (the asset or liability for insurance or reinsurance contract) is measured in accordance with the acquirer’s accounting policies; the second component is an intangible asset (or occasionally a liability) representing the difference between (1) the fair value of insurance and reinsurance assets acquired and liabilities assumed and (2) the first component.

For example, assume that the liability established for a universal life contract pursuant to an acquirer’s accounting policy is a policyholder account value (AV) of \$1,000. Assume the fair value liability (FVL) is \$900, an exit price defined by ASC 944-40-20 (the amount that would be paid to a market participant to transfer the liability). The PGAAP balance sheet would show a liability of \$1,000 and an intangible asset of \$100 (the difference between the PGAAP liability and the FVL).

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There is no official term in the accounting literature for this intangible asset. In practice this intangible asset is generally referred to as Value of Business Acquired or VOBA.<sup>1</sup> While the PGAAP liability is clearly not an FVL, the net GAAP liability – the PGAAP liability less VOBA – is the fair value.

In addition, ASC 805 makes several exceptions to the requirement that assets and liabilities be held at fair value on the PGAAP balance sheet. For example, deferred tax assets and deferred tax liabilities are not at fair value on the PGAAP balance sheet (ASC 805-740-30-1). Other exceptions include employee benefit plans (ASC 805-20-25-22) and certain leases (ASC 805-20-25-11).

### **Part A: Q6. What forms might be used to purchase a block of in-force business?**

**A.** A block of in-force business can be purchased through reinsurance or through outright purchase of the company that owns the block. Purchase through reinsurance can be accomplished in different ways.

Prior to the early 1990s, assumption reinsurance was the favored mode of acquisition. The selling (ceding) company would extinguish any liability for the contracts sold (reinsured). However, states have stringent compliance rules (some states even require policyholder approval), which makes assumption reinsurance a lengthy legal and regulatory process. Consequently, virtually all reinsurance acquisitions use indemnity coinsurance (or modified coinsurance, which is often used in the acquisition of separate account contracts).

Regardless of the nature of the reinsurance, the net GAAP liability reflected on the PGAAP balance sheet should represent the fair value of the acquired block of in-force business.

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<sup>1</sup> Other terms for this intangible asset include Present Value of Profits (PVP), Value of Inforce (VIF), Insurance Business Value (IBV), and Cost of Insurance Purchased (CIP).

## Part B. Calculation of Value of Business Acquired: Initial Measurement

The PGAAP value of in-force business acquired in a business combination has typically been referred to as the value of business acquired (VOBA). This term is not found in any authoritative guidance, but is used extensively in practice.

An actuarial appraisal of in-force business typically projects net income on a statutory accounting basis (since statutory accounting principles define distributable earnings to shareholders). A common method for computing VOBA starts with an actuarial appraisal value<sup>2</sup> and adjusts it to a pretax GAAP basis. This approach appears in this practice note as Method 1.

If an FVL is available (or can reasonably be determined), VOBA can also be derived by subtracting FVL from the PGAAP liability. This approach, appearing as Method 2 in this practice note, is consistent with the definition of an intangible asset (occasionally a liability) defined in ASC 944-805-30-1 (SFAS 141R *Business Combinations* paragraph E16), an excerpt of which follows for convenience:

“The acquirer shall recognize and measure at fair value the assets and liabilities arising from the rights and obligations of the insurance and reinsurance contracts acquired in a business combination.

However, the acquirer shall recognize that fair value in components as follows:

- a. Assets and liabilities measured in accordance with the acquirer’s accounting policies for insurance and reinsurance contracts that it issues or holds.
- b. An intangible asset (or occasionally another liability), representing the difference between the following:
  1. The fair value of the contractual insurance and reinsurance assets acquired and liabilities assumed
  2. The amount described in (a).”

With the PGAAP liability measured in accordance with the acquirer’s accounting policies, an intangible asset (occasionally a liability) emerges as the difference between such PGAAP liability and the FVL, which is the definition of VOBA by Method 2.

With the same market-based assumptions and reflection of risk, both methods will produce the same value for VOBA. Prior to the introduction of SFAS 141R and SFAS 157 *Fair Value Measurements*, several other methods for computing VOBA were used in practice, including setting VOBA equal to the present value of pretax GAAP book profits (or estimated gross profits). Since most such alternative methods would not comply with fair value requirements of SFAS 141R and/or SFAS 157, only the two methods described above are presented in this practice note.

In summary, this practice note introduces and discusses in some detail the following two methods for computing VOBA:

Method 1: VOBA via the Actuarial Appraisal Method

Method 2: VOBA as PGAAP liability less FVL (as defined by ASC Topic 820)

**Part B: Q1.** Can VOBA be negative?

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<sup>2</sup> Typically, the acquirer will develop its own appraisal value, possibly by making adjustments to a seller’s appraisal value. In this document, appraisal value refers to the valuation that sets the acquirer’s price, not the seller’s asking price.

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**A.** Yes, in which case, it becomes a liability. As previously mentioned, SFAS 141R (ASC 944-805-30-1) specifies that an acquirer shall recognize fair value in components. The first component (PGAAP Liability) is measured in accordance with the acquirer's accounting policies; the second component (VOBA) is an intangible asset (or occasionally another liability) representing the difference between the PGAAP liability and the FVL. Reference to "occasionally another liability" clearly allows for VOBA to be a negative asset (i.e., a liability), which can simply arise when FVL is greater than the PGAAP liability.

For example, assume the PGAAP liability for a guaranteed interest contract (GIC) with a guaranteed interest rate of 5% and 5 years remaining to maturity is set equal to its account value (AV). Further assume that a lower interest rate environment at the date of acquisition has resulted in an FVL that is greater than the AV (e.g., valuing a 5% GIC at 4% would result in a higher fair value than the AV). Since the SFAS 97 liability of such an investment contract is the AV, setting the PGAAP liability equal to AV would, in this case, require a negative VOBA asset to bring the net GAAP liability (PGAAP liability less VOBA) to fair value.

### Method 1: VOBA via Actuarial Appraisal Method

The actuarial appraisal method is based on the value of distributable earnings (after-tax statutory income plus the release of required capital) using market-based assumptions (discussed under Method 2). In this regard, it is statutory accounting principles that drive such distributable earnings, not GAAP principles. Consequently, this method first computes an after-tax statutory value of in-force business (VIF). Adjustments are then made for GAAP and statutory reserve differences, GAAP and statutory invested asset differences, and deferred taxes. A final step to resolve the circular dependence between VOBA and the deferred tax liability (DTL) results in a pretax value for the PGAAP balance sheet.

An attractive attribute of Method 1 is that an actuarial appraisal containing VIF is often available. In addition, some companies have embedded value models in place that can be adjusted to include market-based assumptions and deliver a VIF without too much difficulty. Consequently, the starting values for VIF of Method 1 can be reconciled to the attributed prices paid for various blocks of in-force business as shown in the actuarial appraisal, significantly improving the credibility of VOBA.

One possible disadvantage of Method 1 is that it may require significant effort to demonstrate compliance with fair value determination as defined by SFAS 157 (discussed under Method 2). For example, an explicit risk premium is not added to the projected net liability cash flows and a provision for nonperformance risk is not directly taken into account. The assumption is that the market-based risk discount rate (RDR, discussed in Appendix I, Part 2: Q5) implicitly reflects both.

#### Part B: Q2. How is VOBA calculated under Method 1?

**A.** [Note: The approach outlined in this section involves fairly simple definitions of deferred taxes and tax rates. In practice, taxes can be quite complex. Part C shows how taxes might affect VOBA in some common circumstances. Appendix II further explains and illustrates certain tax issues. Regardless, before actuaries make any adjustments for taxes, they would be prudent to seek advice from accountants or other professionals familiar with the specific tax issues involved.]

In what follows, symbols are defined and simultaneous equations are solved to achieve the result of a pretax VOBA, required for the PGAAP balance sheet.

The calculation of VOBA begins with the VIF, which is an actuarial appraisal value of in-force business, defined similarly to the in-force business value in embedded value reporting. It can be defined as the present value of post-tax distributable earnings (PVDE) less the opening required capital (RC) as typically encountered in actuarial appraisals. RC is removed from PVDE because the assets backing RC will already be valued with other invested assets and will appear on the PGAAP balance sheet. Hence, double counting is avoided. VIF can also be expressed as the present value of after-tax statutory book profits (statutory net

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income excluding after-tax investment income on RC) less the present value of cost of capital charges, as typically encountered in both actuarial appraisals and embedded value reporting. The two forms are mathematically equivalent. (See Appendix I, Part 1, for proof of this equivalence.)

[Note: The predominant components of VIF – distributable earnings, statutory book profits, and cost of capital charges – are computed with assumptions which market participants would use (without provision for adverse deviation) and are discounted at a market-based RDR, often referred to as a cost-of-capital rate (discussed in Appendix I, Part 2).]

Since the objective is to deliver a value of the acquired in-force business on a pretax GAAP basis, under Method 1, VOBA is a function of:

- a. VIF<sup>3</sup>
- b. The net difference between opening GAAP reserves and statutory reserves<sup>4</sup>
- c. The net difference between GAAP and statutory values of supporting assets<sup>5</sup> (those used in the calculation of VIF)
- d. Any net GAAP deferred tax liability

The above can be put into formula form with the following definitions:

SVL = Statutory value of liabilities (generally, the statutory reserve)  
GVL = GAAP value of liabilities (generally, the PGAAP liability)  
TVL = Tax value of liabilities (generally, the tax reserve)  
TBA<sup>6</sup> = Tax basis intangible asset (similar to VOBA, but defined by tax code)  
SVA = Statutory value of tangible assets (generally, statutory book value of assets)  
FVA = Fair value of tangible assets (market value of supporting assets appearing on the PGAAP balance sheet)  
TVA = Tax value of tangible assets  
T = Tax rate (typically, 0.35 in the U.S.)<sup>7</sup>  
DTL = Deferred tax liability

Making use of the above symbols, VOBA can be defined as:

$$(1) \text{ VOBA} = \text{VIF} + (\text{GVL} - \text{SVL}) - (\text{FVA} - \text{SVA}) + \text{DTL}$$

<sup>3</sup> Actuarial appraisals and embedded values often include taxes from the perspective of the acquired company. In many situations, however, the acquiring company's taxes may be quite different from those included in such an appraisal. In those situations, it may be necessary to recompute VIF before proceeding to calculate VOBA. Inclusion of purchase-related net tax effects is discussed in Part C.

<sup>4</sup> Net of admitted statutory deferred tax assets or liabilities on such statutory reserves, reinsurance assets, and other contract-related assets, such as net deferred and uncollected premium assets.

<sup>5</sup> The allocation of an acquirer's assets to support initial RC in an acquisition will not normally affect VIF, since such allocation is a strategic decision of the acquirer, not a characteristic of the in-force business. Thus, in Method 1 calculations, the statutory, GAAP and tax values of assets supporting RC will all be at fair value, will be set equal to RC, and will be expected to yield current market rates of return.

<sup>6</sup> Tax law defines different forms of intangible assets relating to business in force or acquired. TBA is used here as a general term for any such value. Specific types of tax basis assets and their valuation are addressed in later parts of this practice note.

<sup>7</sup> Some companies calculate an "effective tax rate" or an "average tax rate", equal to taxes paid divided by either statutory or GAAP pretax earnings. Use of such average rates would result in an erroneous valuation. Check with your tax professionals in selection of the tax rate.

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Formula 1 begins with an after-tax statutory value of in-force business, adjusts for GAAP/statutory differences in reserves and supporting assets, and allows for a net deferred tax liability (DTL). DTL is defined as:

$$(2) \text{DTL} = T \times [(FVA - TVA) - (GVL - TVL) + (VOBA - TBA)]$$

It can be seen that substitution of formula 2 for DTL into formula 1 will result in VOBA being on both sides of the equation. Solving algebraically:

$$(3) \text{VOBA} = \frac{VIF + [GVL - T \times (GVL - TVL) - SVL] - [FVA - T \times (FVA - TVA) - SVA] - T \times TBA}{1 - T}$$

[Note: Several terms in the above formulas (VIF, TVL, TVA and TBA) can vary with differing tax circumstances in the purchase of a business. Reflection of some common purchase-related tax effects in VOBA are discussed in Part C.]

### **Part B: Q3. Can VOBA obtained by Method 1 (formula 3) be expected to be the same as obtained by Method 2?**

**A.** If all assumptions are appropriately market-based (discussed under Method 2), VOBA obtained by formula 3 will exactly equal VOBA defined by Method 2: the PGAAP liability less FVL (subsequently discussed).

Some actuaries believe that, based on the revisions to PGAAP guidance in SFAS 141R, Method 1 is only appropriate if market yields rather than book yields are used when applying the actuarial appraisal method. Others believe that it is more appropriate to use book yields when distributable earnings are dependent on book yields, since the fair value depends on the distributable earnings.

## Method 2: VOBA as PGAAP Liability less FVL

As previously discussed, SFAS 141R expects the FVL to be recognized in two components on the PGAAP balance sheet: a liability recognized in accordance with the acquirer's accounting policies (the PGAAP liability) and an intangible asset (occasionally a liability) representing the PGAAP liability less the FVL. The PGAAP liability is computed in accordance with the same accounting pronouncements applicable on an ongoing basis (e.g., SFAS 60, SFAS 97, SFAS 113, SFAS 120, SOP 03-1, etc. or ASC 944), using assumptions as of the acquisition date. Assuming the FVL has been computed in accordance with SFAS 157, *Fair Value Measurements* (subsequently discussed), the derivation of VOBA is a simple subtraction.

If a company already has computed, or can readily compute, FVL for various blocks of in-force business, Method 2 would have the advantage of computing VOBA as a simple subtraction – PGAAP liability less FVL. In addition, assuming such FVL is computed in accordance with SFAS 157, no further demonstrations of compliance with fair value principles would be required. The disadvantage of Method 2 is that many companies do not have processes in place to compute FVL for entire blocks of in-force business. Most have valuation models that only compute FVL for SFAS 133 embedded derivatives. Consequently, delivering FVL on a larger scale may involve a significant investment of time and resources.

### Part B: Q4. For application of Method 2 for deriving VOBA, how is FVL defined?

A. As mentioned, Method 2 defines VOBA as the PGAAP liability less FVL. Guidance on the determination of FVL is provided in SFAS 157, *Fair Value Measurements* (ASC Topic 820). SFAS 157 established a framework for fair value measurement. Fair value, as defined in SFAS 157, is based on a hypothetical transaction between market participants and represents the price that would be received to sell an asset or the price paid to transfer a liability in an orderly fashion (i.e., not a distress sale). In this regard, FVL is an exit price from the perspective of the reporting entity. In computing FVL, it is assumed that the obligations are transferred to a counterparty without being net settled. Nonperformance risk is assumed to remain the same before and after the transfer. Consequently, FVL should reflect nonperformance risk including, but not limited to, the reporting entity's own credit risk. In accounting for a business combination, the acquiring company is the reporting entity.

### Part B: Q5. How can FVL be computed?

A. FVL for insurance and investment contracts, including associated benefit features, is typically computed using a market-consistent present value technique. FASB Concepts Statement No. 7, *Using Cash Flow Information and Present Value in Accounting Measurements*, provides guidance for using the present value technique to measure fair value. Appendix B of SFAS 157 (ASC 820-10-55-5) clarifies that guidance. It lists the components of a present value measurement as:

- a. An estimate of future cash flows for the asset or liability being measured.
- b. Expectations about possible variations in the amount and/or timing of the cash flows representing the uncertainty inherent in the cash flows.
- c. The time value of money, represented by the rate on risk-free monetary assets that have maturity dates that coincide with the period covered by the cash flows (risk-free interest rate).
- d. The price for bearing the uncertainty inherent in the cash flows (risk premium).
- e. Other case-specific factors that would be considered by market participants.
- f. In the case of a liability, the nonperformance risk relating to that liability, including the reporting entity's own credit risk.

### Part B: Q6. How are assumptions determined in calculating FVL?

A. In general, SFAS 157 (ASC 820-10-35-53) requires that assumptions used in a fair value calculation reflect the assumptions market participants would use to price the asset or liability. Some assumptions are "observable," which are based on market data independent of the reporting entity; others

are “unobservable,” which reflect the reporting entity’s assumptions about what market participants would assume. SFAS 157 (ASC 820-10-35-16) requires that maximum use be made of observable assumptions (e.g., yield curves, implied volatility, and implied default rates).

**Part B: Q7. How can the risk-free rate be determined for calculating FVL?**

**A.** Appendix B of SFAS 157 states: “U.S. Treasury securities are deemed (default) risk free because they pose neither uncertainty in timing nor risk of default to the holder.” Consequently, the principle of risk-free in SFAS 157 is free of the risk of default. Despite reference to the Treasury yield curve, some actuaries believe Treasury rates are not the appropriate risk-free rate to use in valuing insurance liabilities because Treasury securities generally have more liquidity than insurance liabilities. That is, if Treasuries were illiquid, the rate would likely be higher. Since liquidity is not required or desired to match some liability cash flows, some believe a spread should be added to Treasury rates to offset the difference in liquidity inherent in the Treasury rates. In addition, certain options are actually valued in the market using the swap curve and implied volatilities. Consequently, some believe the swap curve, or variant thereof, would be a better surrogate for the true risk-free rate.

**Part B: Q8. How can the risk premium be computed for calculating FVL?**

**A.** SFAS 157 (ASC 820-10-35-53) states that “unobservable inputs shall reflect the reporting entity’s own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk).” Beyond this, SFAS 157 provides very little specific guidance on how a risk premium should be determined.

Also called a risk margin, the application of a risk premium to insurance contract fair value has generated considerable interest, research and discussion. The International Actuarial Association (IAA) Risk Margin Working Group (RMWG) has done extensive research resulting in the paper, *Measurement of Liabilities for Insurance Contracts: Current Estimates and Risk Margins*.<sup>8</sup> Besides discussing objectives of risk margins and desirable characteristics, the paper discusses a number of risk margin approaches which include: quantile approaches, methods which use confidence limits, including the conditional tail expectation (CTE); cost of capital method; discount-related risk margins, which include risk-adjusted returns and deflators; and explicit assumptions, similar to provisions for adverse deviation (PADs).

In addition, to the extent observable market data exists (for example, data regarding reinsurance prices/quotes or prices/quotes associated with capital markets risk transfer), such prices might also be taken into account in the overall fair value. Therefore, it may be appropriate to consider these market prices/quotes in determining the level of risk premium.

**Part B: Q9. How can a cost of capital method be used to determine the risk premium?**

**A.** Since the capital required to support a business cannot be invested in other businesses or returned to investors, there is an opportunity cost associated with required capital. Generally speaking, the cost of capital method involves determining the required capital associated with the product being fair-valued, projecting future capital needs, and determining the cost associated with holding that future capital. This requires determination of those future capital needs at multiple future points in time within the fair value projection period (typically annual or quarterly time steps) as well as determination of the cost of capital rate.

Determination of future capital needs may be based on regulatory capital requirements, ratings capital (i.e., the amount needed to maintain a specified rating), economic capital or (in some cases) the maximum of

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<sup>8</sup> International Actuarial Association ad hoc Risk Margin Working Group (2009) *Measurement of Liabilities for Insurance Contracts: Current Estimates and Risk Margins*, April 15, 2009

two or all three. Methods for determining current and projected future economic and/or regulatory capital vary, and a discussion of these methods is outside the scope of this practice note. Per SFAS 157, the method used should be consistent with what a market participant would use.

The cost of capital rate is a key assumption that is challenging to determine. The principles of SFAS 157 suggest that the cost of capital should be what a market participant would demand for entering the transaction. Cost of capital is addressed further in Appendix I.

It is important to note that if a risk neutral valuation is used, the underlying cost of capital calculation would only consider economic capital requirements associated with non-hedgeable risks, since risk margins associated with hedgeable risks will already be incorporated in the fair valuation through the use of observable inputs. For example, if the risk neutral valuation<sup>9</sup> uses observed market implied volatility through duration x, those implied volatility inputs already incorporate the market's price for volatility risk, so no additional risk margin associated with volatility through duration x is necessary under a cost of capital approach. However, even if a risk neutral valuation is used, it may be necessary to include the cost of required regulatory capital for both hedgeable and non-hedgeable risks if other market participants would do so.

There are various ways of applying the cost of capital method for calculating risk margins. One possibility is to directly calculate the cost at the time the valuation is performed based on the methodology described in the prior paragraphs. The resulting cost of capital value could then be used as the risk margin. The challenge of this method is the complexity of the calculation and the computing time required for most cost of capital approaches.

Another method is to associate a point in time cost of capital method with a specific metric or ratio, and use that metric or ratio to determine the risk margin at the financial reporting date. Under this approach, it is important to take care to ensure that: (1) the underlying cost of capital calculations have been updated recently enough that the metric or ratio continues to be appropriate; and (2) the metric or ratio used will adequately represent the underlying changes in the market's view of risk from period-to-period.

Examples of ratios or metrics that might be used as a proxy for the underlying cost of capital include the Wang Transform or Sharpe Ratio (described in detail in the December 2007 issue of the *Financial Reporter*<sup>10</sup>), Conditional Tail Expectations (CTE) or percentiles of real world distributions, factors applied to key risk metrics such as in the money-ness, account value, and/or level of guarantee, and provisions for adverse deviation applied to key valuation assumptions. In addition, some more elaborate formulas for the cost of capital that also reflect deferred tax are discussed in the June 2008 issue of the *Financial Reporter*.<sup>11</sup>

### **Part B: Q10. How can the provision for nonperformance risk be computed when calculating FVL?**

**A.** SFAS 157 does not prescribe methods for reflecting non-performance risk, including own credit risk, in the fair value of a liability. In practice, many different approaches are emerging. Several methods currently observed reflect non-performance risk as an adjustment to the discount rate applied to projected cash flows in calculating fair values. Other methods involve adjusting cash flows to reflect non-performance risks. The cost of capital method for setting risk margins, which is evolving in Europe, reflects non-performance risk and credit risk in the cost of capital rate assumed to be demanded by investors.

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<sup>9</sup> Nicholas H Bringham, Rudiger Kiesel, "Risk Neutral Valuation: Pricing and Hedging of Financial Derivatives", 2nd. Ed

<sup>10</sup> Zinkovsky, "Risk margins to the Non-Market Risks under FAS 157: Suggested Approach," *Financial Reporter* (December 2007), pp. 11-16

<sup>11</sup> LaSorella, "Statement of Financial Accounting Standards No. 157 (SFAS 157) *Fair Value Measurements* (Including Introduction to Cost of Capital Risk Margins)," *Financial Reporter* (June 2008), pp. 1-8

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The following is a non-exhaustive list of methods observed in practice as well as some considerations both supporting and opposing the method.

- A. Discount all projected cash flows using risk-free rates (e.g., Treasury rates), effectively reflecting that there is no risk of non-performance for that particular liability.

One rationale presented to support this view is that, given the primacy of policyholder benefit obligations in the event of insolvency, and the protection afforded by guaranty funds and other regulatory safeguards, the risk of default on such obligations is *de minimis*. In order to support this view, a guarantee fund needs to be considered an attribute of the liability.

Due consideration needs to be given to the possibility that, guaranty funds and other safeguards notwithstanding, there remains the possibility that: (a) policyholders will not receive the full value owed them from their contracts; (b) policyholders may not receive the values owed them in a timely fashion; and (c) the insurance company will not make good on its obligations.

- B. Discount all projected cash flows using the interest rate swap curve.

Rationales supporting this view include recognition that: (a) the swap curve has some nonperformance risk embedded within it, reflective of the credit quality of the AA-rated banks that are active in the swap market and that this reasonably approximates the nonperformance risk associated with policyholder obligations of many insurance companies; and (b) the swap curve is widely used as the basis for determining the fair value of most derivative instruments that are actively traded in the market.

Perhaps the most common objection to this view is that the swap curve does not reflect the credit quality of the company that has the obligation to perform and, consequently, there is no reflection in the movement in the credit quality of a company, either in absolute terms or in relation to its peers.

- C. Discount all projected cash flows using either the interest rate swap curve or risk free rates as a base and adjusting for company-specific credit spreads over the base as evidenced by company-specific information such as yields on corporate debt, the price of credit default swaps on the company's bonds, observable prices of institutional products (e.g., guaranteed investment contracts or term notes) offered by the company, or the company's claims-paying rating.

This approach produces results consistent with the credit standing of the company. However, the discount rates derived in this manner may still not perfectly reflect the credit standing of the specific liability being measured. For example, credit default swap rates may reflect the credit standing with respect to debt, rather than claims liabilities. Also, information on credit default swap prices or prices on institutional products may not always be available.

- D. Adjust cash flows to reflect possibility of non-performance. Under this approach the cash flows are adjusted to certainty-equivalent cash flows that can be discounted at a risk free rate.

The rationale most commonly used to support this view is that it maximizes the use of observable information and generates a fair value that reflects the company's own credit as uniquely associated with that particular company.

On the other hand, critics of this approach argue that no one observable measure is entirely relevant for policyholder obligations because of their unique standing in the priority chain of obligations within a company and the existence of various safeguards to protect policyholders. Adjustments for elements like liquidity or the timing of payment of claims may require

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adjustments that some would argue are arbitrary and may lend undesirable subjectivity to the valuation.

Practice in this area continues to evolve.

### **Part B: Q11. What assumptions are needed to compute FVL?**

**A.** Examples of assumptions needed to compute FVL include:

- a. Interest rates and yield curves observable at commonly quoted intervals
- b. Volatilities
- c. Mortality
- d. Lapse
- e. Partial withdrawal
- f. Expenses
- g. Risk margins
- h. Tax<sup>12</sup>

SFAS 157 (ASC 820-10-35) establishes a framework for measuring fair value with a hierarchy of the inputs based on their observability. The highest priority is given to unadjusted quoted prices in active markets for identical assets and liabilities (Level 1 inputs) and the lowest priority to unobservable inputs (Level 3 inputs). Interest rates and yield curves and volatilities may be calibrated to observable prices in active markets and thus may be considered level 2 inputs. Mortality, lapse, partial withdrawal, expenses, and risk margins are generally unobservable, and thus level 3 inputs.

### **Part B: Q12. Is there VOBA associated with SFAS 133 embedded derivatives and other liabilities computed at fair value on an ongoing basis?**

**A.** No, a fair value liability cannot give rise to VOBA. Note that a host contract under FAS 133 might not be carried at fair value and could give rise to VOBA.

The objective of PGAAP is to create a fair value balance sheet. When a PGAAP liability is already at fair value, VOBA must be zero.<sup>13</sup> In addition to SFAS 133 FVLs, a company may elect the fair value option under SFAS 159, *The Fair Value Option for Financial Assets and Financial Liabilities*, for other liabilities. Any such liabilities appearing on the PGAAP balance sheet at fair value have already satisfied the fair value requirement of PGAAP and thus no VOBA is needed for those liabilities.

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<sup>12</sup> A tax assumption might be needed if deferred taxes are to be recognized in a cost-of-capital risk margin. See LaSorella, "Statement of Financial Accounting Standards No. 157 (SFAS 157) *Fair Value Measurements* (Including Introduction to Cost of Capital Risk Margins)," *Financial Reporter* (June 2008), pp. 1-8.

<sup>13</sup> Since  $VOBA = PGAAP \text{ Liability} - FVL$ , when the PGAAP Liability equals FVL, VOBA equals zero.

## Part C. Tax Considerations in the Calculation of Initial VOBA

Although GAAP (including PGAAP) valuation of assets and liabilities are on a pre-tax basis, such valuations are tied to prices. Actuaries know that market prices for assets are influenced by tax characteristics of those assets. Actuaries also consider taxes when pricing insurance contracts. Similarly, taxes affect the pricing of acquisitions, including business combinations. Part B: Q2 noted that: (a) income taxes enter into the calculation of VIF, (b) tax-basis valuations enter into the calculation of DTL; and (c) both VIF and DTL enter directly into the calculation of VOBA when using the actuarial appraisal method.

To appropriately calculate VOBA using the actuarial appraisal method, actuaries need to understand the tax effects of the business acquired. Note that, since VOBA represents the difference between the PGAAP liability and FVL (see Part B: introduction), and since ASC Topic 820 defines FVL from the view of a market participant, calculation of VOBA needs to consider taxes from that perspective.

In many instances, the actuary may judge the acquirer's perspective to be that of the ASC Topic 820 market participant. In certain circumstances, however, this may not be appropriate. As always, when dealing with any tax considerations, actuaries would be prudent to consult accountants or other professionals with expertise regarding the specific tax-related issues.

This section looks at tax characteristics commonly encountered by U.S. taxpaying entities in the purchase of an in-force block of insurance business and shows how they affect the calculation of VOBA in a business combination. Other tax jurisdictions, repatriation of profits or possible change to the U.S. tax code are not considered.

### **Part C: Q1. What are the tax consequences associated with a business combination?**

**A.** A business combination typically takes either of the following forms:

- Purchase of the stock of the acquired, or 'target' company
- Purchase of the assets of the target company

When an acquisition is made by a purchase of the stock of the target company (Target), all tax values in Target remain unchanged. There is no capitalization or amortization of stock purchased. Thus, on purchase of the stock of Target, there generally is no material amount of tax. The acquirer simply obtains a cost basis equal to the purchase price (whether paid in cash, Acquirer's stock, etc.)

However, pursuant to Internal Revenue Code section 338(h)(10), the acquirer and seller can jointly elect that a stock purchase be deemed a purchase of the assets of Target at market value (a stepped-up basis). This approach has the appeal to the acquirer that the existing portfolio of insurance is deemed to be assumption reinsurance, with a corresponding set of deductions for amortization of the purchase price.

For an actual or deemed purchase of Target's assets, two Internal Revenue Code sections and one element of case law contain special provisions requiring tax basis capitalization at the time of a business combination:

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- Section 848, “Capitalization of Certain Policy Acquisition Expenses”, generally provides for tax basis capitalization of premium income at prescribed percentages<sup>14</sup> and a 10-year straight-line amortization period of that capitalization. The unamortized balance is typically referred to as “proxy DAC” or “tax DAC.” This practice note uses “proxy DAC” (PDAC).
- Section 197, “Amortization of Goodwill and Certain Other Intangibles”, generally provides for a 15-year straight-line amortization period.
- The Colonial American case<sup>15</sup> provides for amortization during the portfolio’s “useful life” in some circumstances.

For tax implications only, one or more of the above three elements of tax guidance are used in any business combination activity except for the outright purchase of the stock of a company without a section 338(h)(10) election.

### Part C: Q2. How are taxes reflected in the calculation of VOBA?

- A. How taxes affect the calculation of VOBA depends on the method used.

Using Method 2 to derive VOBA, some companies reflect taxes in FVL through risk premiums determined by the cost-of-capital method. Some companies project tax cash flows explicitly. Some companies don’t consider taxes at all.

Using Method 1, taxes are reflected directly in the cash flows. The remainder of Part C addresses the inclusion of tax effects in the determination of VOBA under Method 1 (based on the actuarial appraisal method).

### Part C: Q3. How do taxes affect VOBA in a stock purchase?

- A. When a stock purchase is completed without a section 338(h)(10) election (subsequently discussed), the assets of Target, including any proxy DAC, maintain the same tax basis as before the acquisition. Since an actuarial appraisal value (VIF) often includes taxes from Target’s perspective, including amortization of Target’s remaining proxy DAC, the value of in-force business in a stock purchase (VIF<sub>S</sub>) may be equal to VIF. Otherwise, an adjustment may be needed to reflect the value of remaining proxy DAC amortization and other tax characteristics remaining in the business. The tax-basis asset associated with the business is typically Target’s remaining proxy DAC.<sup>16</sup> In formula 3, therefore, replace VIF with VIF<sub>S</sub> and TBA with PDAC, giving:

$$(3.s) VOBA = \frac{VIF_S + [GVL - T \times (GVL - TVL) - SVL] - [FVA - T \times (FVA - TVA) - SVA] - T \times PDAC}{1 - T}$$

### Part C: Q4. How do taxes affect VOBA upon actual or deemed purchase of the assets of Target?

- A. In any such purchase, the acquirer’s tax basis replaces the seller’s tax basis in Target. Some key tax effects of such a purchase and their impact on formula 3 follow:

- The tax value of assets equals their fair value;
- VIF is replaced with the price of in-force business (P<sub>IB</sub>, subsequently discussed); and

<sup>14</sup> 7.7% on life insurance contracts and non-cancellable accident and health insurance contracts, 2.05% on group life insurance contracts and 1.75% on non-qualified annuity contracts, subject to certain exceptions and special rules.

<sup>15</sup> Colonial American Life Insurance Company v. Comm’r, 491 US 244 (1989)

<sup>16</sup> If the Seller has previously acquired a company, a business or a block of in-force resulting in unamortized tax basis assets (subsequently discussed), these should be included.

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- TBA is replaced with the tax value of in-force (TVIF, subsequently discussed).

With these substitutions formula 3 becomes:

$$(3.a) \text{VOBA} = \frac{P_{IB} + [GVL - T \times (GVL - TVL) - SVL] - [FVA - SVA] - T \times TVIF}{1 - T}$$

$P_{IB}$  is the statutory basis value of in-force business adjusted for purchase-related tax effects. It is dependent on several tax-related variables, including TVIF, which are in turn dependent upon  $P_{IB}$ , resulting in a number of interdependencies. After defining  $P_{IB}$  in general terms, the next series of questions will develop formulas for all the tax-related dependent variables, culminating with  $P_{IB}$  being derived by solving a system of simultaneous equations.

Let:

${}_{\text{tent}}\text{VIF}$  = tentative value of the business acquired, calculated without any purchase-related tax deductions arising from the purchase of in-force business and without any of the Seller's projected proxy DAC amortization. Note, however, that  ${}_{\text{tent}}\text{VIF}$  may include adjustments for statutory and taxable investment income different from the Seller's projected investment income.

PVTA = present value of purchase-related taxable income adjustments.

$P_{IB}$  can be expressed in general terms as:

$$(4) P_{IB} = {}_{\text{tent}}\text{VIF} + PVTA$$

### Part C: Q4.1 How is the TVIF in formula 3.a computed?

A. The definition of TVIF in Treasury Reg. section 1.338-11(b)(2) provides a theoretical basis for its computation:

“...the fair market value of a specific insurance, reinsurance or annuity contract or group of insurance, reinsurance or annuity contracts (insurance contracts), is the amount of the ceding commission a willing reinsurer would pay a willing ceding company in an arm's length transaction for the reinsurance of the contracts if the gross reinsurance premium for the contracts were equal to Old Target's<sup>17</sup> tax reserves for the contracts.”

Citing this reference, some have concluded that TVIF should be computed on an after tax basis, and others, on a pretax basis:

- Those favoring an after-tax calculation emphasize that the Treasury regulation indicates TVIF should be a fair market value ceding commission. Market participants would take taxes into consideration in determining a price (a ceding commission).
- Those favoring a pre-tax calculation cite the same regulation and point out that the capitalization and amortization requirements of sections 848 and 197 provide tax deductions approximately equal to the emerging taxable income. This approach ignores any time-value-of-money differences between such amortizations and the emerging tax basis profits.

<sup>17</sup> In the context of a section 338(h)(10) election, Treasury regulations describe the Target company, in the form of “New Target”, as purchasing assets from itself in the form of “Old Target”.

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If the after-tax approach includes the tax benefit of amortizing purchase-related tax basis assets, such as PDAC and ETCC (subsequently discussed), the two approaches differ only with respect to the timing of taxes.

With  $P_{IB}$  defined to include the present value of purchase-related taxable income adjustments (as in formula 4), an after-tax TVIF can be computed by adjusting  $P_{IB}$  to a tax basis, similar to the development of its GAAP counterpart, VOBA, as seen in formula 1 of Part B: Q2. That is, TVIF can be obtained from  $P_{IB}$  by subtracting the excess of the statutory value of liabilities over the tax value of liabilities and adding the excess of the statutory value of assets over the tax value of assets.<sup>18</sup>

Let:

$FVA_{SVL}$  = fair value of assets backing statutory liabilities; and  
 $SVA_{SVL}$  = statutory value of assets backing statutory liabilities.

Making the above described statutory/tax adjustments to  $P_{IB}$  gives:

$$(5) \text{ TVIF} = P_{IB} - (SVL - TVL) + (SVA_{SVL} - FVA_{SVL})$$

Since statutory assets backing statutory liabilities must, by definition, equal statutory liabilities, formula 5 can be reduced to:

$$(5.a) \text{ TVIF} = TVL + P_{IB} - FVA_{SVL}$$

In 2006, Kovey and Jones<sup>19</sup> described the application of Treasury guidance to actuarial calculations:

“One way to interpret the rule is that the value of the insurance contracts should be determined on the basis of standard actuarial principles (using statutory reserves) and then the resulting amount should be reduced by an amount equal to the excess of the statutory over the tax reserves. This would likely result in a lower value of insurance in force for tax purposes, as compared to a normal actuarial valuation. On the other hand, one could interpret the rule as requiring the substitution of tax reserves for statutory reserves in determining distributable earnings, which would have the result of increasing the value of insurance in force (because essentially the liabilities for tax purposes would be lower). The problem with this approach is that it probably was not what was intended. Thus, until and unless further guidance is issued, the two-step approach set forth above appears to be the more reasonable interpretation of the regulation.”

The two-step approach suggested above is consistent with formula 5.

### Part C: Q4.2 How is PDAC computed?

**A.** Acquisitions of in-force business are accomplished either through assumption reinsurance (deemed or actual) or coinsurance. Under either form of reinsurance, the portfolio must first be separated into section 848 “specified insurance contracts” (if any) and other business. For specified insurance contracts, the proxy DAC is calculated at time of acquisition based on the capitalization percentages

<sup>18</sup> Formula 1:  $VOBA = VIF + (GVL - SVL) - (FVA - SVA) + DTL$  derives a GAAP value from a statutory value by adjusting for reserve and asset differences and deferred tax. Since deferred tax is a GAAP concept, deferred tax would not appear in an analogous adjustment from a statutory value to a tax value.

<sup>19</sup> From the SOA Taxation Section newsletter, “Taxing Times”, Sept. 2006, “Highlights of the Recent Guidance on Insurance Company Acquisitions,” Mark Kovey and Lori Jones.

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provided in section 848, applied to the net reinsurance premium, i.e., the tax value of liabilities assumed (a gross tax-basis reinsurance premium) less TVIF (a tax basis ceding commission). Defining D as the applicable capitalization percentage gives:

$$(6) PDAC = D \times (TVL - TVIF)$$

Replacing TVIF with formula 5.a, an alternative form for PDAC becomes:

$$(6.a) PDAC = D \times (FVA_{SVL} - P_{IB})$$

Formula 6.a shows that the PDAC capitalization percentage is applied to the fair value of assets which support statutory liabilities, net of the purchase price.

If only a portion of the business is subject to section 848, the  $P_{IB}$  in formula 6.a will represent only a portion of the total  $P_{IB}$ . Similarly, if there are segments subject to differing section 848 percentages, formula 6 or 6.a must be applied separately for each subset.

### Part C: Q4.3 How is ETCC computed and amortized?

A. The excess of the tax basis ceding commission (assumed to equal TVIF) over PDAC also has an effect on taxable income. This is called the excess tax ceding commission (ETCC):

$$(7) ETCC = TVIF - PDAC$$

Substituting formula 5.a for TVIF into formula 7 gives an alternative formula for ETCC:

$$(7.a) ETCC = TVL + P_{IB} - FVA_{SVL} - PDAC$$

If ETCC is negative, it becomes an addition to taxable income in the first reporting period after entry into the reinsurance treaty. If ETCC is positive, how it affects taxable income depends on the type of reinsurance employed and whether the business is subject to section 848 proxy DAC:

- Under indemnity reinsurance, the ETCC associated with a specified insurance contract portfolio (subject to section 848 proxy DAC) is a deduction in the year of entry into the reinsurance treaty.
- If an indemnity reinsurance portfolio is not subject to section 848 (for example, a qualified pension or cancellable health insurance portfolio), then the entire tax basis ceding commission is capitalized and amortized according to the Colonial American “useful life” criterion.
- Under assumption reinsurance, ETCC associated with a specified insurance contract portfolio is capitalized under section 197 and amortized over 15 years, eliminating any immediate net deduction for the acquirer.
- Under assumption reinsurance not subject to section 848, the section 197 capitalization and 15-year amortization applies to the entire tax basis ceding commission.

### Part C: Q4.4 How might PVTA in formula 4 be computed?

A. After recognizing the appropriate tax circumstance, the value of purchase-related taxable income adjustments can be measured. To value PVTA, two additional symbols are introduced:

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${}^C A$  = present value of \$1 amortized according to the appropriate schedule for ETCC<sup>20</sup> and discounted at a risk discount rate<sup>21</sup>; and

${}^D A$  = present value of \$1 amortized according to the appropriate schedule for proxy DAC (normally 10 years) and discounted at a risk discount rate (see footnote 21).

With these, the present value of purchase-related taxable income adjustments becomes:

$$(8) PVTA = T \times [(ETCC \times {}^C A) + (PDAC \times {}^D A)]$$

Substituting 7.a for ETCC and 6.a for PDAC into formula 8 gives:

$$(8.a) PVTA = T \times {}^C A \times [TVL + P_{IB} - FVA_{SVL} - D \times (FVA_{SVL} - P_{IB})] + T \times {}^D A \times D \times (FVA_{SVL} - P_{IB})$$

**Part C: Q4.5 With tax-related dependent variables having been derived, how can  $P_{IB}$  be derived algebraically?**

A. A careful look at formulas 4, 5.a, 6.a, 7.a, and 8.a shows circular dependence between  $P_{IB}$  and PVTA.  $P_{IB}$ , PDAC, and ETCC are all functions of each other. Substituting 8.a for PVTA in formula 4 and solving algebraically for  $P_{IB}$  results in:

$$(4.a) P_{IB} = \frac{\text{tent}VIF + (T \times {}^C A \times TVL) - T \times [{}^C A - D \times ({}^D A - {}^C A)] \times FVA_{SVL}}{1 - T \times [{}^C A - D \times ({}^D A - {}^C A)]}$$

One remaining aspect of the circularity cannot be solved algebraically—the amortization period of ETCC depends in part on whether ETCC positive or negative. Fortunately, the sign of ETCC does not depend on the choice of amortization period used in  ${}^C A$ . By initially assuming that ETCC will be a positive amount, an actuary can follow these calculations to determine a tentative amount of ETCC. If that tentative calculation results in negative ETCC, change  ${}^C A$  accordingly and recalculate; ETCC will change but it will still be negative.

Once satisfied that  $P_{IB}$  is calculated with the proper  ${}^C A$ , the result can be inserted into formula 5.a to determine TVIF. The results of formulas 4.a and 5.a can be inserted into formula 3.a to determine VOBA.

**Part C: Q4.6. Are purchase-related tax benefits, such as ETCC, always included in VOBA?**

A. In practice, purchase-related tax effects arising from the purchase of in-force business would be included in the price of in-force business. Hence, in this document, it is assumed that all such purchase-related tax effects are reflected in  $P_{IB}$ , and any associated purchase-related tax benefits, such as ETCC and PDAC (which sum to TVIF), are assigned to TBA. With VOBA being a function of both  $P_{IB}$  and TVIF (as defined by formula 3.a), all purchase-related tax effects and benefits are included. Proponents of this approach believe that tax consequences of the transaction should be considered from the perspective of a SFAS 157 market participant, which would lead to their inclusion in both  $P_{IB}$  and VOBA.

<sup>20</sup> Depending on the form of reinsurance, whether the underlying contracts are subject to proxy DAC, and the approach taken to allocate ETCC (described in Part C:Q4.6),  ${}^C A$  might be zero (i.e. if ETCC is zero or is not allocated to in-force business); one (if ETCC is negative, resulting in an addition to taxable income immediately after purchase); a present value of discounting over 15 years; or a present value of discounting over the “useful life” of the business. (See Part C: Q4.3.)

<sup>21</sup> Some actuaries believe that this risk discount rate should reflect the uncertainty of realization of purchase-related tax benefits arising from the amortization of PDAC and ETCC. Consequently, some actuaries might choose to discount such purchase-related tax benefits at a rate that differs from that used to compute  $\text{tent}VIF$ .

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Some actuaries believe that ETCC arising from the purchase of in-force business should not be allocated to in-force business, and VOBA should not be impacted. Proponents of this approach believe that tax consequences of the transaction result from strategic decisions of the acquirer and seller and should not be attributed to the in-force business. Under this view, the value of the tax deductibility of a purchase price belongs to the acquirer, not to the asset purchased (e.g., line of business or company). In this regard, ETCC would reside on the acquirer's balance sheet, which might be a holding company, or in a surplus segment of an acquired company, but not in the in-force business segment or, at least, not in VOBA. Under this view, VOBA would be computed by formula 3.s.

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Depending on circumstances, the formulas for calculation of VOBA for an actual or deemed purchase of the assets of Target may be simplified. The following looks at some specific circumstances.

### **Part C: Q5. How is VOBA determined upon purchase of an insurance company (Target) with an Internal Revenue Code (IRC) section 338(h)(10) election?**

**A.** The deemed purchase of the assets of Target at market value (a stepped-up basis) is a specialized tax basis transaction pursuant to IRC section 338(h)(10), subject to joint election by the acquirer and seller. Under this approach the existing portfolio of insurance is deemed to be assumption reinsurance for tax purposes, with a corresponding set of amortization deductions. As such, the resulting proxy DAC capitalization and the section 197 capitalization will step up the acquirer's basis accordingly and develop deductions over their corresponding 10-year and 15-year amortization periods, respectively. The IRC section 197 and 848 provisions are described for assumption reinsurance in Part C: Q1 and Part C: Q4.3.

Though a 338(h)(10) purchase is deemed to be assumption reinsurance under the tax code, the statutory values of assets in Target do not change from the seller's statutory basis. Under statutory accounting, Target remains an entity in itself and its statutory valuation does not change. Consequently, an actuarial appraisal often projects investment income based on the book value of supporting assets and book value rates of return (book yields). In practice, however, even when an actuarial appraisal assumes book yields on assets backing liabilities, assets supporting capital and surplus are typically marked to market with corresponding investment income projected at market rates of return (market yields). In this situation, the fair value of assets supporting RC ( $FVA_{RC}$ ) is set equal to RC.

With  $FVA_{RC}$  equal to RC, if  $P_{IB}$  and TVIF are determined using formulas 4.a and 5.a, respectively, then VOBA can be determined by insertion of the results into formula 3.a. Inserting formula 5.a for TVIF into formula 3.a results in significant algebraic simplification, giving:

$$(3.a.i) \text{ VOBA} = P_{IB} + GVL - FVA_{SVL}$$

Caution: Although formula 3.a.i is simple and looks like it can be solved without explicitly calculating TVIF and PDAC, skipping those steps could result in an erroneous value. And, it is important to remember that 3.a.i above is a simplification of 3.a. This simplification is based on the following assumptions:

- The tax basis purchase price of in-force business is capitalized and its amortization is deductible.
- The calculated purchase price includes tax effects, including deductions for amortization of the purchase price.
- TVIF is valued with tax-basis adjustments to the purchase price (using formula 5 or 5.a). (This may not always be the case—see Part C: Q4.1.)
- The fair market value of assets backing RC is equal to RC.

As mentioned,  $P_{IB}$  in formula 3.a.i has been computed using book yields. As discussed in Part B: Q3, some actuaries believe it is appropriate to use book yields rather than market yields when statutory accounting drives distributable earnings, which is believed to be a key component of fair value determination. Others

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believe that the actuarial appraisal method is only appropriate if market yields rather than book yields are used.

When the actuarial appraisal uses market yields to project investment income on tangible assets, then the implication is that assets supporting statutory liabilities and required capital have been reallocated such that the fair value of such assets equals their statutory book value. This allows SVA to replace FVA and SVL to replace  $FVA_{SVL}$  in formulas for VOBA,  $P_{IB}$ , TVIF and PDAC, matching the calculations for a direct purchase of the business (without the purchase of the company), as shown in formulas 3.a.ii, 4.a.ii, 5.a.ii and 6.a.ii in the next question.

One more complication arises when the adjusted grossed-up basis (AGUB<sup>22</sup>) of Target is less than the sum of the calculated TVIF and tax-basis values of all other tangible and intangible assets (except goodwill). This situation is addressed in Appendix II: Q1, along with an example illustrating the calculations.

As always, when dealing with any tax considerations, actuaries would be prudent to consult accountants or other professionals with expertise regarding the specific tax-related issues.

### **Part C: Q6. How is VOBA determined for a business combination without the purchase of the company?**

**A.** In this type of transaction, the transfer of the insurance in force is generally accomplished through indemnity reinsurance (generally coinsurance) and any assets transferred will be marked to market on Acquirer's statutory balance sheet. Similarly, the fair value of any assets backing statutory liabilities after transfer will equal SVL.<sup>23</sup> Along with this, Acquirer's projected statutory investment income will also differ from Seller's. If material,  ${}_{tent}VIF$  may need adjustment to reflect this difference in statutory investment income as well as taxable investment income (as noted in Part C: Q4).

Under statutory accounting rules, the acquirer must assume any interest maintenance reserve (IMR) generated by capital gains or losses of the seller. This will represent an additional cost to Acquirer, offset by the present value of its amortization (PVIMR).

In a business combination, only the IMR arising from assets transferred to back the in-force business are considered in the price of in-force business, so it may be necessary to allocate transferred IMR among segments of in-force business and other parts of the business combination. Given the appropriate amount of IMR and its amortization, the simplest way to include it may be to treat it as an additional statutory liability (part of SVL with its amortization and associated investment income included in  ${}_{tent}VIF$ ). With assets now matched to statutory liabilities at their fair value, SVL can be substituted for  $FVA_{SVL}$  in formulas 3 through 6, giving:

$$(3.a.ii) \text{ VOBA} = GVL + P_{IB} - SVL$$

<sup>22</sup>Treasury Reg. section 1.338-5(a) defines the "adjusted grossed-up basis (AGUB)... [as] the amount for which new target is deemed to have purchased all of its assets in the deemed purchase..." In this practice note, the terms AGUB and "deemed purchase price" (more common in actuarial usage) are interchangeable.

<sup>23</sup>Since tangible assets transferred are not normally equal to the amount of statutory liabilities transferred, the Acquirer will have to allocate additional assets in support of liabilities and required capital. Although Acquirer's statutory book value of those assets might differ from their current fair value, that is a characteristic of Acquirer, not of the business acquired. Thus, for the calculation of VOBA, it is appropriate to assume any additional assets allocated to the portfolio are at fair value and earn current market rates of return.

(4.a.ii) 
$$P_{IB} = \frac{tsnt^{TVIF} + (T \times C_A \times TVL) - T \times [C_A - D \times (D_A - C_A)] \times SVL}{1 - T \times [C_A - D \times (D_A - C_A)]}$$

(5.a.ii) 
$$TVIF = TVL + P_{IB} - SVL$$

(6.a.ii) 
$$PDAC = D \times (SVL - P_{IB})$$

Caution: Although formula 3.a.ii is simple and looks like it can be solved without explicitly calculating TVIF and PDAC, skipping those steps could result in an erroneous value. And, it is important to remember that 3.a.ii above is a simplification of 3.a (in Q4). This simplification is based on the following assumptions:

- The tax basis purchase price of in-force business is capitalized and its amortization is deductible.
- The calculated purchase price includes tax effects, including deductions for amortization of the purchase price.
- TVIF is valued as a tax-basis adjustment to the purchase price. (This may not always be appropriate—see Part C: Q4.1.)
- The fair market value of assets backing required capital and statutory liabilities is equal to required capital and statutory liabilities.
- Investment income is projected at market rates of return.

Finally, for reinsurance of business not subject to proxy DAC, the variable D will equal zero, resulting in a PDAC of zero and simpler forms of formulas 4.a.ii and 6.a.ii. Keep in mind, however, that the amortization of ETCC as represented in the value of <sup>C</sup>A may be different for this situation than for business requiring proxy DAC. (Refer to Part C: Q4.3).

As always, when dealing with any tax issues, actuaries would be prudent to consult accountants or other professionals with expertise regarding the specific tax-related issues.

**Part C: Q7. How is VOBA determined for the purchase of a block of in-force business through reinsurance?**

**A.** A purchase that is limited to reinsurance of a block of in-force business is not a business combination and is therefore not subject to the fair value requirements of SFAS 141R (ASC 944-805). In this situation, it doesn't matter whether the price paid for the business satisfies the definition of fair value in SFAS 157 (ASC 820-10-35).

In the simple case of assumption or indemnity reinsurance, P<sub>IB</sub> is simply the statutory ceding commission—the difference between statutory liabilities assumed and the market value of any assets transferred to Acquirer from Seller in support those liabilities. Because statutory accounting requires an acquirer to assume any IMR generated by capital gains or losses of the seller, SVL needs to include that IMR in determining the purchase price.

(4.a.iii) 
$$P_{IB} = SVL - FVA$$

Also, for reinsurance transactions that do not constitute “business combinations,” there is no VOBA calculation. In such case, assumption reinsurance and indemnity reinsurance of a portfolio of insurance business generally results in a GAAP basis deferred acquisition cost which, for convenience, is still referred to here as VOBA.

For reinsurance of a block of in-force business, the statutory ceding commission (a statutory basis purchase price) has been defined as the statutory value of liabilities assumed less the statutory value of assets

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transferred. Likewise, the tax basis ceding commission, a tax basis purchase price, is similarly defined as the tax value of the liabilities assumed less the tax value of the assets transferred. Since assets are transferred at market value, the tax value and GAAP value of such assets equal the fair value, FVA. With TVIF representing the tax basis ceding commission and FVA being the tax value of assets transferred:<sup>24</sup>

$$(5.a.iii) \text{ TVIF} = \text{TVL} - \text{FVA}.$$

Analogous to statutory and tax basis ceding commission, a GAAP basis ceding commission (a GAAP basis purchase price) is defined as the GAAP value of liabilities assumed less the GAAP value of assets transferred. With GAAP basis ceding commission represented by the associated VOBA<sup>25</sup> and FVA being the GAAP value of assets transferred:

$$(3.a.iii) \text{ VOBA} = \text{GVL} - \text{FVA}$$

Formula 3.a.iii can also be algebraically derived from formula 3.a by substituting formulas 4.a.iii and 5.a.iii for  $P_{IB}$  and TVIF, respectively.

A simple example might help elucidate the interaction of the above formulas with the rules for amortization of ETCC discussed in Q4.3. Assume a tax reserve (TVL) of 100 and assets transferred at market (FVA) of 85. The implied tax value of in-force (TVIF), a tax-basis purchase price, is 15 (i.e., 100-85). This TVIF, a tax-basis ceding commission, is defined equivalently by formula 5.a.iii:  $\text{TVIF} = \text{TVL} - \text{FVA}$ . If the block of business is a specified insurance contract portfolio subject to section 848 proxy DAC, the applicable PDAC percentage is applied to the net assets transferred or, equivalently, to a net reinsurance premium,  $\text{TVL} - \text{TVIF}$  (per formula 6), both resulting in 85 for this example. Assume, for simplicity, that PDAC equals 5. The excess tax ceding commission is the excess of TVIF over PDAC (formula 7:  $\text{ETCC} = \text{TVIF} - \text{PDAC}$ ), giving ETCC of 10 (i.e., 15-5). If the acquisition is made through assumption reinsurance, ETCC of 10 is capitalized and amortized straight-line over 15 years. If through indemnity reinsurance, ETCC of 10 is deductible in the year of entry into the reinsurance treaty. In both cases, PDAC is amortized straight-line over 10 years.

Assume the same facts except that the acquired block of business is not a specified insurance contract portfolio subject to section 848 proxy DAC. With PDAC of zero, ETCC becomes TVIF of 15. If the acquisition is made through assumption reinsurance, the entire 15 is capitalized and amortized straight-line over 15 years. If indemnity reinsurance is used, the entire 15 is capitalized and amortized over the useful life of the business (per the Colonial American case).

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<sup>24</sup> The fair value of assets transferred will differ from the fair value of assets backing statutory liabilities by the purchase price of in-force business, making FVA equal to  $\text{FVA}_{\text{SVL}} - P_{IB}$ . Remember that, in this practice note, FVA refers only to tangible assets, which does not include policy-specific assets such as policy loans and deferred and uncollected premiums.

<sup>25</sup> In practice, several other terms have been used instead of VOBA for this situation, including DAC, PVP and VIF.

## Part D. Other Items on the PGAAP Balance Sheet

### Part D: Q1. What is GAAP basis goodwill?

**A.** SFAS 141R (ASC 805-30-20 Glossary) defines goodwill as an asset representing the future economic benefits arising from a business combination that are not separately identified and recognized elsewhere. For practical purposes, goodwill can be considered an intangible asset representing the excess of the purchase price ( $P_S$ ) over the net assets acquired in a business combination. The net assets acquired include both tangible and intangible assets, the PGAAP liability, and the net deferred tax liability. Intangible assets apart from goodwill include VOBA and other intangible assets (OIA), such as the value of a distribution system.

Based on the above description, goodwill (GW) can be defined as:

$$(9) \text{ GW} = P_S - (FVA + VOBA + OIA - GVL - DTL)$$

### Part D: Q2. Can goodwill be negative?

**A.** No. As goodwill represents future economic benefits, goodwill cannot be negative. Per SFAS 141R (ASC 805-30-25-2): “If [the calculated goodwill] is negative, the acquirer shall recognize the resulting gain in earnings on the acquisition date.”

### Part D: Q3. What would cause the calculated amount of GAAP basis goodwill to be negative?

**A.** There are several situations that could cause the calculated amount of goodwill to be negative. One situation would be a bargain purchase, when the purchase price is less than the fair value of the net assets acquired. Even if there is not a bargain purchase, the calculated goodwill could still be negative. This is because in the PGAAP process, not all assets and liabilities appear on the PGAAP balance sheet at fair value, but the purchase price is likely to be based on the fair value of all assets and liabilities acquired. Examples of exceptions to fair value include deferred taxes, employee benefit plans, and operating leases (ASC 805-740-30-1, ASC 805-20-25-22, and ASC 805-20-25-11, respectively).

### Part D: Q4. Does GAAP goodwill result in a deferred tax item impacting the PGAAP balance sheet?

**A.** Since deferred taxes result only from temporary differences between GAAP and tax basis valuations, the answer to this question depends on the existence of such a temporary difference with respect to goodwill. Although goodwill is subject to impairment testing and could, therefore, decline, it is considered to be a permanent asset. Consequently, it will only result in a deferred tax item if there is a tax basis counterpart that is temporarily different.

As with other assets and liabilities, there is a tax basis counterpart to GAAP goodwill. Similar to GAAP goodwill, tax basis goodwill (TGW) will arise when AGUB (the deemed tax basis purchase price) exceeds the sum of tangible assets (classes I through V) and intangible assets (class VI).<sup>26</sup> Assuming TVOIA is defined as the total of class VI intangible assets other than TVIF, and recognizing that the deemed purchase

<sup>26</sup> See Appendix II for additional detail about the tax classification of assets.

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price is equal to the sum of the tax reserve and the price paid for the stock of Target, TGW can be defined using previously introduced symbols:

$$(10) \text{ TGW} = (\text{TVL} + \text{P}_5) - \text{FVA} - \text{TVIF} - \text{TVOIA}$$

Formula 10 can be rearranged to give a formula similar to GAAP goodwill:

$$(10.s) \text{ TGW} = \text{P}_5 - (\text{FVA} + \text{TVIF} + \text{TVOIA} - \text{TVL})$$

Whether goodwill results in a deferred tax item depends (ASC 740-805-25-9) on the relationship between TGW and GW.

- i. If TGW exceeds GW, a deferred tax asset (DTA) will arise. TGW is amortized, but GW is not. (It is tested for impairment, but if the test is passed, goodwill remains unchanged.) Consequently, the initial excess of TGW over GW will become zero as TGW is amortized to the level of GW. In this regard, it is a temporary difference and, as such, a deferred tax asset should be recognized, computed as the tax rate times the excess of TGW over GW.
- ii. If GW exceeds TGW, a deferred tax liability (DTL) will not arise. Because TGW is amortized, any initial excess of GW over TGW will only increase as TGW is written down (amortized).

Expressed in formula:

$$(11.i) \text{ DTA}_{\text{GW}} = T \times (\text{TGW} - \text{GW}), \text{ if } \text{TGW} > \text{GW}; \text{ otherwise}$$

$$(11.ii) \text{ DTA}_{\text{GW}} \text{ and } \text{DTL}_{\text{GW}} = 0$$

Subsequent to the PGAAP balance sheet date, as TGW is amortized under section 197, any deferred tax asset (for the excess of TGW over GW) will be decreased by the amount of amortization until TGW is equal to GW. As TGW continues to amortize, a DTL will emerge for the difference between GW and TGW. Similarly, for the case where GW exceeds TGW at the PGAAP balance sheet date, the difference between GW (set equal to the initial TGW) and the subsequent unamortized value of TGW will also attract a DTL.

Since  $\text{DTA}_{\text{GW}}$  is a component of net DTL in a purchase, a circular dependence between formulas 9 and 11.i can be seen, as discussed in Q5.

### Part D: Q5. How is GW derived when TGW appears to exceed GW, which would require an additional DTA based on the excess of TGW over GW?

A. Formula 9 should first be applied to compute a preliminary GW ignoring any DTA associated with goodwill. If the computed GW is greater than TGW, such GW is the final value for the PGAAP balance sheet. This is because, as discussed in Part D: Q4 above, no DTL should be established for the excess of GW over TGW at the date of acquisition. However, if the computed GW is less than TGW, it is considered to be a tentative goodwill ( $\text{tentGW}$ ). This is because an additional DTA ( $\text{DTA}_{\text{GW}}$ ) must be established for the excess of TGW over GW. In essence,  $\text{tentGW}$  is partitioned into  $\text{DTA}_{\text{GW}}$  and a final GW:

$$(12) \text{ tentGW} = \text{GW} + \text{DTA}_{\text{GW}}$$

Substituting formula 11.i for  $\text{DTA}_{\text{GW}}$  in formula 12, the actuary can solve for GW:

$$(9.i) \text{ GW} = \frac{\text{tent GW} - T \times \text{TGW}}{1 - T}$$

**Part D: Q6. What other items might need to be fair-valued in PGAAP?**

**A.** Per ASC 805-20-55-2 through 805-20-55-45, identifiable intangible assets other than goodwill and VOBA have to be fair-valued if they meet at least one of two criteria: (1) they arise from contractual or other legal rights or (2) they are separable from the acquired entity. It is irrelevant whether the acquiring company has any intention of separating the intangible. Examples of such other intangible assets (OIA) include distribution systems, trademarks, customer relationships, service contracts, service agreements, state licenses, approved products, customer lists, provider contracts and reinsurance contracts. Actuaries often are involved in fair-valuing distribution systems and customer relationships, and OIA that are typically valued based on earnings from future contracts. Only items that actuaries typically fair-value are addressed further below.

**Part D: Q7. How is the fair value of other intangible assets determined?**

**A.** The fair value of each OIA is calculated in accordance with SFAS 157 (ASC 820). For OIA based on earnings from future contracts, the calculations may be similar to the calculations of the fair value of in-force business. However, since the contracts have not yet been issued, certain additional assumptions may be necessary. For example, an assumption may be needed for the volume of sales and the mix of business that will be sold as a result of the intangible asset. In addition, an assumption may be needed for the distribution expenses that will be incurred when policies are sold as a result of the intangible asset. SFAS 157 (ASC 820-10-35-9) states that “the fair value of an asset...shall be determined based on assumptions that market participants would use in pricing the asset...” Therefore, the assumed sales volumes and distribution expenses may not necessarily match the assumptions that the acquiring entity expects. But practically there may be no evidence that a market participant would assume anything different than the acquiring entity. Based on assumed sales and distribution expenses, as well as assumptions related to the contracts that are expected to be sold, the profits or cash flows resulting from the intangible asset can be projected. These profits or cash flows can form the basis for the fair value. Given the greater level of uncertainty to these projections, some companies use a higher RDR, apply additional risk margins or use scenarios that produce a lower volume of business than expected.

**Part D: Q8. How are taxes reflected in the fair value calculations for other intangible assets?**

**A.** Taxes are generally reflected in the fair value of customer relationships and distribution agreements in a manner consistent with how taxes are reflected in VOBA – considering tax on expected profit from the asset and sometimes deductibility of the purchase price.

## Part E. Subsequent Measurement

SFAS 141R provides little guidance for the amortization of VOBA. But SFAS 141R did amend SFAS 60 by adding paragraph 59C (ASC 944-805-35-1 through 944-805-35-3) which states: “After the business combination, the acquirer shall measure the intangible asset (or other liability) on a basis consistent with the related insurance or reinsurance liability.” The amended paragraph gives an example for long-duration life insurance contracts and mentions that using a basis consistent with the measurement of the liability would be similar to the guidance of paragraph 31 of SFAS 60 (ASC 944-30-35-3), “which requires deferred acquisition costs to be amortized using methods that include the same assumptions used in estimating the liability for future policy benefits.” However, it is unclear what “a basis consistent with the measurement of the liability” would mean for account value products, such as: universal life, variable universal life, deferred annuities, variable annuities, and guaranteed investment contracts, where such base policy liabilities are computed by the retrospective deposit method and do not use valuation assumptions per se.

Prior to SFAS 141R, the primary source of guidance for the amortization of VOBA came from Emerging Issues Task Force Issue No. 92-9 (EITF 92-9), *Accounting for the Present Value of Future Profits Resulting from the Acquisition of a Life Insurance Company*, which will be subsequently discussed. However, SFAS 141R nullified a number of EITFs, including EITF 92-9. Consequently, there is virtually no specific guidance as to the precise methodology for VOBA amortization. Since the principles of EITF 92-9 have been applied extensively in practice, in the absence of specific guidance it is worth revisiting the implications of EITF 92-9, despite its having been nullified by SFAS 141R.

### Part E: Q1. How does VOBA run off in practice?

A. Some actuaries believe that, due to the absence of specific guidance, SFAS 141R opens the door to any reasonable method of amortization.

However, in the absence of authoritative guidance for specific methodology for VOBA amortization, many actuaries believe the principles of EITF 92-9 will continue to be permitted in practice, appropriately modified to accommodate the many products and conditions encountered in practice that were not addressed by the EITF. The reference to Deferred Acquisition Costs (DAC) in SFAS 141R might provide further evidence of intent to link VOBA to DAC, which clearly was the intent of EITF 92-9. This linkage may be important for other purposes, such as loss recognition testing, where guidance is extensive regarding DAC, but almost nonexistent regarding VOBA.

As mentioned above, prior to SFAS 141R, the primary guidance for the amortization of VOBA was EITF 92-9. In essence, EITF 92-9 implied that amortization of the present value of profits, another term for VOBA, should follow the amortization methodology for DAC. This meant that VOBA resulting from the acquisition of a block of universal life contracts accounted for under SFAS 97 would be amortized as a uniform percentage of estimated gross profits. Likewise, VOBA resulting from the acquisition of a block of long-duration traditional non-par life insurance contracts would be amortized as a uniform percentage of gross premiums. As with DAC amortization, assumptions for the universal life block would be best-estimate, periodically revised assumptions; assumptions for the traditional non-par life block would be locked-in at acquisition and include provision for adverse deviation.

While EITF 92-9 provided some basic principles for VOBA amortization, there were a number of situations not covered by the EITF that arose in practice. For example, EITF 92-9 predated SOP 95-1 methodology for participating life insurance contracts covered by SFAS 120. By analogy, VOBA on such par contracts was normally amortized as a uniform percentage of estimated gross margins. Likewise, even though guidance for SFAS 60 non-par contracts seemed clear, DAC on limited-pay contracts was amortized over the premium paying period. If VOBA were amortized over the same period, the resulting amortization period might be fairly short. At the extreme, a single premium payout annuity contract would

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have no future premiums to serve as an amortization base. Consequently, for limited-pay contracts, practice emerged in which alternative amortization bases were used for VOBA, such as insurance in force or annuity benefit payments (as recommended by SFAS 97 for amortization of unearned revenue).

Loss recognition for VOBA generally follows the same guidance as DAC loss recognition with respect to frequency and methodology.

### **Part E: Q2. Is negative VOBA amortized any differently?**

**A.** There is no guidance to suggest that negative VOBA would be amortized differently from positive VOBA. However, the cause of the negative VOBA might suggest an appropriate amortization method.

### **Part E: Q3. How does the amortization of ETCC affect the amortization of VOBA?**

**A.** The amortization of ETCC subsequent to the date of acquisition has no impact on the amortization of VOBA. As previously mentioned, if ETCC is allocated to in-force business, there is a one-time initial impact on VOBA (see Part C: Q4.6). Subsequently, VOBA is amortized as described above (see Part E: Q1) independent of amortization of ETCC or any other tax basis assets related to in-force business, much like the method of DAC amortization. Finally, TGW has no effect on VOBA (either at initial determination or in subsequent amortization).

### **Part E: Q4. How are other intangible assets amortized after PGAAP?**

**A.** SFAS 144 (ASC 350-30-35-6) provides guidance that amortization takes place over the useful life of the intangible asset in proportion to the economic benefits from the asset. The method of amortization can vary with the asset but methods similar to VOBA amortization or straight line may be used. The amortization is done on an undiscounted basis with no updates to assumptions. Practice varies as to whether the in-force is tried up or not. If the useful life changes in any period, the change is accounted for prospectively over the revised remaining useful life. Intangible assets are typically reviewed annually for impairment. Intangible assets with indefinite useful lives are not amortized, but impairment testing is still required.

### **Part E: Q5. When are “amortizing other intangible assets,” such as customer relationships or distribution agreements, tested for impairment?**

**A.** SFAS 144, paragraph 8 (ASC 360-10-35-21) states that “a long-lived asset shall be tested for recoverability whenever events or changes in circumstances indicate that its carrying amount may not be recoverable.” Paragraph 7 (ASC 360-10-35-17) states that “the carrying amount of a long-lived asset is not recoverable if it exceeds the sum of undiscounted cash flows expected to result from the use and eventual disposition of the asset.” So an intangible asset has to be tested for impairment if there is an indication that the carrying value of the asset exceeds the undiscounted cash flows expected to result from the asset. SFAS 144 (ASC 360 -10-35-21) provides some examples of such indications, including: (a) a significant decrease in the market price of the asset; (b) a significant adverse change in legal climate or business climate that could affect the value; (c) a current period operating or cash flow loss combined with a history of losses or a forecast that demonstrates continuing losses associated with the asset; and (d) a current expectation that more likely than not the asset will be disposed of before the end of its previously estimated useful life.

### **Part E: Q6. How are “amortizing other intangible assets” tested for impairment?**

**A.** Per SFAS 144, paragraph 7 (ASC 360-10-35-17), if the book value (carrying value) of the intangible asset is greater than the sum of the undiscounted expected future cash flows from the intangible asset, the intangible asset is impaired. According to paragraph B15 of SFAS 144, the undiscounted cash

flow test was chosen “for practical reasons.” Testing impairment based on undiscounted, rather than discounted, cash flows often makes impairment less likely.

**Part E: Q7. If an “amortizing other intangible asset” is impaired, how is the impairment measured?**

**A.** Per SFAS 144, paragraph 7 (ASC 360-10-350-17), if an impairment needs to be recognized, the asset is written down to fair value. The impairment amount is the difference between the carrying value and the fair value of the intangible asset as of the date of the impairment test. Since fair value incorporates discounted cash flows from the asset, but the impairment test described in Part E: Q6 is based on undiscounted cash flows, the amount of an impairment may be much greater than the amount by which the impairment test failed.

**Part E: Q8. How is fair value of an “amortizing other intangible asset” measured in the case of an impairment?**

**A.** The fair value of the intangible asset is measured in accordance with current US GAAP guidance as prescribed in SFAS 157 (ASC 820). Generally, a discounted cash flow approach is used for insurance-related intangible assets.

**Part E: Q9. How are non-amortizing intangible assets, such as goodwill, reported on financial statements subsequent to the PGAAP opening balance sheet?**

**A.** Treatment of non-amortizing intangible assets after initial recognition is prescribed in SFAS 142 (ASC 350-20-35 for goodwill, ASC 350-30-35 for other non-amortizing intangible assets). Specifically, they are not amortized, but are tested for impairment.

**Part E: Q10. What is the guidance for impairment testing of non-amortizing intangible assets other than goodwill?**

**A.** SFAS 142 (ASC 350-30-35-18) provides guidance for impairment testing of other intangible assets besides goodwill: An intangible asset that is not subject to amortization shall be tested for impairment annually or more frequently if events or changes in circumstances indicate that the asset might be impaired. According to SFAS 142, “the impairment test shall consist of a comparison of the fair value of an intangible asset with its carrying amount. If the carrying amount of an intangible asset exceeds its fair value, an impairment loss shall be recognized in an amount equal to that excess.”

Such non-amortizing assets sometimes include licenses to operate in particular states.

**Part E: Q11. What is the guidance for impairment testing of goodwill?**

**A.** Goodwill, in accordance with paragraph 18 of SFAS 142 (ASC 350-20-35-1 through 350-20-35-2), is not tested for impairment directly, but as part of the reporting unit to which it is allocated. Paragraph 30 of SFAS 142 (ASC 350-20-35-33 through 350-20-35-36) defines a reporting unit as “an operating segment or one level below an operating segment (referred to as a component). A component of an operating segment is a reporting unit if the component constitutes a business for which discrete financial information is available and segment management regularly reviews the operating results of that component. However, two or more components of an operating segment shall be aggregated and deemed a single reporting unit if the components have similar economic characteristics.”

Paragraphs 19 through 22 of SFAS 142 (ASC 350-20-35-4 through 350-20-35-19) define the goodwill impairment test. It is a two-step test, in which the first step compares the fair value of the reporting unit with the carrying amount (or equity) of the reporting unit, including the carrying amount of goodwill. If the

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“fair value of the reporting unit exceeds its carrying amount, goodwill of the reporting unit is not considered impaired.”

If the first step of the of the goodwill impairment test is failed, that is, the carrying amount of the reporting unit (including goodwill) exceeds the fair value of the reporting unit, the second step of the goodwill impairment test must be performed. The second step measures the impairment loss, which may still be zero.

In the second step of the goodwill impairment test, an implied fair value of goodwill is compared to the goodwill carrying value. The implied fair value of goodwill is determined by calculating the fair value of all the assets and liabilities in the reporting unit, “as if the reporting unit had been acquired in a business combination and the fair value of the reporting unit was the price paid to acquire the reporting unit.” The implied fair value of goodwill is “the excess of the fair value of the reporting unit over the amounts assigned to its assets and liabilities.” Once the implied fair value of goodwill is determined, the amount of any impairment can be calculated. If the carrying amount of goodwill in a reporting unit “exceeds the implied fair value of that goodwill, an impairment loss shall be recognized in an amount equal to that excess. The loss cannot exceed the carrying amount of goodwill,” hence the goodwill carrying amount cannot become negative. Furthermore, although fair values of assets and liabilities are calculated as part of the goodwill impairment test, this process is “only for the purpose of testing goodwill for impairment; an entity shall not write up or write down a recognized liability, nor should it recognize a previously unrecognized intangible asset” as a result of this process.

There are some situations in which a reporting unit can fail step 1 of the goodwill impairment process, but still not have any goodwill impairment. For example, if the fair values of assets other than goodwill are below their carrying values by an amount greater than the deficiency in step 1 of the test, goodwill may not be impaired. Essentially, the deficiency in the fair value of the reporting unit relative to the carrying value would be attributed to those other assets, not to goodwill. Similarly, if the fair value of liabilities exceeds the liability carrying values by more than the deficiency in the step 1 test, the deficiency in the fair value of the reporting unit relative to the carrying value would be attributed to those liabilities rather than to goodwill.

### **Part E: Q11.1 How is the fair value of the reporting unit calculated in step 1 of the goodwill impairment test?**

**A.** Both step 1 and step 2 of the goodwill impairment test require a fair value to be calculated for the reporting unit of the goodwill being tested. Various techniques are commonly used to calculate the fair value of the reporting unit, ranging from relatively simple to quite complex. A relatively simple method may be to multiply projected short term earnings from the reporting unit by a factor. The factor would reflect price to earnings ratios on recent transactions of companies or blocks of business with similar characteristics as the reporting unit. A more complex method would be to project the profits or cash flows expected from the reporting unit over many years, and apply a fair value technique, similar to the fair value techniques used to value insurance contracts. Generally, the closer the fair value of the reporting unit is to the carrying value, the more important it may be to use a more sophisticated technique to calculate the fair value.

Often the acquired business is merged into an existing reporting unit of the acquirer containing similar business (e.g., the newly acquired annuity business is allocated to the acquirer’s existing annuity line of business). It is the fair value of this combined reporting unit that is used in the goodwill impairment test. Since the value of in-force business and future new business of the acquirer contributes to the fair value of the combined reporting unit, it is often expected that such fair value will exceed the carrying value by a significant margin, further justifying the use of a simple valuation (such as a multiple of earnings) for the step 1 test in such a case.

### **Part E: Q11.2 Which items are fair-valued in step 2 of the goodwill impairment test?**

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**A.** If the fair value of the reporting unit in the step 1 test is less than the carrying amount of the reporting unit, the second step of the goodwill impairment test is performed. In this step, the implied fair value of the reporting unit goodwill is calculated in a manner similar to a new PGAAP exercise, using the fair value of the reporting unit as the purchase price. [Note: If the fair value of the reporting unit in the step 1 test was estimated with a relatively simple test (such as a multiple of earnings), a more rigorous valuation (such as an actuarial appraisal) might be needed to recompute the fair value of the reporting unit for the step 2 test.] Note that values are allocated to all intangible assets, including those that are not necessarily recognized on the current balance sheet. The implied fair value of the reporting unit goodwill is the excess of the fair value of the reporting unit over the fair value assigned to the net assets other than goodwill.<sup>27</sup> For a given reporting unit, if the carrying amount of goodwill exceeds the step 2 fair value of goodwill, then a goodwill impairment is recognized for the excess. If the implied fair value of goodwill exceeds the carrying amount of goodwill, there is no goodwill impairment, even though there was a failure in step 1 of the goodwill impairment test. At this stage, some companies compute the value of goodwill directly as the value of future new business for purposes of determining impairment.

### **Part E: Q11.3 How are the fair values calculated in step 2 of the goodwill impairment test?**

**A.** The fair values should be computed in accordance with SFAS 157, *Fair Value Measurements*, (ASC 820). Such fair values would be consistent with those for PGAAP, as described in Part B.

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<sup>27</sup> Note that for some assets and liabilities, such as deferred taxes, the amount allocated may be different than the fair value of the asset or liability itself.

# Appendix I: Distributable Earnings and VIF

This appendix includes several formulas, abbreviations and acronyms that are not used anywhere else in this practice note. Since they are specific to this appendix, these formulas are not included in appendix III and these abbreviations and acronyms are not included in appendix IV.

**Part 1: Proof that the present value of distributable earnings (PVDE) less opening required capital equals the present value of post-tax statutory book profits less the present value of cost-of-capital charges.**

For each year (t) from 1 to  $\omega$  (end of time horizon):

- $DE_t$  = Distributable earnings in the year  
= The maximum potential shareholder dividend that could be distributed (absent any special regulatory constraints on the size of dividend distributions)  
=  $BP_t + RC_{t-1} \times (1 + i) - RC_t$
- $RC_t$  = Required capital at the end of the year
- $BP_t$  = Statutory book profit in the year
- $i$  = Post-tax net investment income rate (assumed to be independent of time)
- $j$  = Cost of capital interest rate (assumed to be independent of time)
- $CoC_t$  = Cost of capital for the year  
=  $RC_{t-1} \times (j - i)$

Then:

$$\begin{aligned}
 PVDE &= \sum_{t=1}^{\omega} \frac{DE_t}{(1+j)^t} \\
 &= \sum_{t=1}^{\omega} \frac{BP_t + RC_{t-1} \times (1+i) - RC_t}{(1+j)^t} \\
 &= \sum_{t=1}^{\omega} \frac{BP_t + RC_{t-1} \times (1+i+j-j) - RC_t}{(1+j)^t} \\
 &= \sum_{t=1}^{\omega} \frac{BP_t + RC_{t-1} \times (1+j) - RC_{t-1} \times (j-i) - RC_t}{(1+j)^t} \\
 &= \sum_{t=1}^{\omega} \frac{BP_t}{(1+j)^t} + \sum_{t=1}^{\omega} \frac{RC_{t-1} \times (1+j) - RC_t}{(1+j)^t} - \sum_{t=1}^{\omega} \frac{RC_{t-1} \times (j-i)}{(1+j)^t} \\
 &= PVBP + \sum_{t=1}^{\omega} \left[ \frac{RC_{t-1}}{(1+j)^{t-1}} - \frac{RC_t}{(1+j)^t} \right] - \sum_{t=1}^{\omega} \frac{CoC_t}{(1+j)^t} \\
 &= PVBP + \left[ \frac{RC_0}{(1+j)^0} - \frac{RC_{\omega}}{(1+j)^{\omega}} \right] - PVCoC \\
 &= PVBP + [RC_0 - 0] - PVCoC
 \end{aligned}$$

$$= PVBP + RC_0 - PVCcC$$

Thus,  $PVDE - RC_0 = PVBP - PVCcC$

**Part 2: Analysis of Statutory Basis VIF, defined as the present value of after-tax statutory book profits less the present value of cost of capital charges.**

**AppI: Q1. How can book profit be defined?**

**A.** In the U.S., statutory book profit for a particular accounting period might be defined as the after-tax net income achieved after resetting invested assets at the beginning of that accounting period exactly equal to the net statutory liabilities.<sup>28</sup> Items included in statutory book profit are those typically found in statutory income statements. A partial list would include the sum of premiums, investment income, capital gains, and fee income, less the sum of claims, surrenders, maturities, commissions, expenses, dividends, experience refunds, the increase in statutory reserves, and taxes.

In jurisdictions where U.S. statutory accounting does not apply, local regulatory accounting should define book profit.

**AppI: Q2. How should the present value of book profits reflect financial options and guarantees (FOG) arising from guaranteed benefits contained in underlying insurance and annuity contracts?**

**A.** Many financial options and guarantees in benefit features qualify as embedded derivatives under SFAS 133, which requires the liability to be valued at fair value. An example is the guaranteed minimum accumulation benefit (GMAB) in a variable annuity contract. As previously mentioned, SFAS 141R defines VOBA as the PGAAP liability less FVL. When the PGAAP liability for such embedded derivative is an FVL, the associated VOBA must be zero (see Part B: Q12). Consequently, if VOBA is being derived by Method 1 (i.e., starting with VIF), then the present value of book profits, which will be used to derive VIF, should be computed without regard to such embedded derivatives.

However, there are some benefit features that exhibit optionality which are not considered to be embedded derivatives and are not valued at fair value for PGAAP purposes. An example of one such benefit is the guaranteed minimum death benefit (GMDB) in a variable annuity contract. Such benefits are often valued in two parts. The first part is the intrinsic value, which is based on an initial exposure at the valuation date and is valued in the base scenario (the deterministic scenario used to derive the present value of book profits associated with base policies). Often the exposure, e.g., the excess of the guaranteed minimum death benefit over the account value, declines in the base scenario projection. In addition, for contracts with an initial exposure of zero (e.g., the guaranteed death benefit is equal to or less than the account value at the valuation date), the intrinsic value will be zero. The second part, the time value of financial options and guarantees (TVFOG), is typically valued using multiple scenarios, often stochastically generated economic scenarios. For a particular benefit feature, the present values of the after-tax book profits from the stochastic scenarios are averaged (or a weighted average of multiple scenarios is taken) and reduced by the corresponding present value of the after-tax book profits of the benefit feature in the base scenario, resulting in TVFOG (typically a negative value). Finally, the present value of the after-tax book profits in the base scenario, which includes the intrinsic value of FOG, is adjusted (typically reduced) by the inclusion of TVFOG.

**AppI: Q3. How can required capital (RC) be defined in the calculation of VIF?**

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<sup>28</sup> Statutory liabilities net of admitted deferred taxes, reinsurance assets and other contract-related assets such as deferred premium assets.

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**A.** Required capital refers to the capital the company has assumed to be allocated to the business. Definitions of required capital vary across companies and geographies. A strict interpretation might be that level of capital required to be maintained to avoid action by regulatory authorities. In this regard, RC is defined as a minimum amount of required capital. However, since appraisal values are based on market-based assumptions, many actuaries believe RC is the expected level of capital that market participants would hold in order to maintain the company's current credit rating or the amount of capital a market participant would hold under its economic capital formula. In this regard, RC is a function of a company's financial strength and target rating.

**AppI: Q4. How can cost of capital be defined in the calculation of VIF?**

**A.** For illustration, assume all capital expects the same rate of return. The cost of capital for a given period assumes investors wish to earn the risk discount rate (RDR) on capital that cannot be distributed. Since assets supporting RC are expected to earn an after-tax investment rate of return, the cost of capital for the period is the RC at the beginning of the period multiplied by the excess of the RDR over the after-tax investment rate of return. See final formula for PVDE in Part 1, above.

The present value of the cost of capital is simply the present value of each period's cost of capital in the projection (i.e., each period's cost of capital is discounted to the valuation date at the RDR).

**AppI: Q5. How can the risk discount rate (RDR) be defined in the calculation of VIF?**

**A.** Different approaches can be used to determine the RDR. Since acquisitions often are funded by a mix of debt and equity capital, one definition of the RDR is the weighted average cost of capital (WACC) often encountered in finance theory. For example, if only two sources of capital are considered, debt (D) and equity (E), and the cost of each is  $d$  and  $e$ , respectively, then RDR can be defined as follows:

$$\text{AppI(1) } RDR = WACC = \left( e \times \frac{E}{E+D} \right) + \left( d \times \frac{D}{E+D} \right)$$

Assuming the ratio of debt to equity is constant, for a particular accounting period ( $t$ ), the cost of capital would be computed as the entire  $RC_{t-1}$  multiplied by  $(RDR - i_t)$ , where  $i_t$  is the period  $t$  after-tax rate of return on invested assets supporting RC.

The formula for WACC can be expanded to include other sources of capital. For example, to include a third source, preferred stock (P) at a cost,  $p$ , the denominators would be expanded to  $(E+D+P)$  and a third term,  $p \times P / (E+D+P)$ , would be added.

**AppI: Q6. How can the cost of equity capital be defined in the calculation of VIF?**

**A.** While not the only tool for defining the cost of equity capital, the capital asset pricing model (CAPM) has been the most widely used. With RF representing the risk-free rate of return, RM representing the expected market rate of return (e.g., S&P500 total return), and beta ( $\beta$ ) representing a measure of a company's relative risk<sup>29</sup> (company's total return of its stock relative to that of the market), the cost of equity capital ( $e$ ) is defined by CAPM as:

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<sup>29</sup>  $\beta$  is defined as the covariance of a company's total return with that of the general market divided by the variance of the total return of the general market. It is also the slope of the regression line of total returns in excess of the risk free rate (i.e., total returns along the Y axis with risk increasing along the X axis). It can alternatively be expressed as the correlation coefficient between the company's total return versus the general market total return, multiplied by the ratio of the Company's  $\sigma$  to the general market  $\sigma$ , where  $\sigma$  is the standard deviation (volatility) of each party's total return.

$$\text{AppI(2) } e = RF + (RM - RF) \times \beta$$

**AppI: Q7. How can debt be defined in the calculation of VIF?**

**A.** For appraisal values, debt (D) can be defined as the market value of the company's debt (as opposed to the book value). In addition, the cost of debt (d) can be defined to be the after-tax cost of debt service.

**AppI: Q8. How can the interaction of assumed investment income, the RDR, and the cost of capital be reflected in the calculation of VIF?**

**A.** The above three components are interrelated and have an impact on each other. For example, compared to a typical company, if a particular company chooses to invest in relatively risky assets, it will expect higher investment income but need a higher RC, and a higher cost of equity capital (implying a higher WACC) would be demanded by shareholders (i.e., a higher expected total return on the company's stock). In contrast, if assets are assumed to be transferred in cash from a seller to an acquirer and reinvested in less risky assets, assumptions for investment income, RC and the RDR would be lower. In short, it is important to keep the assumptions for investment income, the RDR, and cost of capital internally consistent.

Since GAAP defines fair value from the perspective of a "market participant" (see SFAS 157 paragraph 7), some actuaries believe that the investment income assumptions should be based on a typical portfolio that would be used by market participants. In many cases, the actual asset portfolio is assumed to be consistent with a typical portfolio that would be used by market participants.

## Appendix II: Additional Tax Issues

This appendix describes purchase-related tax issues in greater depth than the previous sections. Since the PGAAP balance sheet is that of the acquirer, the purchase-related tax concepts discussed in this section are from the acquirer's perspective only. The first question deals with the purchase of a company and an IRC section 338(h)(10) election. The second question deals with the purchase of a business without the purchase of a company, a section 1060 transaction.

### **AppII: Q1. What are the tax consequences associated with an IRC section 338(h)(10) election?**

As discussed in Part C: Q1, IRC section 338(h)(10) allows a joint election to be made by the acquirer and the seller to treat a stock purchase as a deemed asset purchase with the in-force business deemed to be acquired through assumption reinsurance.

When a company's assets are purchased under a section 338(h)(10) election, the acquirer's tax basis is based on the market value of the acquired tangible and intangible assets at the date of acquisition, irrespective of the selling company's tax basis (often the original cost of invested assets). This is commonly referred to as a "stepped-up" basis. The existing Target (Old Target) is deemed to be liquidated and its assets transferred to New Target at their respective market values. The "Deemed Purchase Price" is the amount paid for the stock of Target plus the tax value of liabilities assumed (predominantly tax reserves). In the Treasury regulations, such deemed purchase price is referred to as the adjusted grossed-up basis (AGUB). The AGUB is allocated to the assets of New Target according to the residual method, i.e., by class in order of priority (not pro rata). The prioritization by class given in Treasury Reg. 1.338-6 is summarized as follows:<sup>30</sup>

- I. Cash and deposit accounts
- II. Actively traded personal property, such as U.S. government securities and stocks
- III. Debt instruments and accounts receivable
- IV. Inventory
- V. All assets other than classes I, II, III, IV, VI, and VII, such as buildings, etc.
- VI. Section 197 intangibles other than class VII, such as the tax value of in-force (TVIF)
- VII. Tax basis goodwill (TGW)

As previously indicated, a section 338(h)(10) transaction is treatable as an assumption reinsurance transaction. The Seller's proxy DAC is eliminated and a new proxy DAC is computed on the deemed initial consideration paid for the applicable in-force business: the tax value of liabilities assumed (a deemed gross reinsurance premium) less the allocable amount of TVIF (a deemed tax basis ceding commission). The computation of TVIF is discussed in Part C: Q4.1. The section 197 capitalization is applied to the excess of the amount allocated to TVIF over the proxy DAC, resulting in a deemed excess tax ceding commission (ETCC) discussed in Part C: Q4.3.

Finally, as mentioned in Part C: Q1, the recomputed PDAC on the initial consideration is amortized straight line over a 10-year period. In addition, since a 338(h)(10) election implies a deemed assumption reinsurance transaction, the deemed ETCC is amortized straight line over a 15-year period, as discussed in Part C: Q4.3. Any other amounts capitalized under Section 197, including TGW, are also amortized straight line over a 15-year period. All such amortizations result in tax deductions against future taxable income.

<sup>30</sup> The full list of assets dealt with under section 338(h)(10) can be found in Treas.Reg.1.338-6, as the classes shown above are somewhat simplified.

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The process described above can be further elucidated with simple numerical examples. The illustrations in tables 1-3 are based on (but not identical to) the example in Treasury Regulation 1.338-11(c)(4).

[Note: The development of the simplified PGAAP balance sheet is for illustrative purposes. The final PGAAP balance sheet prepared by accountants might contain different components and labels, including a different presentation of deferred tax items. Such accounting considerations are beyond the scope of this practice note.]

Table 1 illustrates a typical situation, where the price paid for the company exceeds the value of identifiable intangible assets, resulting in goodwill.

**TABLE 1**

<b>Initial PGAAP Balance Sheet – IRC Section 338(h)(10) Example</b>			
<b>Given:</b>	Stat	Tax	GAAP
Tangible assets (SVA, TVA, GVA)	\$ 48.00	\$ 50.00	\$ 50.00
Reserves (SVL, TVL, GVL)	51.00	50.00	54.00
Tentative value of in force ( <sub>tent</sub> VIF)	17.00		
Tax rate (T)		35%	
Proxy DAC % (D)		7.7%	
Risk discount rate (RDR)	8.0%		
<i>Buyer purchases stock of Target and makes a joint 338(h)(10) election with Seller</i>			
Cash paid for stock of Target (P <sub>S</sub> )	\$ 30.00		
<b>Interim Calculations:</b>			
Adjusted grossed-up basis (AGUB)	\$ 80.00	TVL+P <sub>S</sub>	
Unitized present value of PDAC amortization ( <sup>D</sup> A)	0.6908		
Unitized present value of ETCC amortization ( <sup>C</sup> A)	0.5875		
Fair value of assets backing stat liabilities (FVA <sub>SVL</sub> )	\$ 53.00	TVA+(SVL-SVA)	
Price of in force business (P <sub>IB</sub> )	20.74	formula 4.a	
Tax value of in force (TVIF)	17.74	formula 5.a	
Section 848 proxy DAC (PDAC)	2.48	formula 6.a	
Excess taxceding commission (ETCC)	15.25	formula 7	
Tax basis goodwill (TGW)	12.26	formula 10	
<b>GAAP Results:</b>			
Value of business acquired (VOBA)	\$ 21.74	formula 3.a.i	
Net DTL before goodwill	0.00	formula 2	
Goodwill (GW)	12.26	formula 9	
DTA on GW (DTA <sub>GW</sub> )	0.00	formula 11.ii	
<b>PGAAP Balance Sheet:</b>			
	DR	CR	
Tangible assets (FVA)	\$ 50.00		
VOBA	21.74		
PGAAP Liability (GVL)		\$ 54.00	
Goodwill (GW)	12.26		
Net DTL		0.00	
<u>GAAP Equity</u>		<u>30.00</u>	
Totals	\$ 84.00	\$ 84.00	

As seen in this example, if all relevant items are included and correctly calculated, GAAP equity will equal the amount paid for the stock (P<sub>S</sub>).

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Having assigned the market values of tangible and intangible assets to classes, AGUB is allocated to such market values by class in order of priority. Table 2 illustrates the same example, but with a purchase price for the stock ( $P_S$ ) less than the value of identifiable intangible assets. Consequently, the allocable amount of TVIF is not the full amount of the computed TVIF. Regardless, the Treasury Reg. considers the amount of AGUB allocated to TVIF (whether the full amount or a lesser amount) to be a deemed tax basis ceding commission. Consequently, when PDAC on the deemed initial consideration is subtracted from such allocable TVIF, a deemed ETCC emerges.

From the above example, it can be seen that when the full amount of TVIF is allocated to class VI intangible assets, the deemed ETCC becomes TVIF less PDAC. However, when the allocable amount of TVIF is less than the computed amount (as in the Treasury example), deemed ETCC becomes AGUB less Tangible Assets less PDAC<sup>31</sup>.

When the allocable amount of TVIF is less than the full amount of TVIF, no amount will be allocated to class VII tax basis goodwill (TGW). Further, several of the algebraic simplifications shown in Part C cannot be used in this situation. And, since GAAP goodwill cannot be negative, this example results in GAAP equity greater than the purchase price of the stock.

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<sup>31</sup> If other class VI intangible assets are present, the excess of AGUB over the tangible assets is allocated to all class VI intangibles (including TVIF) in proportion to market value. ETCC would still be such allocable amount of TVIF less PDAC.

TABLE 2

<b>Section 338(h)(10) Example, with AGUB less than sum of TVA and calculated TVIF</b>			
<b>Given:</b>	Stat	Tax	GAAP
a Cash	\$ 10.00	\$ 10.00	\$ 10.00
b Securities	30.00	30.00	30.00
c Equipment, etc.	8.00	10.00	10.00
d Reserves (SVL, TVL, GVL)	51.00	50.00	54.00
e Tentative value of in-force ( <sub>tent</sub> VIF)	17.00		
Tax rate (T)		35%	
Proxy DAC% (D)		7.7%	
Risk discount rate (RDR)	8%		
<i>Buyer purchases stock of Target and makes a joint 338(h)(10) election with Seller</i>			
f Cash price paid for stock of Target (P <sub>S</sub> )	\$ 16.00		
<b>Allocation of AGUB to New Target's assets:</b>			
		Tax	
g Adjusted grossed-up basis (AGUB)	\$ 66.00		TVL+P <sub>S</sub>
h Cash (class I)	10.00		Min[a,g]
i Securities (class II)	30.00		Min[b,g-h]
j Equipment (class V)	10.00		Min[c,g-(h+i)]
k Calculated TVIF	17.38		formula 5.a
l Allocable TVIF (class VI)	16.00		Min[k,g-(h+i+j)]
m Tax basis goodwill (class VII)	0.00		g-(h+i+j+l)
n Basis in New Target (should equal AGUB)	66.00		h+i+j+l+m
<b>Interim Calculations:</b>			
Unitized present value of PDAC amortization ( <sup>D</sup> A)	0.69082		
Unitized present value of ETCC amortization ( <sup>C</sup> A)	0.58748		
Fair value of assets backing stat liabilities (FVA <sub>SVL</sub> )	\$ 53.00		
Section 848 proxy DAC (PDAC)	2.62		formula 6
Excess tax ceding commission (ETCC)	13.38		formula 7
Present value of tax asset amortization (PVTA)	3.38		formula 8
Price of in force business (P <sub>IB</sub> )	20.38		formula 4
<b>GAAP Results:</b>			
Value of Business Acquired (VOBA)	22.13		formula 3.a
Net DTL before goodwill	0.75		formula 2
Goodwill (GW)	0.00		Max[0,formula 9]
DTA on GW (DTA <sub>GW</sub> )	0.00		formula 11.ii
<b>PGAAP Balance Sheet:</b>			
	DR	CR	
Tangible assets (FVA)	\$ 50.00		
VOBA	22.13		
PGAAP Liability (GVL)		\$ 54.00	
Goodwill (GW)	0.00		
Net DTL		0.75	
GAAP Equity		17.38	
Totals	\$ 72.13	\$ 72.13	

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Table 3 starts with the same facts as Table 1, but ETCC is not allocated to the in-force business (see Part C: Q4.6).

**TABLE 3**

<b>Initial PGAAP Balance Sheet – IRC Section 338(h)(10) Example</b>			
Section 338(h)(10) Example, excluding ETCC from VOBA			
<b>Given:</b>	<u>Stat</u>	<u>Tax</u>	<u>GAAP</u>
Tangible assets (SVA, TVA, GVA)	\$ 48.00	\$ 50.00	\$ 50.00
Reserves (SVL, TVL, GVL)	51.00	50.00	54.00
Tentative value of in force ( <sub>tent</sub> VIF)	17.00		
Tax rate (T)		35%	
Proxy DAC % (D)		7.7%	
Risk discount rate (RDR)	8.0%		
<i>Buyer purchases stock of Target and makes a joint 338(h)(10) election with Seller</i>			
Cash paid for stock of Target (P <sub>S</sub> )	\$ 30.00		
<b>Interim Calculations:</b>			
Adjusted grossed-up basis (AGUB)	\$ 80.00	TVL+P <sub>S</sub>	
Unitized present value of PDAC amortization ( <sup>D</sup> A)	0.6908		
Fair value of assets backing stat liabilities (FVA <sub>SVL</sub> )	53.00		
Price of in force business (P <sub>IB</sub> )	17.51	formula 4.a*	
Tax value of in force (TVIF)	14.51	formula 5.a	
Section 848 proxy DAC (PDAC)	2.73	formula 6.a	
Deemed ETCC	11.78	formula 7	
Tax basis goodwill (TGW)	15.49	formula 10	
<b>GAAP Results:</b>			
Value of business acquired (VOBA)	\$ 24.86	formula 3.a*	
Net DTL before goodwill	2.22	formula 2	
Tentative goodwill ( <sub>tent</sub> GW)	11.36	formula 9	
Goodwill (GW)	9.14	formula 9.i	
DTA on GW (DTA <sub>GW</sub> )	2.22	formula 11.i	
<b>PGAAP Balance Sheet:</b>			
	<u>DR</u>	<u>CR</u>	
Tangible assets (FVA)	\$ 50.00		
VOBA	24.86		
PGAAP Liability (GVL)		54.00	
Goodwill (GW)	9.14		
Net DTL (reduced by DTA on GW)		0.00	
GAAP Equity		30.00	
Totals	\$ 84.00	\$ 84.00	

\* For this illustration, formulas 3.a and 4.a are modified to exclude ETCC and <sup>C</sup>A.

**App II: Q2. What are the tax consequences associated with a business combination that does not involve the purchase of a company (an IRC section 1060 transaction)?**

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**A.** The purchase of the business of another organization which satisfies the business combination criteria described in Part A: Q2 without the purchase of the target company itself is termed for tax purposes an IRC section 1060 transaction. From a tax perspective, a Code section 1060 transaction is a purchase of the assets of a business from the seller by the acquirer, without the acquirer purchasing the company itself. In this type of transaction, the transfer of the insurance in force is generally accomplished through indemnity reinsurance (generally coinsurance). The transaction will generally also include the purchase of other tangible assets (including assets such as the building, furniture and equipment, etc.), and may include the purchase of other intangible assets (including assets such as agency force, going concern value, and goodwill).

Treasury Reg. section 1.1060 indicates that the “consideration” must be allocated under the residual method as described in section 1.338-6. With one exception, the allocation method is the same as described in AppII: Q1 for the purchase of a company with a section 338(h)(10) election. The exception: the deemed purchase price, the adjusted grossed-up basis (AGUB), is replaced with “consideration.” Since there is no stock purchased when a business is purchased without the company being purchased, the section 1060 counterpart of AGUB (the tax liabilities assumed plus the price paid for the stock of Target) is a consideration equal to the tax liabilities assumed plus any cash paid for the business.

Section 1060 is not insurance-specific. In a typical indemnity reinsurance transaction, there is no cash paid by the acquirer; rather, the seller transfers net tangible assets. This would appear to limit the consideration to just the tax reserves assumed.

The process might be summarized as follows: the consideration should be identified (generally equal to the tax reserves assumed), TVIF should be computed (see formulas 5 and 5a), and the consideration should be allocated to classes of assets in order of priority. For contracts subject to section 848 proxy DAC, PDAC should be computed on the deemed initial consideration: the tax reserve (a deemed gross reinsurance premium) less the associated TVIF (a deemed tax basis ceding commission). The deemed ETCC is obtained as the allocated amount of TVIF less PDAC.

Finally, as discussed in Part C:Q4.3, the deemed ETCC associated with specified insurance contracts (those subject to section 848 proxy DAC) is deductible in the year of entry into the indemnity reinsurance treaty. The associated PDAC is capitalized and amortized over 10 years. The deemed ETCC associated with contracts not subject to section 848 is capitalized and amortized over the life of the business. Finally, any other section 197 intangible assets acquired in the section 1060 transaction, including TGW, will be capitalized and amortized over 15 years.

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**TABLE 4**

<b>Initial PGAAP Balance Sheet – IRC Section 1060 Example</b>			
<b>Given:</b>	<u>Stat</u>	<u>Tax</u>	<u>GAAP</u>
Reserves (SVL, TVL, GVL)	\$ 51.00	\$ 50.00	\$ 54.00
Value of other intangible assets (TVOIA, OIA)		6.50	6.50
Tentative value of in force ( <sub>tent</sub> VIF)	16.50		
Tax rate (T)		35%	
Proxy DAC % (D)		7.7%	
Risk discount rate (RDR)	8.0%		
<i>Buyer receives assets for excess of liability over value of the purchased business.</i>			
Tangible assets transferred (FVA)	\$ 19.99		
<b>Interim Calculations:</b>			
Unitized present value of PDAC amortization ( <sup>D</sup> A)	0.6908		
Unitized present value of ETCC amortization ( <sup>C</sup> A)	1.0000		
Price of in force business (P <sub>IB</sub> )	\$ 24.51	formula 4.a.ii	
Tax value of in force (TVIF)	23.51	formula 5.a.ii	
Section 848 proxy DAC (PDAC)	2.04	formula 6.a.ii	
Excess tax ceding commission (ETCC)	21.47	formula 7	
<b>Results:</b>			
Value of business acquired (VOBA)	\$ 27.51	formula 3.a.ii	
Other intangible assets	6.50		
Net DTL	0.00	formula 2	
<b>Incremental PGAAP Balance Sheet:</b>			
	<u>DR</u>	<u>CR</u>	
Tangible assets (FVA)	\$ 19.99		
VOBA	27.51		
PGAAP Liability (GVL)		54.00	
Value of other intangible assets	6.50		
Net DTL		0.00	
GAAP Equity		0.00	
Totals	\$ 54.00	\$ 54.00	

## Appendix III: Summary of Formulas

<u>No.</u>	<u>Formula</u>	<u>Introduced</u>
General formulas:		
(1)	$VOBA = VIF + (GVL - SVL) - (FVA - SVA) + DTL$	Part B: Q2
(2)	$DTL = T \times [(FVA - TVA) - (GVL - TVL) + (VOBA - TBA)]$	Part B: Q2
(3)	$VOBA = \frac{VIF + [GVL - T \times (GVL - TVL) - SVL] - [FVA - T \times (FVA - TVA) - SVA] - T \times TBA}{1 - T}$	Part B: Q2
(4)	$P_{12} = \text{trans}VIF + PVTA$	Part C: Q4
(5)	$TVIF = P_{12} - (SVL - TVL) + (SVA_{TVL} - FVA_{TVL})$	Part C: Q4.1
(6)	$PDAC = D \times (TVL - TVIF)$	Part C: Q4.2
(7)	$ETCC = TVIF - PDAC$	Part C: Q4.3
(8)	$PVTA = T \times (ETCC \times {}^cA + PDAC \times {}^pA)$	Part C: Q4.4
(9)	$GW = P_2 - (FVA + VOBA + OIA - GVL - DTL)$	Part D: Q1
(9.i)	$GW = \frac{\text{trans}GW - T \times TGW}{1 - T}$	Part D: Q5
(10)	$TGW = (TVL + P_2) - FVA - TVIF - TVOIA$	Part D: Q4
(10.s)	$TGW = P_2 - (FVA + TVIF + TVOIA - TVL)$	Part D: Q4
(11.i)	$DTA_{GW} = T \times (TGW - GW)$	Part D: Q4
(11.ii)	$DTA_{GW} = DTL_{GW} = 0$	Part D: Q4
(12)	$\text{trans}GW = GW + DTA_{GW}$	Part D: Q5
Modification for a stock purchase without section 338(h)(10) election:		
(3.s)	$VOBA = \frac{VIF_2 + [GVL - T \times (GVL - TVL) - SVL] - [FVA - T \times (FVA - TVA) - SVA] - T \times PDAC}{1 - T}$	Part C: Q3
General modification for actual or deemed (under section 338(h)(10)) asset purchase:		
(3.a)	$VOBA = \frac{P_{12} + [GVL - T \times (GVL - TVL) - SVL] - [FVA - SVA] - T \times TVIF}{1 - T}$	Part C: Q4
(4.a)	$P_{12} = \frac{\text{trans}VIF + (T \times {}^cA \times TVL) - T \times [{}^cA - D \times ({}^pA - {}^cA)] \times FVA_{TVL}}{1 - T \times [{}^cA - D \times ({}^pA - {}^cA)]}$	Part C: Q4.5
(5.a)	$TVIF = TVL + P_{12} - FVA_{TVL}$	Part C: Q4.1
(6.a)	$PDAC = D \times (FVA_{TVL} - P_{12})$	Part C: Q4.2
(7.a)	$ETCC = TVL + P_{12} - FVA_{TVL} - PDAC$	Part C: Q4.3
(8.a)	$PVTA = T \times {}^cA \times [P_{12} + TVL - FVA_{TVL} - D \times (FVA_{TVL} - P_{12})] + T \times {}^pA \times D \times (FVA_{TVL} - P_{12})$	Part C: Q4.4
Specific modification for a stock purchase with section 338(h)(10) election:		
(3.a.i)	$VOBA = P_{12} + GVL - FVA_{TVL}$	Part C: Q5
Specific modification for the purchase of in-force business through reinsurance in a business combination:		
(3.a.ii)	$VOBA = GVL + P_{12} - SVL$	Part C: Q6

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(4.a.ii) 
$$P_{12} = \frac{TVIF + (T \times {}^cA \times TVL) - T \times [{}^cA - D \times ({}^pA - {}^cA)] \times SVL}{1 - T \times [{}^cA - D \times ({}^pA - {}^cA)]}$$
 Part C: Q6

(5.a.ii) 
$$TVIF = TVL + P_{12} - SVL$$
 Part C: Q6

(6.a.ii) 
$$PDAC = D \times (SVL - P_{12})$$
 Part C: Q6

Specific modification for purchase of in-force business through reinsurance without a business combination:

(3.a.iii) 
$$VOBA = GVL - FVA$$
 Part C: Q7

(4.a.iii) 
$$P_{12} = SVL - FVA$$
 Part C: Q7

(5.a.iii) 
$$TVIF = TVL - FVA$$
 Part C: Q7

## Appendix IV: Glossary of Abbreviations and Acronyms

<u>Term</u>	<u>Meaning</u>	<u>Introduced</u>
A	Present value of \$1 asset amortized a specified schedule.	Part C: Q4.4
AGUB	Adjusted grossed-up basis—specified in U.S. Treasury regulations, this is the amount paid to purchase the stock of a target company ( $P_s$ ) plus the tax basis of liabilities (TVL, predominantly tax reserves) assumed in the purchase. Also called the deemed purchase price.	Part C: Q5
AICPA	American Institute of Certified Public Accountants	Part A: Introduction
APB	Accounting Principles Board	Part A: Introduction
ASC	Accounting Standards Codification (A consolidation and replacement of all relevant FASBs, SOPs, and other prior authoritative guidance)	Part A: Introduction
AV	Policyholder account value	Part A: Q5
CTE	Conditional tail expectation	Part B: Q8
D	IRC section 848 proxy DAC percentage	Part C: Q4.2
DAC	Deferred acquisition cost asset	Part E: Q1
DTA	Deferred tax asset—is an amount representing taxes that have been incurred on a tax basis but, because of differences between GAAP and tax accounting rules, have not yet been incurred on a GAAP basis. In practice, DTA and DTL arising for different reasons are combined into a single asset or liability on a GAAP balance sheet.	Part D: Q4
DTL	Deferred tax liability—is an amount representing taxes that have been incurred on a GAAP basis but, because of differences between GAAP and tax accounting rules, have not yet been incurred on a tax basis. In practice, DTA and DTL arising for different reasons are combined into a single asset or liability on a GAAP balance sheet.	Part B: Q1
EITF	Emerging Issues Task Force	Part A: Introduction
ETCC	Excess tax ceding commission—	Part C: Q4.3
FASB	Financial Accounting Standards Board	Part A: Introduction
FVA	Fair value of tangible assets (market value of assets)	Part B: Q2
FVL	Fair value liability—is an exit price as defined by ASC 944-44-20 (the amount that would be paid to a market participant to transfer the liability).	Part A: Q5
GAAP	Generally Accepted Accounting Principles	Part A: Introduction
GVL	GAAP value of liabilities measured under the acquirer's normal accounting policy. Also called the PGAAP liability.	Part B: Q2

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GW	Goodwill	Part D: Q1
IAA	International Actuarial Association	Part B: Q8
IRC	Internal Revenue Code	Part C: Q5
OIA	Other intangible assets	Part D: Q1
P	Price—is the amount paid in an acquisition. It includes a subscript to indicate what is purchased: $P_S$ represents the price paid for stock of a target company; $P_{IB}$ represents the price paid for a block of business in force. Since in-force business is considered an asset, $P_{IB}$ will be a portion of $P_S$ when a company is purchased.	Part C: Q4
PADs	Provisions for adverse deviation	Part B: Q8
PDAC	Proxy deferred acquisition cost—also called tax DAC, this is a tax-basis intangible asset defined in Internal Revenue Code section 848.	Part C: Q1
PGAAP	Purchase Generally Accepted Accounting Principles	Part A: Introduction
PVDE	Present value of distributable earnings—is typically the present value of projected statutory income including investment income on required capital, changes in required capital, and taxes on income, all discounted at a risk discount rate.	Part B: Q2
PVTA	Present value of purchase-related taxable income adjustments	Part C: Q4
RC	Required capital—In this document, the amount of statutory surplus that a company considers essential to support in-force business.	Part B: Q2
RDR	Risk discount rate—is a market based rate used in the determination of fair value using the actuarial appraisal method.	Part B: Q1
RMWG	Risk margin working group (an ad hoc group formed by the IAA for the purpose of researching practices for the measurement of insurance liabilities)	Part B: Q8
SFAS	Statement of Financial Accounting Standards	Part A: Introduction
SVA	Statutory value of tangible assets (generally the statutory book value of assets)	Part B: Q2
SVL	Statutory value of liabilities (generally the statutory reserve)	Part B: Q2
T	Tax rate (typically 0.35 in the U.S. when this note was written)	Part B: Q2
TBA	Tax basis asset—a general term that may include TVIF, PDAC, ETCC.	Part B: Q2
<sup>tent</sup> GW	Tentative goodwill—may arise during the derivation of GAAP goodwill, <sup>tent</sup> GW includes both goodwill and any deferred tax associated with goodwill.	Part D: Q5
TGW	Tax basis goodwill	Part D: Q4
TVA	Tax value of tangible assets	Part B: Q2
<sup>tent</sup> VIF	Tentative value of in force—a preliminary value for VIF, calculated without any purchase-related tax deductions arising from the purchase of in-force business and without any of the Seller’s projected proxy DAC amortization.	Part C: Q4
TVIF	Tax value of in-force business (tax basis analogue to VOBA)	Part C: Q4
TVL	Tax value of liabilities (generally the tax reserve). Sometimes, actuaries will treat proxy DAC as a negative liability and consider it to be part of the tax value of liabilities. In this practice note, TVL always excludes proxy DAC.	Part B: Q2

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TVOIA	Tax value of other intangible assets	Part D: Q4
VIF	Value of in-force business—is a common term for the actuarial appraisal value of a block of business in force. Even with identical assumptions, different actuaries in different circumstances may arrive at different values. Such differences can arise from differing tax treatment under different forms of purchase, and from differing interpretations of tax and GAAP accounting standards. In specific circumstances, a subscript is attached to VIF to indicate what is purchased: VIF <sub>S</sub> represents the value of in-force business in a stock purchase, where the acquirer obtains the tax basis of the target company's assets and liabilities; VIF <sub>IB</sub> represents the value of in-force business in an asset purchase (actual or deemed), where the acquirer's tax basis is determined upon acquisition.	Part A: Introduction
VOBA	Value of Business Acquired—is an intangible asset appearing on a GAAP balance sheet. At acquisition, it equals the difference between the liability measured in accordance with the acquirer's accounting policies and the fair value of the liabilities assumed.	Part A: Introduction