



SOCIETY OF ACTUARIES

Article from:

Risks and Rewards Newsletter

May 2002 – Issue No. 39

Terminal Funding and Stable Value GICs

by Victor Modugno

Editor's Note: The following is a summary of Session 9PD at the Society of Actuaries annual meeting in New Orleans last October. The audiotope for this session was defective and no transcript was available for publication in The Record. Terminal funding (purchase of annuities by pension plans, usually at plan termination) and stable value GICs (usually issued to 401(k) plans for accounts where principal and interest are guaranteed) became major product lines for several life insurers in the 1980s. Since that time there have been significant changes in these products, their markets, and the regulatory environment. The purpose of this session was to update the two award-winning papers that were published in the Transactions of the Society of Actuaries that provided complete descriptions of these products - the GIC, by John D. Stiefel III (1984, Vol. 36) and Terminal Funding by Victor Modugno (1986, Vol. 38). The Presenter for Terminal Funding was Robert M. Goldboom, FSA, CFA, Senior Vice President at AIG while the presenter for GICs was Paul J. Donahue, FSA, CFA, Product Initiatives Counsel at INVESCO Institutional. Paul also has a Ph.D. and a law degree from Yale University.

Terminal Funding

There has been little change in pricing methodology since the mid-1980s, other than to update mortality. Tax, regulatory and accounting changes have significantly reduced the amount of business and number of life insurers participating in this market in the 1990s, although business appears to be increasing recently. Most of the consultants and brokers who were placing this business in the 1980s are still around. The original paper can be accessed on the Internet at www.soa.org/library/tsa/1980-89/TS486V389.pdf.

As part of a project for finding an index to replace the 30-year Treasury in pension calculations, a survey of terminal funding pricing of 11 companies currently in this market was completed.

This survey is available at www.soa.org/sections/dbpp.pdf (p. 4 ff.). Of the ten companies participating, most used a duration-based rate from their investment area. Two used spot rates, while one used the same rate for all cases. Gross rates were reduced for capital charges and overhead. Administrative expenses, primarily consisting of per life charges of \$200 to \$300 were similar for most companies. Premium tax and commissions were added if applicable. Mortality

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assumptions ranged from '83 Basic to '94 GAR to RP2000. Most projected mortality through the current date, which lessened the differences. A few companies used a different table for "blue collar" groups. Early retirement was priced using rates based upon expected group experience.

There were several reasons for the decline in terminal funding annuity purchases from over \$9 billion in the mid-1980s to under \$2 billion by the

mid-1990s. A 50% excise tax on asset reversions from pension plans in 1990 ended the practice of financing takeovers using pension surplus. Declining interest rates made annuity purchase rates less attractive. The failure of Executive Life in 1991 with billions in these annuities, led to DOL Interpretative Bulletin 95-1, requiring purchase of the safest annuity regardless of price, forcing many insurers out of the business. In 1994 the basis for minimum lump sums was changed from PBGC rates to 30-year Treasuries, which greatly reduced the cost of lump sums. Since early retirement benefits were not included in lump sums, plans with rich early retirement subsidies could save money by offering lump sums to non-retired participants in lieu of annuity certificates.

The accounting changes that went into effect in the late 1980s, combined with the stock market boom of the 1990s, led to companies using pension funds to manage their reported quarterly earnings. Several large companies were able to show increasing earnings, despite lack of revenue growth, by increasing pension income. While cash ruled during low stock market valuations of the 1980s, takeovers (and executive compensation) in the 1990s were driven by high stock valuations from discounting increasing future earnings with lower interest rates.

By the mid-1990s, the only plans terminating were doing so for business reasons. Only standard terminations (plans with sufficient assets or a sponsor who was not in distress) were purchasing annuities and then mainly for retired lives. The effect of IB 95-1 was to allow a small group of insurers with at least AA/Aa ratings to bid. Price could be a factor if some of the surplus was allocated to participants and the excise tax was reduced to 20% if at least 20% of surplus was used for a prorata benefit increase (or 25% went into a new plan). Many plans' sponsors with excess assets took this route to pick a lower-cost annuity provider. Some interpreted "safest" to mean a group of insurers in order to pick

a lower-cost provider. Participating separate account contracts, which were popular in the 1980s for asset reversions where the plan sponsor wanted to continue controlling investment strategy, have fallen out of use.

In 2001, several factors led to a substantial increase in these annuity purchases. An economic recession, while mild overall, was particularly severe in the manufacturing sector, where defined benefit plans are common, leading to more terminations for business reasons. The extremely high stock market prices had given more companies the funds to qualify for a standard termination. The recession also increased credit spreads, which was exasperated by a shortage of Treasury securities from federal budget Surpluses. The relatively low 30-year treasury rates had two effects. The cost of purchasing annuities decreased compared to lumps sums, so less of the terminating plans found it advantageous to amend the plan to provide lump sums. Another effect was an increase in the current liability, which forced many pension plans to increase funding and also to increase their PGBC premiums, thereby encouraging them to terminate.

Looking to the future, there is over a trillion dollars in private sector defined benefit pension plan assets, which represents potential future terminal funding premium, for those with a long-term point of view.

Stable Value GICS

Paul opened this part of the session with some breaking accounting news from FASB—GICs would not be considered derivatives under FAS 133. Had plan sponsors needed to mark benefit-sensitive provisions to market, many plan sponsors would substitute money market funds for stable value, to the detriment of 401(k) plan participants and those who work in the stable value industry. For more of Paul's view on accounting, read his article in the July issue of *Risks and*

Rewards, which can be found on the Internet at the following URL: www.soa.org/library/sectionnews/investment/RRN0107.pdf (p.18 ff.).

The URL for the GIC paper is: www.soa.org/library/tsa/1980-89/TSA84V3619.pdf. GIC sales increased

rapidly in the 1980s after the issuance of regulations in 1981 for 401(k) plans, which allowed employees to contribute to defined contribution plans with pre-tax dollars. The early plans had limited options - typically a guaranteed account funded by life insurance company GICs and a stock fund (or in some cases employer stock for employer's matching contribution).

Participants, with memories of the severe bear market of the 1970s, overwhelmingly chose the guaranteed account. The growth of these GIC funds started to attract competitors. In the late 1980s, banks entered this business with BIC contracts, which were similar to GICs. From there, banks introduced synthetic GIC contracts, where the investments and the payment of benefits at book value were separated. The early synthetics were non-par—the bank made up any differences between market and book values. Insurers introduced separate account GICs, patterned after par terminal funding contracts, allowing plans to participate in the investment experience and possibly control the investment manager.

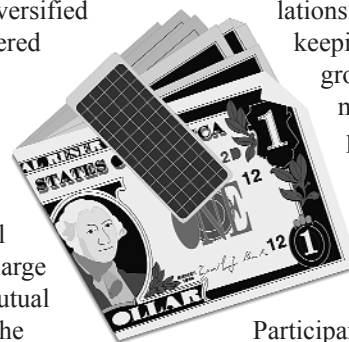
GIC managers started to take an increasing share of this business. Like other fixed income managers, they were compensated by asset-based fees. They purchased and managed a diversified portfolio of GICs with staggered maturities and buffer funds. They did credit research and took fiduciary responsibility for selection of the GICs. They also introduced GIC pools that allowed small plans to be combined into a large diversified GIC portfolio. Mutual fund groups, which entered the 401(k) market to get assets for their funds, gave a boost to GIC pools as they sold full service 401(k) plans to smaller employers.

By 1990, the window GIC of Stiefel's paper that accepted contributions and made benefit payments at guaranteed rates had already been largely replaced by GIC funds. While principal was guaranteed in these funds, the crediting rate, which was based on the average rate in the portfolio, was not usually guaranteed in advance. The downgrades and failure of Executive Life, followed by Mutual Benefit and Confederation Life, all with substantial GIC liabilities, and the repeated downgrades of insurance companies by the rating agencies created a credit scare. Plan sponsors suddenly realized they had 100% of their assets concentrated in one industry. The word "guaranteed" was replaced with the words "stable value" in these funds.

Also by 1990, the synthetic GIC had evolved from non-par "buy and hold" to par managed fund contracts. Under these arrangements, gains or losses in investments were amortized into the crediting rate. Any capital gains or losses from book value withdrawals were passed on to the remaining participants. There were cash buffer funds and short maturity GICs to insulate the synthetic from any draws so there was almost no risk of the issuer losing money. The fee for these contracts gradually declined to below 5 basis points per year on some of the larger contracts. Also, institutional fixed income managers would now have the opportunity to manage stable value funds.

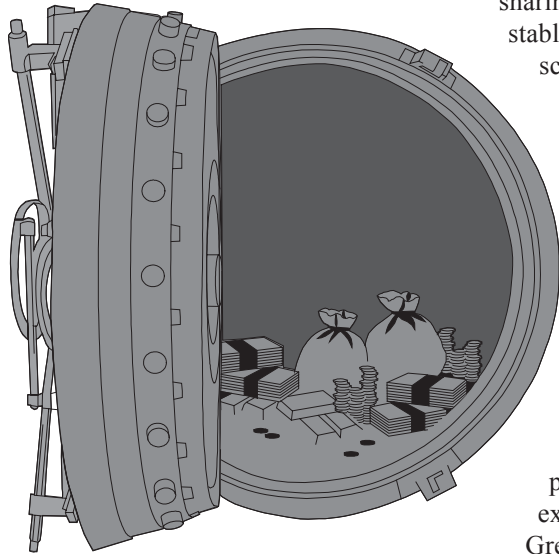
Regulations under 404c issued in 1992 allowed plans to avoid fiduciary responsibility for losses from employee choice of investment options if the employee was given enough choices. These regulations, plus improved record keeping technology and the growing dominance of mutual funds, led to a proliferation in investment choices. The bull market in stocks and declining yields in stable value made equity mutual funds popular.

Participants allocated less money to stable value funds. 401(k) plan growth also slowed as the market matured and



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more government regulations made it less attractive to smaller firms.

Over the decade of the 1990s, stable value funds replaced maturing GICs with bank synthetics and bonds to diversify risks. Insurers became minor players in this market although a couple of insurers did leverage their expertise into synthetics. Insurers did find other applications for general account GICs, which are discussed in the *Record*. Capital market GICs (Chicago, 2000), Muni-GICs (San Diego 2000), and floating rate-funding agreements (New Orleans 2001).

Editors Note: The following was Paul Donahue's handout for this session

Modern Stable Value: Heir of the GIC¹

Modern stable value, the "child" of SOP 94-4, is in a very real sense the "grandchild" of the GIC, for, as I argue below, SOP 94-4 itself is a product of the GIC. In this essay, I seek to concentrate on developments in stable value since the publication of *The Guaranteed Investment Contract*.² I begin with a brief review of the developments before Stiefel to provide context.

Soon after "thrift" or "savings" plans were introduced as a subset of profit

sharing capital accumulation plans, stable value options appeared on the scene. The availability of an option with marked similarities to the passbook savings account lowered the information barrier to participation.³

Many employees considering participation in an employer capital accumulation plan had little or no prior experience with investment other than with passbook savings accounts. In the late 1960s and early 1970s, many potential participants had personal experience or knowledge of the Great Depression of the 1930s and of the market losses of the mid-sixties.

Potential participants had good reason to set a high value on safety, and a stable value option ("SVO") is the rational choice for investors with a strong preference for safety.⁴ For employers who wished to encourage participation in their thrift plans, offering an SVO was essential.

In 1970, capital accumulation plans were simple. The SVO was sometimes the plan's only option, or a plan might contain only stable value and employer stock. If there was an equity option, it was likely to be only a single broadly diversified fund. If the plan had more than a single option, it would frequently have severe restrictions on transfers from one option to another.

The world of stable value investments was a small one. Insurance companies offered pooled funds backed by their general accounts that aggregated all participant plans and years of experience, in a manner quite similar to bank passbook savings accounts. The plan sponsor's investment committee, possibly with assistance from the actuarial consulting firm, which valued its defined benefit plan, could evaluate the different

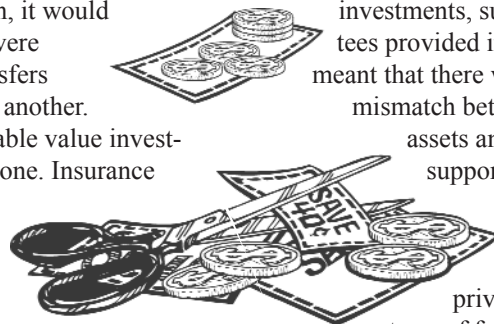
insurance company offerings and choose a provider.

Aggregate products required a stable interest rate environment to remain competitive. As interest rates began to rise slowly through the early and mid-70s, aggregate pooled funds could not compete with funds that credited different rates of interest depending on the year in which a deposit was made. Insurance companies introduced plan-specific funds with both contract and experience accounts. Based on its estimate of old and new money rate and cash flows, the company would set a rate on each contract for a calendar year. The insurer would take differences between actual and estimated experience into account when setting the fund's crediting rate for the following year, with the goal of converging the contract and experience accounts.

Participating funds of this type were popular in the market only very briefly, because the very long underlying investments did not allow quick response of the fund's yield when interest rates shot up dramatically during the late 70s and early 80s. This led to products with guaranteed rates and maturities. The initial products of this type guaranteed rates for amounts deposited in a given calendar year for a specified number of years. The insurer's general account, using very long term

investments, supported the guarantees provided in this product. This meant that there was a serious mismatch between the insurer's assets and the liabilities they supported. A typical insurance company general account asset might be a private placement with a term of from six to fifteen years, with a duration of seven years or more.

A product that guaranteed a deposit rate for five years following the rate of deposit had a duration of no more than five years. In many companies, this mismatch meant that corporate actuaries viewed the general account product as



excessively risky, and this view led to rationing of fully guaranteed product capacity.

These developments significantly broadened the array of choices plan sponsors faced. They could no longer simply select an insurer and thereafter ignore the SVO. At least annually, the plan sponsor's committee had to evaluate the available investment opportunities and decide what was best for the plan. Slowly growing awareness of the implications for plan sponsors of the fiduciary requirements of ERISA, which took effect in 1974, led plan sponsors to devote more attention to these investment decisions. Despite the additional complexity and heightened risk, plan sponsors retained fiduciary responsibility for their investment decisions on the SVO, and continued to rely for guidance on actuarial, or other, consultants.

In the late 70s a product appeared that is still a mainstay of stable value investment, the guaranteed investment contract ("GIC"). The GIC quickly became the dominant investment of SVOs. One can justly say that the GIC was a product that came to define its market.

Like some earlier "window contract" products, the typical GIC guaranteed for a specified number of years an interest rate for deposits received during a calendar year. Although GICs were backed by the assets of the insurer's general account, as were all other stable value products, their conceptual framework was radically different. Insurers matched particular GICs to particular investments. This reduced internal actuarial concerns about asset/liability mismatch. In an environment in which interest rates continued to rise, the GIC had a competitive advantage over aggregate products; GIC rates were competitive with new money rates, because the GIC return reflected that of an asset the insurer was committing to purchase at the same time as, and in reliance on, the plan's GIC deposit.

In the mid-1980s, the typical SVO sponsor, with the assistance of an actuarial consultant, and perhaps with the help of the employee benefits consultant who had guided plan design and implementation, solicited insurance company bids

for window contract GICs of differing maturities. The typical fund might have contracts with terms of three, four or five years. A single contract received all calendar year cash flow, including earlier contract maturities. Withdrawals generally came prorata from all contracts. The five-year contract became the most common; they were well up the shoulder of the yield curve, but offered greater rate responsiveness than longer maturities.

During the '80s, many factors combined to heighten the complexity of

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the stable value market. The collapse of the post-World War II real estate boom threatened the solvency of some American insurers, raising concern about the credit-worthiness of GIC issuers. In an attempt to diversify their credit exposure, sophisticated plan sponsors began to multiply the number of GIC issuers and contracts. First using one contract for maturities and another for contributions, plan sponsors moved on to allocating the cash flow of each quarter to a different contract. Quarterly bidding became the

norm. An added incentive to greater frequency of placement was the desire of plan Sponsors to obtain bids when insurers still had an ample supply of attractive investments. The traditional pattern of year-end bids posed the danger that the plan would not have acted by the time insurer capacity was exhausted, and rates achieved would suffer.

Also during the late '80s, the availability to banks of higher-yielding investments, and the drying up of other low-cost funding, made it possible for banks to offer bank investment contracts ("BICs") that competed effectively with insurer GICs backed by private placements. In an increasingly competitive environment, in order to offer the most attractive rates possible, insurers and banks tightened the connection between available investments and their GIC or BIC quotations. Plan sponsors had less and less time to decide on insurers' offers, from weeks to days, and in some cases, to hours. The investment committee has less time in which to perform due diligence on the insurers whose bids the committee was considering. Consultants saw quotes expire that they believed were attractive and pressed for more investment authority. Investment committees began to see examples that alarmed them of how seriously the courts were taking the fiduciary responsibility provisions of ERISA.

These circumstances favored the emergence of stable value investment managers, who differed from the investment advisers that plan sponsors had been using by taking on the fiduciary obligations imposed by ERISA on plan investment. Initially, stable value investment managers operated the funds they managed much as sophisticated plan sponsors before them had done. They used a variety of types of GICS and BICs chosen in an environment still dominated by GICs backed by general account private placement investments.

At the same time, there emerged in the defined benefit pension market participating group annuity contracts backed by the assets of separate accounts. The essence of these contracts was that the

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plan sponsor would contribute to the separate account amounts larger than those needed to purchase the annuities that the insurer would guarantee. In view of the overfunding, the insurance departments viewed the annuity guarantee as incidental, and therefore deemed it appropriate to continue to insulate the separate account from the claims of an insurer's general account creditors. Only the insurers liabilities to participants in the separate account were valid claims against the separate account in the event of insolvency. That meant that the plan could participate in any earnings in excess of the interest rate assumed in pricing the guaranteed annuities, which ultimately reduced the plan sponsor's funding costs.

The Unheralded Emergence of the New Stable Value Order: The Separate Account GIC

As sometimes happens, a development that was to transform the nature of the SVO was not fully evident initially. This development was a parallel development in the world of stable value to that on the defined benefit side, the "participating GIC." The principal impetus for the move was the desire to find a stable value investment vehicle that would accommodate asset-backed securities. The variation in the payment streams of asset-backed securities made them unsuitable as underlying assets for fixed-rate, fixed-term GICs. By surrendering a fixed rate, a participating GIC allowed plans to obtain a higher overall yield. The "guarantee" in a participating GIC was of a minimum rate, generally zero, that insurance regulators could regard as incidental in light of the expected yield on the underlying assets. Investment managers regarded the additional protection participating GICs provided the plan in case of insurer insolvency merely as an additional benefit.

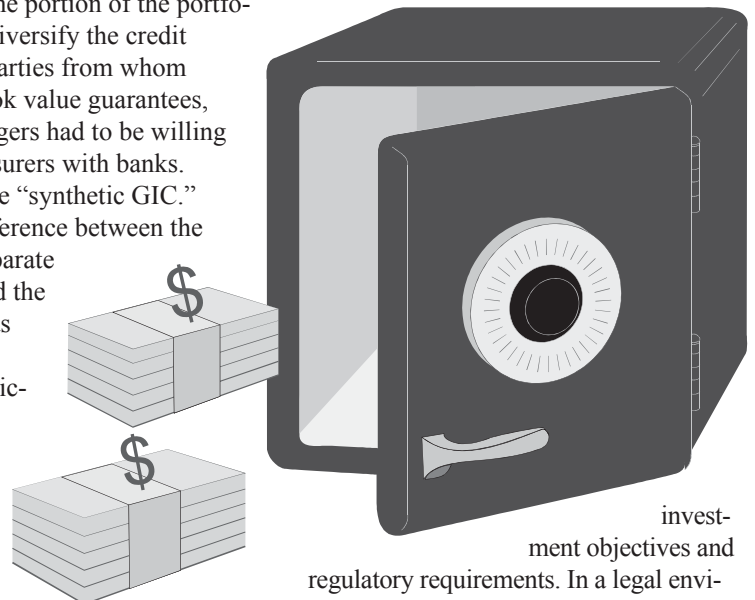
The Synthetic GIC Saved Stable Value From Weakened Insurance Company Credit

The collapse first of Executive Life and then of Mutual Benefit in 1991 abruptly altered the view that an enhanced credit position was merely an incidental benefit. Investment managers realized that if they wished to construct diversified high-quality portfolios, they had to separate the underlying assets from the book value guarantee for some portion of the portfolios. In order to diversify the credit exposure to the parties from whom they received book value guarantees, investment managers had to be willing to supplement insurers with banks. Thus was born the "synthetic GIC." The essential difference between the "participating separate account" GIC and the synthetic GIC was legal title to the assets. In the participating GIC, the insurance company held legal title, though the plan had first claim. In the synthetic GIC, the plan held legal title to the underlying assets.

The stable value market allocates synthetic GIC asset risk to the plans, to be managed by their investment managers. This is economically efficient, because investment managers would have to evaluate the underlying assets in any case to determine their suitability for the fund. An additional powerful reason for this allocation is that not allocating the principal risk to the wrap providers in the synthetic GIC market allowed these issuers to minimize reserves for their synthetic GICs. The need to carry substantial reserves would have caused wrap fees to increase substantially.

The Synthetic GIC Forced Stable Value Managers to Become Fixed Income Managers

Implicit in this development was a quantum increase in the complexity of stable value investment management. The investment manager had now to evaluate not only traditional GICs, but also the entire array of, at a minimum, fixed-income investments and the wrap contracts with which they could be matched to meet stable value



investment objectives and regulatory requirements. In a legal environment in which the fiduciary requirements of ERISA were being applied ever more stringently, plans sponsors had powerful arguments of economic efficiency and of personal prudence to seek to place the fiduciary responsibility for the SVO's investments with professional investment managers.

Stable Value Today—Accounting Foundations

By definition, the sum of participant balances in a defined contribution pension plan is total plan assets. Stable value exists as a defined contribution plan option only because accounting rules permit stable value contracts to be held by a defined contribution pension plan at amortized cost plus accrued interest ("book" value).

Before the promulgation of AICPA SOP 94-4 on September 23, 1994, the American Institute of Certified Public Accountants (“AICPA”) Audit and Accounting Guide AUDITS OF EMPLOYEE BENEFIT PLANS (“the Guide”) stated that: “contracts with insurance companies are to be included as plan assets in the manner required by [the Employee Retirement Income Security Act of 1974] ERISA annual reporting requirements and are to be reported in a manner consistent with the requirements of [Department of Labor] DOL Form 5500 or 5500-C/R.”⁶ The instructions to those forms permitted unallocated insurance contracts, whether or not they incorporated mortality or morbidity risk, to be reported at either fair value or at amounts determined by the insurance company (“contract value”). Contract value generally equaled principal plus accrued interest.⁷

Plans could report pure investment contracts with insurance companies at contract value. The Guide specifically excluded reporting investments in similar contracts issued by banks or other non-insurance financial institutions at contract value. This discrepancy led to a market advantage for insurance company investment contracts with no discernible economic justification.

Action by the Financial Accounting Standards Board

In Statement of Financial Accounting Standards No. 110, Reporting by Defined Benefit Pension Plans of Investment Contracts,⁸ the Financial Accounting Standards Board (FASB) ended that anomaly for defined benefit pension plans. FASB Statement 110 amended FASB Statement No. 35, Accounting and Reporting by Defined Benefit Pension Plans, to permit defined benefit plans to report at contract value only contracts that incorporate mortality or morbidity risk.⁹ FASB decided not to address valuation of assets of health and welfare or defined contribution pension plans, but instead referred them to the AICPA.

AICPA Applies the Principles of FASB Statement 110 to Defined Contribution Plans

AICPA SOP 94-4 amended the Guide in a way that abolished special treatment for insurance contracts but preserved the possibility of reporting contracts

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It leveled the playing field among financial institutions by allowing banks as well as insurance companies to offer contracts that would qualify for book value accounting.’

with specified features issued by any financial institution at contract value. Fundamentally, to qualify for reporting to participants their balances under a contract at contract value, the contract must assure that contract value “is the amount a participant would receive if he or she were to initiate transactions under the terms of an ongoing plan.” The unfortunate label that the AICPA attached to this requirement is “benefit responsiveness.”

The Guide as amended by AICPA SOP 94-4 states that: “Defined contribution pension plans should report fully benefit-responsive investment contracts at contract value, which may or may not be equal to fair value.”¹³ To be considered fully benefit-responsive, “[i]nvestment contracts must transfer the risk of principal and accrued interest to

a financially responsible third party (that is, they provide for all participant-initiated transactions permitted by an ongoing plan with no conditions, limits, or restrictions).”¹⁴ I shall refer to such contracts as “PAIRTS,” “principal and interest risk-transfers.”

Qualifications of the Guarantee of Payment of Benefits at Contract Value

The foundational requirement for presenting a participant’s account at principal plus accrued interest is just what a participant who values safety highly would want. The participant is assured that the balance available for any withdrawal, loan, or transfer that he or she initiates is the full amount of principal and accrued interest, “with no conditions, limits, or restrictions.”

However, examples in the Appendix to AICPA SOP 94-4 have the practical effect of eliminating “no conditions, limits, or restrictions” on contract value payment as a requirement for contract value accounting. A fair description of SOP 94-4 is that it codified, both by intent and in practice, the main features of GICs then available in the marketplace as the minimum requirement for accounting for contracts at book value, including the common limitations on book value coverage. It leveled the playing field among financial institutions by allowing banks as well as insurance companies to offer contracts that would qualify for book value accounting.

Example 2: A Benefit Responsive Investment Contract

- a. Liquidity at contract value is not guaranteed for benefits that are attributable to termination of the plan, a plan spin-off to a new employer plan, or amendments to plan provisions. The contract should be reported at contract value unless it is probable that the plan will be terminated, spun off or amended.

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b. Liquidity at contract value is not guaranteed for benefits that are attributable to the layoff of a large group of workers or an early retirement program. The contract should be reported at contract value unless it is probable that termination of the employment of a significant number of employees will occur.

Example 6: A Synthetic Investment Contract—“Repurchase” Type

Under this contract, the plan purchases a bond and places it in trust. The plan then contracts with a financially responsible third party to provide benefit responsiveness. Under the contract, should the bond need to be sold to meet a participant-initiated withdrawal benefit, loan, or transfer, the plan is obligated to sell the bond to the contract issuer, and the issuer is obligated to buy the bond. The transaction price is defined under the contract (for example, amortized cost). The issuer is not obligated, however, to purchase securities that are in default.

The contract, when together with the bond, should be reported at contract value . . . absent impairment of the value of the securities due to credit risk because return of principal and accrued interest has been guaranteed to participants.

These examples and the conclusions with respect to them weaken the foundational guarantee both theoretically and operationally. The valuation decision after the two variations of example 2 each has the form, “contract value, unless it is probable that . . .” Probable is not defined, and, even if it were defined in terms of a threshold mathematical expectation, e.g., more likely than not, would likely be very subjective in application. What is a “significant” number of employees? Is there some absolute number, say 50, that is significant in its own right, regardless of the size of the enterprise, or is “significant” always relative? The conclusion to

example 6 has the proviso “absent impairment.” In short, it will often be difficult in borderline situations to know what the right thing to do is, even when the accountant or auditor has complete information.

AICPA SOP 94-4 amended the Guide, inter alia, to require reporting “. . . any limitations on related liquidity guarantees (for example, premature termination of the contract by the plan, plant closings, layoffs, plan termination, bankruptcy, mergers, and early retirement incentives).”¹⁶ Further, the Guide now requires that: “If, however, plan management is aware that an event has occurred

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The role of
synthetic GICs has
grown steadily
since their introduc-
tion in the early
'90s.’

that may affect the value of the contract (for example, a decline in the creditworthiness of the contract issuer or third-party guarantor—if different from the contract issuer—or the possibility of premature termination of the contract for the plan), pursuant to FASB Statement No. 5, Accounting for Contingencies, disclosure of the event or reporting the investment at less than contract value may be appropriate.”

Even when changed circumstances make the right thing to do theoretically to report a contract at fair value instead of contract value, it is not likely to happen. Internal communications will not generally be adequate to make the employer’s plan administrators aware of circumstances that would mandate reporting at

contract value. Even if the administrators know the circumstances, they are not certain to be aware of the requirement to report at fair value. Finally, even if their knowledge is perfect, they may lack the will to incur the administrative costs and participant dissatisfaction reporting at fair value would entail.

Synthetic GICs now Predominate the Stable Value Market

The role of synthetic GICs has grown steadily since their introduction in the early '90s. In the five years that the Stable Value Investment Association has conducted its investment and policy survey, the percentage of stable value assets in synthetic GICs has risen from 32.4% to 50%. Among external managers of stable value funds, the percentage of synthetic GICs has risen from 42% to 65%.

We noted above the credit features that led stable value managers to include synthetic GICs in stable value portfolios. Greater freedom in shaping the investment characteristics of the portfolio has also been an important reason.

Because of their current, and growing, importance, the remainder of this paper will concentrate on current issues related to synthetic GICs.

Contract Duration

Termination at Will

In what is undoubtedly its most conspicuous deficiency, AICPA SOP 94-4 imposes no requirement of minimum contract duration on a contract transferring the risk of principal and accrued interest. A contract terminable at will by the third-party guarantor can still qualify for contract value accounting. However, a contract that the issuer can terminate at will after only a short time is practically worthless to the plan that owns it. Beginning in a stable environment, conditions cannot change rapidly enough to put an issuer at risk in such a contract.¹⁹

Other Contract Feature and Underwriting Practices

In his *GIC Reminiscences*, prepared for distribution at the 2001 SOA Annual Meeting Panel Discussion *Terminal Funding and Stable Value GICs*, John Stiefel touches on a number of contract features and underwriting issues, some of which are now settled, others of which remain open. I discuss a few of them briefly, in "scatter shot" remarks.

1. Signed deposit agreements, once resented, then standard, are once again spotty. The fixed-income bond trading standard of an oral commitment followed by written confirmation has become usual for GICs as well.²⁰
2. GIC proposals outstanding for days is a distant memory; a few hours has been the standard since Stiefel.
3. The attention to issuer credit gained by Executive Life, Mutual Benefit, and Confederation Life has not been lost; all stable value managers weigh carefully the minimum issuer credit rating they deem acceptable and monitor issuer credit on an ongoing basis.
4. GIC contracts either provide for no "market value" out at all, or do so using a punitive formula. Existing GIC contracts foreclose plan arbitrage.
5. With respect to participant activity, nearly all stable value plans require a 90-day wash before a participant can transfer funds from an SVO to a competing short-term bond or money market fund.

Classification of the Wrap

As we have noted, the foundation for stable value as a defined contribution pension plan option is the ability to account for plan assets at amortized cost plus accrued interest, book value. That accounting treatment was ratified by SOP 94-4.

The issuance of FAS 133 in June, 1998, which required accounting for derivatives at fair value, and including gains and losses in earnings for

derivatives not designated as hedging instruments, raised questions in some minds about the appropriate treatment of guarantees of principal and accrued for stable value, contracts commonly known as "wrap contracts" or "wraps," the part of a synthetic GIC that is not the underlying assets. In December, 2000, the FASB Derivatives Implementation Group released Statement 133 Implementation Issue No. A16, "Definition of a Derivative: Synthetic Guaranteed Investment Contracts," which concludes that "from the perspective of the issuer of the contract, synthetic GICs are derivatives under Statement 133."

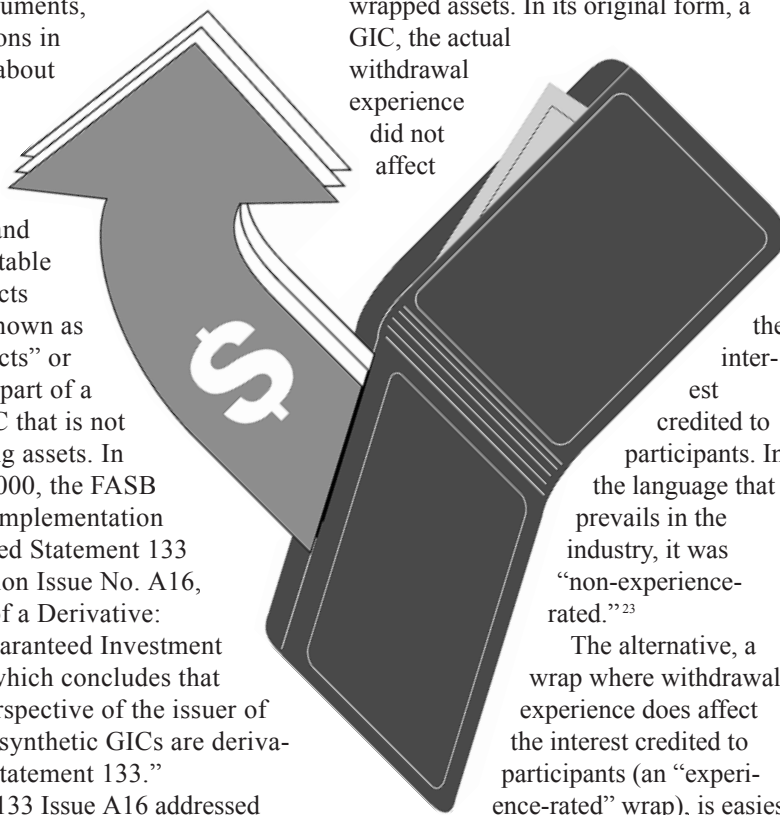
Although 133 Issue A16 addressed synthetic GICs only "from the perspective of the issuer," some employee benefit plan auditors began using it to call into question the continued application of SOP 94-4 to particular SVOs. Although to date no auditor has gone so far as to disallow book value accounting for stable value, this is clearly a life and death issue for the stable value industry. The discussion below addresses this critical issue from three perspectives:

1. The wrap contract is not a derivative;
2. The wrap contract is an insurance contract; and
3. The market value of a participant account is book value, so that if a wrap is treated as a derivative, its value in the plan must be the balancing item between the value of the underlying assets and book value.

The Wrap Contract

A wrap assures that funds will always be available to pay plan benefits and make transfers at contract ("book") value,

regardless of the market value of the wrapped assets. In its original form, a GIC, the actual withdrawal experience did not affect



the interest credited to participants. In the language that prevails in the industry, it was "non-experience-rated."²³

The alternative, a wrap where withdrawal experience does affect the interest credited to participants (an "experience-rated" wrap), is easiest to understand when the wrapped asset is a readily marketable bond. The crediting rate changes periodically according to a formula which amortizes differences between the contract value of the bond and its market value. The amortization period is typically the duration of the investment on the date the rate is reset. When a withdrawal is made, the participant receives contract value. The market value of the contract is reduced by the same amount as the contract value. This forces the ratio of contract value to market value farther from one. For example, if market value is \$95 and contract value is \$100, a \$5 withdrawal will reduce the market to book ratio from 95% (95/100) to 94.7% (90/95). There is an additional shortfall between contract and market of 0.30%. If the current duration of the bond is 1.5 years at the reset date, the withdrawal will have caused the credited rate to drop by 0.20%, 0.30% divided by 1.5 years.

The essence of a "non-experience-rated" wrap is a transfer of funds between the issuer of the wrap and the

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stable value fund of an amount which will keep the market-to-contract ratio the same after a withdrawal as it was before the withdrawal. If market value is below contract value, the issuer pays the fund; if market is above contract value, the fund pays the issuers. In the example above, the issuer would have contributed \$.25 to the contract's market value, so that the ratio of market value to contract value, \$90.25/\$95.00, would remain at 95%.

To use the language of financial options, a stable value participant has the right to "put" his/her account to the fund at contract value, regardless of the market value of the underlying assets. The wrap contract is the mechanism which, either by adjusting the interest rate credited to the remaining participants, or by making or receiving a payment from the wrap issuer, eliminates any book/market differential caused by a participant withdrawal. It is factually incorrect to describe the wrap contract itself as a "put." Except in a catastrophic environment, the put experience of the fund does not affect the financial experience of the issuer in experience-rated wrap contracts, since crediting rate adjustments make continuing participants the ultimate option counterparties of those who withdraw. In the example considered above of a non-experience-rated wrap, the issuer lost \$.25.

Wraps are not Derivatives

SFAS 133 states that for a financial instrument to qualify as a derivative it must possess all three of the following characteristics:

1. A derivative must have at least one variable factor in the calculation that determines the required payment. This required variable is called an "underlying." A derivative must have either some measure of quantity, to which the underlying(s) is (are) applied in the calculation that determines the required payment, or a payment provision, or both. That measure of quantity is called a "notional amount."

An underlying is a specified financial variable, an interest rate, security price, or other variable. A payment provision specifies a fixed or

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The maximum value of the wrap is the difference of two variables, book value and market value.’

determinable settlement to be made if the underlying performs in a specified manner.

An option to buy 100 shares of stock at \$50 per share provides a classic example. The notional amount is 100 shares; the underlying is the price of one share. The value of the option is the price of a share minus \$50, not less than zero, times 100. If the current price of the share is \$60, the value of the option is $(\$60 - \$50) * 100 = \$1000$

A wrap does not meet even this first test.

What is the Underlying?

First of all, there is no clear-cut underlying. The suggestion of 133 Issue A16 that the underlying could be the reset formula itself is problematic. A formula is in itself entirely static. If the reference to reset formula is shorthand for the crediting rate series generated by application of the formula, then we have a complex series, determined by market interest rates, the auto-correlated crediting rates, which move book value toward wherever market rates have taken market value,

and participant cash flows, which exacerbate any existing differential between book and market. We have argued above that participant behavior is largely driven by participants' views of the safety of principal across the investment choices, including equities, the plan offers, not by differences across the yield curve. Is it useful to talk about a series where individual plan design is a major determinant as an "underlying," when that word usually refers to the price of a share or index, or to a market rate of interest?

The obvious candidate for an underlying is the market value of the wrapped portfolio. That at least is determined purely by market forces and is the underlying for accepted derivatives, e.g., portfolio insurance.

Choosing a "notional amount" is even more problematic. To define the book value as the "notional amount," as 133 Issue A16 appears to do, is to designate as a notional amount a quantity which impounds the underlying, whether it is defined as the market value of the portfolio, my preference, or as the crediting rate formula, as 133 Issue A16 prefers. That cannot be what SFAS 133 intends.

The maximum value of the wrap (the issuer's maximum liability) is the difference of two variables, book value and market value. This difference varies unpredictably day to day, whereas notional amounts are generally constant (e.g., 10 shares or \$10,000,000), or are at least determinable with certainty in advance. Even accepting the difference between book and market as a notional amount, and knowing the behavior of the underlying, whatever it might be, one would not have determined the value of the wrap, but only its maximum value. The actual value at any moment of a wrap also depends on the probability of a withdrawal and the probability distribution of withdrawal amount. It further depends on the experience-rating provision of the wrap contract. Finally, if the wrap contract is experience-rated, the value also depends on the probability that

the contract will mature before any book to market shortfall has been amortized. This is the only time that an experience-rated wrap results in an issuer payout.

What is the payment provision?

For an experience-rated wrap, in the “normal course,” there will never be a payment (other than the payment of the premium, which we discuss below as item 3). The crediting rate mechanism is designed to assure that there is no book/market discrepancy at contract maturity. Wrap contracts that simply expire at maturity even when market is less than book, with no issuer payment, are not uncommon. Other contracts provide for contract extensions as needed to assure eventual convergence. It strains language beyond natural bounds to call such terms “payment provisions,” and, once again, cannot have been what FASB was trying to do in SFAS 133.

2. SFAS 133 states that a derivative requires no initial net investment or an initial net investment less than that required for other types of contracts expected to respond similarly to changes in market factors. The second factor is also problematic. A wrap contract requires the payment of a premium, so it has an initial investment.

A wrap is a unique, plan-specific instrument, the value of which does not depend solely on factors in the financial markets. It cannot therefore be said that the premium is “smaller than would be expected for other types of contracts that would be expected to have similar responses to market factors.” Therefore, wrap contracts do not satisfy either of the two tests of the second requirement, and thus do not satisfy the definition of derivative.

3. SFAS 133 requires that a derivative’s terms require or allow net settlement.

A derivative must be able to be readily settled net by a method outside the contract; or it provides for delivery of an asset that puts the recipient in a position similar to net settlement. No payment provisions of wrap contracts come close to satisfying this requirement. Most market wrap contracts permit termination

by the buyer on notice and termination by the seller for certain enumerated reasons. When termination payments are required, they are universally a function of the premium rate. They do not take into account any changes in market factors or in the characteristics of the plan to which the wrap was issued. Indeed, as the discussion of wrap valuation above should have made clear, it would be impossible to reach a consensus on a fair payment. Certainly, the contract does not provide for such a payment. Therefore, a wrap contract does not satisfy the third requirement of the definition of SFAS 133 and is therefore not a derivative.

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A key feature of insurance is that the owner of the contract does not control the right to payment.’

The clear import of SFAS 133 is that it was meant to refer only to instruments the value of which is determined solely by “market forces.” Market forces are no doubt hard to define with specificity, but certainly cannot be meant to include the underwriting characteristics of a particular defined benefit plan. This is the fundamental incongruity that the argument of the 133 Issue A16 cannot overcome.

Wraps are Insurance Contracts

There is a term for financial contracts where not only market variables, but also characteristics of the individual entity purchasing the contract require underwriting, determine cost: insurance.

Relying both on my knowledge of wraps, and on my experience as a health benefits actuary, I believe that group

long-term disability insurance provides the best analogy to stable value wraps. Non-experience rated wraps correspond to self-insurance with insured stop loss that kicks in at low levels of total claims. Experience rated wraps correspond to self-insurance with insured stop loss protection that kicks in only at very high multiples of expected claims.

Arguing by analogy, tax law permits the classification of reserves for noncancellable accident and health insurance as life company reserves if they are computed on the basis of health contingencies and are required by law.²⁴ Wrap contracts are “noncancellable” in that the issuer generally cannot “cancel” a wrap contract before its stated maturity except for cause. The causes are nearly all related to plan specifics. The variety of plan designs and differences in the economic “health” of plan sponsors require underwriting. The underwriting required makes a striking parallel to underwriting the long-term disability risk, incorporating many of the same elements.²⁵

A key feature of insurance is that the owner of the contract does not control the right to payment. For example, health insurance policies, including group long-term disability policies, exclude coverage for self-inflicted injuries. Underwriting is intended to assure that the insurer understands the nature of the risk and charges a premium appropriate to it.

The SVO is the owner of the wrap contract, but is the one entity universally excluded in all wrap contracts from precipitating a payment on it! Even the most sweeping wrap contracts exclude coverage for plan termination and for plan changes which materially increase the issuer’s risk of payment. The disconnect between the owner and the beneficiaries of the wrap contract severely weakens the characterization of a wrap as a derivative.

The analogy to a financial put is fundamentally flawed because it is the owner of a put who decides whether or not to exercise the put and who benefits from the decision to exercise a put that is in the money.

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For a covered participant, even one who, like a COBRA participant, is paying the full cost of group coverage, self-insurance is real insurance. It protects against the threat of financial ruin due to catastrophic health care expenditures by spreading the risk over a large number of participants.²⁶ When the group as a whole has experience bad enough otherwise to overwhelm the pool, the insured stop loss protection steps in.

Insurance provides a natural context which helps us gain insight into the nature of the wrap, unlike the unhelpful attempt to classify it as a derivative. Further, our analysis of the wrap contract suggests a useful generalization: contracts involving purchaser-specific risk are best understood as insurance, whatever their financial features. Contracts not involving purchaser-specific risk are better understood as general financial market instruments, a classification which includes derivatives.

To Experience Rate or Not?—Application of Insurance Principles to Stable Value Wraps

Insurers must recover expenses and profit for any risk they assume. That is a fundamental of insurance pricing. Stable value participants have no reason to pay more for a non-experience-rated wrap unless it results in higher expected crediting rates. An experience-rated wrap is sufficient to assure stability of principal. A pronounced change in the crediting rate will threaten the participant's assessment of the option only when it lowers the rate so much that the rate fails to meet the participant's expectation of a minimum margin over money market yields. Even this would not be a loss especially difficult to bear, since principal is preserved. No SVO is a plan's sole offering. Should the yield fall too far, the participant can transfer his/her balance to a different option, which he/she now values more highly.²⁷

What Crediting Rate Insurance Fits the Market Demand for Stable Value?

Ideal crediting rate insurance would protect Stable value's margin over money market returns at the cost of a modest sacrifice in the total expected excess return. If, for example, the long-term expected excess return, unwrapped, of an SVO was 1.5%, the conservative investors who choose stable value might rationally choose to sacrifice .10%, to assure that the differential was never less

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A pure non-experienced rated contract would increase expenses both for the insurer and for the manager, and both would want to recover those costs by increasing their charges to the plan.’

than 1%. An investor interested in assurance of principal and the largest possible excess return over money market funds, who did not have a view that interest rates would move up, would not pay a larger wrap premium to lessen the effects of the transactions of other participants on crediting rate volatility, entirely apart

from the relationship of the crediting rate to a reference rate. Therefore, a manager cannot choose consistent with the manager's fiduciary duty to participants to pay more for “standard” non-experience rated wraps than for experience-rated wraps, unless the manager is acting on a view, that interest rates will move upward, not reflected in the price of the non-experience rated wrap.

Any differential in cost that does not pay for an added guarantee must be fully recoverable in value, providing no additional contribution to insurer profit or expenses. The expected value of additional issuer transfers must equal the expected value of the increase in wrap charges.

The Realities of the Marketplace

A “pure” version of a non-experience-rated contract is rare indeed. Nearly all contracts, including GICs, require the plan to turn first to cash flows to finance withdrawals before access to the contract's funds is possible. In a rising rate environment, net withdrawals will keep the rate on the fund from rising as money-market rates rise. A “pure” non-experience rated contract would increase expenses both for the issuer and for the manager, and both would want to recover those costs by increasing their charges to the plan.

Even “non-experience rated” after cash flows is increasingly unavailable at all for synthetic wraps.²⁸ A manager with a strong preference for non-experience rating of withdrawals would give for that reason alone a higher ranking to GICs as investments, intensifying credit and non-diversification risk, because GICs provide non-experience rating of withdrawals. Based on quotation experience at the author's firm, those issuers that do offer non-experience rated wrap contracts charge an additional two to six basis points.

A manager who agrees with the analysis of wrap risk presented above cannot choose to pay that premium,²⁹ because the manager believes that whatever additional protection a non-experience rated wrap may provide is overpriced.³⁰

My conclusion is this: the realities of market pricing drive the rational manager to buy experience rated wraps in the typical wrap purchase situation.

The Theoretically Ideal Wrap

The standard in analysis of benefit programs should be legitimate participant expectations.³¹ What participants expect of an SVO is safety of principal and an excess return with respect to money-market funds, in the range of 1% to 2%. Simply put, the ideal wrap contract would ensure that the effects of withdrawals will never deprive participants of what they expect from the SVO.

A contract that ties the degree of experience-rating to the effect of withdrawals on the crediting rate meets that test. The crediting rate would be compared to money-market returns plus an increment ranging from 0% to 1%. The issuer would make any payment required to keep withdrawals from driving the crediting rate below the reference rate. All other withdrawals would be fully experience rated.

A hybrid contract of this type would be likely to lead issuers to require tighter investment guidelines, and permit them to require changes at a minimum in portfolio duration as the crediting rate approaches the reference rate.³²

Such a contract would provide both participants and the issuer with superior protection against the risk that an anti-selection death spiral will lead to a catastrophic meltdown of the kind that issuers profess to believe would have occurred in the period studied above, the late '70s and early '80s. While changes in the interest rate environment could still lead to crediting rates below the reference rate, participant withdrawals would not exacerbate the situation. At any level of interest rates, even zero, there will be some non-zero level of at least relative equilibrium, where slow decay replaces the stampede to exit. The higher the cred-

iting rate, the higher the level of relative equilibrium, and the lower the losses of the issuer, the larger the fee bases of both the manager and the issuer, and the faster the option will return to the reference rate and above.

A critical advantage of what I call a "crediting rate hybrid" is that it minimizes the importance of issuer/manager differences on the value of the catastrophic risk, because it substantially reduces the likelihood that the catastrophic risk will materialize.

An added advantage to the plan is that, precisely for this reason, and depending on the level of the increment used to set the reference rate, a crediting rate hybrid should be cheaper than existing experience-rated contracts. Existing experience-rated contracts would further depress rates already below money market rates, accelerating the stampede to the exits and locking in issuer losses. In the author's view, the reference rate can be set at a level that will include sufficiently few losses in the way of noise that the gains in catastrophic protection will more than offset them.

However, the higher the reference rate, the more a manager can rationally choose to pay a wrap premium that actually reduces expected participant return. For example, if the reference rate is money market returns plus 1%, the manager has purchased a contract that substantially increases the likelihood that the option will always meet the participants' return expectations. The contract thus has higher utility to participants than a fully experience-rated contract, and the manager can rationally choose to pay more for it. Such a contract thus offers an issuer an opportunity for a risk charge and risk profit that other contracts do not.

Crediting rate hybrids thus offer an opportunity to improve the value of an SVO to participants while reducing the friction that differences in pricing perspectives introduce in negotiations about wraps between managers and issuers.

Conclusion

In this essay, we briefly introduced the SVO and its evolution. We discussed the characteristics of the synthetic wrap

contract, seeking additional understanding by examining the factors influencing pricing. We concluded that a wrap is not a derivative, but an insurance contract. We reviewed the basic principles of insurance pricing and applied those principles to wrap pricing. We concluded that the realities of the marketplace often lead the rational manager, faithful to his or her fiduciary responsibility to participants, to buy experience-rated wraps. We ended by describing a theoretical ideal wrap, the crediting rate hybrid. We concluded that the crediting rate hybrid offered a way out of the wrap pricing impasse that would enhance the value wrap contracts offer to participants in an SVO.

Footnotes

1) Excerpts from my articles *What AICPA SOP 94-4 Hath Wrought: The Demand Characteristics, Accounting Foundation and Management of Stable Value Funds*, 16:1 BENEFITS QUARTERLY 44 (First Quarter, 2000) [hereinafter "BQ"], and *The Stable Value Wrap: Insurance Contract or Derivative? Experience Rated or Not?* 37 RISKS AND REWARDS 18 (Investment Section of the Society of Actuaries, July, 2001)[hereinafter "SVW"] are the core of the theoretical discussion in this paper.

2) JOHN D. STIEFEL III, 36 TRANSACTIONS 527 (Society of Actuaries, 1984) [hereinafter "Stiefel"].

3) This is a reason to think that stable value might play a role abroad in the transition from saving to investment. See PAUL J. DONAHUE, *International Opportunities for Stable Value*, 20 INTERNATIONAL SECTION NEWS 1, p. 4 (International Section of the Society of Actuaries, October, 1999).

4) BQ 45-46.

5) This design made control of disintermediation critical, a problem plans and issuers handled in a variety of ways, all administratively onerous, which here we only mention in passing.

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- 6) AICPA SOP 94-4, p. 5.
- 7) A close paraphrase of AICPA SOP 94-4, p. 5.
- 8) Financial Accounting Standards Board of the Financial Accounting Foundation (August, 1992).
- 9) *Id.* at pp. 2-3.
- 10) *Id.* at p. 11.
- 11) AICPA SOP 94-4, page 12.
- 12) *Ibid.* No one who did not already know could guess the meaning of this phrase. Far more natural would have been “payment guarantee,” or “benefit guarantee.” A guarantee is, as we shall see below, an essential element of the requirement.
- 13) Section 3.17, *ibid.*
- 14) AICPA SOP 94-4, p. 15.
- 15) AICPA SOP 94-4, p. 24.
- 16) Guide paragraph 3.23(p). AICPA SOP 94-4, p. 14.
- 17) Guide paragraph 4.13. AICPA SOP 94-4, p. 15.
- 18) See above page 5.
- 19) In *A Tree-Top Look at Wrap Pricing*, Klaus Shigley, Vice President, John Hancock Mutual Life Insurance Company, prices the cost of an SVO put option. Mr. Shigley uses as a baseline assumption that all contracts are accessed *pro rata* for all required benefit payments. This produces a higher price for a put option than would an assumption that liquidity is managed in part by netting benefit payments’ current cash inflows and that the plan maintains a buffer (though not necessarily, as Mr. Shigley rightly points out on page 2, a lower cost of liquidity). His analysis addresses successive three year periods, using different duration and withdrawal rate assumptions. The average annual cost for the four scenarios for the first three years is 4.5 basis points, and for the second three years 19.5 basis points, more than four times higher.
- 20) One of the universally recognized advantages of Web-based trading is the combination of the speed of oral transactions with instant written documentation.
- 21) The availability of a competing option is a plan design flaw. In particular, there is no place for a money market fund in a retirement program when stable value is available as an alternative.
- 22) Available online at www.rutgers.edu/Accounting/raw/fasb/derivatives/issuea16.html; cited below as “133 Issue A16.”
- 23) There is unfortunately variation in nomenclature which causes confusion. For nearly all disaggregated wraps, the interest credited to participants varies with the value of the underlying investment. Such a wrap is generally called “participating,” which means it participates in investment results. However, some use the word “participating” to refer to participation in the effects of withdrawals, what we have in this Article chosen to call “experience-rated,” adopting the more prevalent convention.
- 24) IRC § 816(b).
- 25) E.g., the age and income of the participants, the financial health of the plan sponsor, the industry sector, indeed the health status of the employees, since both death and disability give rise to qualified withdrawals in defined contribution plans!
- 26) As an aside, it is the failure of advice providers to appreciate the value of the self-insurance that is the primary characteristic of the stable value wrap that leads to their failure to give due credit to the wrap’s dampening of return volatility.
- 27) Looking at the problem of crediting-rate movement and insurable interest in this light shows that issuers have the clearest insurable interest, followed by stable value option investment managers. We shall return to this point below, when we argue for a wrap contract not currently available that would maximize utility for all parties economically affected by the contract.
- 28) For example, of the issuers from which PRIMCO Capital Management buys wraps, only one is willing to sell non-experienced-rated wraps.
- 29) See above page 16.
- 30) The manager might rationally believe that a non-experience rated wrap should be cheaper than an experience-rated wrap.
- 31) See BQ 48.
- 32) Existing synthetic contracts usually give issuers the right to require changes in the composition of the portfolio when a recalculated crediting rate would fall below some stated absolute level, usually 2%.