AMERICAN ACADEMY *of* ACTUARIES

Preliminary Report of the GIC With Credit Rating Downgrade Provisions Working Group of the American Academy of Actuaries to the Innovative Products Working Group of the Life and Health Actuarial Task Force of the NAIC
Atlanta - October, 1999

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PRELIMINARY REPORT OF THE AMERICAN ACADEMY OF ACTUARIES WORKING GROUP ON GICS WITH CREDIT RATING DOWNGRADE PROVISIONS

BACKGROUND

The Innovative Products Working Group of the Life and Health Actuarial (Technical) Task Force (LHATF) of the National Association of Insurance Commissioners has been examining two issues that were raised with respect to GICs with credit rating downgrade provisions. The first issue is a public policy concern, a preference issue, while the second involves reserve considerations. These issues originally came up at LHATF's March, 1999 meeting. Since then a fairly broad range of credit rating downgrade provisions have been identified and the scope of the examination has been expanded to include other contract types and events/contractual provisions that may also raise disintermediation and liquidity concerns.

GICs and other types of funding agreements are generally sold to sophisticated buyers. Within the last few years, some of these contractholders either require or request a provision in the policy that would allow the contractholder to get their money back at full book value. For example, some GICs with credit rating downgrade provisions allow a contractholder to surrender the contract for its book value in the event of a drop in credit ratings (e.g., by S&P or Moody's) below a certain category.

The LHATF has raised the public policy issue of these types of provisions. The concern of some regulators is that, in the event of a credit rating drop, the sophisticated GIC and other funding agreements contractholders, who normally have large policies, would withdraw their money quickly, potentially causing a major liquidity and possibly a solvency problem for the insurance company. If the company were to go under state supervision after these GIC contractholders had been paid, they would have effectively been treated better than the remaining policyholders, since they were effectively at the "front of the line" in collecting from the insurance company. While many small policies, for example individual deferred annuities with no surrender charges, also allow book value withdrawal on demand, there are a number of reasons why many of these contractholders may not exercise these provisions. The LHATF has put out a fact letter to all Insurance Commissioners explaining the product and its potential impact on assets of a company in the case of a credit rating downgrade.

This issue has gotten even more attention with the recent situation at General American: this company had over $6 billion of floating rate funding agreements with "7 day puts", which allowed the funding agreement contractholders to demand their money with 7 days notice to the insurance company. These puts were not limited to downgrade, but could be executed for any reason. General American was downgraded by Moody's Investor Services to A3, and many contractholders demanded their money. Although General American had the assets, they were not liquid enough, so the company went under state supervision.

A related issue is the level of reserves that should be held for these products. A small subgroup of regulators had been working on this issue. The Innovative Products Working Group of LHATF has requested that the American Academy of Actuaries assist in the development of reserving standards for this product.

In its conference calls, the Academy working group discussed whether liquidity or concentration risk is one that can be addressed through reserves. The group concluded that such issues should be addressed by prudent management (including cash flow testing) and regulation, which could include limits on exposure or additional RBC requirements.

This preliminary report discusses the types of products and types of provisions that may result in unanticipated liquidity demands. In addition, it discusses the issues surrounding the reserves of these products. It also discusses various reserving related issues.

TYPES OF PRODUCTS

Traditional GICs

Guaranteed investment contracts are obligations of an insurance company, typically issued through the general account and providing a fixed rate and a fixed maturity. These contracts have been issued since the 1970s. These GICs were generally used to fund pension plans. Over the years, the use of GICs has expanded.

Municipal GICs

The Tax Act of 1986 included a number of reforms and requirements with respect to the issuance of tax-exempt municipal bonds that affected indirectly the use of GICs as reinvestment vehicles and the need for high credit standards whenever bond proceeds need to be reinvested. Among these is the requirement that the bond issue must be used for specific qualified public programs and not solely for reinvestment purposes. Another important requirement of the Tax Act is that any arbitrage profits, (the difference between the reinvestment yield and the bond interest yield) must be refunded to the Federal Government in most cases.

In addition to the tax law changes, the events surrounding the failure of the Orange County, California investment program has reinforced that the primary responsibility of the bond issuer, with respect to investing activities, is the safety of the bond proceeds. The above events have limited the use of issuing municipal bonds to only worthy public programs and have reduced the incentives of the municipalities to profit from reinvestment strategies. This has lead to investment products that are required to be safe, consistently rated with the rating of the bond, and provide withdrawals as needed without market interest rate gains or losses. As a result, GICs that pay book value benefits as needed based on the purposes of the bond, without pre-mature market value withdrawal provisions, can be an attractive reinvestment vehicle for municipal bond issuers. Currently, highly rated mono-line insurers and large highly rated commercial and investment banks are the primary providers of this product, and all market participants provide downgrade language in their contracts.

Based on 1998 data, there were $ 280 billion dollars of municipal bonds issued. Of this amount, Moody's rated 84% of the total dollar amount. Of those rated by Moody's, 88% obtained a credit rating of Aa3 or above. This is a very high credit quality segment of the fixed income market. The bond issuer's major concern, after the development of their project, is that the ratings of the investment provider may jeopardize the rating on the bonds if the investment provider's credit rating decreases below a certain level. In this case, per the requirements of the bond indenture, they must have alternatives to protect the credit rating of the bond and preserve their integrity of issuing bonds in the future. From an investment product standpoint, specific contract provisions are agreed upon, mutually acceptable to the contractholder and insurer, which address the credit requirement conditions of the bond issue.

Early Termination Features of Municipal GICs

BACKGROUND

Life insurance companies offer Funding Agreements (FAs) to the tax-exempt reinvestment market. When tax-exempt bonds are issued, there will often be a need for a high quality, interest-bearing investment since all the funds are not immediately needed. FAs are similar to Guaranteed Investment Contracts (GICs), except they do not incur any mortality or morbidity risk. In most, though not all, states funding agreements have the same claims priority as policyholders in the event of insolvency. Ninety percent of the dollar volume in this market is for short-term purposes such as construction projects or low income housing assistance and has an average life of less than 1 year. The remainder of the business is tied to the life of the bonds in a debt service capacity, and can be as long as 30 years.

FUND TYPES

Short-Term

A large percent of the dollar volume placed in these FAs has an average life of 1 year or less. Short-term fund types include construction, acquisition, housing, tax revenue anticipation notes (TRANS) and others. The construction funds are for specific projects such as building schools and roads. The acquisition funds focus on acquiring real property or capital equipment. Housing funds provide housing assistance by purchasing eligible mortgages. These mortgage purchases are usually targeted to a geographic area and to low income borrowers. In these types of funds, the cash flow projections are provided when the case is underwritten. There may be some variability in the actual withdrawals as a result of weather, labor, housing or mortgage market conditions. The TRANS are typically placed by school districts in anticipation of tax revenue. The fund can be drawn and repaid to manage cash. The school district can keep any arbitrage profits from these funds which are typically issued for 1 year. Others include capitalized interest funds that pay interest until the project starts producing revenue, leasing funds for capital goods (e.g. fire trucks) and other miscellaneous uses.

Long-term

There are two types of long-term funds: debt service (also known as float funds) and debt service reserve (DSR). These funds will mature at the same time as the tax-exempt bonds, which can be as long as 30 years. The debt service fund is used to pay the interest and maturing principal of the bonds. As such, the fund will take in monthly deposits, and pay out the interest and principal (if any is due) of the bonds twice a year. The debt service funds will often deplete to a near zero balance once a year. The DSR is a “rainy day” fund usually totaling 10% of the bond issue sold. This fund is used to help prevent a missed interest or principal payment. If there is a withdrawal to make one of these payments, the bond issuer will be required to replenish the DSR within 6 months, A DSR fund will have a single deposit, and pays semiannual interest payments until maturity, early call or refunding.

Early Termination

These FAs cannot be terminated prior to maturity at the discretion of the contractholder. There are however, two means by which a FA may terminate prior to maturity for reasons beyond the

control of the contractholder. These are clearly specified in advance. The first means is driven by the bond indenture, which is the governing document in connection with a bond issue. The indenture specifies the circumstances under which the bonds may be redeemed early, which would necessitate the withdrawal of all invested funds. The circumstances generally fall in the categories of a physical catastrophe, which destroys the project or a default on any of the bond payments. The second means is a contractual provision for early termination in the event of a substantial ratings downgrade of the investment provider.

DOWNGRADE TERMINATIONS

The Tax-Exempt Issuer's Arbitrage

Since the investor is an issuer of federally tax-exempt bonds, they are able to sell their securities at a subsidized rate of interest that is lower than that of a similarly rated taxable bond issuer. As an example, 30-year AAA rated municipal bonds currently yield 5.56% while similar maturity U.S. Governments yield 6.14%. To prevent tax exempt issuers from selling securities for the sole purpose of reinvesting at a higher yield, which is known as arbitrage, the IRS taxes 100% of the earnings in excess of their interest payments. This means the issuer has no economic incentive to reinvest at a higher yield since they cannot retain any of the arbitrage earnings. As a result, the investor's priority, once they are earning the maximum allowable yield, is for the safety of their principal. This has given rise to downgrade termination features, in which the investor can withdraw all their funds prior to maturity in the event of a substantial provider downgrade.

The investors in this market usually have no difficulty earning their maximum allowable yield. This motivates them to make certain that their investments are of the highest quality. In effect, they do not "pay" for this upgrade in quality or safety. Any excess yield they forgo would have been arbitrage and therefore subject to 100% taxation by the IRS.

The Downgrade Provision

The common downgrade provision is as follows: in the event that the investment provider is downgraded below A-/A3 by Standard & Poor's or Moody's Investor Services respectively, the contractholder has the right but not the obligation to terminate the contract and receive the remaining principal and interest without penalty. In many cases the issuer will have the option to post collateral or to provide a replacement contract (referred to as assignment or novation) in place of paying out cash. While the ratings level for the trigger is usually AA- or A-, the language may read Standard & Poor's and Moody's, or Standard and Poor's or Moody's(only).

Short-Term Funding Agreements

Funding Agreements (FAs) are unsecured general account obligations of insurance companies issued to institutional investors. They generally provide a guarantee of principal and a fixed or floating rate of interest. Unlike annuity contracts, FAs do not assume any mortality or morbidity risk. In most states, FAs have a statutory liquidation priority of equal standing with policyholders and ahead of claims of general creditors.

Short-term FAs are typically issued to money market funds. They guarantee principal and a floating rate of interest is paid out and reset periodically at a fixed spread relative to a short-term index such as one month or three month London Interbank Offered Rate (LIBOR). The reset and payment frequency is generally consistent with the term of the underlying index (i.e.- reset/pay quarterly if indexed to 3-month LIBOR). Principal is returned to the contractholder in full upon maturity or termination of the FA.

Money market funds are typically subject to Rule 2a-7 of the Investment Company Act, which provides guidelines regarding permissible investments and their liquidity characteristics. To satisfy Rule 2a-7, short-term FAs frequently do not have maturity dates and may be terminated at book value at any time at the discretion of the contractholder, subject to a pre-specified advance notification period. In most instances, the insurance company will have the same termination, or call, provision. These FAs are commonly referred to as "putable" FAs. Put notification periods are typically 7 days or 1, 3, 6 or 12 months. In addition to having a put, some contracts have fixed maturity dates. The spread to LIBOR or other terms may be renegotiated at maturity, and there is a strong expectation that the put will not be exercised, except under extreme circumstances, prior to maturity.

Some short-term FAs have fixed bullet maturities. However, maturities must be less than 397 days to satisfy Rule 2a-7.

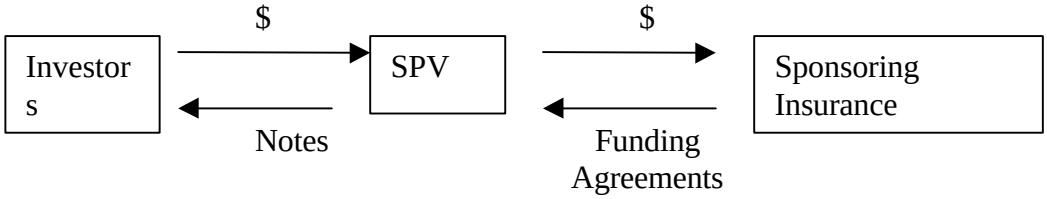
Generally, puts are rarely exercised since FAs are less liquid and higher yielding than other assets in the investor's portfolio.

European Medium Term Note Funding Agreements

Description

Funding Agreements are unsecured obligations of insurance companies that usually have a statutory liquidation priority of equal standing with policyholders and ahead of claims of general creditors. European Medium Term Note Funding Agreements (FAs) are used to support the issuance of notes overseas that may offer a guarantee of principal and/or interest. FAs are designed to exactly match the terms and conditions of the notes issued by a Special Purpose Vehicle (SPV).

An SPV is established to issue notes outside the United States. The SPV is domiciled in an offshore tax haven such as the Cayman Islands or Jersey. The SPV is obligated to only use the proceeds of the note issuance to purchase a FA from the sponsoring insurance company. The FA terms and conditions will be identical to the terms and conditions of the notes issued by the SPV. Therefore, the noteholders ultimately look to the sponsoring insurance company as the credit behind the notes. The owner of the FA is the SPV, in turn the overseas investors hold notes issued by the SPV.



There are many types of notes that an SPV can issue. Notes may include fixed rate, floating rate (tied

to a variety of indices), inverse floaters, reverse dual currency and equity-linked, to name a few. In addition, the notes may be issued in a variety of currencies. The general terms and conditions of the notes and the FAs are outlined in an Information Memorandum, similar to a prospectus. The specific terms and conditions of each note and FA are identified in a pricing supplement.

Early Withdrawal Features

All notes and FAs have a fixed maturity. The notes and FAs may not be surrendered prior to maturity at the discretion of the noteholder or SPV unless specific events occur. Under many SPV programs, the noteholder is allowed to put the notes to the SPV, and in turn the SPV is allowed to put the FA back to the insurance company on the occurrence of specific contingent events.

A common contingent event is a change in the tax laws of the tax haven or the United States. If the SPV would be required to pay additional amounts under the notes as a result of changes in tax laws, the SPV could put the FAs back to the insurance company. In addition, the insurance company would be required to gross-up any payment to the SPV to cover the additional amounts. In most circumstances, once the SPV is incorporated in a tax haven, the tax haven grants a 20-year exemption period for any taxes, which would include tax law changes. As far as changes in United States tax laws, the notes are issued by an offshore entity and held by non-U.S. entities. United States tax laws would have to be far reaching to impact taxes due under these types of notes.

A second contract feature available in some contracts is a default or cross-default provision. Under the default put, if the sponsoring insurance company were to default on any interest or principal payments due under the FAs, or went into bankruptcy or was declared insolvent, the SPV would be able to put the FA back to the insurance company. Under the cross-default provision if the insurance company or any of its subsidiaries fails to pay any amount payable on any indebtedness for money borrowed or raised and such failure to pay, in aggregate, exceeds a specific dollar amount, the noteholders could require the SPV to put the FA back to the insurance company. This is not a downgrade put. An actual default or cross default would have to occur before this contingent put becomes available to the FA holder. Before this provision could be executed, the defaulting insurer would likely be under supervision. The real purpose of this provision is to give the noteholder more favorable treatment in bankruptcy court.

Asset-backed Commercial Paper Structures Supported by Funding Agreements

Description

Funding Agreements are unsecured obligations of insurance companies that usually have a statutory liquidation priority of equal standing with policyholders and ahead of claims of general creditors. Funding Agreements can be designed to meet the needs of a variety of investors. A recent market development has been to use Funding Agreements as an "asset" backing the issuance of commercial paper (CP). These Funding Agreements are usually issued from a separate account.

A conduit is sponsored by a bank and is established to issue commercial paper. The conduit is obligated to use the proceeds of the commercial paper issuance to purchase an allowable asset or

class of assets. Lately, Funding Agreements have been accepted by several banks as an allowable asset. The Funding Agreement's terms and conditions will have a fixed maturity date. However, the conduit will be allowed to terminate the Funding Agreement early upon the occurrence of specific contingent events. There is usually a bank liquidity facility that is drawn if the conduit cannot remarket CP. There may also be other program wide credit enhancement (such as a surety provider).

Early Termination

A common contingent event that would enable a conduit to terminate the contract early would be if the investment guidelines of the separate account have been breached. Another contingent event would be if the ratio of the assets in the separate account to the Funding Agreement liability were below a predetermined level. Another common contingent event is a default and/or cross-default provision. Under the default provision, if the Funding Agreement provider went into bankruptcy or was declared insolvent, the conduit would be able to put the Funding Agreement back to the insurance company. Under the cross-default provision if the insurance company or any of its subsidiaries fails to pay any amount payable on any indebtedness for money borrowed or raised and such failure to pay, in aggregate, exceeds a specific dollar amount, the conduit could put the contract. This is not a downgrade put. An actual default or cross default would have to occur before this contingent put becomes available to the Funding Agreement holder.

Indemnification

Often conduits request several indemnifications from the Funding Agreement provider. While indemnifications do not cause the contract to terminate, they do pass a variety of risk from the contractholder to the Funding Agreement provider. Indemnifications include: any damages, loss, costs, or expenses; any increase in taxes; any losses as a result of missed interest or principal payment, will all be covered by the Funding Agreement provider.

COLI/BOLI

In addition to the exposures associated with funding agreements, there may be exposures resulting from provisions in certain Corporate-Owned Life Insurance/Bank-Owned Life Insurance (COLI/BOLI) contracts that would have the same effect in the event of credit downgrade.

Corporate-Owned Life Insurance (COLI) is a funding vehicle used by large corporations for decades to offset employee benefit plan costs and other liabilities. In addition, sophisticated financial institutions are using Bank-Owned Life Insurance (BOLI), which is a special type of COLI products, for the same purposes.

The common characteristics of COLI/BOLI products include:

- Generally single premium, permanent insurance products
- Sold as a group of policies written on specifically identified employees
- Corporations/banks insure a group of employees with specially designed COLI/BOLI programs
- Corporations/banks own the policies and the cash value, and also receive the death benefits
- Insured groups can include all employees or a select group of key employees

(e.g., managers)
- Normal loads are significantly reduced, since institutional life insurance
- Can be general account or separate account products

Typically corporations/banks as the employer will initiate the purchase decision, along with communication efforts to employees to be covered by such insurance policies. The size of COLI/BOLI cases varies, depending upon the size of the insured group, but it is not uncommon to exceed $100 million. As the owner and beneficiary of COLI/BOLI corporations/banks also have the right to surrender the contracts en-masse. There are provisions in certain contracts where contractholders can claim for their book value in the event of certain contingencies.

When an insurer writes a COLI/BOLI policy, it is our understanding that loads are typically deducted directly from the premium to cover up front expenses such as premium tax and federal DAC taxes. This results in the initial account value being less than the initial premium. For example, an initial premium of $100 million could result, assuming a 5% load, in an initial account value of $95 million.

Our understanding is that many writers of COLI/BOLI, particularly general account COLI/BOLI, include "return of premium" riders with the base COLI/BOLI policy. These riders state that the account value will be at least equal to premiums accumulated at some rate of interest. The interest rate may be guaranteed for a few years and then be subject to reset. In essence, this rider allow the policyholder access to their premium, accumulated at the guaranteed interest rate, until the base policy account value ($95 million in the example above) “catches up” to the guaranteed account value ($100 million, accumulated at the guaranteed interest rate). This is commonly referred to as a “honeymoon rider”.

Due to the sophisticated nature of the entities purchasing these products, insurers offering the products are concerned about the disintermediation risk, particularly in a 1035 situation (where the policyholder typically can avoid the payment of federal income tax on the inside build-up). This concern can be addressed in one of the following three ways:

1. The policies contain a provision stating that they can not be assigned.

2. The return of premium rider contains a provision stating that the guarantee provided in the rider is rendered inoperable if the policy is assigned.

3. The policy and/or rider charge an "assignment fee", which may be as much as 6% of account value, if the policy is assigned.

Our understanding is that some insurers may have responded to customer concerns about credit downgrades by executing letters or side agreements which waive these (e.g., the assignment fee and/or non-assignment provisions are waived), and any market value adjustments if applicable, in the event the insurer is downgraded below a certain level.

Note: The above information was gathered via discussions with brokers familiar with such products. The Academy working group did not review contracts with these provisions.

LIQUIDITY FACTORS

There are a number of events that may need to be specifically addressed by a contractual provision that can increase the liquidity demand placed on a GIC contract or funding agreement. However, it should also be noted that in many cases the contractual provision could be drafted to lessen that demand. The following chart discusses the events that have been identified:

Unscheduled Book Value Payouts Prior to Maturity

Event	Contractual Provision	Other Considerations
Participant directed withdrawals/transfers	90-day equity wash (mitigating feature) for competing fixed income fund transfers	Some GICs allow unlimited participant directed withdrawals or transfers to competing accounts. Actuarial Guideline XXX allows MV treatment of this provision if GICs require at least a 90-day "equity wash" - the money resides in an equity fund before going to another guaranteed fund
Employer-initiated withdrawals	Corridor limit - 10% limit on book value payouts (mitigating factor); market value adjustment on amounts outside the corridor	Many GICs allow participants to withdraw 100% of their money. Some GICS have a provision to limit the amount of the book value payout to 10% of the total fund (to limit exposure in the event of employer initiated events)
Puts/calls	Unrestricted 7-, 30- and 90-day puts (risk-increasing factor) calls (can mitigate risk)	Short-term floating rate guarantees; backed by floating rate assets; with puts, contractholder can request money with 7-, 30- or 90 day notice, which may happen in the event of credit rating downgrades. Calls gives the insurer the right to call the obligation with some notice; can do if cannot support the interest rate guarantee

Downgrade (credit rating) provisions	Following a downgrade to a predetermined credit rating:
	- the contractholder can put the contract (risk-increasing factor)
	
	OR:
	- the insurer may choose from a number of options*
	  ▪ novation (replacement contract)
	  ▪ overcollateralization
	  ▪ credit wrap
	  ▪ book value payout if market value exceeds book value
		The downgrade is under the control of the rating agency, not the insurance company (although the insurance company may take actions that increase or decrease the risk of downgrades)
		
		Some options may involve reinsurance

Default/cross default/breach	Following the receipt of written notification of the event, a cure period is generally provided	In the event of default, the state regulator may be involved with the insurance company

*Discussed in further detail on the following page

*** Discussion of Possible Insurer Options on Downgrade**

Provision	Increased Interest Rates	Decreased Interest Rates	Other Considerations
Novation -Assumption reinsurance of the remaining proceeds by an acceptable investment provider	Priced to reflect changes in interest rates from issue, equivalent of a market value adjustment gain	Priced to reflect changes in interest rates from issue, equivalent of a market value adjustment loss	Price and availability can fluctuate
Overcollateralization - Segregate and pledge collateral of acceptable quality and amount	Mechanism for avoiding liquidity crises and economic loss	No gain or loss except for minimal expenses incurred	Segregation of assets may result in remaining policyholders having less, and less favorable assets
Purchase of a credit insurance wrap by an acceptable credit insurer	Mechanism for avoiding economic loss	No gain or loss except for minimal expenses incurred	Minor counter-party risk of credit enhancer
Pay out the proceeds at book value	Economic loss to insurer, probably not used here	Economic gain to insurer	Risk of having good assets sold first to pay GIC/FA contractholders and having remaining individual policyholders suffer in the event of a default

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STATE ACTIONS TO DATE

These contracts are required to be filed in most states before the products can be sold. There are some states that will not allow products with certain provisions discussed above to be sold in their state. For example, New York issued a Circular Letter (Number 2 issued in 1992) that prohibits credit rating downgrade provisions at the contractholder's election. Illinois is currently not allowing downgrade provisions for contracts issued in their state.

Other states require the company provide the investment policy and other liquidity management documents before issuing these products. Some states have allowed these products to be sold for a limited time period only (e.g., 3 years), after which the conditional approval of certain contracts will be reviewed. Some states have also limited the amount of certain contracts that can be sold.

As far as the Academy Working Group could determine, no states have an official policy on the reserving standards for these provisions on their books.

OTHER ISSUERS

Banks

Certain banks are major competitors in the municipal BICs/funding agreement market. These BIC/FA contracts are on par with other deposits held by the bank in the event of insolvency. Larger banks that have high debt ratings from Moody's and/or Standard and Poors generally offer these contracts. The ratings related to depositors' security are established by the FDIC and/or state bank commissioners and are not available to the public.

The regulation of banks is different than the current regulation of insurance companies.(For example, liquidity risk is mitigated through the Federal Reserve System, where banks can readily borrow money to meet short term liquidity demands.) However, banks do issue similar products, so the Academy group thought it instructive to determine what bank regulators were doing on similar contracts:

Bank Investment Contracts

A Bank Investment Contract ("BIC") is a deposit contract between a bank and its customer that permits the customer to deposit funds over a period of time and obligates the bank to repay the amounts deposited plus interest at a guaranteed rate to the end of the contract term. The contract may range from six months to as long as ten years although, more typically, only three years. It is a non-transferable liability, i.e., not saleable in a secondary market. A BIC is the counterpart of the insurance industry's Guaranteed Investment Contract ("GIC"). The customers for BICs and GICs are, in most cases, sponsors of employee benefit plans such as pension plans or deferred compensation plans that qualify under section 401(k) of the Internal Revenue Code (commonly referred to as "401(k)Plans").

BICs have contractual terms that are marginally different from a traditional certificate of deposit ("CD"), i.e., a "deposit window" feature and a "benefit response" feature. The "window" feature is simply an initial period of time during which a pension plan sponsor or plan participants can deposit monies into a particular BIC contract. Any deposits made during this period earn the agreed upon contractual or indexed rate of interest for the life of the BIC contract. The "window" period may vary anywhere from a few months to a year. Based on a 1989 Federal Reserve survey, the median window period is six months, with no bank having a typical window period over one year. In an effort to limit the uncertainty concerning the amount of deposits that will be made during a "window" period, contracts frequently place limits on maximum deposit amounts and impose penalties if minimum deposit levels are not reached. Furthermore, it is not uncommon for BICs to involve only an initial lump-sum deposit, i.e., not provide any "window" period for additional deposits.

The "benefit response" feature provides for withdrawals from a BIC to accommodate plan provisions that allow plan participants, under certain circumstances, to make withdrawals from the fixed- income option (the option that usually invests in BICs or GICs) at book value. Common circumstances under which withdrawals may be allowed prior to maturity of the

BIC/GIC contract include retirement, disability, termination of employment, hardship, transfers to other investment options under the same retirement plan, and loans. Withdrawals may also take place because of corporate-initiated events, such as plant closings, reduction-in-force programs and ownership changes. Increasingly, penalty-free withdrawals are not allowed under many types of corporate-initiated events.

The following general guidance is offered regarding BICs whenever they are present in institutions examined by the FDIC. The principal risks associated with these deposit contracts are interest-rate risk and liquidity. In a declining interest-rate environment, the bank may receive more funds during the "window" period than anticipated or than can be employed in reasonably matched, sound and profitable investments. Conversely, in a rising interest-rate environment, the bank may receive less funds than anticipated and/or experience withdrawals greater than expected as the plan participants seek higher returns elsewhere. This, in turn, may create liquidity pressures depending on the volume of such funds held and commitments made.

Whenever BICs are found, examiners should initially review any stated policies of the bank specifically addressing the solicitation, management and investment of BIC funds, particularly policies addressing interest-rate risk, including hedging strategies, and how BIC funding fits into the bank's overall scheme of asset/liability management. In this context, particular attention should be paid to policies prescribing terms and conditions acceptable to the institution for "windows" and benefit response features in BICs.

The minimum reserve level is account value for these BIC contracts. In addition, banks are required to hold a certain amount of liquidity with the Federal Reserve Bank.

The examiner should focus on the specifics of the bank's BIC funding to determine that its practices conform to stated policies and that those practices do not pose an undue risk to the safety of the institution. To this end, the examiner should consider the volume, maturity, and cost of the BIC funding in relation to both the bank's other deposit and any non-deposit funding. The examiner should also consider the nature, quality, liquidity, and maturity of the assets supported with the BIC funding or, more generally, the entire asset structure of the bank when BIC funding is used for general funding purposes. In making this analysis, the examiner should be aware of the terms and conditions of the BIC contracts booked by the bank, that is, the time periods and conditions under which additional deposits or withdrawals may be made to or from such contracts, and the extent to which the bank has been anticipating accurately its cash flow from BIC funding and has planned accordingly. The bank regulators have more leeway over the setting of reserves. The bank regulators can issue cease and desist orders, can affect the rating of the bank with the FDIC, and can require more frequent examinations of the company.

Other Investment Contract Providers

There are other unsecured investment contract providers in the municipal reinvestment market, primarily parent-supported subsidiaries of highly rated financial institutions. Most of the monoline financial guaranty insurers ("bond insurers") have subsidiaries or affiliates that issue these contracts. Under a typical arrangement, the subsidiary issues the investment agreement and the bond insurer issues a financial guarantee policy that confers the required AAA/Aaa rating on the investment agreement. A few of the muni-bond underwriters have set up structured companies to issue these agreements. Rating agency capital requirements and investment restrictions have made it difficult for these firms to compete. The market acceptance of these contracts has also been limited because the AAA rating contains a "t" subscript indicating that the company unwinds (terminates) in the event of a downgrade.

RATING AGENCIES

The major rating agencies consider the amount of contracts that can be easily surrendered in setting the rating of insurance companies. They consider the liquidity exposure of the company. Other areas that they will investigate include the type of assets backing these products, the asset/liability strategy, any internal company limitations in the market, and the exact types of downgrade or "free out" provisions offered.

RISK MANAGEMENT

The Academy working group believes a large risk of contracts with liquidity provisions stems from the assets backing those reserves and the capital and liquidity characteristics of the company. The risks seem to be such that if a critical event occurs then a whole block of the business is likely to be liquidated. If a company has sufficient liquidity to withstand such an event, then the company will survive. But if there is insufficient liquidity, then it may not. In other words, sufficient liquidity is just as important as sufficient reserves. Unfortunately, the Academy working group was not able to determine who would have the authority to regulate rules regarding asset/liability management and liquidity for companies who have contracts with these provisions.

RBC

At this time, there is no special consideration for these provisions that can potentially result in large demands for cash from an insurance company in the event of a credit rating downgrade. Contracts with these provisions are treated the same as those without these provisions, which generally means that they are in the lowest risk category.

These "downgrade" provisions may be viewed as a liquidity issue. At this time, there is no consideration for adding liquidity tests to the Risk-Based Capital formula.

RESERVES

The Academy working group has not established a position on the reserve level that should be used for products with downgrade or other liquidity related provisions. When the Standard Valuation Law was written, these provisions did not exist and were therefore not addressed in the development of reserving standards.

Actuarial Opinion and Memorandum

Reserves are established to provide for the obligations of the insurance company. The nature of the assets funding the reserves must be considered in establishing the level of the reserve. To this end the Standard Valuation Law requires Asset Adequacy Analysis.

The major factors considered in the Asset Adequacy Analysis are market forces on the assets and withdrawal demands of the contractholder. The withdrawal demands result from the needs of the contractholder, factors relating to market movements and the financial soundness of the insurance company. Current reserving practices are designed to provide for the withdrawals due to the needs of the contractholder and factors relating to market movements. The factors relating to the financial soundness of the insurance company are not always considered in establishing reserves. It is recognized by the Academy working group that a deterioration in the financial soundness of the insurance company, including rating agency downgrade, can result in disintermediation;

however, the working group is not prepared to recommend how the deterioration should be reflected in the reserves.

The Academy working group believes that it is the responsibility of the appointed actuary to consider the contract provisions discussed throughout this report in asset adequacy testing. This would include consideration of the potential liquidity needs if a downgrade should occur. However, asset adequacy testing as currently required in the U.S. does not catch all potential problems. Asset adequacy testing is designed to ensure reserve adequacy, which means that the assets are typically tested to be adequate somewhere between 80% to 90% of the time. Events that may be considered "out on the tail", or likely only in 1 or 2 out of 10 times, may not be covered in the testing. Reserves set up due to asset adequacy testing may not pick up low, but potentially large amount risk of a "run on the bank" due to a credit rating downgrade. Therefore, if the actuary decides that the probability of downgrade is remote (e.g., less than a 10% or 20% chance of occurring), the actuary may conclude that the level of reserves to be established would not include any additional reserves for the possibility of credit rating downgrade.

Actuarial Guideline Guidance

Below is a discussion on the issues which may affect the types of reserves for these products:

The Standard Valuation Law, by establishing a prescriptive standard for the determination of minimum reserves for Annuities, provides for the assignment of Plan Type based on the termination provisions contained in the insurance contract. This assignment of Plan Type differentiates between various levels of risk of disintermediation, and in effect assigns a balance sheet value to the "put option" embedded in insurance contracts. Additionally, actuarial guidelines interpret the stated criteria of the Standard Valuation Law for Annuities.

a) Actuarial Guideline XIII provides that an interest bailout provision can be ignored in the determination of CARVM , provided the bailout threshold is below a statutory valuation rate. However, this guideline does not specifically apply in this case because the potential bailout is not based on an interest rate but rather the credit rating of the company.

b) Actuarial Guideline XXX provides that when assigning a plan type in the determination of group reserves associated with a Guaranteed Interest Contract issued in relation to a pension plan, a specified withdrawal provision that would otherwise have the effect of increasing reserves (restating the Plan Type) can be ignored . The conditions include that the withdrawal benefit is at the option of the participant, or is occasioned because of a change in the situation of the participant under the pension plan, but the benefit is not at the sole option of the contract holder, and further that the contractual benefit conditions are sufficiently narrow to reduce the C-3 risk. This guideline also does not address the affect of a liquidity provision (credit downgrade or put).

c) Actuarial Guideline XXXIII addresses the typing issue with impact on the determination of CARVM reserves. Actuarial Guideline XXXIII introduces the concept of elective and non-elective benefits, with the effect of expanding the universe of conditions under which valuation assumptions may include discounts for the likelihood of future contingent events. When this guideline was written, it was anticipated that these events would be

based on actions of policyholders; it did not contemplate credit downgrade or other provisions.

The Academy working group did not find any definitive guidance as to what reserving type these provisions would fall under. However, these actuarial guidelines a willingness on the part of regulators to expand and clarify criteria of the statute in certain instances.

Possible Alternatives for Reserving

The Academy working group recognized that reserves would likely not be an entirely satisfactory answer to management of liquidity provisions. However, it is an issue that must be addressed. Since there is no definitive guidance as to what the reserving should be, the Academy working group is looking for guidance from the LHATF as to how to proceed. Some possible choices for the LHATF to consider include, but are not limited to the following:

1) **Leave the decision on reserves to the appointed actuary.** The liquidity needs vary by company, so the appointed actuary should consider these. A problem with this choice is that all appointed actuaries would not use the same analysis and degree of conservatism in setting the reserves.

2) **Require a separate actuarial certification on those contracts with liquidity provisions.** Separate actuarial certifications are already required for equity indexed annuities and equity indexed life insurance. Also, actuaries must certify to the "X" factor used for mortality for term insurance. The advantage of this certification is that the regulator will have some assurance that the appointed actuary has considered the risks involved with contracts with liquidity provisions. However, it still does not set a minimum reserve level for these contracts.

3) **Require the actuary to explain the reserving methodology at time of filing of the product.** This is required for guaranteed separate accounts by the NAIC model regulation. The advantage to this is that the regulators will know before the product is approved what the reserving methodology will be, and this can impact the approval process. However, this alternative still does not establish minimum reserve standards for these products.

4) **Require a minimum reserve standard of at least fund value.** Many companies hold at least fund value as a minimum reserve currently on GICs and FAs. However, this minimum is not required in all states, so such a rule would increase the reserve level for some companies. It is consistent with the minimum reserve standard of banks on similar contracts. However, some may feel this minimum standard may not be high enough for some types of GICs/FAs.

5) **Determine whether Type A, B or C discount rates should be used.** The different discount rate factors which produce Type A, B and C discount rates used in reserve determination are generally used as a proxy to reflect different levels of disintermediation risk. Some attempt can be made to try to slot the liquidity provisions into one or more of these

categories. Unless a determination is made to call contracts with any type of liquidity provision a certain Type, this would involve some degree of judgement. For example, would the regulators want products with 7 day puts considered the same Type as contracts that only allow book value cash outs in the event of a default (at which time the regulator is probably already involved with the company)? A list of possible considerations involved in setting Type include, but are not limited to, the following:

a) Liquidity provision involved (e.g., 7 day puts vs. 180 day puts vs. GICs with credit rating downgrades vs. cross-default provisions)

b) Should the alternatives in the contract in the event of a credit rating downgrade (e.g., overcollateralization and novation) be a factor in determining Type?

c) How should reinsurance be treated in determining Type?

d) Should the Type be a function of the credit rating of the insurer, and the possibility of downgrades?

e) Should there be any consideration of the assets or asset/management program of the company when determining Type?

f) Should there be any consideration of the amount of business involved as a percent of surplus or assets when determining Type?

g) Should Type be determined at issue of the contract, or can later events change the Type of a block of business?

Additional Considerations

Besides reserve considerations, there are alternatives to reserving the LHATF may want to consider:

1. **Recommend that RBC consider the issue of contracts with liquidity provisions.** There is currently work being done on a reserving standard for Variable Annuities with Guaranteed Living Benefits (VAGLBs). An interim step that is being implemented is that VAGLBs are slotted into a more conservative category than variable annuities without this benefit for Risk-Based Capital. This is a potential alternative for contracts with liquidity provisions. However, as mentioned above, liquidity risk is not one that is currently being addressed by the RBC group. This alternative also addresses capital; it still does not answer the question as to what minimum reserve standard should be.

2. **Recommend that the Blanks Committee require a footnote to separately identify these liquidity provisions.** For annuities, there is an identification in the Annual Statement as to which annuities have significant surrender penalties (with "significant" defined as those with a surrender charge equal to or greater than 5%). It may be useful to regulators to have an identification of the amount of GICs and FAs with liquidity provisions in the Annual Statement. This does not address what the reserve level should be, but can provide

information to the regulators.

COLI/BOLI Reserving

At this time, the Academy working group has not addressed the reserving issues involved with COLI/BOLI products with provisions that make them easily surrenderable. The contracts would fall under the Commissioners Reserve Valuation Method (CRVM), which concentrates on maturity value. There are some companies that hold, as a minimum reserve, at least the account value on these products; others hold cash value as a minimum reserve.

CONCLUSIONS

This report has outlined the issues involved for contract with liquidity provisions such as GICs with credit rating downgrades. A major consideration with these contracts is the risk management programs of the company. There is also currently no mechanism to ensure that insurance companies manage the liquidity that such provisions may require. The Academy working group is not aware of which task force of the NAIC could address these concerns.

The current reserving law was not set up to handle contracts with downgrade provisions. In terms of reserving, the Academy group developed a list of possible alternatives. These include:

1) Leaving the decision on reserves up to the company and appointed actuary
2) Requiring a separate actuarial certification on these contracts with liquidity provisions
3) Requiring the actuary to explain the reserving methodology at time of filing of the product
4) Requiring a minimum reserve standard of at least fund value
5) Determining whether Type A, B or C discount rates should be used
6) Recommend that RBC consider the issue of contracts with liquidity provisions
7) Recommend that the Blanks Committee require a footnote to separately identify these liquidity provisions

The Academy of Actuaries working group would like additional input from the Innovative Products Working Group of the LHATF as to best assist them going forward.

If you have any question or comments on this report, please contact Donna Claire or Robert Brown, Co-Chairs of the American Academy of Actuaries Working Group on GICS with Credit Rating Downgrade Provisions.

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