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**RISKS TO GICS FROM PLAN PARTICIPANTS'
WITHDRAWAL OR TRANSFER OF FUNDS**

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The GICs sold to 401(k) plans have the risk of transfers by plan participants to and from alternative investment options.

- Regulators' concerns
 - Proposed Actuarial Guidelines AAA and CCC
 - The Valuation Actuary and cash-flow modeling
- Underwriting the transfer risk
 - How do plan participants view their investment options?
 - What is the transfer risk to the issuer of the GIC?
 - How do issuers evaluate the transfer risk?
 - What can plans do to decrease the transfer risk to issuers?
- The GIC market
 - Customers
 - Products
 - Plan design issues

MR. ERROL CRAMER: I'm employed by Allstate Life Insurance Company and have a financial reporting background. I have served as financial actuary for the Allstate Life Companies. This topic is concerned with potential large-scale cash withdrawals from GICs. Typically, one thinks of a GIC as having a fixed rate and a fixed maturity. One doesn't normally think of these instruments as having a cash-out risk, but in reality, many GICs have some form of withdrawal provision. In fact, a key attraction of GICs is that they permit some form of book value cash-out, otherwise, why not just have a long-term bond? From the plan participant's side, there is this book value cash-out benefit. In some cases, there is a general risk that the money might be withdrawn by the sponsor, but that's a general liquidity risk that cuts across all insurance products, not just GICs. The liquidity issue is being addressed in various ways by the NAIC and other bodies. This topic is more specifically the concern about a disintermediation risk, that is, giving plan participants the option to withdraw their money or transfer it at book value.

Speaking first is Victor Gallo. Victor is the GIC pricing and underwriting actuary for Prudential Asset Management Company. Prudential has the nation's largest block of GICs in force. Victor is going to give an overview of the type of GIC products that are out there, somewhat a primer on GICs. Following Victor we have Larry Gorski, life actuary for the Illinois Insurance Department. Larry is very involved in the NAIC activities, including being the chair of the investment assets working group. He's also involved with the valuation actuary concept, the mandatory securities valuation reserve working group, and risk-based capital. He's one of the very active regulators on the NAIC Life & Health Actuarial task force. It's in his role on the Life & Health Actuarial Task Force that he addressed the regulatory valuation issues of all GICs with

transfer rights. Larry is author of "Proposed Actuarial Guideline AAA," and he is going to cover what that means, as well as Guideline CCC. Both of these deal with GIC valuation issues. Following Larry will be Ruthann Hall, who has extensive experience in the pricing and underwriting of GICs. Ruthann works for John Hancock, a major writer of GICs. Ruthann will be covering the topic of defining the transfer or disintermediation risk. Does it really exist? Is it a valid risk, and should we be concerned? I'll call on Victor Gallo now.

MR. VICTOR A. GALLO: As Errol said, I'm doing a primer. We'll start with something basic. What are benefit responsive GICs? They are essentially sold to defined-contribution (DC) plans as one place for employees to invest their money. Other places typically are stock, stock options and bond options. Why do GICs offer anything particularly unique, relative to bonds? The answer is, they really are unique instruments in that they can offer longer-term yields. Typically, GICs are written in the three- to five-year range, so they offer three- to five-year type yields, but they also offer book value liquidity for the employees. The insurance company or the issuer insures the market value risk for the employee, so if the employee has to withdraw money because of an emergency, purchase of a house, paying for college education, or to transfer to another investment, he or she gets to take the money without incurring any market value losses.

It's the fact that employees can always get their money back out at book that allows GICs to be carried on the balance sheet at book value by the pension plan. That is one of the greatest reasons that GICs exist. If book value accounting did not apply to GICs, they wouldn't have a place relative to bonds. People would just buy bonds. GICs exist because of the special accounting, and the accounting exists because of the special insurance elements involved in the GIC.

How do we offer this unique long-term yield, yet at the same time, no market value risk? This is a basic of investments 101. You always trade off extra yields and more risk. This seems to be a freebie. You get lots of extra yield, but you don't have to take out any market risk.

To price a GIC, you start with a bond yield. Insurers typically invest in bonds and similar fixed-income instruments such as commercial mortgages. Then you take off costs to the insurer: investment, management, staff, investment default, etc. The thing that's different about GICs is that you have the additional insurance element. What is the risk charge for the insurance? You have to deduct that from your yield, too.

If the employee option to transfer money were really economically driven, the risk charge should, theoretically, be an amount such that your net yield comes down to your money market yield. If that weren't true, the basics of arbitrage would apply. If employees could easily transfer between money market funds and GIC funds, whenever money market funds were higher, they would pull their money out of the GIC and put it in the money market fund. When money market funds dropped, they would put it back into the GIC, and there would be free arbitrage going on. The insurance company would always lose. The economics or option pricing of it works out that this risk charge would have to bring the yield down to the money market

RISKS TO GICS

yield. The reason that it does not is because the option to transfer money in and out of GIC accounts is not economically driven. The reason is partially because employees like stability. They tend not to do anything. But the real reason is that our underwriting is such that insurers don't allow the participants to exercise arbitrage. We make sure they cannot transfer their money freely between money markets and GICs. Another reason is there are tax disincentives for employees to pull their money out of plans and to be able to invest their money outside the plan.

Why do GICs exist? GICs exist because participants want an investment that does not go down. They don't care as much if their investment goes up. They don't want the investment to go down. This means that they are loss averse. Often you'll see the term "risk averse" here, but I'm using the word "loss averse" on purpose. Plan sponsors know that participants are loss averse, and sponsors know that, if participants were allowed, they would invest their money in money market funds to avoid losses. Sponsors take a paternalistic attitude, and not wanting their participants to have money market yields, sponsors looked for an investment that did a little better, and that's how GICs were invented.

The term "loss averse" I've used on purpose is interesting. In an article by Tversky called "The Psychology of Investing," he makes a couple of interesting points that are relevant to the GIC market. The first point is that people tend to be very sensitive to relative changes in value, as opposed to absolute changes in value. Assuming that they're reasonably happy where they are, people get very upset when they lose relative to where they are, and they get reasonably happy when they gain. However, the amount of unhappiness felt by a loss is a lot more than the amount of happiness felt by a gain. What Tversky tried to show was that, when you have losses, the amount of happiness that you lose is a lot more than the amount of happiness you get for a gain of the same amount. The point is that people just don't want to see their balance go down from where it is. That causes too much pain.

A way he illustrated this was that he gave participants a choice. In one example, he said, "I'm going to give you two choices. You can choose to have a 100% chance of receiving \$85, or you can choose an 85% chance of getting \$100, but a 15% chance of getting nothing." In that particular situation, everyone took the \$85, which was the sure thing. People were saying, "I'm not going to take any risks. I know I've got a gain, and a little extra gain doesn't mean that much to me." When he flipped that question around and said, "I'm going to give you two choices. You can choose to have a 100% chance of losing \$85, or you can choose to have an 85% chance of losing \$100, but a 15% chance of losing nothing." Everybody decided to take the 85% chance of losing \$100 with the 15% chance of losing nothing. People are not necessarily risk averse. They were willing to take on risk in order to avoid a loss. They are loss averse, and that's the benefit that GICs really provide for participants.

Who are the customers for GICs? They are bought by plans. How many DC plans are there? Well, nobody seems to know. I was trying to figure this out and there's a lot of numbers, so according to the Ethical Guidelines, I'm qualifying all these numbers. This is kind of a consensus. We had done a study at Prudential on the DC market, and the results seem to be a reasonable representation of what we believe is real. About 53% of all retirement plans are DC, and about 33%, or about \$400

billion of assets, are in DC corporate plans. Other noncorporate DC plans, such as 457s, 403Bs, and Taft-Hartleys, comprise about 8%, or \$140 billion.

None of you would be surprised to know that employee participation in DC plans has grown. As of 1988, about 24% of the U.S. work force is covered by a DC plan. That's up from 7% in 1983, with 60-70% participation rates in these plans. There are 15-20 million people putting money into their DC plans. That money has to be invested somewhere, and we've gotten a fairly decent chunk of that so far in the GIC market.

When there is a DC plan, what are the investment options that are offered? GICs are most frequently offered; 73% of plans offer GICs. Next comes stocks; 64% offer some form of stock fund. Money markets are offered about 44% of the time, and bonds and balance funds around 30% of the time.

Given the options, where do people tend to put their money? Of the money in DC plans, we believe that about 25% of it is in company stock; some of that is forced investment in company stock. Often when an employer makes a matching contribution to a plan, it must go into the company's stock. Thus, the 25% would be lower if employees had their own choice about how to invest that money.

Next, GICs earned about 37%, and that would be about 50% if you excluded the company stock from the pie. Then there are other stocks (around 20%) and bonds (around 10%) and other types of esoteric investments, around 10% also. GICs have been the most popular option in the past.

In the GIC market, what are the products? First, we have general account GICs, which account for over \$150 billion according to the Life Insurance Marketing & Research Association (LIMRA) in the insurance industry. This does not include bank insurance contracts (BICs). I don't know how much they account for. Separate account GICs are relatively new, and they account for somewhere around \$8-10 billion in the insurance industry. Synthetic GICs are the newest entry into the GIC market. I'll talk a little bit about each one.

I define general account GICs to be contracts written by insurers, banks, corporations, or any entity that guarantees that employees can withdraw their money at book value subject to restrictions. GIC issuers take the risk that they have to pay the money back at book. Insurance companies dominate this market. Typically, GICs are non-participating, and the interest rate never changes over the life of the contract. GICs can have a fixed or floating rate. GICs are typically illiquid; they do not have market value liquidation clauses, although some companies do have market value liquidation clauses in their contracts. The reason that GICs are illiquid is that insurers often invest in partially liquid investments to get a higher return. We see that we should not offer a market value liquidation feature if the underlying investments are not similarly liquid. Remember that in pricing GICs, we start with our own yield and take off our risk charges. When we took off all our charges, we still can offer higher than Treasury rates. Last, general account GICs are issued as paper of the issuing company. The buyer is depending on the credit of the issuer to get paid back.

RISKS TO GICS

Separate account GICs have been recently introduced. In a sense, they have been around for a while. They were called immediate participation guarantees (IPGs), which is a form of separate account GICs. In today's GIC market, separate account GICs have been around for about a year and a half. They became popular as a credit enhancement tool, because the deposits from the corporation are put into an insurance company's separate account and, therefore, are insulated from the claims of creditors or other policyholders should the insurance company go into liquidation or become bankrupt. Assets in the separate account are available only to the participants in that plan. Another credit enhancement option is that frequently these separate account contracts are liquid, because the assets on the separate account are usually liquid. Therefore, it allows the plan sponsors to better manage credit risk by cashing out and moving to another type of investment.

These GICs are done by insurers only by definition because they're separate accounts. They typically are participating, similar to an IPG, and the rate can change every once in a while, based on the experience of the assets. They can be done as single customer separate accounts or commingled separate accounts. For single customers, in particular, there's a lot of flexibility in that the customer can design the investment strategy and, therefore, do his own yield and risk tradeoffs. The sponsor can also set up the maturity structure. The assets can be continually invested until the contract-holder terminates the contract, or the assets can be invested to mature by a fixed date.

Synthetic GICs are the newest product. Again, they are a credit enhancement tool used by plan sponsors looking for ways to diversify further. Rather than buying a typical general account GIC, the plan sponsor buys bonds. He then finds somebody to make a guarantee that, if the sponsor had to sell those bonds to pay employees who withdrew their money, the sponsor could sell those bonds at book value. That guarantee essentially says that the sponsor could carry the bonds at book value because that's the price at which he could liquidate the bonds.

Primarily banks such as Bankers Trust and J.P. Morgan offer this product. Only a few insurers that I know have gotten into this market. Insurers avoid this market because, as you split things up into pieces, it becomes more and more of a commodity market. You wind up selling just your credit. Most synthetic GICs have been nonparticipating, meaning that whoever is insuring the liquidation value of these bonds also insures that the yield on those bonds will remain constant throughout the life of the insurance contract.

It's a chaotic and young market. The general account product is in its mature phase. Because this is a young market, many people will be coming into the market, introducing products. Lots of competition and lots of confusion will result because the new entrants are not experts in the GIC market. All they will see is a need out there, and they will introduce new products with confusing features. Competitors will make mistakes. They'll get priced out, and just the best contracts will survive. Is this a paradigm for the future? There's enough people around here who'll get mad at me if I answer that question.

Book value accounting is being looked at by the FASB and the AICPA now. As I mentioned earlier, GICs don't exist without book value accounting. This is an

absolutely critical issue. However, things are developing in a fairly positive manner. The issue arose because the SEC has reacted to all the bank failures, the life insurance company problems, and so on and has blamed most of these problems on accounting methodology. Some believe that, if everybody marked all their assets to market, we wouldn't have the S&L crisis; we wouldn't have the bank crisis; we wouldn't have the problems with the life insurance companies. The SEC is on a push to get everyone to mark everything to market. It forgot about the unique characteristics of GICs. What we're trying to do is remind the SEC of that and manage that process through.

MR. LARRY M. GORSKI: Vic's presentation would have been helpful to me several years ago, when my mindset on GIC contracts was the traditional bullet-type GIC contracts. I really wasn't aware of the benefit responsive nature of some of the newer GIC contracts. I was involved in reviewing a corporate transaction involving a domestic insurer, which was a moderate-size GIC writer. I asked to see some of the GIC contracts, and I came across some of these benefit responsive provisions. At the very same time, the State of Illinois was initiating a deferred compensation program in which I began to participate and, being a conservative person, I chose the GIC option. One of the factors in choosing the GIC option was the ability to move funds out. I was aware of some of the financial problems with some of the insurance companies that we regulate, and the ability to move funds out was obviously very attractive. So putting all these things together, I asked the question, how should we value GIC contracts with a benefit responsive provision in there? You go to the valuation law, and it fails to answer two basic questions: What interest rate should I use? What method should I use? That was the genesis of writing Guideline AAA and CCC.

The first question concerns the valuation interest rate. There are several factors that one needs to take into account: guaranteed duration, year of issue, whether it's a life insurance contract, and plan type. There are plan types A, B and C that match up with the underlying policyholder options. Plan type A affords the most liberal valuation, that is, the highest valuation interest rate, and has the strictest provisions on policyholder withdrawals. Type A says the policyholder may not withdraw funds at any time, or if he can, withdrawal of funds may only occur over a period of time, or as an immediate annuity. Plan type B is a little bit more liberal in terms of its withdrawal rights permitted. Plan type C allows the most liberal withdrawal and affords the most conservative valuation interest rate. In my review of the contract that I was looking at a couple of years ago, I came to the conclusion that these benefit response provisions dictated a plan type C treatment. The only problem was that the law spoke in terms of policyholder withdrawal rights and did not speak of a plan participant directing the movement of funds. In a long discussion with the company and with other regulators, I came to the conclusion that if I tried fighting a legal battle over that interpretation, there was a chance I would lose, so I decided a better approach would be to work through the NAIC and develop a guideline that would attempt to interpret a law that was written 12 years ago to modern day situations. That's the genesis for Guideline AAA.

What the guideline tries to do is to extend the notion of policyholder withdrawal to participant movement of funds. It goes on to say that not all movements of funds are the same. For instance, there are benefit provisions that allow for the

RISKS TO GICS

withdrawal of funds upon the individual's disability or payments to a spouse upon death or retirement. I was not focusing on those types of withdrawals, but withdrawals made for the purpose of redirecting investments. That's all spelled out in the text of the guidelines.

An important point reads: "For purposes of the application of the standard valuation law to GICs with benefit responsive provisions, the withdrawal of funds at book value, for the purpose of redirecting an employee investment, shall be considered withdrawal by the policyholder," and here's the important point: "unless the underlying plan or GIC contains written provisions which are designed to reduce a C-3 risk to the insurance company." It doesn't spell out that you have to have certain requirements, but it says, if you do have provisions within the contract that reduce C-3 risk from the insurance company standpoint, you would then qualify for the more liberal valuation interest rate. In order to give a safe harbor to that concept, I give an example of provisions that would be considered to reduce the C-3 risk, which are points one and two.

The points should be taken in tandem. Point one deals with the direct transfer of competing funds and says, if you have a direct transfer to either a competing fund that guarantees against the loss of principal, or a competing fund that has a minimal loss of risk or loss of principal, such as a money market fund or a short-term bond fund, then in order to qualify for the more liberal valuation interest rate, you have to have an equity wash -- a wash through a noncompeting fund for at least 90 days or three months. That provision is considered a safe harbor if your GIC contract has a provision in there, plus point two, if applicable, and you'll qualify for the more liberal valuation interest rate.

The most difficult part of writing this regulation was what I call the anti-window-dressing provisions. We, as regulators, write a lot of laws, and we notice that, after we write them, companies immediately find ways of getting around these things. I was concerned that might happen in this case. My perception right now is that the writers of GIC contracts are responding to employer/employee needs by developing more and more GIC contracts with various forms of benefit responsive provisions. These anti-window-dressing provisions read: "In addition, the valuation actuary must be satisfied that the GIC provisions designed to reduce a C-3 risk are administered by the insurer in the design manner." There is a quasiaudit requirement in there. Then it goes on to say, "This requirement may be fulfilled by obtaining from the appropriate insurance company officer a certificate of intent regarding the insurance company administration of the provisions." This is a reliance-type provision so that the valuation actuary may rely on an officer of the company. Then it goes on to say, "In addition, the valuation actuary must periodically review the actual administration of the contractual provisions to verify adherence to the certificate of intent." You can't simply rely on an officer of the company. You have to periodically review the actual administration of that GIC contract to ensure that the provisions designed to reduce a C-3 risk really are being administered in a proper fashion.

Those are the important points of AAA. What's the effective date of the regulation? The guideline would be effective for year-end 1992 valuation for issues in 1992 and prospectively. For GIC contracts issued prior to 1992, we'll probably discuss some kind of phasing provisions. We have not discussed that yet among the task force

RECORD, VOLUME 18

members, but as most guidelines have evolved, there's usually some provision for phasing, so I would anticipate the same thing happening in this situation.

One of the concerns that regulators always have in developing guidelines is that we'll spend a year of our time developing this thing and actuaries will basically ignore the guideline. I'd like to point out that a recent exposure draft of the Actuarial Standards Board (ASB) dealing with statutory statements of opinion by appointed actuaries deals specifically with this issue, and dealing with both section seven opinions and section eight opinions is a paragraph that talks about state valuation requirements and a need for the valuation actuary to be knowledgeable of those requirements and to adhere to those requirements. This reads: "The appointed actuary should be aware of the valuation requirements, of the regulatory authority to whom the opinion is to be expressed, and should be satisfied that the requirements of duly adopted regulations, the actuarial guidelines, etc., have been met." Under this exposure draft, guidelines get a somewhat higher standing than the work of valuation actuary. It's more than just simply an opinion. It does get the same level of treatment as a regulation.

Regarding Guideline CCC, two questions that I posed at the start were, what valuation interest rate should I use? And what method should I use? The valuation law is silent on the method to be used. If you recall, under the definition of commissioner's annuity reserve valuation method (CARVM) in the valuation law, there's a broad exemption to group annuity contracts, and GIC contracts would fall into that category of exemption. As it stands right now, there is no minimum method for reserves for GIC contracts; that is why CCC is being proposed. CCC splits group annuity contracts into two pieces. One piece is the group annuity contracts in which either deferred income or immediate income has been purchased. That does not apply to GICs. The other case refers to fund accumulation, which does apply to GICs.

The important aspects to note in Guideline CCC are that first, it does specify a method for valuing the accumulation-type contracts. The method is essentially CARVM, but I avoid using the phrase CARVM because of its exemption within CARVM for these contracts. Second, it also requires a minimum reserve equal to the fund value. This leaves a question about surrender charges, but it's my perception that GICs generally do not have surrender charges. However, the guideline does floor reserves at the fund. The issue of a fund value minimum versus a surrender value minimum is being studied. The third point is that it does deal with a seriatim valuation as opposed to an aggregate valuation. I was speaking to an actuary who was arguing that the valuation law is sufficiently unclear as to whether or not a seriatim valuation is required, and we were discussing some alternatives to the requirement for a seriatim valuation for the purposes of determining minimum reserves. As it stands right now, CCC does have that requirement.

I should point out that currently Guideline AAA is recommended for adoption by the actuarial task force. It's my intention, at the June 1992 meeting, to recommend exposure of Guideline AAA for adoption at the September meeting to be in place for the year-end 1992 valuation. CCC has not been given sufficient discussion yet to be at the same stage of development. One of the reasons I came here was to make people aware of CCC, so I can get comments back and make adjustments, if

RISKS TO GICS

appropriate. I had received a lot of comments on AAA, and it was very helpful in the development process.

The last question I'd like to address is: Why am I devoting time to developing guidelines that interpret formula reserves? It would seem that we're moving into the area of cash-flow testing and asset adequacy analysis, so why bother trying to clarify some rather arcane issues relative to formula reserves? That is a good question. Several years ago, I might have answered it differently, but in the last three to four months, I've been doing quite a bit of review of actuarial opinions and memorandums that had been supplied on a cash-flow-testing basis. It's my feeling that the profession really isn't ready to deal with some of these issues in a fashion other than through formula reserves. I would like to comment on two opinions I have reviewed. I do not wish to be derogatory toward the actuary who submitted the opinions, but these examples could be a reflection of the general state of thinking or the state of the art relative to cash-flow testing. One opinion this year said that the actuary did not do cash-flow testing for three reasons: (1) time, (2) expense, and (3) the asset portfolio had recently been restructured, and he didn't think it was necessary to do cash-flow testing. It seems that is the very point at which one should be doing cash-flow testing, when you're doing a massive restructuring of your asset portfolio. Though the company was not solely an annuity company, it had a considerable amount of its business in annuities, and it is a large company.

The other opinion and memorandum that I reviewed went into great detail as to how the actuary went about his cash-flow testing, and then he made a statement that the company's reinvestment strategy was too complex to model. The test took a standard industry approach to modeling of the reinvestment strategy, which had absolutely nothing to do with the way the company was actually being managed. Both of those points convinced me that it's not time yet to give up on formula reserves, but more time needs to be devoted to formula reserves and let the cash-flow-testing asset adequacy issues develop and mature.

MS. RUTHANN HALL: This is GICs 103, understanding and underwriting the transfer risk. I want to start by taking a look at how participants actually think about the allocation of their monies to the various investment options that are available to them.

One way that we can get a sense of how participants feel about the investment options and their plan is by examining where they actually allocate their money. At John Hancock, we have collected the results from all of the plans from which we receive requests for GIC quotes. We have collected the results of about 1,700 plans to date, and we've looked at how the assets are allocated by the participants. These are all plans that have a GIC fund. Fifty-three percent of the monies are allocated to the GIC fund in these plans. Thirty-four percent are allocated to employer stock. Thirty-four percent is probably a little bit misleading, as Vic talked about earlier. If an employee has to put employer contributed money into employer stock, that number is going to be high as a result.

Equity funds are really not something that people are too happy with. Fifteen percent is all we have. People seem uncomfortable with bond funds, since that is down at 4%. Money market funds come in at 8%. Probably that's low today because money market rates are down around 4%, while GIC blended rates are up in the

8-9% range at this point. Participants seem to be choosing the GIC fund right now instead of the money market, even though in summer 1991 we had all the scare about financial concerns on insurers.

Another indication of how participants feel about the GIC fund comes from Avon. I was really startled in June 1991 to read in *Pensions & Investment Age* how Avon had a campaign to reduce the allocation to GICs in its 401(k) plan. At that point in time, participants were allocating 70% of their monies to the GIC fund, and the company had decided to try to reduce that to 50%. On June 30, 1991, Avon was adding a money market fund, and it was redesigning the equity options that were available to participants. It was also in the middle of a program of educating its participants on the various attributes of the options that were available.

Experience showed the transfers from the GIC fund were really very small. Only 2.7% of the fixed-income fund left it. Half of that went to the new money market end and half of it went to the redesigned equity funds. There was another transfer date on September 30, and as of October 31, the fixed-income fund was still at 70%, about where it started. What is interesting to me is that *Pensions & Investment Age* didn't bother to let us know what the results of the campaign were.

How do participants actually make their financial decisions? John Hancock wanted to get a sense of what caused participants to say where to allocate their money. We surveyed the participants in our plan and asked them what it was they were saving for.

Participants who were 30 and under were saving almost as much to purchase a home as they were for retirement. Participants in their 30s were still thinking about purchasing a home and were also saving for the education of their children. We have read many articles in magazines and newspapers that participants have this long investment horizon, and so should be in equity funds, because in the long run, an equity fund will do well by them. However, the real horizon for participants isn't nearly that long. They really need the stability of the GIC fund, even when they are in their 20s and 30s.

Another thing that we've done at John Hancock is to survey participants across the nation to see how they feel about their GIC option. We commissioned Decision Research Corporation (DRC) to talk to participants of many different companies. The one thing that each of the participants had in common was that they all had access to a plan where they could choose where to put their money, and they had all chosen to put at least part of their money in a GIC fund.

We asked them certain things to try to understand their attitudes toward their investments. Fifty-seven percent of 946 respondents agreed that, when it comes to retirement savings, "I want to know how much I'm earning and not take any risks." This is the group of participants whom the insurers really count on.

Then again, 70% are talking about splitting their money among several funds. "It's wise to put my money in several different kinds of investments, in order to minimize risk and maximize my earnings." I'm not sure that the 57% and the 70% here add up to a 100%. Basically, participants are interested in stability in their choice of

RISKS TO GICS

investment option and not so interested in the quick bang or increase in their investment earnings. They're looking for safety.

We also asked the survey respondents how they would rate investments as a safe or risky place to invest for a long time. If "1" is no risk, and "5" is high risk, the GIC fund came in at 1.36: very close to no risk. The other fund options that we asked about all came in very closely grouped together. I think most of us would say that a money market fund is not as risky as 2.56 on this scale. Bond funds and balance funds came in close together. I think most of us wouldn't think that a company stock fund made up of one stock is less volatile than an equity fund made up of diversified funds.

We now have some sense of how participants think. How do we, as insurers, actually evaluate the transfer risk? When we underwrite a plan for the transfer risk, we look at transfer provisions of that plan. What investment options are available? What are the transfer restrictions? If I have only a GIC fund and an equity fund, then I, as the underwriter, can expect that transfers out of the GIC fund will not be much correlated with changes in interest rates. If I have a GIC fund, an equity fund, and a money market fund, and the participants can't transfer out of the GIC plan until maturity of my contract, then again, I don't have any transfer risk.

The plan provisions themselves will really dictate how risky the situation is. If the plan allows for direct transfers from the GIC fund to a money market fund, then we consider it to be extremely risky. In fact, we expect the participants will look at the blended rate available in the GIC fund and compare that to current money market rates and will move accordingly. We saw that participants consider a money market fund to be riskier than a GIC fund. I don't really expect that perception to continue if money market rates go up. Newspapers, magazines, and TV spots will all be trying to educate the participants as to the real level of risk in a money market fund. We expect the participants will recognize the same attributes that make them like the GIC fund today are available in the money market fund and that they will make that comparison of rates and move.

As an insurer, we can't live with that risk, so we have found ways to put the risk back onto other parties. We can put the risk back to the participants by using a 90-day or longer equity wash. If participants must accept the risk of an equity fund, they're going to be much slower to move out of the GIC fund and into the money market fund through the equity fund.

There are still plans that allow direct switches from the GIC fund to the money market fund. We're still not willing to take on the risk, so the plan must take on the risk. There are several ways that happens.

So far, I have been mainly addressing transfer risk. I'd like to speak about contribution risk. What happens if participants reallocate the fund balances or current contributions from the GIC fund to a money market fund? Insurers can get around that by writing either a net dollar window or a lump-sum deposit. If it's a net dollar window, we want to make sure that the maturing proceeds available at the end of the window will make up any shortfall in cash flow that we have because of reallocation of contributions.

Transfer risk can similarly be assumed by the plan. Transfer risk is not like contribution risk, since it lasts until the maturity of the GIC. We can do something similar to the net dollar window and require that the plan make us whole out of maturing proceeds if we have unexpected withdrawals due to transfers over the lifetime of the contract. That takes the risk away from us and puts it on the plan. It's not a situation that the plan should eagerly accept. If interest rates rise, the plan's blended rate will not be able to keep up with that rise in interest rates. If maturing proceeds are invested in existing GICs, rather than in a new GIC at the new higher rate, the plan's blended rate is likely to stay the same or even decline. Participants may transfer even more dollars out of the GIC fund and into the money market fund as the spread between the two funds widens. Participants may express dissatisfaction with their plan sponsor if the plan's blended rate does not keep up with the rise in market rates.

Another way that a plan can self-insure is to become participating on the withdrawal risk, and take on the loss of any unexpected transfers. The plan might buy a participating contract where the rate declines if a loss is incurred. In that situation, maturing proceeds are available to go into the new contract, but the guaranteed rate on the existing contract is declining. Again, the plan's blended rate may stay the same or decline, rather than going up, and the participants may really be unhappy with their plan sponsor.

A question at this point is, do participants transfer in response to interest rates? If the money market rates are higher than the GIC fund, can we really expect money to go out? I think insurers have gotten a little complacent about that. If we look at rates since 1985, we haven't had a situation where money market rates have been higher than the GIC rates. If we go back to the early 1980s and actually see a situation where one plan did allow the direct transfers, money did move with interest rates. A GIC fund in 1981 experienced a lot of transfers into the money market fund when money market rates were in the high teens to low twenties. The GIC blended rate couldn't keep up. In 1983, there were a lot of transfers from the money market fund back into the GIC fund when the money market rates were at 8-9%, and the GIC blended rate would have been at 12-13%. The transfer into the GIC fund in 1983 is roughly equal to what the insurer already expected from the plan, so some insurers that were not careful in 1981 and in 1983 were hurt by the transfer experience.

We also asked the respondents to the DRC survey how they would move with the change in interest rates. If the money market fund offered as little as 1% higher than the GIC blended rate, 38% of our respondents said they would move some money. If the money market fund differential became as high as 2.5%, 69% of our respondents would move some money.

What percent of GIC assets would switch if direct transfers were allowed? At the 1% differential, 19% of the money would move; at a 2.5% differential, 39% of the money would move. Let me remind you that these are the respondents who gave the level of risk on the money market fund as 2.56%, a bit higher than the GIC fund, and you can only assume that, if interest rates actually did go up, their comfort level with the money market fund would increase, and more money would move.

RISKS TO GICS

I tried to get a sense of what the loss would be to the insurer that was in a situation where money was moving like that. At the 1% differential, the loss for the remaining assets would be 47 basis points.

If the interest rate differential got up to the 2.5%, the loss was 226 basis points on the remaining assets. We, at John Hancock, and people at other insurers are very concerned about what happens to the company if there are direct transfers to a money market fund.

This is a question from a 1990 survey of 11 insurers by Ernst & Young. The question was: "Will your company sell a GIC to a plan that allows direct transfers to a money market fund?" The unanimous answer was no. I trust that if we were to survey the people in this room, we would all join that.

MS. ROXANN BRENNFOERDER: This question is addressed to Ruthann. Did you also do an analysis or a survey on noncompeting funds? And if you did, what were the results? A move to noncompeting funds rather than to the money market?

MS. HALL: No, we didn't survey that.

MS. BRENNFOERDER: Can you tell me why you feel that noncompeting funds don't have the same C-3 risk?

MS. HALL: We don't think the participants can make a direct comparison between the yield of a noncompeting fund and the GIC fund. I think about my own plan: I get told for the next quarter we expect to earn x%. For an equity fund, I have no idea what's going to happen in that equity fund or bond fund for the next quarter. It's a much more difficult decision for the participants.

MS. BRENNFOERDER: So you're saying that, even if there's a large differential, there's minimal risk to the insurer?

MS. HALL: I'm not sure that I can evaluate whether it's a large differential or a small differential.

MS. BRENNFOERDER: I see what you're saying.

MS. HALL: I have a question. Vic, you mentioned the New York liquidity issue that's coming up. I'd be interested in what you want to say about that.

MR. GALLO: This is a result of the Executive Life and Mutual Benefit situation. It's arguable that either of those companies would be solvent today if there had not been a "run" on the bank, and if their assets had been liquid enough to pay the requested withdrawals. New York has decided that it would like to take a look at the asset/liability match of insurance companies. New York's particular concern is with pension plan contractholders who have institutional investors that have the ability to withdraw large sums of money in short periods of time from insurance companies. New York specifically said it is not interested or concerned about individuals withdrawing money, for example, individual insurance contractholders or the individual employees in a plan. New York wants to design some kind of a regulation that will make sure insurance

RECORD, VOLUME 18

companies aren't subject to these large outflows of cash that might put them into a receivership situation. New York met with several industry members at their offices and discussed the issue and gave us a choice. New York said that it could write a regulation, or we, the industry, could get together and make some suggestions on how to deal with the situation. So we opted for the second approach. The ACLI recently met with the Life Insurance Companies of New York (LICONY) and formed a task force. We're going to look at the issue, draw up a white paper, define the problem, and determine how can we address it. Right now, we're thinking about addressing it through enhancements to Regulation 126 in New York. If you're going to allow people to pull their money out, make sure that you've backed the contracts with appropriate assets so that you have the liquidity available. Rather than just outlawing contractual provisions, which is one way that New York had suggested doing it, we said just make sure that your asset/liability matching is adequate.

MR. GORSKI: I wasn't anticipating this question but Errol and I did talk beforehand. When I review the actuarial memorandums for the past year, one of the questions I got into is whether the assets that are soon to be sold in the various up interest rate scenarios really can be sold in those scenarios. One of the things that regulators are often accused of is that we're simply applying mechanical formulas to situations. I don't want cash-flow testing to deteriorate to a mechanical application of a model by the industry either. I want the actuary, when he or she is doing cash-flow testing, to consider some of these more difficult questions. The questions are maybe not so easily modeled, but yet are real life questions. Can the assets that are soon to be sold, in fact, really be sold in those environments?

MR. DAVID L. DRISCOLL: This is addressed to Mr. Gorski. If an insurance company got into the business of selling synthetics, how would the assets and liabilities for something like that be recognized on its books? Suppose somebody goes out and buys bonds, places the assets with an investment manager, and those assets are managed and they earn whatever the investment manager can get on them for a period of years. However, the proceeds are payable to whomever is making the guarantee. Suppose I am the insurer, who is making the guarantee, and I have to recognize the liability on my books. I think I know how I'd recognize the liability. I'm wondering in this case, how the asset would be recognized and if there's any kind of a reserve standard, something along the lines of Guideline CCC, that is anticipated which would cover a situation like this?

MR. GORSKI: I've a very quick and easy answer to your question. I don't have the vaguest idea right now. The issues you're bringing up are issues that we haven't even talked about yet at the task force level that I'm involved in, either the invested asset group or the actuarial task force group. One of the problems that regulators have is, we're always two steps behind product development. I became aware of benefit responsive GICs probably a few years after they began to be marketed. We're getting some information on synthetic GICs now, but again, we're behind the eightball, so I don't have an answer for that question.

MR. GALLO: I don't have an answer either, but there is no answer yet, because synthetics can take on several formats. They can be done either as a repurchase agreement, where the insurance company agrees to buy back assets at book value in the event they need to be sold. Standard investment repurchase agreements are

RISKS TO GICS

done by our investment areas all the time, and they could take the accounting form of a repurchase. They can also be done as swaps, where we can swap the cash flow from the bond portfolio for either a fixed or variable cash flow from the insurance company. So there are a couple of ways that these can be structured, and whether or not the assets would even show up on the books depends on whether or not the transaction is done as a swap or a repurchase. In fact, whether or not the liabilities even show up on the books as a pure liability or as a contingent liability may be a function of the way it's done. So, we're really in a very gray area at the moment.

MR. GORSKI: One of the things that I do ask of the valuation actuary is whether he or she has considered off balance sheet assets or liabilities in the analysis. It's a shot-in-the-dark type situation. I don't know what I'm always getting into, but I always do ask that question. I'm just trying to see if that's been contemplated in the overall analysis. Similarly, there is some talk of trying to integrate off balance sheet assets and liabilities into risk-based capital to development. We're really at the beginning of addressing those questions, but they are at least bubbling up to our knowledge level now.

