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Recorder: ANTHONY DARDIS

Summary: Panelists discuss the accounting issues, tax issues, internal control issues, and regulatory issues associated with derivative securities.

Mr. Anthony Dardis: This session is designed for those who have substantial experience with the subject and want an update on recent developments, especially in the areas of taxation, regulation, and accounting. We're also going to look at internal control issues.

I'm with the Dallas office of Tillinghast. I work primarily on appraisal value calculations for life insurance companies. I've had a great deal of experience in the area of international reinsurance as well, and also worked for Merchant Bank for five years, which is where I had my experience on the derivatives side. After a few introductory words I'll give a few basic ideas to give a backdrop to what we're talking about.

Our first speaker will be Bill Cook of Providian. Bill is going to concentrate on some of the more general aspects of derivatives. He's going to look at internal control issues as well. Bill has an MBA in finance. He's also a Chartered Financial Analyst (CFA). He's director of capital market strategies at Providian Capital Management, involved in derivatives and nontraditional investments. He previously headed the public fixed-income group within the company.

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After Bill, we'll hear from Nino Boezio of Mathias Associates. Nino is a FSA, CIA and CFA. He consults on pension and investment-related issues, and he's also one of the co-editors of the *Investment Section Newsletter*. I've done a fair amount of work with Nino on that newsletter.

I'll start with a few words about why derivatives might be useful in the context of a life insurance company. First, let's discuss some basic asset/liability management concepts. Life offices invest primarily in fixed-income assets, and statutory accounting is on a book-value basis. In addition, the risk-based-capital requirements are obviously a very serious consideration for a life office because the requirements might be more onerous, as far as derivatives are concerned. Another interesting aspect, of course, is that the derivatives can raise some concern from the rating agencies.

Second, I wanted to highlight some interesting life insurance products; they're interesting because derivatives can be a useful match for some of these products, as far as the embedded options within these products are concerned. Universal life (UL) is clearly one such product, because of flexible deposits, guaranteed credited rates and, competitive pressure. There are also single premium deferred annuities (SPDAs) because of guaranteed credited rates and, again, competitive pressures. Then, finally, there are guaranteed investment contracts (GICs), which are interesting again because of minimum guaranteed rates.

The third point I wanted to touch on is to mention the types of embedded options within derivative products. There were some interesting comments made by Marty Klein at the 1994 Society Annual Meeting in Chicago. He outlined some of the derivatives that are embedded in life insurance liabilities. These embedded derivatives include put options (inherent in offering surrender values), call options (inherent in offering flexible deposits), and interest rate floors (inherent in guaranteed credited rates). Because of these embedded derivatives on the liabilities side, you'd want to hold derivatives on the asset side as a match. For those of you who haven't read the transcript of that session, it was very interesting and it's well worth referring to the *Record* ("Practical Swaps," Prakash A. Shimpi, Martin P. Klein and, Thomas A. McAvity, Vol. 20, No. 4B, 1994, pp. 723-47) for further background on some of these ideas.

My fourth and final point is to mention the classic, short straddle model, which incorporates the idea of convexity within assets/liabilities. I'm sure you have all seen this before. I wanted to mention this as a reminder just to illustrate the potential mismatch that there is within the typical assets and liabilities of a life insurance company. If anybody is interested in looking at this further, please let me know and I can send a copy of some articles that look at the short straddle model.

Bill will look at some general aspects of using derivatives and, in particular, some internal control issues.

Mr. William S. Cook: I am going to focus mostly on internal controls and give a general overview from a corporate standpoint. The first real question is, why would you bother? Derivatives are highly flexible and can be tailored to special needs to help solve problems and avoid problems. For example, consider gains and losses. At times you may not wish to recognize them and alter your income flow. Derivatives are very low cost to execute, and the derivatives markets are huge liquid markets, with trillions, not billions, of dollars. Just the open interest on the Eurodollar Futures Exchange is over \$2 trillion.

You don't use derivatives everywhere for everything. When you put together a large program, you have to cross a large number of hurdles. The regulators, and many investment laws, are silent on derivatives. Many of the laws were written well before derivatives even existed. They're hard for regulators to grasp. They can't see them, and they can't touch them. The idea of notional amounts doesn't fit well into their thinking and they're afraid of the classic "look-back option," which is, if they didn't do something, the headlines will point it out when something happens.

Senior management and the board of directors need to be educated a priori on what derivatives you're using and why you're using them, as contemplated by the Model Investment Law for investments (which may or may not ever happen). The board of directors are the people who have to set the tone. Management has to have specific powers granted by the board to do derivatives. Also, rating agencies need to be educated to the degree that your company feels necessary. Rule number one is, don't hide anything. It will always come back to get you. Education is necessary and you need to coordinate your efforts internally. Most companies I know of only have a handful of people who speak to the rating agencies and analysts. Those people need to be educated along with management. When dealing with the press, my suggestion is, have one voice.

The heyday of bashing derivatives has passed. That was 1994 and into 1995, but they can make headlines at any time. I follow the derivatives market closely and Orange County, California is going to be doing a billion-dollar bond issue to come out of bankruptcy caused by leveraged investing and derivative items. Clearly, you don't want to be associated with even one such headline.

Coming back to the regulators, derivatives don't show up well on statutory balance sheets and this is why regulators are uncomfortable. The same thing applies to GAAP. On traditional GAAP income and balance sheets, derivatives don't show up

prominently, except in the footnotes. I'm amazed at how many pages in our annual report every year get contributed to derivatives. I think we're up to about six, listing all our positions, types, longs, and shorts, with an explanation from management. They're now talked about in our management letter to stockholders. There's a great deal of education that needs to go on.

The role of derivatives at my company, Providian, is to facilitate broader goals. Each program has a specific, narrowly defined objective. No strategy is just derivatives. They are not an investment tool that we use unto themselves. Each program is approved by management and our control processes are consistent with the Group of 30, which refers to the major banks that put together a list of control processes.

To get an actual program in place you need to start with your board of directors. The board empowers management; at Providian, they specifically designate the chief investment officer. Management has rules on how we get every program in place. The first stop, not surprisingly, is lawyers. Is it legal? Is it legal in the state you're dealing with? At my company we have three major companies, so we're in three different states. Every state is different. New York, where we are not licensed, which is intentional in many ways, is the most complex state to deal with.

The accountants are next and Nino will be talking more about that, but the ramifications here are wide. The program has to have the desired effect that you're driving at. Hedge accounting has very specific rules. For example, you cannot hedge a futures position with another futures position. Economically you can, but per accounting rules you can't. If you're using swaps, you have to demonstrate correlation between the swap position and the position you're hedging. In futures you have to demonstrate that it reduces enterprise risk. Failure to meet the rules changes the accounting. To throw it into a speculative position, in which everything goes through your income statement and profits are affected, should and will get close scrutiny.

Every program we have is documented and controlled. We have a dedicated team of derivative specialists. We actually have multiple teams. We have a separate portfolio management team. There's a risk valuation team in the actuarial area, and in the accounting area we have both an accounting team and an investment operations team. Now that may seem like a great deal of personnel dedicated to the derivatives effort, and it is. We run a major derivatives effort. We have a multi-billion-dollar book. Not every company needs to do that, not every company's going to do that, but you do need to have dedicated resources following it. They're complex positions and it is not something that you can expect your people to keep track of on a part-time basis with part-time responsibility. We have daily reports

that go to the key people. For example, I get daily reports, but the chief investment officer (CIO) doesn't. Education and updates are very important and mandatory to both management and the board of directors, and it's tough to communicate the positions to those folks.

I'd like to give a quick example of the types of programs that we use. As Tony mentioned, GICs are interesting and we issue fixed-rate GICs like most companies. We convert them all to a floating rate. That's the way we operate. It's kind of an historical anomaly and most companies don't do that. Nonetheless, we manage a multi-billion-dollar book of swaps. We also use swaps and futures to manage the overall duration of our portfolios when necessary. It's an adjunct to buying and selling public securities.

A program we once had was managing the duration of the public portfolio to a great degree. But *Financial Accounting Standard (FAS) 115*, as an example of how programs can change, changed the accounting, and, therefore, made this program untenable. We have a number of other programs that have come and gone. They all go through the same process. The process I've described may sound very cumbersome, but when you have it down pat, you can get things done. Our record is five hours.

We saw an opportunity for a special type of swaption that would help our book of business, but we had to go through all the steps. We pulled people out of meetings, and so forth, but if you have this process down it can be done quickly. You don't want to find out when you're filling out a blue book nine months later, or filling out a tax return, that you didn't do something right. We do not, and I don't think people in this room, want to be trading derivatives on a speculative basis. We're not a dealer. These two points are probably the most important of the whole presentation.

Derivatives, even though no money changes hands on day one, and they deal in notional amounts, do have credit exposure. This is carefully managed and it's integrated in our process as part of overall credit exposures. We set credit limits on each counterparty, and it's a subset of our overall credit exposure to that entity.

Another unique thing about derivatives is that the credit exposure changes. It changes every day. Credit exposure has three parts. One is the accrual of the interest differential in the interest payments. Another is the "marked to market," which means the day you put it on, when marked to market, hopefully, it is zero, and when the markets move, you will either have a gain or loss in that position just like you would in any other fixed-income position. And the last part is a reserve, in effect. We've set aside an amount of credit usage based on volatility and the length

of the contract. A ten-year swap might use up 15% of whatever the notional amount is.

We strive to balance our positions to minimize risk. If we have done a trade with one swap partner for some reason and an opportunity comes up to go the other way, in a totally different program, we do that. We have master contracts with over 30 swap partners. Every one of those agreements is reviewed by our lawyers. They're always changing a paragraph here and there. That's another key element. In fact, it's the starting point. Know what your documents say. Have corporate policies on what they say. For example, we will not collateralize any obligation because it comes back to regulators. They don't like it. It's like putting someone in front of the general account claimants. Our banks don't like it.

Turning to some details on our swap partners, for some companies, such as ABM AMRO, all of our credit exposure is derivative exposure, so we had no other securities dealings with ABM AMRO except for derivatives. But if you look at Credit Swiss, for example, our derivative exposure is only half of our total credit exposure. We have had several instances where we have had to sell something, whether it be a swap or securities, because we've violated credit limits because of the dynamics of the credit exposure due to the derivative position.

We have lots of controls. Our company has 9,000 employees. It has about 100 people in the investment division. There are only four people in the company who are allowed to put on derivatives positions in full context. There's a couple of exceptions. Our equity trader can put on a Standard and Poor's (S&P) future, for example. There are only four people and the chairperson is not one of them; there's the CIO, the head of public fixed income, our derivatives portfolio manager, and me—that's it. We send out special letters to all of our securities partners telling them that because we have dozens of professionals who are allowed to put on securities positions.

As I said before, every program is specifically designated and every ticket is designated to a program. If there's not a program designated on the ticket, the ticket will be flagged. We have separation of front and back office procedures and personnel. We have regular reviews with management, and every program has specific monitoring categories. Additionally, it says two signatures are needed on a ticket. Two signatures are needed on a confirmation. When we get a confirmation in from the street, two different people in the back office have to sign off acknowledging that it is a good trade.

Starting to sum up, rules have helped. Everything's defined. We have a formal approval process, designated traders, and documentation. We have what we call

the Derivatives Book. It's probably an inch thickness. It includes the white paper on every derivatives program, which includes a memo from the accounting people on how we account for it, the purpose of the program, and then there's an inventory updated monthly for the book, with every position behind that program. We have a section on inactive programs. Management, the chairperson, and the CIO have that book, so they can at their fingertips see what's going on. The updates are actually done daily, but for senior management it's not handed out that way.

Derivatives aren't going to go away, and it's important to be educated on what they do both for you and for your competitors. They're too useful to ignore. They are a pain. There's a great deal of process and they're complicated, but not impossible to communicate. I remember the first time I started talking about forward curves to senior management and they quickly glazed over. We had report after report that addressed what if rates froze? In their minds froze meant you look in the paper today and rates are 5.5% for the London Interbank Offered Rate (LIBOR) and 7% for the long bond.

How does our business look a year from now if that's what happens? That's a valid way of looking at things, but it's not what the market says. The market works in forward rates. It took two years. I remember the meeting where we started talking about forward rates and they were all onboard. It takes time, but if you don't start, it takes more time.

Mr. Dardis: Bill mentioned a couple of things that I thought were particularly interesting and if you'd like to share your personal experiences on these items, we could discuss them after Nino's presentation. I think the whole question of internal documentation is critical to internal control, and I'd be interested to hear what the experiences are that everybody out there has had in that area. Also, on the general topic of usage of derivatives, I think insurance companies have found them to be quite expensive and that might be one of the main reasons why there hasn't been a big move by the insurance industry into the derivatives market. Again, in my experience, I don't think life insurance companies are using derivatives as much as they could be, so far. Nino will discuss tax, accounting, and the regulation.

Mr. Nino A. Boezio: Being from Toronto, I'll be adding some Canadian content to the issues I will discuss. I'm going to be focusing on regulatory issues mainly from a macro level, since getting into the micro details would require me to stay here quite a long time. I will also focus on the accounting issues and recent developments. The tax treatment of derivatives is another area that is important, yet is something which is often overlooked. As actuaries we tend to look only at the mathematics behind the derivatives. We conclude that one instrument hedges the risk of another instrument from an arithmetic standpoint. We're happy with that. From both the

accounting and taxation standpoint, however, this approach could actually be detrimental.

I want to touch on some of the reasons why derivatives have been a problem. For the users that got themselves into trouble, one reason for disasters was that they or their agents didn't understand what they were doing—for example, Gibson Greetings and Procter & Gamble. One of the reasons these disasters happened is because no one asked, How responsible was the seller? and How responsible was the buyer for the decision to buy derivatives? Many people were hoping that cases like Gibson Greetings and Procter & Gamble would have reached the courts, so that the suitability issue would have been resolved.

Should the dealer know much about the client's sophistication? Is the client very responsible for the buy decision? You can look to the brokerage firms in terms of how they deal with people who buy stocks. To a large degree, the stock buyer is responsible. Due to established practice, general public education, the long history of the markets, and their associated risk, and so forth, stocks are considered to be well understood by many investors. But derivatives, because of their complexity and their lack of understanding by the public, raise issues as to whether the client is truly capable of making the decision totally on his or her own.

The second problem that caused disasters to occur was that there was no timely way in which upper management could keep informed about the derivatives' exposure. This was never much of a problem with stocks, but with derivatives, as we saw with the Baring's Bank disaster, things could get out of line in a matter of weeks or months, and upper management might not realize the problem until it is much too late.

Two other reasons for disasters were because inadequate controls and safeguards were in place within the organizations. This has led to a big thrust in the financial industry for corporate governance. Many consulting firms have been marketing services from that perspective and are trying to help clients to put procedures in place that could avoid problems in the future. Also, as Mr. Cook mentioned, we could see that many more people these days are getting involved in investment decisions involving derivatives, and that's actually a good thing. In the past if someone was a star, he or she would usually get more and more control over purchase and sales decisions, and that has led to many of the problems seen in some organizations.

Finally, another reason for many of the disasters was a lack of proper strategies, policies, and procedures in place to handle unforeseen circumstances. This perhaps lends credence to scenario analysis and testing. Many individuals in the past would

only think of several possibilities that might occur and plan accordingly. They may have had a great deal of confidence in their own strategy and did not realize that something could go wrong that they did not foresee initially.

I want to briefly touch on the over-the-counter (OTC) market. Generally, I'm referring to anything that does not occur on an established exchange. In this area the creditworthiness of the opposing party is important. When we're dealing with an established exchange, you are actually dealing with the clearing corporation behind the derivative transaction. The clearing corporation guarantees the derivative and also guarantees the other side of the transaction, and is able to maintain this guarantee through margins or capital requirements from the dealers, who accordingly pass it along to the purchaser. But when we're dealing with the OTC market, you are, to a large degree, on your own as to what collateral requirements there are backing up the transaction and any other security relating to that. Fortunately however, any industry requirements and established practices may help dictate what safeguards should be in place.

In the OTC, participants, not the market, are regulated. For example, if you are in the banking industry, even though there may not be standards in place in the OTC market, your particular industry's legislative requirements and mandates will perhaps dictate standards. For example, the *Basle Commission Report* suggested capital requirements for banks that carry some weight, even though there has been much criticism with respect to their recommended policy. Limits do not necessarily exist on the OTC market. Positions on an established exchange, on the other hand, are monitored. You have initial margins, maintenance margins, and items of that nature. You don't necessarily have that in the OTC market unless you write the various limits into the contract work with the other party at inception.

In today's environment what's allowable under a transaction is better defined by case law rather than regulation, and this is particularly true in Canada. The regulators are getting up to speed very quickly in terms of their knowledge, but apparently derivatives seem to be evolving much faster than they are able to keep up. And, generally, there hasn't been a whole lot of communication by regulators of where they see things going in the future in terms of requirements and regulations. As a result, people focus more on case law and the various rulings of the courts, and have been using these to help them define what the risks may be.

The treatment of derivatives is an issue worldwide. Derivatives are spanning the globe more than any other instrument. As a result, you're finding more and more of an international focus on how derivatives are being used, and the approach as used in different parts of the world can sometimes contradict. If you have a very

detrimental policy towards derivatives in your own country, that could actually hurt your country's supply of foreign investment capital.

Derivatives can circumvent regulation. I don't necessarily mean that in a negative context, but, for example, in Canada, such as in the Province of Ontario, you cannot have more than 20% of your pension fund assets based on book value in foreign investments. With derivatives there's quite a number of funds that have gone to a 50% or 60% foreign content exposure. In the final analysis, derivatives don't necessarily count. Under the current regulatory framework, what counts is the base assets supporting the portfolio, and not the effective risk after derivatives. As regulations remain static, we will find derivatives being used in many parts of the world to circumvent these outdated regulations.

In the OTC market, accounting standards are really not keeping up. The derivatives markets are evolving so much faster than accounting procedures. When the various accounting bodies finally seem to be getting a handle on things, derivatives go one step further in their application or development. The valuation of derivatives is also not always clear. You can call up several investment dealers on various derivatives and you will find that their quotes aren't always in the same range. Additionally, accountants don't necessarily have an adequate professional background on how to value these instruments. Apparently the actuarial community has many of the skills necessary to help in this area, but no one outside the actuarial community really thinks of the actuaries to provide these services.

The derivatives market has developed much more slowly in Canada. I'll just touch on a few points that might be a bit off topic, but it is of interest, because what mainly drives derivative regulation worldwide is how active the derivatives market actually is in the respective country. The Canadian markets in general have performed very poorly. That's probably because the Canadian equity markets are largely commodity based. There's inadequate index coverage by way of derivatives, so there's not always a great deal of opportunity to do many different combinations of instruments. Investors also have been turned off to Canada because of the depreciating Canadian currency, which is probably going to be a turnaround situation in the next two years. U.S. exchanges have offered derivatives, for example, in commodities such as wheat. Why would someone buy a wheat contract in Alberta, Canada when he can probably get it in Chicago? Many of the contracts that would be applicable in Canada are already being sold elsewhere.

Also, I've talked to many investment managers and they have a tendency to believe that the Canadian markets are less efficient. You can outperform the indexes more easily than you could otherwise do in the U.S., perhaps because there's much more

macro portfolio management taking place in the U.S. Derivatives, which are sometimes used as a passive approach, are not seriously considered.

The Canadian environment will change especially as commodity prices improve, and equity markets in Canada perk up. As a result, the derivatives market will become much more active. As long as markets perform well, derivatives indirectly will become more popular. However if derivatives are used more, you could have many more dangerous situations developing. The regulators have to realize what's coming down the road.

A desired strategy may also be affected by accounting constraints. As I said previously, the mathematics is not enough to implement a derivatives strategy. You have to consider the accounting treatment. Information is just too static in accounting statements. For example, in the late 1970s and early 1980s when inflation was very high, the accounting community became concerned about book values on financial statements falling dramatically out of line with market values. That concern subsided when inflation went down. Now derivatives are raising the issue all over again, because the book value amounts shown on financial statements may no longer be representative of the risk exposure of the firm or necessarily the value of the firm.

Inconsistencies exist in accounting, regulatory and tax treatment. What may be a hedge under accounting may not necessarily work under tax. ERISA regulators may dictate one set of permissible practices and then you might have state legislation that dictates another set. Not only do accounting, regulatory and tax pronouncements contradict each other, but some accounting pronouncements may contradict other accounting pronouncements, or some regulatory policies may contradict other regulatory policies. This was not really a problem previously because there was nothing to really bridge the gap. Derivatives now can actually overlap and bridge many of these areas.

There is a trend towards more clarification and disclosure by the accounting bodies. The accounting community has looked upon the problems posed by derivatives and has tried to resolve them through specifying detailed procedures. In the actuarial profession, we sometimes find that we get into areas where we have no guidance from our own profession. We are advised that, if we do not really know how to proceed since there are no standards in place, maybe it's better to disclose what we are doing so that others can make an objective assessment.

The accounting profession is approaching these problems in the same way. If they don't really know how to value or treat something then they feel that maybe the best approach is to disclose. That could lead to problems because many companies

don't like or don't feel comfortable having their internal proprietary information shown in the footnotes. This could also be a competitive issue, because you don't want your competitors to find out how you are hedged as the competition could perhaps take advantage of that. In addition, you do not really know how your shareholders are going to use this information. Sometimes newspapers can get information and use it to the company's detriment as well.

Accounting issues can be a more important consideration than risk factors. There was a recent Wharton Study done that surveyed about 183 firms, and 26% of them identified accounting treatment as a high-level concern. Thirty-eight percent considered it a moderate concern. What was interesting, overall, was that the survey found that concern about accounting treatment exceeded concern about credit risk, liquidity risk, and concerns about the size of transaction costs. The concerns about accounting treatment also exceeded the concern about the extent of derivative knowledge within the firm. So accounting issues are increasingly important and can actually discourage the use of derivatives.

I will briefly touch on the accounting standards. Generally, accountants are concerned about the risk uncertainties within a firm and how to disclose them. They would also like to identify what's being hedged and the trading position. The more information they provide to their shareholders and other individuals, the better they feel, and they don't want to leave any risk undisclosed that could be detrimental to their professional obligations to shareholders and the public.

FAS 52 came out in 1981 and provided guidance on accounting for forwards, futures and swaps involving foreign currency. At the time foreign currency was basically the most active derivative market, and that's what prompted this standard to come out.

The hedge criteria specified that you had to have an identifiable foreign exchange commitment. If you had, for example, machines in Mexico, you had to identify in your contract what you were hedging against, which were the machines. You had to designate your derivatives transaction as a hedge. The derivative instrument had to also be effective as a hedge. Generally, the rule of thumb in the accounting profession as I understand it, was that it should track the primary instrument you're hedging within a band of 80–120%. Also the foreign exchange commitment had to be firm, which means that you would need a formal, written contract.

One of the major criticisms of *FAS 52* was that there was a problem for anticipated transactions. Under accrual accounting you would like to recognize what transactions will be taking place in the near future. Unfortunately under *FAS 52*, unless you had that formal, written document you couldn't necessarily reflect the position

in the financial. This was true even if you had a very good relationship with a certain financial services firm and past practice showed that you often had contracts taking place with a high degree of certainty with that firm.

FAS 80 came out in 1984. It more or less tried to cover anything that wasn't covered by *FAS 52*. It set the accounting standards for exchange-attended futures other than contracts for foreign currency. The hedge criteria were different from those of *FAS 52*. It gave a little more flexibility than under *FAS 52*. Hedge accounting was permitted for certain anticipated transactions. You didn't necessarily have to have a firm contract in place. Hedge transactions must also be seen to reduce overall entity risk.

The Canadian Institute of Chartered Accountants (CICA) Handbook 1650 came out in 1984 and, in some sense, was very similar to *FAS 52*, except that the firm commitment requirement did not exist. It was replaced by a requirement that there be a reasonable assurance that the hedge is effective. Again you needed to have an identified, specific foreign currency exposure. You also had to designate the derivative as a hedge. Additionally, it allowed hedging of future anticipated transactions when there is reasonable assurance of those transactions taking place. This was more of a judgment call and it gave flexibility to accountants as to whether they can consider the transaction a hedge or not.

One of the advantages of being in Canada is that sometimes the issues that arise in the U.S. arise in Canada about five years later, and the accounting profession in Canada can take advantage of that. They realized some of the problems that the U.S. had as well as the successes. As a result, when they wrote their documents a few years later, they were usually better thought through.

Under *FAS 105*, we're getting to more disclosure requirements. It requires entities to provide disclosures about the face or notional principal amount, the nature and terms of the instrument, and the accounting loss that the entity would incur. This would supposedly help the reader of the financial statements to make their own judgment and valuations on the risk that is possibly being faced by the company. Additionally, *FAS 105* required entities to provide disclosure about their internal policy for requiring collateral. As I mentioned before, when you're dealing with another party on the OTC market, there is a credit exposure concern; therefore, it makes sense to have this identified in these financial statements. As a followup to that, you also would like to identify the significant concentrations of credit risk. Who are you dealing with? Are you dealing with banking institutions, or certain, specific parties with regular frequency? That issue should be clarified.

FAS 107 came out two years later. It extended the fair-value disclosure practices and required that fair values be estimated. In certain situations you may have not always been able to estimate fair value. In that situation the best route would likely be disclosure. Currently the FASB is quickly moving towards the practice of having fair value estimated for whatever you have off the balance sheet. You may soon no longer get away with just footnote disclosures.

FAS 119 came out in 1994. It requires the disclosure of the amounts, nature and terms of the derivative financial instruments that are not subject to *FAS 105*. As you can see, as each of these accounting pronouncements are released, they are broader and cover a wider scope than the previous pronouncement.

Under *FAS 119*, trading and other-than-trading positions will be presented separately. In other words, if you trade quite actively in a certain service or commodity, that has a treatment that the other-than-trading position may not have. Other-than-trading may include items that you are using to hedge. Additionally, there is required disclosure about anticipated transactions, amount of hedging gains and losses deferred, and what events would trigger recognition.

FAS 119 amended *FAS 105* to require disaggregation of information. Now not only are you disclosing a great deal more, but you're also doing so in many more categories, whether you have swap transactions, options, or whatever. Many of the numbers now need to be broken down and itemized separately rather than jumbled up into a single figure. *FAS 119* also amended *FAS 107*. It required that fair value information be presented without combining, aggregating or netting. For example, in netting your contract would dictate that what you'd be paying out versus what you'd be getting in would be offset producing a net number. Now these things would be itemized separately. That way you can identify what credit risk you could be facing if the other party would default. Additionally, there's a classification of financial instruments with liabilities or equity. That, to a large degree, depends on whether you're hedging or you're basically using a lot of these instruments as part of your day-to-day trading.

Turning back to Canada, we have CICA Section 3860. I believe this came out last year (1995). Financial assets are classified as either liabilities or equity. Offsetting is permitted if the entity has a legal, enforceable right and management intends to settle on a net basis. Again, the Canadian standards to a large degree mimic the U.S. standards. The Canadian standards tend to be less detailed in some cases and, as a result, are more flexible. Again, you're providing disclosure as to the extent, nature, and terms of each class of financial instruments. It requires the disclosure of the fair value of each class of financial instruments. Again, if you can't estimate fair value, then perhaps the best route would be disclosure and hope that the

shareholders at least have the capability to make their own assessment. It also requires separate disclosure if financial assets carry an amount in excess of fair value.

Internationally we have *International Accounting Standard (IS) Number 21 and IS Number 32*. These are not as detailed as the American Standards or the Canadian Standards. IS 21 actually doesn't even mention derivatives and IS 32 provides many disclosure requirements. If you conform to the Canadian or U.S. requirements, you probably conform to these without a problem. In addition, all these International Standards have been influenced to a large extent by the U.S. standards.

In terms of other accounting pronouncements, the Association of Certified Public Accountants issued a paper in 1986, "Accounting for Options." It is similar to what we might think of as a technique paper in the actuarial profession, but it's not as authoritative. It provides some guidance and some working examples so that you can have at least an idea of what to do in certain structures involving options.

In the U.S., the Emerging Issues Task Force has issued several discussion papers dealing with very specific issues. The main issue is hedging and how to treat it. Also, market value is becoming increasingly important. The Emerging Committee in Canada has also issued several discussion papers. They're just trying to get a feel for what the concerns are and are trying to get a reaction as to what would happen if certain policies were put into place.

The current initiatives in Canada included another re-exposure draft of financial instruments in April 1994. Section 3860, which is the Canadian Standard, doesn't really address recognition and measurement. When do you consider a transaction on an income item or a capital item, and when do you actually measure the income effect?

Hedge accounting is still an issue that is evolving. As with the U.S., hedge accounting still has points of criticism, as well as points that are liked. The FASB is currently considering a simplified approach, which is a radical shift in thinking and controversial. Some people I've talked to love the new approach. Basically everything will be marked-to-market, setting a fair value to everything, and increased disclosure will be mandated once again. There are those who feel that if that's the direction in which accounting standards are going, they are probably not going to use derivatives whatsoever regardless of the firm's risk exposures.

Additionally, they don't necessarily trust the users of financial statements and feel that many users will have a distorted view of the company. The users might come to a conclusion from looking at the disclosure items which could be erroneous or is

likely to be misinterpreted. There should be something out by the end of June by the FASB that will give a better idea of where things are going.

In summary, when thinking of the accounting issues, you have to perform a review of the hedging criteria. What is the risk you're facing? You have to designate the instrument or the derivative as a hedge. You also have to assess the effectiveness and correlation of the hedge. How well is it tracking the primary instrument that you're trying to protect? Is it hedging the risk? Additionally, you have to consider under hedge accounting whether to defer and amortize or add it to the cost of the underlying, carried at historical cost. Some will put it into the equity components. Some will perhaps put it with the asset component. Marked-to-market may be mandated for items carried at market value and all trading positions are marked-to-market. That's because trading positions generally would be included in income directly.

I'd like to turn now to taxation issues. Qualified pension funds are tax exempt, provided they do only certain things with the pension funds. For example, it's appropriate to buy shares of a company that, let's say, sells compact discs, but it's not necessarily appropriate for the fund to actually sell compact discs itself. There are certain restrictions on activities; otherwise, you will violate ERISA rules.

Individuals and corporations have varying tax rates depending upon the nature of the transaction and whether it's interest or capital gains. For example, in Germany dividends are more attractive for German banks than other types of income, so you'll find a lot of German banks will buy stocks and hedge out the equity exposure.

Interest is not always what you might consider interest. If it's interest on a bond, that would be pulled into income and it will have an offsetting deduction. If it's interest on a capital item, it may not be deductible, so it depends on its use.

Capital gains treatment applies if it's a regular transaction, a nontrading item. But if you are in a brokerage firm situation, capital gains would not necessarily be the income treatment for it.

For what purpose are you using the derivative? Are you using it as a hedge or not? Over what period are you recognizing it? The jurisdiction you are in also has a bearing. Sometimes it depends on where your company is headquartered or it could depend on where the contract is put together. If you put it together in a foreign country, then maybe the laws there will govern the contract as well as your business activity.

Finally, different worldwide tax policies encourage trading. What one country's tax policy may discourage may actually promote trading with a counterparty in another country. There are obviously industry advantages and disadvantages. Banks have access to credit markets and maybe even the Federal Reserve, which other parties will not have. Therefore, they will have an advantage in borrowing money and thus to trade in certain instruments with other parties.

At this time, few or no tax rules on derivatives are in place in Canada. Many of the specifics and pronouncements have been driven by court rulings, and anything that has been released thus far has very narrow application. Thus the tax treatment has been left in more or less the professional's judgment and up to the tax expert's interpretation. Much reliance is placed on case law, so right now the driving force is the courts. I believe that, to a large degree, this is the case in the U.S. This will likely continue for quite some time.

In summary, the regulatory accounting and taxation issues are still in flux. When we are performing a transaction, which is perhaps on the fringe of standard practice, we could be in some danger depending on how we treat derivatives. There are still inconsistencies between many of the accounting, regulatory, and taxation policies that exist. In pension funds you may not be worried at all about the taxation aspects, and regulatory requirements may not be a problem. Accounting treatment may be important only when you're doing your performance measurements. When you're dealing with corporations, which are taxable entities, you will have to consider all three in tandem.

There has been a noticeable lag in standards setting and procedures. The FASB has been debating a lot of the treatment in the standards for close to ten years now. The Canadian Institute of Chartered Accountants has also been discussing these issues at length.

Regulatory, accounting, and taxation issues are something that we always have to keep in mind when we're dealing with derivatives. As a result, what may be very simple mathematically could be a headache on an international basis.

Mr. Cook: Tony, you mentioned that you thought insurance companies didn't use derivatives because they're expensive and I wanted to expand on that. We find them very inexpensive, and I guess the way we think of it is that it's a two-step process. When you call up Wall Street you're asking for a retail offering. They manufacture it. You also can manufacture it. Most of what we do is at that level, so the more unique you make a transaction (for example, if you're backing an index-annuity-type product with a specialized swap where you're handling weekly cash flows), the more bells and whistles that you put on the transaction, the more you're

going to pay for it. It's like any other business; you pay for service. The more generic you make it, if you're just doing a five-year, fixed-rate swap, spreads are incredibly tight. Shop around. Even on a custom swap there are a large number of services available from several different places.

On the question of suitability, I believe that if you can't value your derivative security, you shouldn't be in it. It is not as tough as we may make it seem, especially given the talk about all these controls. If you have actuaries, people with engineering backgrounds or physics backgrounds, or chemical engineers, and a good advanced mathematics software program (we use one called MAT Lab but there are others), you should be able to model what you own with real time (that is, not for the accounting statement). It doesn't have to be a big burden.

The last thing I wanted to reiterate is know the assumptions. When you're dealing with either your internal people or with the street, ask them, What are you using for volatility? Is your model mean reverting? Do you offer negative interest rates? There are a million different assumptions and you will find that some people, because of their model, have better prices on certain types of things. There's one firm we deal with; their model allows negative interest rates, therefore their prices on floors are going to be different than the people whose models don't allow for negative interest rates. When we need a floor, we always call the firm that allows for negative interest rates. They're always going to be cheaper. It's important to know the assumptions. It's important to understand what you're paying for and what you can do yourself.

Mr. Robert E. Rachlow: Could you spend a few minutes talking about your derivatives accounting system, specifically, what kind is it? Is it home grown or third party? How well is it integrated with the rest of your systems, such as the fixed-income system or the equity system? Also, please comment on your personal opinion of the pros or cons of the system.

Mr. Cook: For our book of interest rate swaps, we have an integrated system that we purchased from an outside vendor. When we originally purchased it, the vendor provided a front office system and a back office system, which were not integrated. Their new release is now integrated, so we're coming up to speed on that. We have always had the system handle swaps and most of the options. It is rolled up into our general ledger, of course, but it is not part of the mainframe system. I'm really not the best person to answer everything you asked. We are satisfied with it and it took a fair amount of effort.

Each program, as I said, goes through the planning phase. We will not start a program unless we know not only how we're going to account for it in theory, but

also in practice. So investment operations is one of the areas that has to sign off on any program. As I said, since we are big enough, and it's important enough to us, we have set up derivative teams in the investment operations areas and in the accounting/bookkeeping area. We have a couple of people do futures and a couple of people do swaps. In the bookkeeping area there's a team of three or four people.

Mr. Stephen A. J. Sedlak: I'd be curious to know how you monitor your position in total with respect to your liabilities. It almost seems implicit in this process that what you're doing is more or less related to your liabilities as well. What methodologies are used? Also, are they different from what you're using in your asset adequacy analysis? How do you handle these differences, or do you find any at all?

Mr. Cook: It is integrated into everything we do, but we don't look at derivatives as derivatives. We look at derivatives with the related business use. So, for example, in our fixed-rate GIC line, which we convert to floating rate, when it's reported as a liability, we think of it as the floating-rate liability. We do integrate because people do ask, are your derivatives a gain or loss? We do have that number, but that's not how we think of them. Each has its own compartment for derivative usage. So if it's for GICs, it's in the GIC line. If it's for duration management, it's probably in with the public fixed-income line. For hedging a window-type GIC, it's there. Each one is with its own business use and that's why all the controls are by program.

Mr. Sedlak: I probably wasn't clear enough. The thrust of my question, from a technique standpoint, is whether you are using, say, scenario testing or some option-pricing methodologies. How is that consistent or otherwise with your valuation actuarial functions? I assume that there has to be some coordination in there or you may get an answer you don't necessarily like or disagreements on that.

Mr. Cook: The logic is consistent. The derivatives portfolio manager has his own models, and the audit people actually check. We verify against Wall Street models that our models and their models are within reasonable tolerance limits. For scenario testing, that really is an actuarial function, and the derivatives are subject to the same scenarios. They act like fixed income, so it's almost like comparing apples and oranges. The marked-to-market process is attuned to the real world. The insurance adequacy capital-type things are all run through the same models. In fact, one of the things that we're doing now is to line up the models we use to model commercial mortgages (that is one outside vendor's logic versus the public-fixed income group, which uses the yield book, versus the derivatives, which is yet a third vendor) to make sure that they are consistent. Ideally, we'd like to have a single model, which is unlikely to ever happen.

Mr. Dardis: I think it's definitely an area where there's room for considerable enhancement. You have sophisticated models that might be used for adequacy and cash-flow testing, which aren't necessarily used for the asset allocation process. I think there's a number of insurance companies that are trying to go into the direction of coordinating the two. I've seen a couple of companies that had some success in doing that, but not many so far.

Mr. Thomas M. Grondin: You said you convert your liabilities to floating, and I've read some background material comparing your crediting rates to some of your competitors. Although they are competitive, it's not necessarily blowing away the competition. Do you feel that the risks are reduced, and that you're able to release more to income? Where does the value come in swapping to floating?

Mr. Cook: I wish we could claim some super scientific reason, but there is none; it's historical. When we got into the GIC business we were and still are the market leader in floating-rate GICs. And when we got into fixed-rate GICs we were a late entrant, and it was an adjunct to that business. So we knew how to run a book of floating-rate GICs, and that's how we've kept it. The other rationale is that as an investor, it's much easier to see your cost of funds, which is how we run all our business. So we got into fixed-rate GICs at a time when they were cheaper. They were sub-LIBOR versus our generic product. We've kept it because, from our viewpoint, it's an alternative source of distribution. There are different clients; we're broadening our business. There's no magic that says there's truly lower risk or lower reserves.

Mr. Grondin: So there's no arbitrage, I guess.

Mr. Cook: No, there's no free lunch, except to the extent that sometimes the floaters are cheaper than the fixed.

From the Floor: When you're dealing with derivative dealers on Wall Street, how much do they tell you about their models. Do they have one model that they use, for example, for you to compare prices with and maybe a secret model they use to trade on? Are they using one factor or are some of them using two-factor models?

Mr. Cook: They're reasonably forthright. You know they won't give you all of the little nuances of their models, but they will tell you their volatility assumptions. They will tell you if they use mean reversion and if they allow for negative interest rates. You need to have a knowledgeable person talking to another knowledgeable person, which comes back to if you have someone who can model it in-house, you can probably talk to their modeler. There are times when we've backed into some things. One firm will tell you they're using a volatility of 12 and another is using

volatility of 15, but they come up with the same price. Definitions aren't the same from firm to firm, but if you ask, they'll tell you.

From the Floor: Under U.S. accounting rules, when are you allowed to net and when are you not allowed to net?

Mr. Boezio: The definition of netting is getting to be much tighter. If you have a formal contract that identifies the fact that you're netting, then your clients can definitely net. In other situations you're getting into a problem where you have to show them separately, even though you pay on a net basis, and you are perhaps reflecting it as an income item. Basically you have to disaggregate a lot of the items now, so that in overall impact, in effect, you are netting, but the disclosure reflected on the balance sheet may not clearly show this.

Mr. Cook: This underlines the importance of having a master agreement with each derivatives partner.

Mr. Boezio: As a followup to that, I think one interesting point that I didn't really cover was the bankruptcy rules that you might find in certain countries. In Canada, for example, if you had a swap arrangement where you were exchanging on, say, a fixed to floating basis, that's a possible netting arrangement. Say the contract said you were supposed to give someone \$1 million and they were supposed to give you \$950,000, on a net basis, but you exchanged only \$50,000. Under bankruptcy rules, especially in Canada, if the other party went under, you would have to give them the whole amount. Let's say you were going to give them \$1 million; you would have to give them a whole million for the whole future life of the contract. The bankruptcy rules now are under review and, hopefully, will be reformed on that. That's one of the reasons why these items have to be separate. The regulatory rules and bankruptcy rules can actually expose you to significant liability on your balance sheet.