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INVESTMENT ACTUARIES: CASE STUDIES

Moderator: WILLIAM L. NEMEREVER
Panelists: ALLAN MING FEN
RONALD A. KARP
MICHAEL W. PESKIN
Recorder: MICHAEL KANTOR

- The panel will discuss their career paths in the investment field. Emphasis will be on identifying alternative career opportunities for actuaries, and suggesting approaches for pursuing these avenues.

MR. WILLIAM L. NEMEREVER: When working in an investment management position, you quickly learn that good investment opportunities really don't hang around forever, and you have a limited amount of time to figure them out. The job is fast paced, as you might guess, and there's a lot of decision making under conditions of uncertainty. Most of the time you have less information than you'd like in order to make a decision. However, you don't have any choice. It's a very different way of working. The ability to evaluate success or failure is available to anybody. You have a very rapid marking the market of portfolio values and performance. This means that people can decide whether you're doing a good job, with very little information about your skills. The evaluation may be based on very little information, perhaps incorrect information, but there is a very visible record of performance.

What skills do people need to be successful money managers? While preparing for this panel, I asked several people about the necessary skills to succeed in an investment job. I talked to an actuary who is not a member of this panel. He thought that actuaries had 99% of the skills necessary to do the type of job that he is doing, which is Wall Street research. This observation is interesting. Technical skills are valuable, especially when applied to risk analysis. That's the good news, and I am sure your companies are inundated with asset/liability matching programs. The bad news is that this skill is becoming a commodity. The risk measurement of asset/liability streams is not something that will always remain a mystery. The real rewards go to people who are able to enhance returns, not explain risk, and that's an interesting phenomenon. However, in financial modeling and contingent claims analysis, actuaries are well schooled and should have an advantage. Most of my training, over 20 years, has been on-the-job experience. I took the Chartered Financial Analyst (CFA) exams. Three exams lead to a professional designation. I had to attend industry seminars and do a lot of self-study. When I started out, there wasn't much to read that could teach about the markets.

Most of the new entrants on the buy side tend to be, as you might guess, newly minted MBAs with strong quantitative backgrounds. These people have worked in the finance area between undergraduate and graduate school. They are the type of people you'd be competing against if you entered the money management area.

You have to be a risk taker. You are assuming a risk by taking an investment job; though I'm told that actuarial careers aren't as secure as they used to be. You have to be able to deal with relatively short time horizons and a lot of change. You have to be people friendly. One of the complaints I heard is that actuaries in insurance

companies like to intimidate the investment people. I hadn't heard that before, but that's hardly a way to endear yourself and work your way into a position. Being people friendly is important, because you're in a business where people can only judge how good a job you're doing by your investment performance. Because success is measured retrospectively, you're in a situation where you must sell yourself and your ideas all the time. If you want to be a recluse, you need a superb performance record to compensate for the lack of people skills. You have to like competition, because it's a very competitive business. This industry is drawing some of the brightest people in the country and abroad, so you're up against stiff competition.

Now how would one enter this business? I mentioned the MBA degree. The MBA is not enough. It must come from one of the top five or ten business schools. There's a surplus of MBAs and the degree itself is necessary but perhaps not sufficient to get the job. But if you did go to MIT and graduated with the Sloan class, you would then be cleansed of your actuarial background and be looked on as a new finance-oriented individual, except perhaps for your age. I hate to say it, but I think the best way these days to get into the investment business is by working your way into the investment department of an insurance company. Consider working your way into the investment department of your company. There isn't much demand for actuaries in the outside investment world.

Wall Street research is another avenue, though in talking to Ron Karp earlier, I learned that opportunities are limited. There are a number of actuaries on Wall Street, but there isn't a lot of new demand. There might be an isolated position, but Wall Street firms are not building actuarial departments to provide insurance consulting to their clients.

The compensation, which to some degree accounts for the field's popularity, is very good. At Fidelity, a few years ago, new MBAs were making between $60,000 and $100,000 total compensation, which I'm told is higher than the level at which new Fellows are compensated. For experienced investment professionals, the range is wide, from maybe $150,000 to $1,000,000 a year. So people in our business are definitely well paid.

I mentioned that the prospects weren't that great. I get a lot of resumes from well-qualified Fellows looking for jobs in investment business. If you've been a Fellow for ten years and are making a good salary, its hard to learn that those skills you've developed are not highly valued in the investment world. In fact, an actuarial background can, in some cases, be a liability. So if you're a senior actuary wanting to make a change, you should be prepared for some adjustment. You have a big disadvantage, because people are biased against older, more senior and expensive people when there are new MBAs to choose from.

If you're interested in learning about this field, you should read several publications regularly, *Institutional Investor, Pension and Investment Age, The Journal of Portfolio Management, The Journal of Fixed Income*, and *The Financial Analyst Journal*. These are all good publications that will give you an idea of the types of research, product development, and thinking that's going on. The field is becoming very technical. Many mathematical applications have been used with success on the fixed-income side. Equities, due to their nature, are kind of a mathematical backwater, but

actuaries are best prepared for fixed-income analysis. At Fidelity, for example, the head of the quantitative research group, an Associate who came from Morgan Stanley, made the transition well.

Finally, I have some general observations. I looked at the list of Society members by business connection and determined how many actuaries are in the investment business now versus 1988, five years ago. In 1988, 36 actuaries identified themselves as working in the investment business, such as investment banking or consulting. They now number 110. So there's been a fairly rapid growth, but I believe this rate of growth won't continue.

It is a very interesting field. It's still a frontier. There aren't many people who know everything there is to know, and interesting opportunities are developing all the time. The 1980s saw tremendous change with the introduction of contingent claims analysis, option-based views of pricing and risk. There is still a lot of development that can be done, and the markets are by no means completely efficient, especially the overseas markets.

It's competitive, and your job mobility may be limited. I think it's harder now to move from the sell side, Wall Street, to the buy side, money management. So the specialty you choose may determine where you end up. It's hard to move from equity work to fixed-income work or vice versa. It's hard to move from marketing to portfolio management or analysis. But it is easy to move the other way. And it's very hard to move from consulting to money management. I know several actuaries who tried to make that move with limited success. In the past, the money-management industry outside of insurance companies relied on insurance companies and banks for raw talent. They could count on the insurance companies to pay people below-market wages, and they could cherry pick the talent. In Boston, most of the senior staff members of major investment firms worked at banks or insurance companies when they started their careers. I don't think that road is so heavily traveled. Also, the investment business acquired a tremendous amount of talent in the 1980s. It's well staffed, and it's still a bull market. Also, the industry benefits from tremendous economies of scale. There is not a burning need for more investment people. In fact, there is probably overcapacity, which makes your odds much less favorable. Well, to end on an optimistic note, I remember attending a conference a few years ago in which the chief investment officer of the California pension system, Greta Marshall, said that with respect to an actuary's role in the investment process, she thought that actuaries were the least-qualified professionals to make investment decisions.

MR. ALLAN MING FEN: I'll start with a little career history like Bill did and then get into some of my own observations. Actually, my exposure to the insurance field started very early, at seven or eight years old. I had a very positive image of the insurance field, and I got that from a television show, Mutual of Omaha's "Wild Kingdom." I lived in Lincoln, Nebraska, and Mutual of Omaha was right down the road. Marlin Perkins was kind of a cult hero in the Midwest, going around the globe, doing exciting things with endangered species, and I kind of related to him. He was kind of a stiff, inarticulate guy with a cornball delivery, and yet he had a great job. That's how my perception of the insurance industry was formed, and anyway, the rest is history.

I graduated in 1979 from the University of Nebraska. I went to work at Northwestern National Life (NWNL) in Minneapolis in the group health line. After a year or two, it was obvious that it really didn't strike a cord, it wasn't a good fit, health insurance and claim costs and utilization and those kind of things. It's a hot area now, but it just wasn't something that really caught my interest. So there was an opportunity to move into the pension area after a couple of years, 1981-82, and I made that move.

The pension area at NWNL was kind of an orphan of the group department. It wasn't very big, it did a little bit of the traditional products, deferred annuities (DAs) and immediate participation guarantee (IPGs), but it was much more interesting. At that point, I wasn't thinking of making a great career move but of doing something that I enjoyed. A couple of things happened that were very fortunate for me. One was that the investment department soon took over the group pension department's responsibility, and I had a real interest in making that business successful. Another stroke of good fortune for me, but not for the company, was that it decided to get into the guaranteed investment contract (GIC) business. It was one of many companies that had problems because of both the asset/liability sides of that business and in the late 1980s. But anyway, this was 1982, the early days of the GIC business, and many of the biggest, most sophisticated issuers, insurance companies, had problems. A lot of it was seat of the pants back then, and that's why a lot of those chickens have come home to roost in the last few years. But at NWNL, I was given the responsibility for pricing and underwriting, just because I had taken an interest in the investment side of the business, and I think we were even more seat of the pants there. But being conservative by nature, we did alright. We just were very careful about what we did, recognizing our limitations.

In 1983, I got a call from a recruiter and that was the first time I had heard a recruiter talk about an opportunity in the GIC business. I took the job with the Hancock, because I recognized the limitations of being kind of the top actuarial person in a small operation. I really didn't know that much about the business. I learned a lot during my four years with the Hancock. There was a lot of great talent on the investment side as well as in the group pension area. Hancock was one of the high-quality issuers in the business. It did very well, doing a $1-1.5 billion of business a year. We rolled along, and I can't say it was easy doing that business, but it wasn't that difficult for a high-quality company that was fairly sophisticated in asset/liability matching, and it had a good investment department.

Then in 1987, I got another call from a recruiter. Not only did the person mention GICs, but it was with Fidelity Investments. An opportunity like that, for an actuary to actually get on the money-management side of the business with a company like Fidelity, doesn't come up very often. And even though GICs are kind of a poor man's fixed income, it nevertheless was a good opportunity with a good company. It was kind of a start-up operation; they were trying to get into the GIC business seeing all these 401(k) assets. They had all the equity-fund capabilities and the fixed-income-fund capabilities, but 60% or 70% of the participants were putting their money in GICs, and they really weren't able to get that money under management. My boss was hired six months before I was; I was the second person there and that has worked out very well. Fidelity is now the largest GIC manager in the business.

So now I'll get to some comments on the work environment, make some observations, and maybe give a little advice. Just as Bill said, Fidelity's organization is much flatter. That's kind of a function of the fact that many of the businesses they are in, such as mutual funds, 401(k)s, and those kinds of things, are younger businesses. They're growing businesses, and Fidelity hasn't had time to set up the bureaucracy. I think they wouldn't want to, but the growth has been very fast, so you do end up with flatter organizations in that kind of environment. Less politics probably go on in the office, just because the business is in a growth phase. People are worried about how to manage money, beat the competition, and bring in new clients. There's not as much time for turf issues and those kinds of things that I experienced a little bit more in the insurance environment. Not that those things don't happen, because they do, but maybe not quite as much. Not as many people are obsessed with the politics of the organization. One of the big differences I've experienced at Fidelity versus in the insurance field is the much wider network of contacts. Again, I think this partly is a result of the nature of the business and partly just because of the flatter organizational structure. I deal with clients who hired us to manage their money as well as insurance companies and banks that provide us with the investments.

I talk with our sales force all the time. We deal with the bond analysts and the mortgage analysts at Fidelity, whom we utilize in doing synthetic GICs. Whereas in the insurance company environment, it was more or less the interaction with the boss and the people in our group, and maybe going crossfunctional to the investment side. We rarely interacted with the sales force or outside the company, and that's certainly something I've enjoyed at Fidelity. It gives a lot more variety to the work. One of the reasons I made the move to Fidelity was because I was a little too far removed from the action. On the insurance side, the analysis you do and its impact on the financial results of the company on sales or profits is very hard to determine. My analysis somehow worked its way through underwriting and it was hard to determine how that all affected the company. In money management, your results (performance, client satisfaction,) are right out there, and you know usually over a period of time whether a specific investment was a good choice. It is kind of instant gratification; more visible success or failure appeals to me. The decisions we make are much more short term (things like the investments that are to be made this week, or a presentation for a client in a couple of weeks, or a new prospect), than dealing with long term corporate strategy issues, etc. Most money mangers deal with managing their portfolios and optimizing performance on a fairly short-term basis, quarter by quarter. Money managers don't get into those broader, corporate-strategy issues. There are people at Fidelity who do, and they do a good job, but they are not the money managers.

And again, as I mentioned, there is clearer accountability. If you made a good investment, it will be fairly obvious. If you made a presentation to a new prospect and successfully brought the company in as a client, you how you've impacted the business. It's much more transparent in my current job.

Bill mentioned a few things about credentials. An MBA from the top business schools is the recognized kind of credential. A Fellow of the Society of Actuaries (FSA) is probably not a negative, but it's not much of a positive. When I first started at Fidelity, we had an orientation with Ned Johnson, the owner of Fidelity, at a

breakfast. He came around and introduced himself to the 25 new people in the orientation and talked for a minute or two. I told him I was an actuary, and he stepped back and said in his kind of affected Yankee accent "So are you going to make actuaries out of all of us?" I tried to make a witty retort, but I fell flat on my face. His stereotype of actuaries was probably reaffirmed. So as Bill was mentioning, the FSA designation is not something that translates very well to the investment side.

Just some general advice: don't get into the business just because you think it's a hot area. As Bill was saying, if it's not cooling off already, it will certainly if there's a correction in the bond market. Are you willing to make some concessions, certainly with responsibility, perhaps with respect to pay? A CFA designation is an indication of some sort of a commitment. An MBA with a finance emphasis is better, if you have the time to do that. And the last thing, is this an area that you are or can be passionate about? Fixed income, prepayments, options pricing, asset/liability matching, economic statistics, looking at the payroll number or the money supply every month and those kinds of things, is that something that really gets your blood going and you can be passionate about? If it's not, then (1) you're not going to enjoy it as much as others, and (2) you're probably not going to do as well, because there are many smart people in this business who are passionate about these things. This is really their whole life and you'll be competing with them.

MR. NEMEREVER: Our next speaker will be Mike Peskin, who will represent the consulting side of Wall Street.

MR. MICHAEL W. PESKIN: My career probably started off much the same as I expect the majority of you. I started in an insurance company in South Africa. It was a small insurance company, The Commercial Union, and we did a little bit of everything. After a few years, I found that I preferred pension work and I liked consulting. I like dealing with people and decided to be a pension consulting actuary. I also wanted to leave South Africa. So I went to different places around the world, and Buck Consultants in New York offered me a position that I eventually took. In the year that I was waiting to move to the states, I got a temporary job with Anglo American Corporation. It's a big multinational corporation and it was one of the most enjoyable jobs I've ever had. It was also very interesting. I joined Buck in 1977 as a consulting actuary. Buck actually hired a few foreign actuaries at that time. I stayed there ten years, until 1987, and I serviced some wonderful accounts, including the World Bank and the International Monetary Fund (IMF). I had developed a really good career, but I found myself getting very bored. I knew that I could handle whatever came down the pike. Everything seemed to have a sameness to it. I was starting to think about retiring when I could afford to do so. I wanted to do something innovative on Wall Street, and I had developed some theories of pension finance. Then a stroke of luck hit because American Airlines did a big deal with Goldman Sachs.

It sold a huge amount of bonds, and other investment banks thought they had lost out for lack of a better pensions model. So I got calls from First Boston and Morgan Stanley on consecutive days. They asked me to come in and talk. I eventually joined First Boston in 1987 as vice president in the portfolio strategies department. I built a large pension finance model that basically focused on bonds, but it looked at everything. However, First Boston, although it was a good company, was going through a

very difficult time. I joined Morgan Stanley in 1988 and left there in May 1992 to start my own consulting firm. Most of the time at Morgan Stanley, I was head of its pensions group, which was initially part of investment banking.

Investment banks are really a multitude of little companies within one company. The three major divisions are: investment banking that deals with corporations that issue bonds; equity, which helps structure mergers and acquisitions; and trading. The trading side breaks up into equities and fixed income. Usually these divisions talk to each other, but are generally not integrated. There is a Chinese wall between the investment-banking and trading sides. There has been a general attempt to get them to work together more closely. However, they really are three separate entities all represented in senior management.

We started off on the investment banking side, mainly because that's where the marketing was done. It had all the great contacts with the corporations that helped the pension unit sell its investment services. All the revenue came through the brokerage side, through the equity and fixed-income trading. That was a problem. You never want to be separate from your revenue in an investment bank, and that is why we eventually switched to the trading side. We were housed in the fixed-income division, but we had an agreement with the equity division and were sharing revenues brought in on the equity side. The investment banking side is basically governed by corporate timetables. They deal with corporations and tend to come in at 9:00 in the morning and work until very late at night. The associates, in particular, would be there until midnight on many occasions and at least until 10:00 on other nights. The officers wouldn't work quite so hard but would still put in long hours. You can take that for granted in an investment bank.

The pace was controlled by the investment banking side. It was very disciplined and had very smooth operators who were very pressured and focused. They were a very smooth group of people and had excellent communication skills. They believed themselves to be a class above the trading side, and they probably were. Trading was a much rougher group, faster paced with short time horizons. They were totally different. If people ask if you can do something, they mean in ten minutes to half an hour, not, can you study it and eventually get the answers in a week? A week is a very long time horizon on the trading side. That's a difference I found very interesting.

I had a nice office on the investment-banking side, a smaller office than I had as a consultant at Buck, but still an office. When I went to the trading side, I sat in an open area with hundreds of people. I soon got used to it and it was actually quite exciting. I agree with the previous speakers, in that one of the most important things is you have to deal with many people. It was unlike my situation at a consulting firm, where I headed a consulting unit and basically didn't talk to other consultants, except friends from time to time. You have to deal across groups and cross-sell. We had to deal with investment banking to get us to the client, and the equity and the fixed-income sides to be able to deliver services.

The job itself was very difficult at the investment bank because we first had to make the sale to the corporation in order to do the study. That's one sales pitch. Then we had to get the company to implement the trades. We were only paid when the

company did the trading, so two sales pitches are involved. Then you have to get the equity side and the fixed-income side to work together, help you with the strategies, and deliver the product. So you have to sell within as well as without. A lot of salesmanship is going on all the time.

Before you get paid, the investment bank gets paid first through trades. Then you have to get your own unit paid, recognized, for those trades, and that's not so easy. You may bring in a huge trade and you know that the investment bank's made a large profit. When you go to the trading desk and tell them you made a large profit, they bring out three pages of mathematics to show you that they took an enormous amount of risk to get this profit so that, in effect, the profit you brought in was 39.3, very little. It was difficult to get paid and yet it was very exciting. I was not bored at the investment bank.

It's tough to get in and it's very tough to survive, because you are marked to the market almost on a quarterly basis. You're as good as the amount of revenue you brought in the last few months. If you have a really good year, they might keep you for another year, but that's about it. The rules are to make money or die, and everyone accepts those rules. It's a fun place, but you can't rely on a long life at the investment bank. It's a difficult job, but you work with a very intelligent, focused group of individuals. It's a very exciting place to work. There are some very bright people who are interesting to talk to.

I would say that the profile for success first and foremost is high energy. You're working with high-energy people, they set the rules, they expect high energy. Second is good salesmanship. You have to be able to sell yourself, both inside and outside, all the time on an ongoing basis. You eventually get accepted. You earned your laurels and people learn to trust you. When they know you're not going to get them into trouble with major accounts, they'll start using you a lot, but that takes time. Strong communication skills are needed, both verbal and written; verbal is probably more important. Again, that's part of salesmanship, but I stress that the analytic skills are not enough, you need both. You must be either focused or very innovative or a combination of both. The innovativeness is important because as soon as something becomes a commodity, you stop making money with it. If you can bring a new theory to the table and develop it into a practical product, the investment banking will make a lot of money if you're the only ones doing it. As soon as everybody starts doing it and it becomes a commodity, you have to move on to another product. You have to find something new to do. You got to find a new gap in the market. For that reason, you have to be either a quick study and/or have such a high energy level that you can work a lot at home or on your own time to keep up to date with everything that's going on. There is generally not enough time in the workday to do a lot of research if you're in a cutting edge revenue area. There's an exception in research. Because I wasn't in research, I can't address it. You need to be a good juggler. Many things will be going on, but you can't let go of any of them because you can get a very bad reputation if you drop the ball somewhere, and you need to be able to handle pressure. The up side of all this, other than the excitement, is that the pay is excellent. It's a lot higher than what most actuaries earn. The starting salary for a vice president might be in the order of $250,000, and salaries go up from there.

The hierarchy, particularly on the trading side, is quite flat, and sometimes even gets inverted much like the yield curve. There's a guy who joined as a vice president and got promoted last year to a principal. However, he has a managing director, which is the title above principal, reporting to him, and that is not unusual. It's whoever is more successful at that point in time. That's less common on the investment-banking side, which tends to be much more structured and where the associates bow to the vice presidents who bow to the principals who bow to the managing directors, etc. They bow because the bonuses at the investment bank are very, very large, and they are very much at the discretion of the people above you, not necessarily the one person above you. You'll get exposure to many people above you, and you need to make as many of them happy as you can.

MR. NEMEREVER: Our last speaker is Ron Karp, who will give us his observations on the consulting business.

MR. RONALD A. KARP: One of the disadvantages of speaking last on a panel like this is that all of the brilliant thoughts and unique insights have already been reported, but I'll try to add to what has been said. As Bill mentioned, my firm is involved primarily in investment consulting for pension funds, although we evolved into a bit of investment-management activity as well. As with the others, I'll start off by talking a little bit about the career path that got me here, then a bit about the actual day-to-day activities in investment consulting and investment management, and some thoughts on how someone might get started and what the compensation opportunities are.

First, as far as my own career path, as I go through this, it may sound a little bit like I didn't quite know what I wanted to do when I grew up. But because I've been continuously employed, my family hasn't been very stressed out about it as I've made some shifts over time. I started out in engineering school, and decided by my sophomore year that clearly this was not for me. But I did like the school very much so I stayed on and finished up there. When I was nearing graduation and the reality of the real world loomed on the horizon, I was faced with the issue of deciding on a career. As luck would have it, one of my roommates had a summer job as an actuarial student with an insurance company. So, in the absence of some superior alternative, I decided to do likewise and I looked for work as an actuarial trainee. Then after I finished my exams, I concluded once again that this wasn't really what I wanted to do. Or at least the decision that I made at that time was that I didn't want to stay as an actuary in a large mutual life insurance company. I started to look at some alternatives, and in the course of that, one of the things that came up was graduate school, which has been mentioned by some of the others as a good entry or a possible entry to the investment business. But in any case, I did decide to go back to graduate school at that point. Bill gave some statistics about the number of actuaries working in investment-related fields in 1988 (36) and in 1993 (110). When I was getting out of graduate school, you probably could have counted the number on the fingers of one hand. I think I knew most of the three or four people. When I went to graduate school, I thought I probably would wind up doing something back in the actuarial field, but I had a good introduction to investments. I found that I did develop a kind of passion for investments that some of the others have talked about.

So after that, I had a job with a Wall Street firm as an analyst following insurance company stocks. And after about eight years of doing that, I concluded that I really didn't want to do that forever. There's really only so many times you can go to Hartford and keep your sanity. In the course of that, I had some exposure to the pension investment consulting field. It seemed fairly natural, because I know a little bit about pensions and a little bit about investments. So I took a position with an actuarial and benefits firm to start up a department to offer investment consulting services. This is a little bit of an aside, but at that point, I was actually making what amounted to a real career change, from being a security analyst to being an investment consultant for pension funds, and that's a fairly major change. Making a change in your career is a hard thing to do. Also, doing a start-up is a hard thing to do. Doing both of those things together is just stupid, especially if you don't have great management skills, which is characteristic of many people in the investment business. I certainly didn't, but I survived and became an investment consultant. After a few years, a collection of factors led me to conclude that I wanted to be on my own. In 1980, I formed my own investment consulting firm and have basically been doing that ever since I work primarily with pension funds.

About five years ago, we began doing some work that led us into a form of investment management. Basically, we had seen many investment managers and investment firms over the years. For the most part, we concluded that these people were extremely bright, extremely creative, reasonably hard working, very articulate, and in aggregate had managed to slightly underperform the market. What interested us was that over the years, when looking at these firms, we often would see some kind of a niche, strategy or a little investment approach that was a corner of one of the firms. Generally the strategies were not suitable for pension funds, but they were performing quite well. These included some categories such as hedge funds, short selling, arbitrage, bankruptcy investing, and some offbeat international strategies. Over the years, I concluded that this was really how I would like to have my own money managed rather than the way that pension funds were typically managed. And then for several reasons, we took a hold of this by forming a limited partnership to invest this way and open it up to outside clients. That was basically the way to get the kind of a scale that was needed to do it at all. So we've done that and our partnership is essentially invested in other investment partnerships or in specialized strategies in one form or another. We have about ten of them, and this is gradually evolving toward being a fairly meaningful part of our business.

So what do people do in the investment consulting business? I assume some of you have some familiarity with it, but in working with pension funds, there are a few roles or functions or services that I would consider to be the core activities. We work with pension funds on developing an overall investment policy, sometimes one that is consistent with the liabilities that the plan faces, but it's basically an asset-allocation decision, trying to come up with a reasonable asset allocation that the plan sponsors are comfortable with and that is consistent with the plan's liability.

We select managers to implement the policy, we're involved in the manager-selection process, and then the logical follow-on is to do work in evaluating the managers (the performance measurement process), and we have regular meetings with clients.

Those are the three basic functions: asset allocation, manager selection, and performance review. Although we're involved in a whole host of other investment-related things with our clients, sometimes we get involved in GIC work. They may need new custodians for their plans, and we could be involved in that or in working on their administration and cash flow. We sometimes have been involved in communicating their results to defined-benefit-plan participants. Basically, we do anything related to investments. Normally though, we have not been involved in money management with our clients; that's the one thing we have not done.

So that's much of the substance of the investment consulting. There's also a requirement or a very significant client-service aspect. It requires client skills that are needed in a lot of consulting. You must learn how to listen to your clients and hear what they want or what they think they want. Sometimes you tell them what it is that they should want and you do it without offending them. You've got to be very good at communicating with clients, and I would agree that the verbal area is the more important. Interestingly, people don't always read what you give them. And it's a constant marketing job as has also been mentioned. It's a very competitive business. You're always selling yourself, both to existing clients as well as to new clients, and we find that every client is different. There are no two that we serve in exactly the same way with the same product, and they've got to be dealt with differently.

So that's the investment consulting area. We don't do investment management in a traditional sense other than with the partnership activity. But we've seen a lot, and my observation is that here the dealing with clients in investment management tends to be less varied than in our consulting roles. I mean that managers have an approach, a product, and other than having different frequency of meetings, they deal with clients the same way and give them basically the same product. The basic job of an investment manager is enormously challenging. You're trying to bring to bear your insights not only on economics, but also on politics and technical market factors, and put them all together in a way to select a portfolio that's going to produce better results than some kind of an unmanaged or a passive strategy by using the same investments. And if you think that's not easy, you should try it sometime. Basically, you're trying to do better than a benchmark portfolio.

Now in the investment management area, I think the avenues and opportunities are expanding very quickly. When I started, the only area where a great deal of resources were expended was equity management. I'm dating myself a little bit, but I think what was going on then was fairly primitive compared with what's available in terms of the quantitative tools and the approaches that are used, the available data and the analytical approaches. I think that this development of the investment business has really created many opportunities for people with the skills that are necessary in the actuarial area. The skills are desirable, but I would agree with several of the preceding speakers who argue that the designation is not particularly helpful. When I was starting, fixed-income analysis was little more than doing a little bit of credit research on companies. The major issue was trying to decide whether your maturity distribution was going to be some sort of a laddered structure or a barbell structure. That was the main decision. People didn't talk about duration as an analytical tool. Now there's just an enormous number of technology used to analyze fixed-income investments and manage risk. There's an enormous amount of instruments available to be invested in. Besides equity and fixed income, several other

areas have been established that call for a lot of analytical work, the whole derivatives area. Twenty years ago, there was no such thing as financial futures, and the whole options business was basically a storefront over-the-counter market. Now both of those have come along enormously and really have a whole host of career opportunities that require good analytical skills.

Foreign and international markets have been building for 10 or 15 years in the states, but probably have reached a crescendo in the last year or two. But I think we're becoming much more conscious of what's going on in foreign markets. More dollars are being devoted to that, including the literally dozens of emerging markets around the globe. The interesting thing also is that the analytical approaches and financial instruments used in the U.S. are less advanced in those countries. They're just starting to get into some of the derivative securities and some of the other approaches toward hedging, options, trading, and establishing the markets. So there are many opportunities, and I think the type of training that's involved in actuarial work is a good training for that. The skills are similar.

How do you get started in this? I really don't have a lot to add to what's been said already. I would think on the formal side, graduate school MBA, preferably from one of the better schools, is a very good way to start out. I don't think it's absolutely essential that it be one of the top ten schools, because I know many people who have been very successful in the investment business who haven't come from the top schools. However, it clearly is more helpful in getting started, and getting started is the real issue and difficulty. It's not always easy. Many of the places that are very desirable to work at tend not to hire new graduates; they tend to look for people with experience in the investment business. The institutions will sometimes hire someone possessing a particular specialized skill. Banks and insurance companies are one way to start. Obviously, the best way is if you know somebody, but sometimes it's a matter of just plugging until you finally get that first job. I think there are fewer formal training programs in the investment business than there are in most other professions.

Compensation! Enough has been said. It's hard to address. There are quite a bit of variations. I think the compensation and investments area is generally attractive compared with other professions, and I'd say that's more so in investment management than in investment consulting work. Investment management is really a great business. If you get to study the economics of it, you will appreciate the leverage and opportunities that are there, and the fact that while there's a little bit of price competition, interestingly it hasn't been a particularly price-competitive business. Probably the most attractive area, financially, if you are among the few who can do it, who are really gifted in investment management, is to manage a hedge fund or one of the specialized private partnerships. These people are paid a percentage of profits. You have to deliver the results, but I think the rewards can be very attractive.

So just to sum up, many investment areas can capitalize on the same skills that are useful in actuarial work. I know that because I made my career switch into investments. I've been following Satchel Page's advice and haven't looked back much, but I think that's primarily because I've always felt fairly pleased and always challenged with working in investments.

MR. RICHARD L. GIBBS: While the entrance of actuaries into the investment-management business may be difficult and it may not be a growth industry, to what extent do you see an increasing trend of actuaries playing roles in in-house investment departments in life insurance companies? The investment area increasingly needs to work in a collaborative fashion with the rest of the company, such as the product lines on risk-based-capital issues, asset/liability management issues, and various other things. Do you see a possible trend whereby a career path could be paved for a good actuary to work alongside investment professionals and be the chief liaison with other areas on these companywide issues?

MR. NEMEREVER: Maybe each of us can throw in some comments. My view is based on the experiences of friends at John Hancock. I think your description does characterize that company employs a number of investment actuaries, some working directly on the investment of the separate accounts underlying the GICs, others resolving very complex investment-policy issues. I think this is the most likely avenue for actuaries to enter the investment profession. It's not necessarily a road out of the company, though many of those people have tried to cross over and haven't been successful. But I would agree, this is an area where the industry really could use an actuary's skills, especially on the risk-analysis side. So I think this is a big plus, and I would urge people to seek assignments here and perhaps be more friendly to the investment department.

MR. FEN: I think that's probably the best chance for somebody working in an actuarial role in an insurance company, but I wouldn't limit it to just kind of a liaison role. Many actuaries do asset/liability matching for the different product lines and work with the investment department. With my experience at the Hancock, too, actuaries have become investment analysts, bond analysts, mortgage analysts, and then later, managers of portfolios in different segments of the general account or separate accounts. So I think that's a good first step for an actuary wanting to get into the field.

MR. PESKIN: I'll give my comments for what it's worth. I haven't been directly involved in insurance company investments. I do believe very strongly that the move to asset/liability management is starting in insurance companies. Banks are starting to focus on it a lot. It's becoming very important for pension plans, and that's a major potential for actuaries to get involved in investments. If you look at the liabilities as just being part of the big portfolio, in which the liabilities are just short, kept from market instruments, you need long capital-market instruments to balance with them. And the more you can make the liabilities look like capital-market instruments, the more you can divide them up into bonds, equities, options, and even change sometimes the nature of the liabilities to make them look more like capital-market instruments, the easier it is to manage their risk and draw profits from them. I think that's going to be a very important area in time for insurance companies, pension plans, and corporations, in general.

FROM THE FLOOR: I used to work for a stockbroker, W. I. Carr, in London. I was a bit surprised at some of the comments that were being made about how the FSA designation is looked upon in the investment area. I found that my colleagues treated me extremely favorably, simply because I was an actuary. Some of them might have regarded it as being a fairly sort of mysterious qualification, but they certainly had

tremendous respect for me. I also found that fund managers liked to talk to me because I was an actuary. This was especially the case with fund managers who were actuaries. The rules are certain on the technical issues, where there was a real preference for talking to an actuary rather than to any other fund manager. Now I don't know if maybe there's a big difference between the U.S. and England in that respect. I wouldn't have thought it was too different.

MR. PESKIN: Let me address that as another English-qualified actuary practicing in the U.S. I found that there is a big difference in how actuaries are viewed in the U.K. and how they're viewed in the U.S. These differences are evident in their courses of study. If you look at the course material and the type of exams that are set, you'll find they are different. The Fellow of the Institute of Actuaries (FIA) or the Faculty actuary designation is much more of an academic achievement in the U.K. than the FSA is in the U.S. It covers a broader reach of material, and that's particularly true of the investment and economic parts of the exams. Also, in the U.K., the MBA degree didn't become popular until fairly recently, so there wasn't that huge slew of people in the U.K. who were really well versed in finance. This is my understanding of it. In the U.S., actuaries tend to be more focused on insurance company rules and on the pension tax laws. ERISA even forces that. The enrollment exams are mainly menu-driven examinations that don't require a broad understanding of the economic or financial implications of the liabilities or investments that go along with them. That hurt actuaries in the states. They still have the ability to pass the exam. You still need good analytic abilities, but the training has fallen short of being able to compete with the financial training from Wharton or a University of Chicago MBA. It wouldn't take that much to get there, but it's not there at the moment; at least that's my view.

MR. NEMEREVER: I think that the U.K. is quite different, and Allan mentioned what Ned Johnson, head of Fidelity, said about actuaries. When I was at Fidelity heading the global fixed-income area for Fidelity International, my counterpart was a Fellow of the Institute of Actuaries, so the U.K. has a very different orientation.

FROM THE FLOOR: I'm aware that there are big changes being made in the Society of Actuaries courses, as far as the finance portion is concerned, so maybe that's going to change in the future.

MR. NEMEREVER: One index that's widely followed in the U.K. is the FT Actuaries Index. In the U.S., actuaries aren't generally connected with investments.

MR. THOMAS L. BAKOS: I couldn't help but notice that you all got into your current positions primarily through your own individual efforts, skills, and drive. I get the impression that nobody hired you to do what you're doing now because you are an actuary. My question is whether this observation is true. Also, if you hadn't become an actuary first, before you discovered the investment arena, would you be an actuary now? Is there anything the profession can do to create an interest among the various investment employers to actually want to hire actuaries and not be surprised at any designation?

MR. PESKIN: I don't think any investment bank looks for an actuary. Most of them don't even know what an actuary is. But they are very short of certain kinds of

talents. Strong mathematical skills, especially combined with good communication skills, are always in demand. A really good understanding of finance is always in demand. If being able to apply different theories in an option world is of value, and they look for this, they won't assume that just because you're an actuary you don't know these things. They're more likely to ask what you do know, what you can do. To get hired by a Morgan Stanley or a First Boston is really all I can comment on; they're going to look for a track record. They're going to look for whatever you published, who knows you, and what you have done. And the fact that you're an actuary won't count against you, but it's not going to count for you at all. You're going to have to sell yourself on something else, what you have done in your career. Publishing is a good idea. If you want to get into an investment bank, start doing research on your own and get papers out there. That will help your visibility, especially if it's a good idea and it relates to the investment field.

MR. KARP: I have a comment on one part of the question, in which you said it seemed like nobody hired you because you were an actuary. In my first job in investments in which I was hired as an analyst for the insurance industry, it probably was helpful that I had an actuarial background. Although, as Mike just mentioned, it's really what skills you have that would let you do this job. They really don't look at designations per se. Another part of your question was, if you were not an actuary when you got into investments, would you be one now? I'll answer for everybody, probably not.

MR. FEN: Just one comment. I was hired in my current job because I was an actuary, and it's because the GIC market was heavily insurance dominated, at least in the past. My boss wanted somebody somewhat familiar with the analytical work going on in insurance companies on the pension side, and because he also was fairly new to Fidelity, he wasn't aware of the stigma that it had throughout the company.

MR. NEMEREVER: I would just add, as I mentioned, the John Hancock investment department was persuaded to take surplus actuarial talent. I probably shouldn't say this, but I got to join the investment department because of a survey done by the head of the department to learn of his need for actuaries. After I left, another survey was done to see how many more actuaries they'd want, and they decided they didn't want any more in the future. I agree with Ron. If you really want a career in finance and you're a young person, actuarial training is great, but it's not straight on so you'd be much better off training in finance and taking a quantitative position. The skills that Mike mentioned would really be attractive. In terms of the profession, as Michael pointed out, the syllabus is a little deficient and there might be some possibility of integrating some of the CFA exams into an investment track. If an actuary who took the investment track also became a CFA, that would probably be a good strategy. Finally, the biggest thing is that insurance companies that are managed by actuaries, and there are still a few left, could do more to bring actuaries into the investment process on both the asset and liability sides and just create paths and departments that would be staffed with both actuaries and investment people.

FROM THE FLOOR: I was at a conference about a year and a half ago that had a panel made up primarily of investment professionals not unlike yourselves, although these people did not have any actuarial credentials whatsoever, and they gave a fairly stinging attack on the life insurance industry in general. Certainly actuaries can be

criticized as a major participant in the product generation cycle in terms of their inability and absolute ignorance of the value of the options and features of the products that have been offered to the market. Based on that, I would think that our credentials as actuaries would work to our disadvantage when trying to make a transition to a professional, investment-oriented career. You gentlemen have been very polite in this regard. Do you feel differently than these people I heard previously, or are you just trying to be careful about our feelings?

MR. NEMEREVER: Well, it's easy to throw stones. I think the investment industry was ignorant of options in the early 1980s in connection with mortgage-backed securities. They probably didn't mention that their dedicated portfolios failed because they included bonds with imbedded options. In general, and I am certain Allan will want to say something about the GICs, actuaries haven't been encouraged to work on the asset side, where I think the application of option theory was more developed. One of the papers used by Morgan Stanley, for instance, on option pricing was written by an actuary, Bob Clancy, who was at the Hancock. So it's not that actuaries are out of it, but I think it's fair to say that many people didn't understand options and probably waited too long to adopt a contingent-claims approach to what they were doing. As Michael said, you have to think of insurance products as complex financial instruments, and the minute you start thinking that way, then the actuarial work becomes a lot more integrated with the investment side.

MR. FEN: I think that there is a feeling in the mutual fund industry, at least, and in the investment business that the insurance companies and banks have been a little bit behind. I think that was more the feeling and actuaries kind of got caught up in that. I don't think, at Fidelity at least, that actuaries are singled out, but you do hear comments about insurance companies and banks that are more often than not uncomplimentary.

MR. PESKIN: I worked with a number of actuaries, because I was dealing with the corporation's consulting actuary on the pension side, and a number of them were very quick to catch on. It was almost like a light went on or a window opened and they were right on board. There I felt that the course of study was deficient in not teaching these things a lot earlier. But there were, unfortunately, a large minority of actuaries who I could have spoken to for ten years and they would still not understand or adopt it. They were just going to fight it, because it was different from the way they used to view the world; that's unfortunate and I don't know what to do about it.

MR. DAVID L. CRESWELL: I wanted to react to the first question that was asked and Mr. Peskin's answer to that. The question was, if there isn't growing demand outside of the insurance industry, isn't there apt to be a growing demand within the insurance industry? Mr. Peskin talked about the ability to look at the liabilities as being integrated with the assets and really see that big picture. I'm wondering if many companies are in the same position as my company. Only a few of the larger, sophisticated companies have had this kind of expertise, and we're looking for this kind of expertise in an actuary, well, probably an actuary, with a chief investment officer being very open to that. I look at it as the senior actuary in the company, who in the long run is very likely to be an heir to the chief investment officer. This kind of understanding is really going to be at the top. I wonder if we're not kind of

down there as part of the iceberg below the water that you don't see, and there are companies our size all over.

MR. PESKIN: You're absolutely right. I've already had at least half a dozen calls from headhunters looking for an actuary to be an assistant to a chief investment officer on this asset/liability issue. I get the calls because they just have heard that I'm an asset/liability person, not realizing that it's not in the insurance world. I'd be happy to put these headhunters in contact with whomever wants to give me their card. I don't know too many insurance actuaries who are interested in getting into the investment side. But that seems to me, from that little bit of experience of getting calls, that this is a growing area.

FROM THE FLOOR: I just want to mention that it's not as bleak as may have been portrayed. I recently entered Wall Street from the actuarial profession, and in our firm, we have several people who are basically dropouts from the actuarial program. What's needed to make the transition? It's difficult for someone to become an FSA and spend seven to ten years of his or her life studying one area of business and then make a transition into a meaningful slot in an investment banking firm. But many people with the analytical skills to attain Fellowship choose to make a switch earlier in their career. I think that the type of people who can be actuaries can also be successful on Wall Street; it's not certain, however, whether they can become actuaries and then become successful on Wall Street.