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**BALANCING DEFINED-BENEFIT (DB)  
AND DEFINED-CONTRIBUTION (DC) PLANS**

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Recorder: ANTHONY C. DEUTSCH

*DC plans have become nearly universal. How should a DB plan design reflect the simultaneous existence of a DC plan? Is the offset approach an important design option in the present environment? How would an offset plan operate fairly when participants in the DC plan control their own investments? Is an offset approach reasonable in combination with a 401(k) plan? What other approaches provide a coordinated retirement program?*

MR. ANTHONY C. DEUTSCH: I'm a retirement consultant. I'm not necessarily an expert on these matters, but I'll try to pretend to be. Don Sauvigne is the director of retirement and capital accumulation plans at IBM Corporation, where he has worked for the last 25 years.

Although the program heading indicates that we're talking about mixing DB and DC plans, we're going to be a little bit more focused in our presentation. I will talk about what I've called hybrid pension plans and Don will talk about a specific case study, the recent changes that IBM made to its retirement program.

As I indicated, I will talk about hybrid pension plans, and I've dubbed this as a high-level overview. By high level, I mean that this is not going to be a technical review. We'll focus more on some of the business issues: why these plans have become as popular as they are, what they're all about, and so on. That's the sense in which this is going to be a high-level overview.

I don't know if there's any commonly accepted definition yet of what a hybrid pension might be, so I've indicated what I think of when we talk about a hybrid pension plan. It should be a DB plan. In other words, plan assets belong to the employer. The employer still has the responsibility for making good on the benefit promises of the plan, but the plan has many significant DC attributes. Some of those attributes might be things such as the benefits being presented as account balances, the pattern of benefit accruals being more front-loaded, and people leaving early in their careers getting larger benefits. In addition, typically, although not always, these benefits are payable as a lump sum.

One might even say that the characteristic feature of a hybrid plan involves the lump-sum presentation. I'm not going to go into a lot of detail about what a cash-balance plan consists of because, at this time, I think that most of us are familiar with them. But in a cash-balance plan, there is a notional account balance, something that looks like an account balance but really isn't an account balance. It behaves mathematically like an account balance, but, again, the assets belong to the employer. In a so-called

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pension equity plan, which I'll be talking a little bit about later, again, there is a lump-sum equivalent of a benefit. I think it would even be acceptable to say that a well-designed lump-sum feature in a traditional DB pension plan, if it were done in the right way, would be a type of hybrid plan.

Portability of benefits is usually one of the key features, again, of a hybrid plan. A lump sum is generally, but not always, available. In fact, it's becoming a little bit more common to see some companies really positioning this notional account balance or this theoretical amount as almost a communication device to express the value of the benefit as opposed to it necessarily being available as a lump-sum benefit. Others offer immediate annuities as their way of providing a portable benefit. Some form of portability is generally one of the defining features of a hybrid.

Why is there so much interest in hybrids? They have been building up over the last five to ten years, but they really seemed to have gained a lot of momentum in the last year or two. Broadly speaking, hybrids fit very well with many employer and employee objectives. In the area of compensation and benefits, companies are expressing the desire to have much more of their compensation, as well as their benefits, be performance-driven. They want the benefits to be variable in the sense that they're more related to company performance and to individual performance. They want flexibility in the ways their benefits and compensation are delivered, so that they can meet the different needs of different employee groups. These kinds of goals fit very well with the kinds of new hybrid pension plan designs that are out there. Organizationally, many companies are also saying that they want a shared responsibility between the employer and the employee, that the model of the traditional DB plan is really more consistent with a paternalistic, entitlement way of thinking. There's less emphasis on long-term employment now. The nature of the contract between the employee and the employer no longer exists—if you work for us for 30 years we'll give you thus and such. There's a great deal more independence and flexibility, so the various plans of the employer should reflect that as well.

From the employee point of view, employees want benefits that are understandable. One of the frequent complaints about traditional DB plans is that people don't really understand the formulas; they don't understand the level of benefits they're getting. There is a great deal of confusion about the nature of the benefits. Employees also want more control over their benefits, and they also want some flexibility in terms of the type of benefits they can receive.

One way of looking at a lot of what I've just discussed, which I have found helpful in discussing the issue with companies, is to talk about the distribution of benefit dollars. If you look at the DB pie, in Chart 1, this kind of configuration is common for most DB plans. About \$0.85 of each benefit dollar that's delivered in the DB plan is delivered to people who actually retire. Only \$0.15 is delivered to people who leave early. I've drawn the DC pie rather broadly, but it wouldn't be unusual in a typical DC plan to have \$0.50 of each benefit dollar be delivered to retirees and the remaining \$0.50 be delivered to early leavers. This really summarizes, in a nutshell, the fact that the DC benefit accrual pattern—quite apart from whatever other nice features of understandability and control the plan has—delivers benefits in a certain way to employees. (I'm talking about level accrual DC plans here. We'll talk about other ones later.)

## BALANCING DB AND DC PLANS

CHART 1  
DISTRIBUTION OF BENEFIT DOLLARS

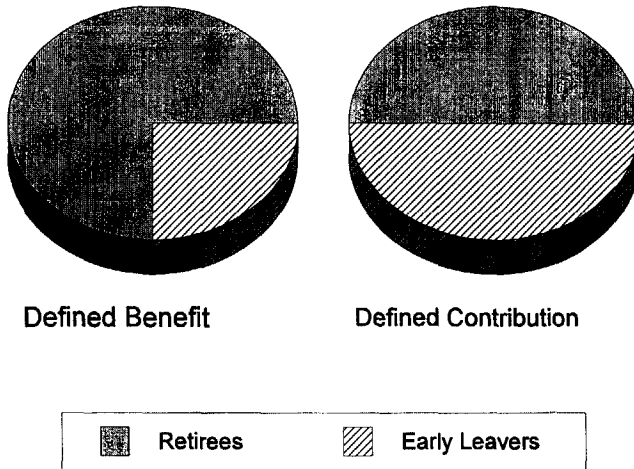


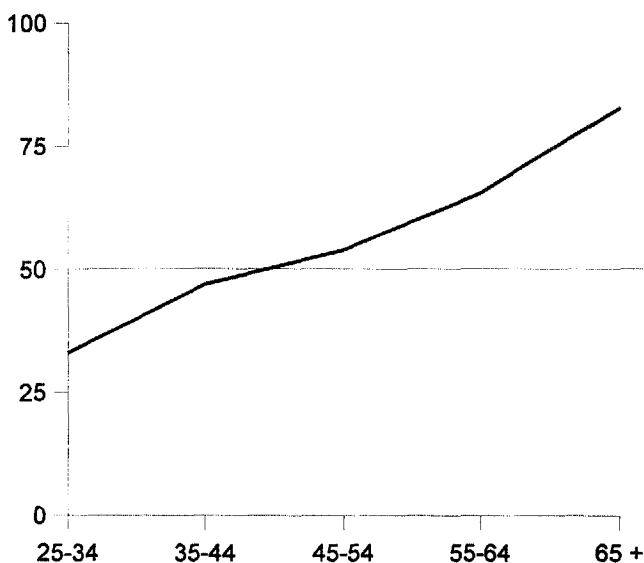
Chart 1 really defines the difference in terms of the distribution of benefit dollars. It also helps clarify an issue that seems fairly obvious to us as actuaries, but sometimes I think employers come into design situations with competing objectives that don't always make sense. There is, I think, a misperception out there that DB plans intrinsically cost more than DC plans. I've heard that statement made a few times. And, really, if you look at a diagram such as this, you can see clearly that if you're spending a dollar on benefits, the big difference between the plans is who's getting that same benefit dollar. In a sense, Chart 1 shows that the DB plan is the most efficient means for delivering retirement benefits. If you want to spend \$1 and you want to deliver most of that dollar to retirees, you want to do it through a DB-type benefit accrual pattern. I'll return to some of these messages later. But I think this is a useful model to bear in mind when we're talking about DB hybrid variations. Which plan best matches the goals of an employer and employee group?

Another thing that has been going on is that many interesting generational issues have been created by the baby boom generation. Chart 2 is based on a set of data that is available from one of the census surveys; it was worked out by the research group at Wyatt, but it was originally taken from some Department of Labor census data for participants who participate in both DB and DC plans. It's a somewhat limited subset of the universe, but it shows what employee plan preferences are by age. Not surprisingly, but I think interestingly nonetheless, it shows a very strong correlation between age and employee preference. The crossover point appears to be somewhere in the mid-40s, so at that point, about 50% favored DC and DB. Beyond that it goes strongly in favor of the DB plan.

The reason I think this is interesting, and I'll come back to this, is of the many changes that have occurred in benefit plans, many have occurred in organizations that have been

driven by this huge cohort of baby boomers marching through the U.S. And, of course, back in the 1970 and 1980s and even now in the 1990s, the bulk of that population has been concentrated in the portion of the curve that lies below the 50% preference line. As the baby boom population ages, I think we will see some shift in employee preference as well as in the way employers are designing their plans. It's useful to bear this in mind whenever we talk about DB versus DC.

CHART 2  
AGE AND PLAN PREFERENCE  
PERCENTAGE OF EMPLOYEES PREFERRING DB OVER DC\*



\* 1993 Current Population Survey.

Some of the external factors are other things that are driving much of the interest in hybrids. I think that 1986 tax reform retroactively made DB termination essentially impossible at the beginning of 1986. Prior to that, there had been a lot of activity with terminations and restarts or just plain terminations and conversion to DC plans, and that really put a stop to that kind of activity, at least for large corporate sponsors. This created the need, if you will, for companies that are dissatisfied with the DB delivery system to come up with different solutions. And that was one of the reasons that there was the push toward hybrid plans.

In addition, at a somewhat later time, IRS regulations on tax reform for the first time made it widely possible for actuaries and companies to come up with creative plan designs that allowed different contribution and benefit patterns that could be shown to satisfy the new objective nondiscrimination rules.

More recently the General Agreement on Tariffs and Trade (GATT) changes have made lump sums in DB plans a lot more attractive from an employer's standpoint. Finally, I

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think just the general mobility of the employed population is a factor. The baby boomers entering the workforce, being naturally more mobile earlier in their careers, generated a great deal of interest in DC-type plans, plans that deliver more tangible value early in one's career. Those are some of the external reasons why we've had such a great interest in hybrids.

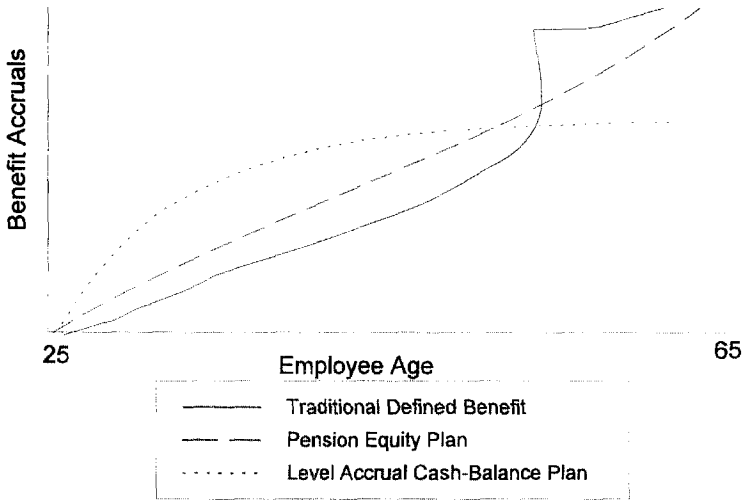
I've been talking about these plans without really saying what they are. Of course, at this point they are well known. But let me just give a brief sketch of what some of the principal types of hybrid plans are and what, broad stroke, the evolution of these plans has been. The first generation of cash-balance plans occurred in the mid-1980s. In effect, they were a mirror image of traditional money-purchase plans. Generally, so much percentage of pay was set aside as a "contribution" into this notional account balance. The contribution was expressed as a level percentage of pay. The account balances were credited with interest, generally based on short-term rates, benefits paid as lump sums. All in all, they have a fairly simple design arrangement which, by and large, mimics traditional DC plans.

The next generation of cash-balance plans, again, took advantage of some of these nondiscrimination rules, the flexibility that's available for different types of design features, so now many contributions are graded by age and service. We see contributions integrated with Social Security. We see interest rates linked to market indexes. We see, as I mentioned earlier, somewhat of a minitrend toward benefits not being payable as lump sums, but only being payable as annuities. Several prominent companies have done that lately. Also, there are some other interesting innovations. I'll refer to one or two of them as we go along later.

Another type of plan that fits into this sort of hybrid definition that I'm talking about is a pension equity plan. These plans were created as an attempt to bridge the needs of different work forces. Traditional DB plans, as we have been discussing, essentially benefit the long-service employee. Cash-balance plans, at least in their first iterations, primarily benefitted the younger, more mobile worker. Using a DB final average pay formula, the pension equity plans expressed benefits as a lump-sum credit. The accruals, more importantly, vary by age and service. You end up with a better balance between providing many benefits for the short-service employee versus only providing benefits for the long-service employee.

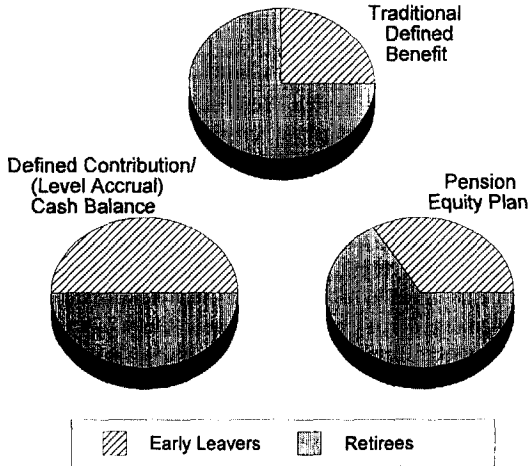
There are a couple different ways to look at this. One way that can often be very useful is to look at the overall curve of the benefit accrual pattern. The solid line in Chart 3 is the traditional DB accrual pattern. If you look at this, you can see a relatively low buildup in the earlier years of employment in the kind of plan that is illustrated here. A heavily subsidized early retirement, starting at age 55, creates a huge jump in value at that point. These plans also have a very erratic accrual pattern. The early-generation, level accrual cash-balance plans produced a more uniform accrual, but they tended to overweight the benefits given to early leavers, and they tended to underweight the benefits given to long-service employees and midcareer hires (dotted line in Chart 3). With the pension equity plan, as well as cash-balance plans that vary the credit based on age and service, one is able to achieve something such as is represented by the dashed line. To many employers, this type of pattern strives to achieve a better balance between the needs of the young and the needs of the older workers.

CHART 3  
PLAN COMPARISONS



To put this in the context of those pie charts we looked at earlier (see Chart 4), the pension equity plan distributes more of the pie than the traditional DB plan to early leavers, but not as much as the traditional DC or cash-balance plan. It ends up somewhere between.

CHART 4  
DISTRIBUTION OF BENEFIT DOLLARS



IBM's plan is a variation of the pension equity plan. Don will describe the specifics of that plan, so I'm won't go any further into the details of it.

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Let me just briefly mention other current hybrid plan ideas. Companies can seriously look at, now that GATT has passed and has made the lump-sum rules more workable, just putting lump-sum options into traditional DB plans. If one is looking for portability and a somewhat better accrual pattern, then one could devise a DB plan with a more front-loaded traditional formula with a lump-sum option and accomplish many of the same things that are being accomplished by these more exotic hybrid plans. It may not have quite the same communications appeal, but it really would get you to a similar place in many cases and with less effort. So I think that's one of the options that companies will start looking at.

Another innovative idea that's come up in the last year or two is introducing some sort of flexible retirement credits in connection with a cash-balance and a 401(k) scheme. In other words, the employer would offer the employee a choice between directing pension credits either into a cash-balance account or into a 401(k) account.

One of the ideas that has been discussed is having benefit credits in a DB plan tied into employer results, in a sense like a profitsharing plan. There are some issues about definitely determinable benefits, and there are definitely some design questions there, but this idea keeps getting raised because of its tie-in to employer objectives.

Another idea, which isn't really a hybrid per se, is to allow employees the option at retirement to convert part of their DC balances to DB annuities. By doing that you create an interesting situation that is almost the reverse of the received wisdom on employee preferences about DC and DB plans.

Another type of plan, which also technically isn't a hybrid plan but is relevant to this sort of general discussion, is the age-weighted profitsharing or age-weighted DC plan. These plans can be created to virtually mimic the benefit accrual patterns of DB plans. They can be fine-tuned, depending on your discrimination testing, and they can do a very nice job. So those plans are gaining in popularity as well.

Having talked about what these plans are and why the interest, I want to briefly discuss some related strategic issues. If you're actually trying to implement one of these plans in a real-life situation, what are some of the other key issues that need addressing? One of the things that is often useful right upfront is to consider the galaxy of alternative plans that a sponsor might consider. We've really only scratched the surface on 3 or 4 of them, but probably 10 or 12 different separate designs fall into the general scheme of DB, DC hybrids. A good way to begin is to identify the major employer objectives and match them against these kinds of plans. For example, if highly perceived employee value is an important objective, it's usually agreed that DB plans rank low in this area and DC plans rank high.

Another objective might be to maximize the benefit dollars delivered to retirees. That's really another way of discussing the pie concept we were talking about earlier. DB plans are the best vehicles for delivering retirement dollars. When we talk about these plans, it's useful to remember that they are retirement plans and not generalized savings plans. So if we're talking about delivering retirement benefits, that's sometimes a useful point to remind people about. In any event, this kind of "decision matrix" can be very useful even as a first step. Of course, you must have more detailed discussions with an organization to

really drill down and figure out what needs to be done, but this is often a good beginning point.

Some of the other things that you must bear in mind when you're looking at any kind of major plan design change, but particularly when you're talking about a hybrid plan, is communication. One of the main purposes of these plans is to have a plan that's more understandable and better appreciated by employees. If that objective is not served, then you've really created a lot of work and a lot of administrative hassle for no good purpose. Whenever you have a significant benefit change such as this, it's critical to think about the communications issues early on, so that they're built into the design and built into the whole theme that the company is trying to develop from the outset.

These days, with the kind of technology that's available for financial modeling and other things, if you have a good benefit administration infrastructure in place, you can really accomplish a lot of the communications work by setting up creative ways for employees to compare their benefits and do some financial planning in terms of the changes in the plans.

Another thing that is neat about hybrid plans is they mesh so well with the concept of total compensation. The benefits really become much more closely linked to compensation and it provides a good opportunity to tie these together at companies that have that kind of total compensation philosophy.

The next point is timing for any plan design change, but the transition issues are particularly important when you're making a transition from a traditional plan to a plan of this type. The amount of benefit protection really needs to be very carefully looked at: For whom? How much? How long? There are many different ways to "grandfather" benefits, which could be a whole subject in itself.

A special issue that can sometimes arise when you're making these kind of plan changes is that you'll most likely create an immediate windfall, particularly for shorter-service employees. If you transition to a formula in which you calculate the past service benefit based on the new formula, many short-service people will see a big jump in their benefits. This is something that has to be thought about very carefully; it has to be looked at in the context of what's going on in terms of the company's business. For example, if there's a possibility of downsizing and people may be leaving in large numbers in the next few years, creating that kind of big blip in benefits could have a much higher cost than you might have normally priced in terms of going-concern assumptions. So this is an important issue, particularly for an actuary.

When assessing the effect of plan design changes on different demographic groups we've found it very helpful to do a simple "winners and losers" matrix for some hypothetical employee groups. Table 1 shows someone who has 15 years of service, whose pay is average for this company. If you go across the columns, it shows what would happen to that particular employee if he or she retires with the service shown in the column at departure, either termination or retirement. The result is expressed as a plus, as a minus or as being neutral (relative to the current plan). The level of gain/loss that determines a plus or minus will, of course, depend on a particular company's individual goals/criteria. For example, it may consider anything less than a 3% change as being basically neutral and something greater than 3% to be significant enough to warrant looking at. By taking a look at these kinds of matrices, it's easy to get a bird's-eye view of the patterns of winners



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and losers. When you're in the design phase of the plan, either in the preliminary design phase or in dealing with those transition issues, this can be a very useful tool for developing the right grandfathering approach.

**TABLE 1**  
**XYZ CORPORATION—EFFECT OF PLAN DESIGN CHANGE**  
**ON DEMOGRAPHIC GROUPS**  
**CURRENT SERVICE: 15 CURRENT YEARS: AVERAGE**

| Current Age (Count) | Service at Departure (Years) |    |     |     |     |
|---------------------|------------------------------|----|-----|-----|-----|
|                     | 15                           | 20 | 25  | 30  | 35  |
| 40 (1,000)          | +                            | +  | +   | -   | =   |
| 45 (300)            | +                            | +  | -   | =   | -   |
| 50 (100)            | +                            | =  | -   | =   | N/A |
| 55 (25)             | +                            | +  | =   | N/A | N/A |
| 60 (10)             | +                            | +  | N/A | N/A | N/A |

Note: - New < Old; = New = Old; + New > Old

There are many trends and innovations, and people are doing different things. I just want to mention one that we have talked about with a couple organizations that I think can be attractive. It is to offer a plan in which you start with, say, a traditional cash-balance plan accruing only for the first ten years of an employee's working career. At the same time, a traditional DB plan is also going on. The employee at termination or retirement would get the greater of the cash-balance benefit or the traditional DB benefits. By setting things up this way, if someone leaves in the early years of employment, his or her benefit would be generally based on the cash-balance lump-sum amount. That's what you want to give people who are early leavers. As people progress in their careers, as they stay on to retirement ages, they end up getting a more traditional DB, which is what you want to give people who retire from the company.

Just to wrap up, I want to do a little forecasting. I'm going to look in the crystal ball. I'm going to first look backward because that's an easier direction to do forecasting in. If you look back at hybrid plans, the first plan was put in in 1985: Bank of America's cash-balance plan. In 1986, DB plan terminations became impractical, and this certainly gave further impetus to the development of hybrids. We talked earlier about the effect of tax reform regulations. The first pension equity plan was put in in 1992 at R.J. Reynolds. The lump-sum rules were liberalized under GATT. That's a brief ten-year history that is relevant to hybrid plans.

I want to return to an earlier observation, namely employee preferences for DB versus DC plans. It's very age-dependent. As people get older, they see the value of having a DB and there's no magic in that. The fastest growing segment of the population of the workforce from 1990 to 2000 is the one that's in the 45-54-year-old group. That group, based on the survey of employee references, if we look out over the next ten years or so, will be more and more interested in DB plans. I think one conclusion we can draw from this is that there's going to be continued interest and continued growth in hybrids. Wyatt's database shows about 8% of the approximately 400 DB plans as having some kind of nontraditional hybrid arrangement. It could be 15% by the year 2000. That may be high, but it's certainly not impossible.

Given the trends toward the aging of the workforce and all that implies, I think we're going to see more emphasis on the benefits delivered to retirees, as opposed to the earlier emphasis on how much the early leavers are getting. There will be more emphasis on the issue of flexibility of benefits and coordination with total compensation. This issue of company performance being connected with employee benefits, I think, is here to stay. My prediction here is that these issues will be the driving forces behind the characteristics that we'll see reflected in hybrids in the future. Don will now tell you about a real-life hybrid plan: the IBM plan.

MR. DON H. SAUVIGNE: I'd like to tell you the IBM story. I will share with you some of the things that we've gone through over the last several years, from a practical point of view, that we've looked at at IBM; how we looked at our workforce and looked at that commitment of delivering a promise to the future and how it all comes together.

Being a human resources type of guy, I will start off with a list of basic beliefs. Those of you who are perhaps familiar with IBM and some of the challenges and the successes we've had over these last few years know that we've modeled ourselves as a corporation in a contract with our employees, our customers, and our work environment. Three premises were put to paper in 1962 by the late Thomas J. Watson, Jr.: respect for the individual, excellence as a way of life, and customer service. We still believe in those as much today as we did in 1952, in 1982, and so on. In 1993 we brought in a new chairperson, Lou Gerstner, from the outside. There was a total revolution and a culture change at IBM in the form of bringing leaders in from the outside who were not homegrown. Mr. Gerstner has taken us to successes again, but he has set forth new principles, and I thought I'd share them with you.

We still have the three basics. But now we're also talking about the marketplace, shareholder and customer satisfaction, and entrepreneurial spirit in the way we engage with our customers. That has much to do with how our human resource programs relate to our workforce and how our services and products relate to the compensation and benefits provided in the employment relationship.

Continuing, let's not lose sight of our strategic vision. (We did at one time. We found it, so let's not lose sight of it again.) We have to work as a team in an entrepreneurial spirit, and we can't be separate entities within a major corporation working against one another, as we did for a bit. We have to be good corporate citizens in what we do. I just wanted to share that with you. It's a little bit of motherhood and apple pie, but I think it's important because it is the fabric of the company.

For an historical perspective, in 1986 IBM had about 420,000 employees worldwide, and 240,000 or so were in the U.S. Nine years later the total worldwide population of IBM is less than what it was just in the U.S. in 1986. Worldwide we're now at about 220,000-225,000. In the U.S., where we were 244,000, we're now at 105,000. I think IBM Canada peaked around 11,000 and we're now at about 8,000.

Why is all this relevant? In 1986 in the U.S., for every retiree from the IBM Corporation we had 14 active employees. Today we have more inactive employees whom we have benefits commitments to than we have active employees. There are 105,000 active employees, 80,000 employees in pay status in retirement, 30,000 U.S. employees

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in what we call a bridge leave of absence, and about 40,000 in vested status. So in a period of nine years, we have gone from that 14:1 ratio to one to really a 1:1 ratio in the delivery of retirement benefits. Just putting that into perspective makes us sit back sometimes and think.

One of the other things, and this is a little Sauvignism, so to speak, is what I call the “relationship revolution.” So much is going on about us in the global economy, in the work environment, in our life and family environment, and so on. We used to measure societal revolutions sometimes in periods of hundreds of years or over decades. Revolutions now occur, I believe, in months. And I think the employment relationship is being measured that way today. One of the things, and Tony alluded to it, is that when you talk about hybrid plans or the relationship in retirement security, the revolution that’s occurring today is the lack of awareness of the workforce of what’s going on about them that will have a dramatic effect on them in their future—understanding who’s going to pay what in future years. This is the old “three-legged-stool” concept that maybe some people are starting to pay attention to now, but it’s changing so dramatically and I think there’s an employer responsibility in that relationship. The employer needs to shift, as we have, from paternalism to a more entrepreneurial and partnership model. If we don’t educate and make the employee aware of what part is delivered by the employer and how is it delivered, then we’re only doing half our jobs as employers.

In 1984 we were in an era of paternalistic culture. It served us well. It served our employees well. We reached the mid-1980s and recognized that the wheels came loose on that approach. We had to make some rapid changes to it. In 1994–95, we again made some changes and looked to the future. I think the best lesson that we’ve learned about the delivery of retirement plans and benefits to employees is that you must move those as fast as you move the products and as fast as you move the delivery to the customer. That’s something new in the human resources world, particularly in benefit design. We’re all going through that now with health care delivery, and I think we’re going to be going through it in short order in the retirement area, too.

### Evolution of IBM Benefits

#### *Entitlement (pre-1984)*

- Excellent business conditions
- Paternalistic organization
- Benefits and compensation not tied to business

#### *Shared Responsibility/Cost Control (1984–93)*

- Increasingly competitive business environment
- Partnering with employees
- Cost pressures
- Restructuring/Streamlining

#### *Competitive (1994 +)*

- Competitive business environment
- Entrepreneurial organization
- Competitive benefits and compensation
- Total compensation tied to company performance/shareholder value
- Employees as stakeholders

In January 1991, we made some major changes to our retirement plan. We had a very traditional DB plan and a 401(k) plan, but most of the time we didn't put them together and didn't communicate them as well as we could have. We had a vision of the future of the IBM Corporation: its size, its type of needed skills, the turnover of those skills, and so on, and we reengineered the retirement plan around that vision and made a hybrid plan out of it. We took the traditional plan and added a cash-balance feature to it. We had what we call the 30-year model and the tenure pattern of employment. We tried to forecast what the workforce would look like in 2000, in 2005, and in 2010; not just the IBM workforce but the workforce we were going to pull in for the labor and skills and the expertise to drive the company. We created a plan around that in 1991 by taking the traditional DB plan and hooking on a cash-balance feature and integrating the DC plan with the DB plan into a total retirement package.

Four years later, effective January 1, 1995, we threw that out. Why? We looked at it and said, why should we change? Why should we look again at the retirement plan? Tony said it a few times; it's really a long-term plan and you ought not be spinning those dials too quickly all the time. When we looked at the culture and the business we were in—the transformation of the company, the workforce, the products, the tenure, and so forth—it became evident to us that we needed to have devices to recognize the changes in the employment relationship that were more contemporary, more responsive to our environment and that respond to the new cost objectives of the IBM Corporation.

Because of our business and the state of technology change, we knew that we would be doing a lot of midcareer hiring in the future. In the last two years, we've done more midcareer hiring to turn the company around than we probably did in the 78-year history of the IBM Corporation. We needed to address the tenure pattern, provide for more portability and flexibility in the plan, and maintain a competitive posture. As we looked at our plans and benchmarked them, we found ourselves on target in terms of cost and total benefit delivery. But we were spending far too much money on early retirement as we looked to 1995 and to the future. We had deliberately designed it like this in 1991, but circumstances had changed rapidly, and we had to reengineer this feature.

We also need to change our employees' perception of the retirement plan. It is not a paternalistic plan and it is not entitlement; a partnership has to be imbued here. But we still want to provide the tax-qualified and competitive features, focusing more on employee flexibility in delivering of these values for the future. So basically we needed to rebalance the DB and the DC plan, integrate them together more through interactive personal planning on the part of employees, so that they can see where the values are coming at different break points in their careers. We really became very focused on balancing the delivery of this retirement product and the cost of the product and bringing in more and more responsibility on the part of the employee.

As further background, our workforce strategy changed dramatically. In 1991, just by way of history, our then chairman and our leadership were seeing the potential for creating "baby blues." There was some modeling of breaking the company up into 13 different parts. What if we did that? Would we have 13 different benefit plans and structures? How would we carve that all out? We never got to that point, but we were planning based on that strategy. In 1993, when Gerstner came on the scene and the

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business looked again at itself, we reaffirmed that we were not going to split the company up, so the workforce strategy had to be reviewed and culled again.

Some of the issues we wrestled with as we discussed the new plan were the cost of the plan, whether to pay lump sums, the right balance between the DB and DC plans, legal concerns, grandfathering, etc. In fact, transitioning to the plan we have today, we spent a huge amount of time on just the issues of grandfathering. In 1991, when we put the cash-balance feature in, we announced that it would feather itself in over three years. Before it finished this feathering, we put a freeze on it because of the financial conditions of the corporation. Before the freeze came off, we undid it and announced we wouldn't have that feature anymore and we put the new plan in that we now have. Also, 25,000 people work for us today who are eligible to retire between now and the year 2000. So those people have a large stake invested in the promise that has been made to them. We spent a huge amount of time building transition rules, not only from the legal point of view, but from an employee equity point of view. We considered virtually a complete laundry list of different types of plans before deciding on the pension equity type of plan that we put in, and I'll show you its details shortly.

Tony showed some line charts of benefit accrual patterns. These kinds of charts served us well in communicating the retirement plan changes to our employees and to senior management. What is this device that has generated roughly \$30 billion in benefit obligations over time? Well, Chart 5 shows the pattern of the benefit delivery. We found that the designs of the 1980s were fundamentally very powerful and served us well. The 1991 design, looking back now, was terrific. Although we aborted it and we no longer use it, that plan and the changes that we put in improved the early-retirement features and helped us move the business along from the resource reduction point of view. It encouraged departures and gave us the platform to induce people to take the bridge leave of absence. So it served us well. But looking forward, we believe that these spikes work to our disadvantage. In fact, the plan would pull people to stay and not induce normal turnover because of the value of the early-retirement benefit. Then as employees became eligible for early retirement, it was pushing people out because the benefit was unreduced and therefore its value maximized at 30 years of service. Key personnel were induced to leave the business in their early 50s and we really didn't want them to leave. So we had to get those spikes and blips out of the plan. We had to design something different.

As Tony's chart showed in general, this is also what we did in our plan. Chart 6 is quite representative of the models for actual IBM employees. We designed the new plan to accrue more value in the early years. That assists in turnover and also assists in midcareer hires. We took some of the value out that was in the early retirement area and just flattened it out and redistributed it across the curve. I'll be back in a few years to tell you if it works. *I do think it will. It was a little tough announcing the whole thing, but it was kind of fun, too.*

CHART 5  
PREVIOUS IBM RETIREMENT/401(k) SAVINGS PLANS

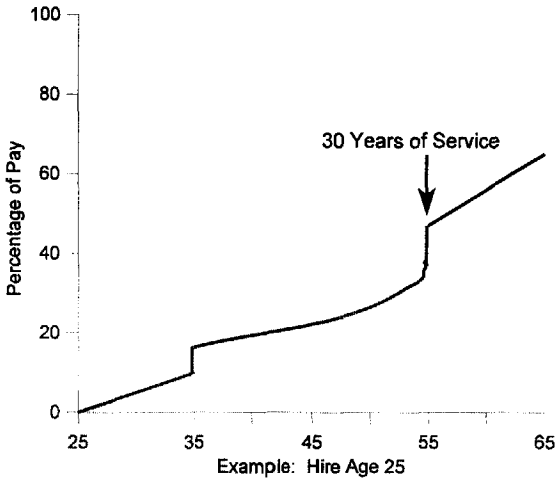
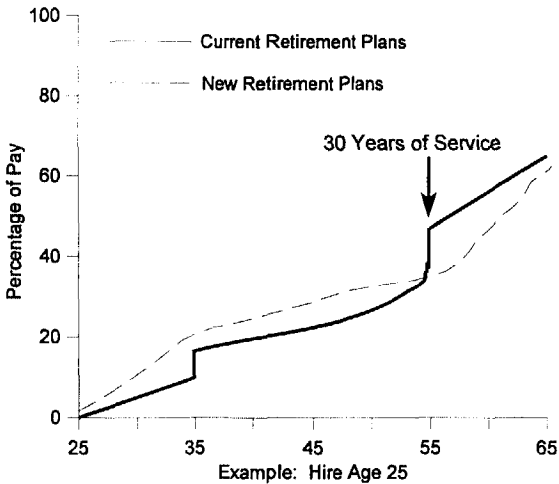


CHART 6  
CURRENT IBM RETIREMENT/401(k) SAVINGS PLANS



There is a summary of changes made. What did we do? As I mentioned, we put in a pension equity plan, and I'll show you some numbers and take you through it. We retained all the eligibility features of the prior plan, so nothing was changed there. The phase-in was the important piece because the old plan, which is still the current plan, is still working through the year 2000. We had to develop how to phase out the old plan

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while phasing in the new plan to best integrate the new hires, short-service employees, long-service employees, and so on. A great deal of work went into that.

A good turnaround year for IBM was 1993. We looked like we were getting there. We're there now, by the way. In 1994, particularly in the first half of 1994, many rumors were running in the business: major downsizing, major layoffs, and major take-aways were going to occur. It was difficult dealing with those. Most of those fell through; they didn't happen. But in an anomalous way, people such as myself were accused of planting some of those rumors because when we did announce the changes everybody was relieved, even though the changes that were made were significant.

The basic plan is a pension equity plan. Each employee is credited with a specified number of points for each year of service based on age. That's very responsive to midcareer hires. In 1991 we put in a plan that capped accruals at 30 years of service, but we wouldn't implement that until the year 2000. That's what we said originally in 1991. But in 1993, we announced that the 30-year cap would, in fact, commence in 1994. This new plan eliminates the concept of another cap or blip. But to control the cost of the plan and to limit replacement values, it does have a maximum number of points. I'll show you shortly how that works.

The base set of points applies to all compensation (see Table 2). These base points have a maximum of 425 over a career. Then, to integrate the formula with Social Security, we put in "excess" points, so that for earnings over covered compensation you get additional points; the maximum number of points is 75. The maximum number of points you can get through a career is 500 points. So this is one of the limiters on the cost of the plan.

TABLE 2  
NEW IBM RETIREMENT FORMULA

| Age   | Base Points* | Excess Points† |
|-------|--------------|----------------|
| < 30  | 7            | —              |
| 30-34 | 9            | 1              |
| 35-39 | 12           | 2              |
| 40-44 | 15           | 2              |
| 45 +  | 16           | 3              |

\*Accumulated points (425) maximum are multiplied by final five-year average pay. The resulting multiple of pay is converted to an annual retirement benefit by using the plan annuity table.

†These accumulated credits are multiplied by final five-year average pay above the Social Security compensation level. This value is combined with the base points to determine the total annual retirement benefit.

To make it easy, you take the points, divide by 100 and you now have a multiplier. The example in Table 3 shows 441 points. The maximum is 425 on the base plan. You add in the value of any excess points that are in shown in Table 4 and come up with the total. In the example, you multiply 4.25 times final average compensation and add 0.70 times excess compensation to arrive at a lump sum. However, we do not deliver the benefits as a lump sum. We deliver the benefit only as an annuity so we created annuity conversion factors. You divide the lump sum by the appropriate annuity conversion factor to produce the lifetime annuity.

TABLE 3  
EXAMPLE OF NEW IBM RETIREMENT PLAN FORMULA

| Age   | Years of Service | Base Points | Total |
|-------|------------------|-------------|-------|
| < 30  | 3                | 7           | 21    |
| 30-34 | 5                | 9           | 45    |
| 35-39 | 5                | 12          | 60    |
| 40-44 | 5                | 15          | 75    |
| 45 +  | 15               | 16          | 240   |
|       |                  |             | 441   |

Note: Final five-year average pay: \$70,000; Social-Security-covered compensation levels: \$30,000; age at date of hire: 27; age at date of retirement: 60. For each year worked, this employee is credited with a specified number of points (up to 425) based on age.  
Years of Service × Base Points = Total.

TABLE 4  
EXAMPLE OF NEW IBM RETIREMENT PLAN FORMULA

| Age  | Years of Service | Base Points | Total |
|--|------------------|-------------|-------|
| 30-34  | 5                | 1           | 5     |
| 35-44  | 10               | 2           | 20    |
| 45 +   | 15               | 3           | 45    |
|  |                  |             | 70    |
| Calculation:   |                  |             |       |
| $\frac{(4.25 \times \$70,000) + (0.70 \times \$40,000)}{\text{Annuity Factor} = 10.918} = \$29,800 \text{ year}$ |                  |             |       |

Note: Because this employee's final average pay is above the Social-Security-covered compensation level, additional excess points are granted.  
Years of Service × Base Points = Total.

That plan change took me months to understand, and I just did it in five minutes. The new plan is a lot less expensive for the IBM Corporation to deliver than was the predecessor plan. We took a lot of dollars out of the liability line on day one just by flipping the switch. Now the purpose of doing that was for all those reasons I said before. The plan continues to maintain economic security, it is a positive plan for employees, and it is very competitive in the industry. When we took that cash-balance piece out, we also doubled the match in the 401(k) plan. One of the reasons for doing this is to stimulate a behavioral change in employees and higher participation. Once you change the behavior and the participation, you now have created employee awareness. You can do much more now to educate people on asset allocation, investment behavior, and so on, within their own funds. That was very much a part of the process of introducing that change.

A thumbnail summary of the plan changes: unreduced early retirement was eliminated; the personal retirement or cash-balance feature was eliminated; and the 30-year maximum was eliminated and smoothed out. So we changed the pattern of benefits for long-service employees, new hires, and fast trackers by putting in this kind of plan.

Is all this responsive to the employment revolution that's going on about us? I think so. I think it will be responsive for the next several years, but I think that we'll be revisiting it



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frequently. And unlike the past, I think we'll be reassessing how these things run on an annual basis and project differently than we did in the past. So that's the IBM story. It took us several years to put it together, but that's where we're at. It's one case study to help you understand plan changes in the context of going from 240,000 U.S. employees to 105,000 in nine years; going from a 14:1 active/retiree ratio to a 1:1 ratio and changing over the wheels on the benefit delivery as we did there.

FROM THE FLOOR: Did IBM think about any other ways of limiting the fixed costs in the plan and tying it more to the success of the corporation in the DB plan?

MR. SAUVIGNE: Yes, we did. We think that the point system that we have in the plan today, although we don't anticipate changing anything, does lend itself more readily to change—such as addressing, for example, any five-year cycle of change. More importantly, on the DC side we came close to putting in a performance kicker and reducing the match that we ultimately doubled. We modeled that out. We decided that because of the cultural change in the company, we just didn't think it was prudent to take the DC side down by not increasing it as much and putting a variable kicker in. But we're looking at putting the kicker in on the DC side.

FROM THE FLOOR: How will that serve you over the next several years?

MR. SAUVIGNE: I don't think there's much to be served. What do I mean by that? I don't think that we're going to experience a significant amount of turnover of new hires in IBM in the next several years. I think that over the next several years, because there are so many different forces going on about us, whom we hire will stay with us well beyond the vesting date. It's difficult today to predict what will happen five years from now. The plan is supposed to be attractive and responsive. To that extent, I think the plan's valuable. We've already seen the evidence of that. If you look at the benefit accrual curves, it has served us well and it's serving us very well right now for the midcareer hires.

MS. JUDITH E. LATTA: Did you consider going to kind of a career average derivative of a pension equity plan to get away from the final pay features? Was that a concern?

MR. SAUVIGNE: Not really. The current plan before changes was a modified career average with base moves. I think it would have been going in the wrong direction to go back to a career average plan.

MS. LATTA: Just a point of reference. With the cash balance, very often management at some point has been scared away from final pay. We're in the process right now of putting in one of these, but it's on a career-average basis. So you really define exactly what the lump sum will be at retirement, based on your salary now, and it becomes kind of a sum of those amounts. So rather than having points where it's multiplied times the final average pay and you don't really know what it is going to be, we used the career-average model.

MR. SAUVIGNE: It's a good point. I think one of the areas where we also can spin those dials is in pensionable earnings. Let's say that three years ago, 20% of the IBM

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Corporation was on some kind of commission pay or variable pay. Today 100% of the corporation—all skills, all levels of pay—is on variable pay. Next year it's our objective to have at least 10% of pay at risk throughout the corporation for all employees. That's what we call our variable pay plan. So as that grows into the future, will all of the variable pay remain pensionable? Those are some of the other things we need to consider in that design: what constitutes pensionable earnings, the career average, or the final five.