



Cornell University  
ILR School

Cornell University ILR School  
**DigitalCommons@ILR**

---

CAHRS Working Paper Series

Center for Advanced Human Resource Studies  
(CAHRS)

---

May 1992

## Innovations and Trends in Pension Plan Coverage, Pension Type and Plan Design

Olivia S. Mitchell  
*Cornell University*

Anna M. Rappaport  
*William M Mercer, Incorporated*

Follow this and additional works at: <https://digitalcommons.ilr.cornell.edu/cahrswp>

Thank you for downloading an article from DigitalCommons@ILR.

**Support this valuable resource today!**

---

This Article is brought to you for free and open access by the Center for Advanced Human Resource Studies (CAHRS) at DigitalCommons@ILR. It has been accepted for inclusion in CAHRS Working Paper Series by an authorized administrator of DigitalCommons@ILR. For more information, please contact [catherwood-dig@cornell.edu](mailto:catherwood-dig@cornell.edu).

If you have a disability and are having trouble accessing information on this website or need materials in an alternate format, contact [web-accessibility@cornell.edu](mailto:web-accessibility@cornell.edu) for assistance.

---

# Innovations and Trends in Pension Plan Coverage, Pension Type and Plan Design

## Abstract

In this paper, we outline recent trends in employer pension plan structure in the United States, focusing on plan coverage, plan type and pension plan design. We then identify the key factors that we believe will shape company-sponsored pension design in the future, drawing conclusions from a review of recent research and practice. Finally, we offer a cautious prognosis about the future of pension plan coverage, plan type and plan design, focusing on the role of labor force aging, as well as anticipated developments in the business environment and anticipated changes in public policy.

## Keywords

pension, workforce, income, retiree, contribution, investment, labor, force, earn, employment, tax, pay, union, trend, coverage, plan design, employer, United States, U.S.

## Comments

### Suggested Citation

Mitchell, O. S. & Rappaport, A. M. (1992). *Innovations and trends in pension plan coverage, pension type and plan design* (CAHRS Working Paper #92-21). Ithaca, NY: Cornell University, School of Industrial and Labor Relations, Center for Advanced Human Resource Studies.

<http://digitalcommons.ilr.cornell.edu/cahrswp/306>

INNOVATIONS &  
TRENDS IN PENSION  
PLAN COVERAGE,  
PENSION TYPE, AND  
PLAN DESIGN

Working Paper 92-21

Olivia S. Mitchell and Anna M. Rappaport

**Innovations and Trends in Pension Plan Coverage,  
Pension Type and Plan Design**

Olivia S. Mitchell  
Cornell University

and

Anna M. Rappaport

Working Paper #92-21

Center for Advanced Human Resource Studies  
New York State School of Industrial and Labor Relations  
Cornell University  
Ithaca, NY 14851-0952  
(607) 255-9358

To be presented at the Pension Research Council Conference on "The Future of Pensions in America", Philadelphia, PA, May 7 and 8, 1992.

This paper has not undergone formal review or approval of the faculty of the ILR School. It is intended to make results of Center Research, conferences, and projects available to others interested in human resource management in preliminary form to encourage discussion and suggestions.

# **Innovations and Trends in Pension Plan Coverage, Pension Type and Plan Design**

## *Abstract*

In this paper, we outline recent trends in employer pension plan structure in the United States, focusing on plan coverage, plan type and pension plan design. We then identify the key factors that we believe will shape company-sponsored pension design in the future, drawing conclusions from a review of recent research and practice. Finally, we offer a cautious prognosis about the future of pension plan coverage, plan type and plan design, focusing on the role of labor force aging, as well as anticipated developments in the business environment and anticipated changes in public policy.

### Affiliations:

Olivia S. Mitchell, PhD  
Department of Labor Economics  
School of Industrial and Labor Relations  
Cornell University  
Ithaca, NY 14853  
Tel: (607) 255-2743  
Fax: (607) 255-7774

Anna M. Rappaport, F.S.A.  
Managing Director  
William M. Mercer, Incorporated  
10 South Wacker Drive  
Chicago, Illinois 60606  
Tel: (312) 902-7518  
Fax: (312) 902-7626

# **Innovations and Trends in Pension Plan Coverage, Pension Type and Plan Design**

## **Introduction**

Business and labor market developments over the last two decades, and the expectation of continued changes, offer new challenges to the form and structure of employer-sponsored pension plans. Worklives are becoming more varied and shorter, spanning multiple employers and careers, and reaching retirement at an earlier age than ever before. Business conditions have also undergone tremendous change during the last decade, as witnessed by the decline of traditional large manufacturers (e.g. steel, auto, electronics and heavy equipment) and the transition to smaller firms in an information and service-based economy, changes in business ownership and corporate restructuring, the escalation of international competition, changes in corporate and individual taxation, and a decline in unionization.

In this paper, we outline recent trends in employer pension plan structure in the United States, focusing on plan coverage, plan type and pension plan design. We then identify the key factors that we believe will shape company-sponsored pension design in the future, drawing conclusions from reviewing recent research and practice. Finally, we offer a cautious prognosis about the future of pension plan coverage and design, focusing on the role of labor force aging, as well as anticipated developments in the business environment and anticipated changes in public policy.

## **Recent Trends in Pension Plan Coverage, Type and Design**

### **Pension Plans Have Many Functions**

Pensions have many economic and other functions responding to employee needs and plan sponsor objectives. Perhaps, the most important reason employees want pensions is to

help them save for retirement, thus reducing old-age economic insecurity. A companion role of pensions is to provide annuities, since outliving one's savings is for many a major source of economic insecurity in the last third of life. Many pensions, particularly defined benefit plans, offer insurance against extended longevity by promising an annuity payment from retirement to death. Employer-sponsored pensions cost less than individually-purchased retirement annuities, in part, because there is no adverse selection by the purchaser.

In addition, workers want pensions because dollars saved in a pension plan generate more retirement benefits by virtue of economies of scale and risk pooling. Larger investment pools can be shown to save substantially on administrative costs and investment expenses when they are compared to individually-purchased annuities.

Another central reason that people seek to save for retirement using pensions rests in U.S. tax law. In the United States, employees are permitted to pay lower current taxes when a portion of employee compensation is deposited in a pension plan, rather than being paid in cash. The opportunity to save on a pre-tax basis has been shown to be a tax-effective form of compensation, particularly for people in higher marginal tax brackets. (For evidence on each of these points, see Gustman and Mitchell, forthcoming 1992, and Gustman, Mitchell and Steinmeier, forthcoming 1992.)

Unions have also played an important role in shaping the pension environment, by bargaining for and influencing plan type, benefit levels and plan design. Negotiated plans were preeminently defined benefit plans, typically with relatively generous benefit levels and multiple options for early retirement. Historically, these plans also set the standard for nonunion companies, but this pattern has diminished as the unionized fraction of the workforce declined over the last decade. (Unique features of union plans are discussed in Gustman, Mitchell and Steinmeier, forthcoming 1992.)

Employers institute pension plans for a variety of reasons, but their overall goal is generally thought to be to design compensation patterns consistent with their human resource policy. Human resource policies, in turn, are driven by company business strategy. Some organizations, particularly larger ones, tend to emphasize selection, retention and motivation of the "right" employees as central to their business success. This perspective is seen in recent efforts to implement "total quality management" efforts in the U.S., and implies

long-term worker/company attachments as well as pension plan design which favors this practice.

Consistent with this notion is the view that pensions are frequently offered to attract and keep valuable workers. In part, this is achieved by pension plan features which encourage effort and discourage worker mobility. For example, vesting rules tend to discourage workers from changing jobs before gaining a legal right to a pension benefit, which is frequently attained after five years of service. Benefit accrual formulas, particularly in defined benefit plans, can reduce turnover and increase effort, by offering, in effect, higher compensation to those employees who stay longer and whose pay rises with seniority.

Another aspect of pensions which employers find useful is that they are perceived as attracting and retaining certain kinds of workers over others. Thus, some businesses find it essential to attract workers who will remain with the firm for a long period of time. This can be important when, for instance, the workforce has a great deal of firm-specific training and knowledge which is not easily duplicated. Because pensions are a form of deferred compensation, only those workers who intend to remain at the company will tend to be attracted to pension-covered jobs. Thus, the pension itself tends to be a recruitment and retention tool for workers with desired characteristics. In still other cases, pensions which reward workers based on company profitability generate the incentives for covered employees to more closely align their work effort with company objectives, as in the case of profit sharing and stock ownership plans. (See Gustman, Mitchell and Steinmeier, forthcoming 1992; and Ippolito, 1992).

Employers have also found pension plans to be helpful in other contexts, particularly with regard to regulating retirement flows. When productivity begins to plateau, or when technological change renders skills obsolete, a company's pension offerings can provide the opportunity for career employees to leave the company with dignity and with adequate income security. In some cases, companies have also used pensions, particularly early retirement windows, to minimize involuntary terminations when faced with the need for corporate restructuring and downsizing. (More discussion on these points appears in Gustman et al, forthcoming 1992; Luzadis and Mitchell, 1991; and Lazear, 1983.) The pension plan can, therefore, be designed to make retirement appealing by making retirement



benefits more generous overall, and by making early retirement benefits generous as compared to pension payments for delayed retirement.

## **Differentiating Defined Benefit and Defined Contribution Plans**

The two major types of pension plans in the United States are defined benefit (DB) plans, and defined contribution (DC) plans. In the former case, the employer generally specifies a formula for benefits defined as income and payable at retirement, whereas in the latter case, the employer typically states a formula for plan contributions (often as a fraction of pay) during an employee's working lifetime. DB plans are the predominant form of employer-provided pension plan in the U.S., covering about 63 percent of employees of medium and large employers and 20 percent of employees of small employers (those with under 100 employees), and 93 percent of government employees as is shown in Tables 1 and 2.

DB plans are usually structured to achieve multiple outcomes (see Table 4):

- They meet employee needs for retirement income (often assumed to be the maintenance of preretirement living standards).
- They are associated with reducing worker turnover, encouraging career employment and employee loyalty, thereby protecting the employer's investment in human capital.
- They help career employees leave the labor force with dignity at a retirement age which fits the employer's human resource policy.
- They support other human resources needs, including workforce downsizing.
- They meet competitive practices and conform to the general practices in the community.

DC plans have some of the same features, but many different ones as well. In a DC plan, the employer generally specifies contributions into the pension plan rather than formula defined benefits, and the funds thus accumulated are invested until the worker reaches retirement age. In a DB plan, the obligation is fixed by the benefit defined and the application of minimum funding rules, but in a DC plan, the contribution can be defined or

discretionary. Table 4 compares features of these plans. DC plans currently cover 48 percent of employees of medium and large employers and 31 percent of employees of small employers, as well as 9 percent of employees of public employers. Some of these employees are also covered by DB plans. Because DC plans are subject to the same tax-qualification rules as the DB plans, many of the same retirement savings goals can be met with these plans. In addition, DC plans can meet other corporate goals including:

- They encourage employees to save pre-tax for their own retirement, including perhaps savings to meet the need for medical care after retirement.
- Increasing worker motivation and giving workers a "stake" in the company, particularly when contributions depend on company profitability, or when pension assets are invested in company stock.
- Helping the company finance itself in an effective manner.
- Providing lump sum cashouts to workers who leave the firm before reaching retirement age.

Employees also seem to understand and appreciate DC plans more than DB plans, which may explain their recent growth. This may be because plan sponsors offer periodic statements of account balances in DC plans, whereas this concept is not applicable in the DB case, where statements are usually less frequent, and generally show accrued and projected retirement income rather than a lump sum account balance. (A few DB plans are designed for lump sum payouts, however.) In addition, DC account balances are often portable from one job to the next, whereas a DB annuity payment beginning at age 55 or later seems remote to young workers. Nevertheless, this apparent better understanding of DC plans is probably somewhat illusory since employees cannot readily translate DC plan balances into retirement income. In addition, DC portability does not ensure retirement security since the pension balances are often spent rather than saved (Rappaport, Discussion of Biggs Paper, forthcoming 1992.)

Evaluating the efficacy and usefulness of the two plan types requires one to recognize that over the long run, a dollar invested in a DB plan often produces more investment income than in a DC plan. This is because DB plan sponsors typically use a balanced

portfolio to maximize investment returns consistent with their risk profiles, but in DC plans where employees have investment choices, they frequently invest in fixed income securities. Thus "401(k) plan participants described themselves as conservative investors who prefer to direct their own investments toward insurance and bank contracts... and said they were more inclined to choose low-risk/low return investments" (EBRI, 1992.) The different investment mix can easily result in a 1 to 3 percent lower average return for a typical DC plans as compared to a typical DB plan. Data on reported returns of DB and DC plans for the five-year period ending in 1989 confirms that the DB plan investments outperformed those of DC plans (See Table 5). These trends will probably continue because the fraction of DC plans permitting individual direction in investment options has probably increased, while in DB plans more aggressively managed portfolios became more popular over time.

Of course, DC plans are quite varied in form, and differ among themselves with regard to whether and what investment choices are available. Some plans offer only investments in company stock, whereas others offer a choice between different investment portfolios. When a DC plan is wholly invested in company stock, as in the case of an employee stock ownership (ESOP) plan, there is substantially higher investment risk in the DC plan, and a higher expected average investment return. Nevertheless, stock ownership plans have grown over time, covering 11 million employees as of 1989 (see Table 6).

Another difference between DB and DC plans which has gotten increasing attention in recent years, is the fact that DB plans typically provide monthly income, whereas DC plans typically pay lump sums. If early lump sum payments are spent rather than saved, this brings into question the tax-favored status of such plans. Those concerned about retirement security have proposed outlawing these lump sum cashouts, or favor higher penalties if cashouts are not transferred to another retirement savings plan; on the other hand, the availability of lump sum cashouts can make it easier for companies to downsize if tax law remains relatively favorable toward pension lump sums.

## **Typical Pension Plan Structures by Type of Employer**

Pension plan features differ greatly across employer size and type of plan sponsor. In order to illustrate the rich variety of benefit practices currently in effect, it is useful to review

and compare data on pension plans covering employees of large and small private-sector firms, multi-employer groups, not-for-profit organizations and public sector employee groups.

### *Medium and Large-sized Employer Plans*

Data for pension plans offered by private establishments with 100 or more employees were last collected in a 1989 Employee Benefit Survey conducted by the U.S. Department of Labor (USDOL, 1990). This evidence (see Table 1) shows that nearly all medium and large employers sponsored pension plans: 81% of employees were covered by retirement plans, with 63% covered by DB plans and 48% by DC plans (some employees have both). Most DB plans also structured formulas to replace generous percentages of earnings: three-quarters based benefits primarily on earnings, especially earnings during the final years of employment with the plan sponsor so as to protect benefits against inflation (prior to retirement). Average replacement rates in the DB plans were about 1% for each year of service. Therefore, a typical worker with 20 years of service at retirement might expect a benefit worth 20 percent of final average earnings, while the 30-year of service retiree would anticipate a replacement rate closer to 30 percent (USDOL 1989, T.85). Determining whether these benefits meet income adequacy standards must take into account Social Security and personal funds, and the extent to which benefits are indexed after inflation. Medium and large employers have, for many years, offered a measure of inflation protection for retirement inasmuch as 41 percent of their employees had retiree health coverage prior to age 65, and 36 percent had retiree health coverage post-65 in 1989. On the other hand, inflation protection after retirement is not complete, and appears to have declined in the last decade which suggests that inflation remains a challenge to pension retirement income adequacy (Allen, Clark and McDermed, 1991; Gustman and Steinmeier, 1987.)

In the very largest companies, a typical pension program included a first-tier non-contributory DB plan with a second tier which was often a matched savings plan of the DC variety. In the past, most larger employers also tended to offer retiree health insurance along with the pension, but the future is uncertain as health care costs continue to rise. Some employers offered profit sharing for salaried workers, and a DB plan for hourly employees. Relatively few employers adopted stock ownership plans as primary retirement

vehicles though many use them to supplement basic retirement programs. Medium-sized employers were more likely to use DC plans frequently with a cash (lump-sum) retirement benefit. Here, too, retiree health benefit plans were less prevalent.

### *Small Employer Plans*

Pension data for private establishments with fewer than 100 employees were last collected in a 1990 Employee Benefit Survey (USDOL, 1990). A review of coverage and benefit patterns indicates that small employers are much less likely than large employers to offer retirement benefits, and where plans are offered, they tend to be DC plans (see Table 1). Thus, 42 percent of employees in small companies were covered by retirement plans based on the last published survey data, including 20 percent with DB plans and 41 percent having DC plans (some employees have both). These employers were also less likely to offer retiree health insurance coverage: only 13 percent of these employees have retiree health coverage. While data on benefit levels for small employers have not yet been published, they are probably lower than those reported above for medium and large employers. This conclusion is suggested by other studies which have found that small companies offer lower compensation levels in general (Brown and Medoff, 1989).

### *Multi-employer Plans*

Multi-employer pension plans incorporate workers from a number of different employers, and are commonly found in the unionized trucking, construction, and retail trade sectors. In the past, they were used to provide private retirement benefits to workers employed in a trade who frequently worked for different employers over relatively short periods. Most multi-employer plans permit workers to carry their coverage with them from one job to the next, so long as they remain in covered employment (usually in the same occupation or industry, as a member of the same union). For historical reasons, these pensions face different economic constraints and regulatory obligations than those affecting single employer plans (Luzadis and Mitchell, 1991; Mitchell and Andrews 1981).

These plans have not grown much over time – there are only about three thousand plans currently in existence (see Table 3), and multi-employer plans constitute less than one-

half of one percent of total private plans (see Table 3). They are likely to shrink in the future because of the continued fall in private sector union membership, and projected declines in industries which traditionally used multi-employer plans. In addition, many employers have grown concerned about the financial solvency of these DB pensions with continued increases in negotiated flat-dollar benefit levels; many plans are underfunded and employers joining the plans face potentially high withdrawal liabilities. While these issues are beyond the scope of the present paper which focuses primarily on single employer plans, policymakers concerned with retirement security must also consider multi-employer plan issues (USGAO, 1992).

#### *Pension Plans in Not-For-Profit Firms*

Not-for-profit organizations are a diverse group including membership associations, charities, universities, religious orders, and health care providers. Their diversity also implies pension plans with divergent structures and aims. Thus, for instance, universities often offer faculty a DC plan frequently funded by individual annuity contracts under the teachers' portable nationwide plan. In contrast, the human resource concerns of health care providers and larger membership associations resemble those of for-profit employers, and their pension plans are more similar to those of their for-profit counterparts. Larger not-for-profit employers offer pension benefit plans that are similar in structure to those of private employers, except that their DC pensions are subject to substantially different regulations. Religious orders can set up plans under the Church Plan rules which are considerably different from general qualified plan rules. Smaller not-for-profits rely heavily on tax-sheltered annuities under special sections of the tax code. Relatively few not-for-profits offer retiree health.

#### *Pension Plans in the Public Sector*

Human resource concerns of public sector employers frequently differ from those in the private sector, partly because of civil service requirements and because more workers are unionized in governmental entities. Also, pension regulation which covers private sector

plans does not typically govern plans of federal, state and local workers so that benefit plans have some special characteristics not found in the private sector.

Data on public sector plans is drawn from a 1987 Benefits Survey on full-time state and local government employees in groups with 50 or more participants (USDOL, 1987). Table 2 shows that pension coverage was more common than among private sector workers, with 98 percent of state and local employees having a retirement plan, including 93 percent covered by a DB plan and 9 percent by a DC plan (some employees had both). Of course, many public sector workers were traditionally excluded from Social Security so higher coverage rates are not directly comparable with private sector figures. Public sector plans also tend to offer generous retirement income: they facilitate earlier retirement, they tend to offer postretirement indexation of benefits, and 48% of all covered public sector workers have retiree health coverage (USDOL, 1987). Typical replacement rates for regular retirees (excluding Social Security benefits) amounted to about 35 percent of final pay for a worker with 20 years of service, and more than 50 percent for a retiree with 30 years of service (USDOL, 1987). Public sector plans are much more likely to require employee contributions than private sector plans.

Many problems and issues face governmental plans, including the fact that many plans are quite underfunded (Mitchell and Smith, forthcoming 1992). Unfortunately, data on public plans are much more difficult to obtain than in the private sector because public plans are not required to conform to common reporting and disclosure requirements. While our focus in this paper is primarily on private sector pension concerns, additional work is needed to explore public sector pension issues. Specifically, it will be important to ascertain whether public sector employees' retirement needs differ greatly from those in the private sector; whether public employers' objectives, resources and constraints differ greatly from those in the private sector; and whether pensions play a different economic role in the public and private sector.

## **Recent Trends in the Mix of Defined Benefit and Defined Contribution Plans**

There has been much written about the apparent decline in private sector DB pension

coverage in recent years, and a concomitant increase in DC plan coverage (Society of Actuaries, 1990). These trends are illustrated in Table 3 which shows the number of DB and DC plans over time, and the number of determination letter applications for new plans as well as for plan terminations. The figures confirm that there was an increase in DC plans relative to the number of DB plans: DB plans decreased from 32 percent of the total plan universe in 1975, to 27 percent in 1987.

The leading explanation for this trend is that the industrial composition of employment changed over the last fifteen to twenty years in ways which favored a shift to DC pensions. Sectors which traditionally favored DB plans (e.g. durable manufacturing, unionized companies) contracted, while the service and finance sectors grew -- and the latter have traditionally had DC plans. There are also mixed signals in the data, however. Only about half of the overall movement toward DC plans has been linked to these national employment shifts, and the shift was concentrated among smaller businesses (with between 100 and 1,000 participants), but there was no similar trend among very large companies (with 1,000 employees or more). (See PBGC, 1990; Clark and McDermed, 1990; Gustman and Steinmeier, 1987).

A companion explanation for the downward drift in DB coverage is that DB plans became increasingly expensive to administer over the last decade, especially compared to DC alternatives. Note, however, that for many larger plans, this higher administrative cost has been more than offset by reduced contributions due to favorable investment returns. Numerous legislative and accounting changes during the 1980s increased the relative complexity of managing DB plans, as compared to DC plans. Indeed, one study reported that DB pension plan administrative costs almost tripled for small plans (15 participants) between 1981 and 1991, while small employers' costs for DC 401(k) plans were far lower. (See Hay-Huggins, 1990; Clark and McDermed, 1990).

Whether this administrative cost advantage of DC plans will persist in the future is open to question. Several recent regulations and litigation may challenge the current perception that DC plans are less costly to administer. For instance, troubles in the insurance and financial industries highlighted responsibilities of plan sponsors to carefully select and then monitor investment managers. Another issue is that a host of increasingly



complex and stringent nondiscrimination tests must be applied to plans permitting employee contributions and/or employer matching funds which make DC plans more costly than in the past. (This has been a primary area of focus in discussions about pension simplification.) Reforms are also being proposed to clarify the status of a worker's DC pension plan status in personal bankruptcy. This legislation will probably prevent an increase in the cost of administering such plans as courts today are increasingly looking to DC pension plan assets in bankruptcy. Last, but not least, regulations from the U.S. Department of Labor are promoting more employee choice with regard to investments, increasing the complexity of plan management and communication to employees.

On the other hand, insurance companies, banks and other financial intermediaries continue to offer packaged "pension products" for smaller employers which are typically DC plans. These products enable a small employer to use the package without requiring custom design or much management. A decade ago, "off the shelf" DB plan products were also sold, and are now a rarity because of the regulatory complexity of operating DB pension plans.

### **Innovations in Defined Benefit Pension Plan Design**

During the last decade, two factors strongly influenced the structure and design of DB pension plans: regulation regarding specific plan features, and regulation regarding plan termination. In both cases, Congress has enacted legislation, which with the implementing regulations, will result in major change from past practice. As of early 1992, many of these changes have not yet been fully implemented. For instance, major changes in pension law were contained in the Tax Reform Act of 1986 (TRA), most of which became effective in 1989. Interpretations of the TRA along with additional regulations were not, however, issued in final form until September, 1991, when a 600-page package of "Final Regulations" was issued, effective for 1992 plan years. Subsequently, in February 1992, the U.S. Treasury agreed to delay the effective date of many regulations until 1993 plan years; and for the tax exempt sector and governmental plans, the effective date is now plan years beginning in 1995. During the interim, TRA remained in effect, and employers were required to meet a standard of good faith compliance. Therefore, much regulatory policy is still undergoing change, and many plans are awaiting revisions. The uncertainty wrought by this continuous

change is certainly depressing new plan formation and plan updating and may be hastening plan termination.

Despite the state of flux in which pension regulation finds itself, a few common themes are likely to be persistent. Throughout much of the 1980's, Congress became progressively more interested in limiting access to tax-qualified pension savings, unless the plans could be shown to balance benefits to higher-paid employees with relatively generous benefits to lower-paid employees. For instance, TRA requirement restricted annual compensation for qualified plan purposes to \$200,000. The maximum benefit limits permitted under Section 415 of the Internal Revenue Code were reduced three times during the 1980s. TRA also limited the extent to which employers can coordinate pension payments and workers' Social Security benefits. These new limits on so-called Social Security integration required major changes in some very large plans, while at the same time, significantly complicating plan administration for those seeking maximum integration. As a result of eliminating or reducing integration, pension benefits rise for the lower paid, and/or are reduced for higher-paid employees. While equalization of benefits could increase retirement income security for the lower-paid employees, it did limit employers' ability to reward higher-paid employees with tax-qualified pension benefits, and in some cases, it resulted in an overall decrease in benefit amounts.

Pension plan sponsors have sought innovative approaches to these restrictions. One has been to establish "non-qualified" pension plans for key executives. Here, highly compensated employees who cannot be fully covered in a company's qualified plans because of legal restrictions, are offered a pension plan whose contributions are subject to tax (just as cash compensation would be) once there is constructive receipt. In other cases, a non-qualified plan may be offered to an executive hired in mid-career; here the plan grants, in effect, additional service. Unfortunately, no nationally representative data are available on the incidence and structure of these plans.

The increasing complexity of nondiscrimination regulations has also produced ever-more complicated pension plan administration problems, and makes it challenging for employees to understand their plans. Many plans have multiple layers of benefit formula with different formulas applying to different years of service. Plan sponsors have called for

simplification of pension regulation which is a popular political slogan, but has yet to be translated into legislation that Congress can agree on. Plan sponsors have criticized many of these simplification proposals as not having gone far enough.

A different solution for some employers has been to terminate their DB pensions. This phenomenon increased rapidly over the last decade: for instance, Table 3 indicates that the number of DB termination applications increased from 4,000 in 1975 to 16,000 in 1989. At the same time, applications for new plans plummeted. Nevertheless, the termination trend cannot be blamed on regulation alone since many of these coincided with leveraged buy-outs. In one study, for instance, 20 percent of the DB plans that had been sponsored by bought-out companies were terminated after the LBO (USGAO, 1991). Most plans terminated after LBOs were replaced, and most active participants were provided replacement DB plans, suggesting that at least some of these terminations were primarily financial transactions to remove surplus from the plans (Ippolito, 1989.)

In assessing the potential for future terminations of DB plans, it must be kept in mind that legislation has made this step increasingly difficult and expensive over time. In addition, taxation of pension plan reversions has increased, so that using pension surpluses to help finance takeovers will probably decline in importance in the future (Ippolito, 1989.) Finally, many small and medium employers already terminated their DB plans during the 1980's so this is largely a closed issue. To the extent that terminations are seen, they will be more likely to coincide with company bankruptcy, or changes in direction for overall benefit management purposes, rather than to play a key role in company buyouts as seen during the 1980's.

In addition to plan termination and regulation, several other important developments emerged over the last decade in the DB arena. An interesting one for human resource analysts has been employers' increasing awareness of pensions as a human resources policy tool, where DB pension offerings have been structured to help corporations downsize their labor force. Sometimes, the traditional DB formula has included liberal early retirement offerings, and at other times, early retirement window arrangements are offered that provide for additional retirement benefits for people retiring within a specified time. Early window plans have become widespread among larger firms, as indicated by a recent report by

Charles D. Spencer and Associates (1990) on early retirement incentives. This study showed that 15 percent of 273 large employers queried had offered early retirement incentive programs in 1989, and 24 percent had offered windows in 1986. Few, if any, employers offered incentives annually, but many offered multiple incentives. Early retirement window plans are attractive because they concentrate retirements during a shorter time period than otherwise would be obtainable (Luzadis and Mitchell, 1991; Lumsdaine, Stock and Wise, 1990).

Along with early-out plans has come growing awareness that the retirement benefit package also includes medical benefits, and plan sponsors are increasingly facing the need to link medical and pension programs in designing coherent retirement offerings. On the other hand, retiree health insurance costs are rising in tandem with active worker health insurance costs, forcing careful management of total compensation, including tradeoffs between health and pension offerings. Thus far, only anecdotal instances of this tradeoff can be cited, but it is possible that retiree health insurance cost pressures may force more employers to revisit the entire cost, structure, and contents of their retirement package offerings in the next few years.

Another development in the DB arena is a trend toward new pension "designs", including cash balance or account based pension plans. While these are fundamentally DB plans which specify benefits as an account, they permit employers flexibility in converting to a different type of benefit formula without undergoing plan termination. In such a plan, benefits are defined according to a contribution formula, yet minimum benefit payouts (in the form of life annuities) can be offered as in a traditional DB plan. The plan sponsor has the option of later changing benefits and/or offering early retirement windows (Lumsdaine, Stock and Wise, 1990.)

Administratively, these plans require actuarial valuations and they are covered by PBGC insurance (which may be seen as an advantage or disadvantage depending on one's viewpoint). Thus far, relatively few employers offer them – 2 percent of the 1989 DB participants in medium and large employers had account based plans, and 1 percent of the 1990 DB participants in small plans (DOL, 1989 and DOL, 1990). On the other hand, the plans' legal status has recently been clarified: regulations issued at the end of 1991 clearly

sanctioned these plans and provided a well-defined set of rules for passing nondiscrimination tests. It is anticipated that these plans are likely to be very popular in years to come. There has also been an increase in employers offering both DB and DC plans, and this trend too will probably grow more prevalent among employers with DB plans.

## **Recent Developments in Defined Contribution Pension Plan Design**

The most significant DC plan development in the last decade was the growth of 401(k) plans. At the same time, regulation changes challenged administrators of DC plans in some of the same ways detailed above. One key change was brought about by TRA rules which tightened nondiscrimination tests. Many plans had trouble meeting these tests, and were forced to modify plans or reduce contributions for highly compensated employees. Some employers have responded by liberalizing their 401(k) plans, and increasing the amount they "match", or contribute when an employee deposits money into the plan. Others have turned to non-qualified plans, to make up amounts which cannot be contributed into a tax-qualified account due to the TRA limits.

As in the case of companies offering DB pension plans, employers providing DC plans have become increasingly aware of the need to coordinate pension and retiree medical insurance offerings. There is growing interest in the use of DC plans as a vehicle to finance retiree health benefits. Some benefits analysts and attorneys suggest that profit sharing plans can be used to pre-fund retiree health insurance plans on a pre-tax basis. Some employers have sought to provide funds for retiree health coverage with other benefit structures, including stock ownership plans which permit retirees to elect to apply funds to cover retiree health insurance. So far, few companies have adopted these programs, pending clarification of these new arrangements' tax status.

Perhaps the most interesting development in the DC arena in the last decade is the increased effort on the federal government's part to permit employees to make choices about their pension funds, and to limit employees access to these funds prior to retirement. Response to restrictions on early withdrawals is seen in plans' increased use of loan and hardship withdrawal provisions, giving workers limited access to funds for non-retirement purposes. Many DC plans also offer lump-sum cashouts if workers leave their employers.

This is sometimes a cause of concern for those hoping to force workers to save more for retirement, since available evidence suggests that workers spend, rather than save, the lump sum cash amounts (Piascentini, 1990.)

In addition, there is growing concern about the implications of the way employees make investment choices when they are permitted to do so with their retirement funds. There is evidence to suggest that employees offered an investment choice tend to be extremely risk averse, often putting 80 percent or more of their dollars in a fixed income investment. As a consequence, their investment returns often suffer. Low-return assets have also proved to be riskier than expected in recent years, as "guaranteed" investments held by insurance companies and banks have turned out to be worth less than expected. Failures at Executive Life and Mutual Benefit Life have changed expectations drastically, placing new concerns about fiduciary burdens on plan sponsors' shoulders, and creating new financial worries for covered employees. The choice of investment options is probably more complex than was generally perceived in the past, a troublesome development for small and medium-sized employers who previously turned their plan management over to an insurance company for investment management and administrative service.

## **The Coming Challenges To Company-Sponsored Pensions**

It appears unlikely that the nation will return to an era like that of the 1970s and early 1980s, when pension coverage was growing and DB plans were the most commonly-offered plan in both the private and public sectors (Kotlikoff and Smith, 1983.) There are, however, several factors that suggest further growth of pensions, particularly in the DC area, though many other influences will imply slower growth than over the last twenty years. As we look to the next decade, several factors will pose challenges to company-sponsored pensions. These include demographic trends, the business environment and human resource policy, and public policy and federal regulation.

## Factors Influencing Employees' Desire For Pensions

A variety of demographic and economic factors in the years to come will influence workers' desires for pensions, not all of them uniformly positively or negatively. One serious challenge to the future of pensions arises from the stagnation in earnings experienced over the last decade or two. Indeed, the average American worker's pay has declined in real terms in seven out of ten years during the 1980's (U.S. President, 1990). While part of this stagnation in earnings may turn around as the economy moves toward recovery, it remains the case that U.S. workers' earnings are not likely to rise quickly in the face of increasing global competition.

Shrinking take-home pay leaves less for retirement savings, and implies that economic recovery is a necessary ingredient for future pension growth. Related to this question, is what will become of older workers' earnings as the baby boom ages? On the one hand, the increased supply of older people could depress their earnings, thus reducing the capacity to save for retirement. On the other hand, a declining number of younger workers may induce increased demand for older employees. Though future wage patterns are uncertain, forecasts suggests that older workers' earnings will probably rise slightly as the baby boom ages (Levine and Mitchell, 1988.) If true, this should somewhat offset the overall downward pressure on pensions due to stagnant real earnings.

Another response to depressed earnings is increased work effort, which, in fact, seems to be happening already. After three decades of declining labor supply among men 55 years old and over, there is now some suggestion that labor force participation rates have stabilized and even begun to increase in the latter half of the 1980's (Quinn, Burkhauser and Myers, 1990.) If this turnaround in retirement persists, older workers may need less pension savings inasmuch as a shorter period will be spent out of the labor force.

The aging of the workforce is likely to increase the demand for retirement savings in general, and for pensions in particular. As the baby boom ages, it will become increasingly aware of retirement savings needs, and the tax-preferred status of pensions will continue to make them more appealing than non-pension alternatives. The long-term trend toward earlier retirement among males has also implied that retirement saving must be accomplished in a shorter time (Fields and Mitchell, 1984), though women have continued to

enter the workforce in greater numbers even among the older age groups. Many of today's workers also had their children later in life, leaving a relatively short time to save for retirement after children complete their education. Two-earner families have increased greatly in numbers in the last three decades, and it may be easier for them to devote income to retirement pensions once the child-rearing demands are over. Among such couples, high family marginal income and payroll tax rates will also increase pension plans' appeal. Last, but not least, today's retirees have benefitted from higher-than-anticipated housing values which future retirees will probably not approach. If baby boomers cannot count on housing appreciation for much of retirement wealth, they will need to look to pensions more than the previous generation.

Factors working in the opposite direction should also be considered, however. If pension contributions and pension investment earnings lose all or part of their tax-protected status, this will surely reduce the tax-preferred role of pensions versus other forms of saving (Woodbury and Huang, 1991). In addition, employment paths are changing in such a way as to make pension coverage less valuable. Many Americans, particularly women, move between jobs and out of the labor force during much or all of their working lives. This implies that they tend not to vest even when pension coverage is available, or when they do vest, they do not reap the rewards of a pension based on final average earnings.

Corporate downsizing has also cut short career jobs for many long-term employees, meaning that they will not receive retirement benefits based on a full career with one company. Analogously, many overfunded DB plans terminated during the 1980s, a phenomenon that provided annuities, or perhaps a lump sum, to covered workers based on a partial, rather than a complete career. Even if an employee earns a vested benefit with several employers, the sum of the vested benefits is usually less valuable than the benefit earned for one continuous period of employment.

The prevalence of pensions may be tapering off because of declines in private sector unionization: in 1983 the fraction of employed wage and salary workers represented by unions was 23 percent, which dropped to 19 percent in 1989. Unions played a major role in demanding pension plans, particularly DB plans through the 1970s, but this has not been true for the last decade and will probably not be true in the future. Additionally, more



businesses are relying on contingent workers who are unlikely to have benefits of any type, but particularly pensions (Belous, 1990.) Growth in the use of contingent workers will reduce both DB and DC plan coverage.

Finally, workers are becoming increasingly concerned about health care insurance both prior to and during retirement. Increasing health care cost inflation leaves fewer dollars in the compensation pool for pay increases and other benefits including pensions. In some cases, employees directly confront these tradeoffs as in flexible or "cafeteria" benefit plans which require workers to allocate benefit credits between health and other benefit options. In other cases, the pressure from health care costs is at retirement. Increasingly, it seems workers' decisions about when to retire are being conditioned not only by their pensions, but also by the health care insurance offerings they will have during retirement. Whether this trade-off becomes increasingly acute will depend on efforts to control the national health care costs and delivery, but this topic is beyond the scope of our paper.

### **Factors Influencing Employers' Willingness to Offer Pensions**

In the past, employers offered pensions when they were profitable enough to pay relatively high benefits along with wages. In addition, pension growth, particularly of the DB plan variety, was fostered by employer desire to achieve long-term employee attachment to the company (Gustman and Mitchell, forthcoming 1992).

What changed during the 1980s? In the private sector, especially in durable manufacturing, global and local competition drove down wages as well as profits, and leveraged buy-outs threatened business as usual. Increasing global competition, new technology, and the long recession also induced widespread corporate downsizing and brought shifts in the industrial composition of the U.S. economy. Firm size also played a role: in the past, larger employers were typically those most likely to offer pensions, but many of these were also the businesses most vulnerable to shrinkage over the last decade. For these reasons, overall pension coverage leveled off and even declined slightly during the 1980s (Allen, Clark and McDermed, 1991; Gustman and Steinmeier, 1987; PBGC, 1990.)

These changes brought labor costs into the limelight in the 1980s, a trend which will continue to characterize the 1990s. Particular attention is being devoted by employers to an

evaluation of the benefits, and the costs of offering health care benefits for active employees and retirees, as well as pensions. Many suggest that retirement benefit plans look increasingly expensive, particularly as health care inflation exerts increased pressure on employer labor costs. There is also no indication that health care inflation rates will slow down, forcing some companies in crisis to control other benefit costs and possibly to terminate pension plans or freeze benefit accruals. Massive plan termination is unlikely in the future because pension regulation has made termination less attractive, both where plans are overfunded, and where plans are underfunded, but where the plan sponsors have assets to cover liabilities. However, there remains the danger of underfunded pension plan termination when businesses are in severe financial trouble.

Lest our description of these trends be misinterpreted, we must state that many employers will continue to want and need pensions (and retiree health benefits) in their compensation packages. DB plans remain a very important tool in human resources management for employers who wish to promote long-term career employment, and are necessary tools for reducing turnover among middle-aged workers, and for facilitating subsequent retirement. In the business restructuring of the last few years, early retirement windows have also been an important vehicle to help implement workforce reductions. Particularly in larger businesses, DB plans have been quite successful in encouraging early retirement on a temporary (or an ongoing) basis through subsidized early retirement provisions, and through early retirement windows (Fields and Mitchell, 1984). Though recent legislation and regulations have restricted the choices once available for early retirement windows, DB plans remain an important tool in human resources management. Many plan sponsors favor the DB plan because their goal is to pay benefits to those who stay until retirement. DC plans, though they offer less opportunity to influence mobility, will probably also grow in importance, particularly if Congress were to undertake a meaningful pension simplification effort. Investments of DC plan assets are likely to change. Falling interest rates, as well as the solvency problems and negative publicity about insurance companies, may encourage covered workers to shift into stocks and move out of the lower-return "guaranteed" assets offered by financial intermediaries.

In many ways, the pension environment during the 1980s became more segmented and less stable than in the past. As the business environment grows more competitive, large employers that remain economically viable will probably retain their commitment to career employment, offering DB plans as well as retiree health coverage to both hourly and salaried employees. (Many of these companies often also provide a supplementary DC plan, more often for salaried employees.) These larger businesses have historically espoused a corporate culture emphasizing responsibility for employee security. Larger employers will probably continue to foster pension plans, and particularly DB plans, as part of their drive toward "quality management" and the resulting human resource policies. In some cases, nonqualified supplemental plans are likely to grow in importance as regulations restrict what can be done overall. Securing these nonqualified benefit promises should also grow in importance.

In contrast, small businesses have found it increasingly difficult to provide high wages and generous benefits, particularly in light of increasingly complex legal and accounting rules, resulting in rising pension administrative costs (Hay Huggins, 1990; Mitchell and Andrews, 1981). Unless pension law is significantly simplified so that administrative costs are radically reduced, small companies cannot adopt DB plans. Similarly, companies facing frequent ownership changes are less likely to be stable and may not have human resources policies favoring career employment. Smaller companies are less likely to demand and reward career employment so that pensions are less likely to be offered, and when they are offered, they will be more likely to be DC plans. Looking to the future, the great unknown is how strong large businesses will be, and how strong the traditionally unionized manufacturing component will be relative to the total American economy.

Corporate bankruptcies, buyouts and downsizing have also cut short career jobs for many long-term employees who often lose the opportunity to receive retirement benefits based on a full career at one firm. When businesses are bought and sold, they sometimes develop stable human resources policies which include pensions, but in many cases, employment arrangements become less stable. On balance, benefit coverage is sure to fall as a result of bankruptcy. For private sector pensions, this loss will primarily be in the form of future accruals since plan assets tend to cover most accrued benefits, and government-provided pension insurance under the Pension Benefit Guaranty Corporation

(PBGC) serves as an additional safety net. (Whether the PBGC's current financial problems will necessitate an additional infusion of funds to remain viable is beyond the scope of our paper, but see Ippolito, 1989.) Additionally, more businesses are relying on contingent workers who are unlikely to have benefits of any type, but particularly pensions. Growth in short-term employment and contingent workers will probably reduce both DB and DC plan coverage.

In the public sector, there is more risk of benefit loss when state and local government budget needs cannot be met by tax revenues. There is no pension termination insurance in the public sector akin to that offered by the PBGC for private sector pension plans, and plans appear rather less-well funded than in the private sector (Mitchell and Smith, forthcoming 1992). As a consequence, public workers' pension accruals could be threatened, as well as future benefit accruals, cost-of-living provisions, and retiree health coverage. More oversight and reporting in the public pension arena would vastly benefit both covered pensioners and taxpayers, and would increase economic security of those in the public pension plan business.

## **Pensions and the Public Policy Environment**

During the last decade, new pension legislation was enacted seven times so that requirements seemed to change constantly. This vast body of pension law and regulation radically altered the pension environment and some of the results of this movement are still unfolding. Major changes in pension law were incorporated in TRA with key provisions effective on January 1, 1989. As indicated above, there remain questions and uncertainties about major portions of the regulations under this legislation, and effective dates were delayed again in February 1992. While the authorities are revisiting the regulations, TRA remains in effect, and employers are required to meet a standard of good faith compliance. Therefore, many legal pension questions remain open at present, and a large number of plans await revisions.

It is highly likely that pension law and regulation will continue to evolve in the next several years. What will happen to tax rates in the future is not known, but as of early 1992, there remain two conflicting forces confronting both Congress and the Bush Administration.

On the one hand, there is a great desire to lower taxes, but on the other hand, there remains a great need to raise revenue. Three primary types of income on which taxes are not currently paid include pensions, other employee benefits, and interest on home mortgage loans. There is great temptation to tax these items, since doing so would raise revenue without increasing tax rates.

Tax preferences for pensions have already been challenged several times over the last decade, as Congress has imposed penalties on early distributions and termination reversions, increased taxes on lump-sum cash distributions from pension plans, and reduced the limits on tax-preferred contributions to, and benefits payable, from both DB and DC plans. There have also been proposals to tax part of pension investment earnings. Marginal changes in the tax status of pensions may not dramatically change overall coverage rates, but if Congress were to repeal entirely the pension tax preference, this would probably curtail growth and cause more plan sponsors to freeze or terminate their plans (Zeisler and Rappaport, forthcoming 1992). Available economic evidence suggests that increasing taxes on pension contributions and/or investment earnings will reduce pensions' appeal, though the exact size of the pension response to tax changes has yet to be precisely measured (Woodbury and Huang, 1991). In any event, if Congress pursues a narrow policy focus on taxes foregone, this will certainly deter the development of sound pension regulation and thoughtful consideration of pension issues within a larger retirement income security policy.

Other forms of government regulation have also played an important role in shaping the pension environment. New pension legislation appeared almost annually over the last decade, and delays in releasing interpretative regulations have made the pension environment extremely difficult for plan sponsors (for a summary of recent pension regulation see EBRI, 1990). Over at least the last six years, employers seeking to comply with the rules, and small companies contemplating new plans, have been faced with a chaotic regulatory environment which makes it costly and complex to offer tax qualified plans. Some employers cannot absorb or offset these costs readily (through lowering wages or other benefits), particularly in smaller operations.

Policymakers have been somewhat sympathetic to these developments, and have begun to design so-called "pension simplification proposals", particularly for smaller

employers. For example, the Bush Administration recently proposed relaxing nondiscrimination rules for small employers who offered a DC plan with specific design features. While some hailed this as a movement in the right direction, others expressed concern that it tended to disfavor DB plans, and might possibly reduce coverage for lower-paid workers. Additional concerns expressed included worries that the proposals themselves did not go far enough in the simplification direction. Unfortunately, conflicts have developed in the last decade between the ostensible goals and the results of pension legislation, producing a great deal of skepticism about the possible outcomes of further legislation. Taxation and regulation remain key areas of uncertainty; here is where policymakers can help determine whether employer-sponsored pensions grow, or wither.

These regulatory burdens on employer-sponsored benefits are exacerbated by powerful pressures on other components of the retirement income system. Private savings rates are the lowest they have been in years, and many believe that Americans are not saving enough to ensure retirement-age well-being (Bernheim, 1991). Government retirement programs such as Social Security and Medicare will certainly become more financially troubled as the baby boom group matures (Aaron, 1982). In response, these government programs have been reformed in ways which may place employer-sponsored pensions under increasing stress. For instance, Social Security benefits were cut and the normal retirement age raised in 1983; similar reforms may have to be revisited if demand for benefits continues to be high. Payroll taxes for Medicare and Social Security have also been increased almost annually in the last decade. In addition, many foresee passage of some type of national health insurance plan. If all employers are required to offer some minimum health care coverage, this will exert severe cost pressures on employers not currently offering these benefits (Mitchell, 1991). Since most of these are smaller employers who can ill afford to pay increased labor costs, the health care mandate might further reduce pension coverage offered by smaller employers. Each of these policy concerns highlights the fact that employer-provided pensions are only one leg of the "three-legged retirement income stool", and that public policy in the retirement income area broadly speaking will influence both employers' willingness to offer pensions, and workers' demand for pensions in years to come.

# Implications For Pension Coverage, Plan Type and Plan Design

Retirement income security for the baby boom generation remains a goal, but not a certainty in the United States. Two legs of the traditional three-legged stool are weak, and in this essay we show that grave problems have also undermined the third leg, employer-sponsored pensions.

Major structural changes in employer-sponsored pension plan design and coverage occurred over the last decade, largely in response to a changing business structure, different employee demands, the financial problems of plan sponsors, and a dynamic public policy environment. Overall, these changes did not increase American workers' retirement income security, and it is critically important that policymakers seek ways to create a more positive retirement future. These same forces affect both pensions and retiree medical benefits.

## Pension Plan Coverage and Plan Type

Several forces at work today point to further decline in pensions and, particularly, DB coverage for the average employee, though it is possible that DC coverage will stabilize or even increase slightly. The most important factors depressing pension plan coverage overall, and DB coverage in particular, include:

- Lower real pay levels and lower marginal tax rates.
- More competitive labor and product markets, causing buyouts and downsizing.
- Reduced profits, pay, worker-firm attachments, unionization, and firm size.
- Increased administrative costs and complexity due to pension regulation on top of which rising health care costs are superimposed.
- Extensive and complex pension regulation, including nondiscrimination requirements, premiums charged for pension insurance, and fees reduce employers' ability to offer pension plans.

On the other hand, we have also identified several factors which will somewhat offset the prevailing trend to lower coverage by tax-qualified employer-sponsored pension plans.

The factors supporting pension growth include:

- The aging of the workforce which will probably heighten awareness of retirement income needs.
- Increasing desires to retire early which raise the need for pension income.
- The continuing appeal of pensions as tax-preferred savings vehicles, combined with higher family income taxes among dual-earner couples.
- Employers' need to provide retirement benefits which reduce turnover for younger employees while increasing retirement rates among older workers.
- Increasing concerns about the long-term level of Social Security and Medicare benefits.

If Congress wishes to enhance the chances that employer-sponsored pensions survive this time of transition, policymakers can take several steps. It is imperative to recognize that company pensions can continue to play an important role in workers' retirement income security only if there is a more supportive policy climate regarding retirement income policy as a whole. Linked with this is the recognition that the labor market and the economy of the next 20 years will differ from that which we have become accustomed to. Jobs are located in new regions and industrial sectors, competition is now global, and cost pressures are everywhere. This implies that labor market policies will change as compared to the past.

Retirement age policy at the national level will probably also have to change, since early retirement trends experienced up until recently cannot persist, given the slow growth in economic productivity. American workers will probably need to be encouraged to save more for their own retirement, which suggests that pensions should benefit from government encouragement in the decades to come.

It is also essential for policymakers to recognize that both DB and DC plans have an important role to play so that regulation should not overtly advantage one form of pension versus another. American employers and employees are quite diverse, and require different solutions for different problems. Linked to this is our view that pension nondiscrimination requirements are too complex at present. Employers seeking to make employees secure in retirement are probably overly regulated so as to prohibit a small minority of employers from



benefiting a limited group of employees. A more rational, stable and coherent retirement income policy is needed, and pension legislation should fit into this policy rather than being formulated in terms of deficit reduction needs.

Finally, though a full consideration of the public sectors is beyond the scope of this paper, Congress and taxpayers should confront the fact that public sector pension plans are not especially healthy, and should be considered in a systematic overview of pension legislation and reform.

### **Expected Changes in Pension Plan Design**

A variety of important changes in pension plan design may be anticipated, extrapolating from trends over the last ten years. Both employers and employees have devoted increasing emphasis to pension choice and individual responsibility in benefit plans, as is evident from the rapid growth of supplemental savings plans, mainly 401(k) plans and tax-sheltered annuities. Use of matched savings plans and other DC plans giving workers investment choices are also likely to increase.

Nevertheless, from a policy perspective, Americans have very poor overall records as savers, and it seems dangerous to rely too heavily on individual savings as a source of retirement benefits. The distribution of risk between employer, employee and the public sector is an important issue in retirement savings plans and policy. If DC plans permit more employee savings and expanded employee investment choice, employers will certainly find it necessary to take a more active role in educating employees about savings and investment choice. DB plans do not permit covered workers to exercise choice over investment options, though participants potentially face a different type of risk – that of plan underfunding. Pension insurance is the scope of this paper, and is the subject of other analysts contributing to this conference. Nevertheless, it must be kept in mind that allocation of risk remains a central concern in future discussions of retirement security.

A related point pertains to the form in which benefits are paid. DB plans have traditionally offered benefits in the form of annuities (except for small benefit amounts, generally less than \$3,500 which are often paid out as a lump sum). In contrast, the conventional DC plan traditionally paid out a cash lump sum, although it was common to

offer an annuity option. Lump sums were favorably taxed in the past and still are today, but to a lesser extent than previously. There is also pressure on some DB plan sponsors to offer lump sums. This area is a controversial one at present, and Congress may place limitations on the availability of lump sums, and/or require that they be rolled over into other pension funds.

In addition to these changes, we see other plan design innovations developing out of recent experience. Plan sponsors will probably seek innovative plan designs, as long as regulations do not make it too difficult to implement them. For instance, the cash balance plans mentioned earlier are likely to increase in favor because they offer many of the advantages of DB plans, while also offering some features and advantages common to DC plans.

Compliance with layers of regulations over the years has led to ever more complex plans, and many such plans now have multiple layers of benefit formulas with different rules applying to service accrued at different points in time. We expect that this increased complexity will cause employers to place increasing weight on simpler plan design in the future. The changing business environment will increase emphasis on plans which link company profitability and benefits provided. The number of plans integrated with Social Security will probably continue to grow if trends shown in Table 8 continue. However, TRA has materially changed the rules and attractiveness of integration so that we might also see a reversal of this trend. TRA rules have also forced a decrease in the degree of integration within integrated plans.

There are opposing views about whether pension plan benefits will become more or less generous over time. On one hand, benefit levels may have to be reduced somewhat, and early retirement ages raised, if employers are to be able to offer retiree health insurance to better manage phased retirement and early retirement window plans, and to design plans which better match retirees' income needs. On the other hand, a review of DB plan design trends over the 1980s suggests that subsidization of early retirement trends remains the norm, and indeed has become more prevalent over time. As the workforce continues to age, some workers and employers will rely on pensions to enhance the appeal of retirement.

There remain important unanswered questions about how nondiscrimination requirements will affect benefits offered to different groups of employees. Many of these nondiscrimination issues are not yet fully resolved, yet there is reason to expect that companies will begin to consolidate plans across hourly and salaried workers. Because of continued declines in collective bargaining coverage, we predict continued decline of multi-employer plans. On the other hand, there will be continued growth in nonqualified supplemental plans. There may be some overall reduction in benefit levels as management finds it can benefit less from qualified plans than in the past.

## **Policy Issues**

Without going into extensive detail, it is important to review a few of the most important policy proposals that have been the subject of intense debate in recent years to see how their passage might change the pension environment in years to come.

Great strides have been made in improving workers' chances of vesting, first under ERISA, and then subsequently by reducing vesting requirements to 5 years of service. This has probably improved pension participation since many Americans change jobs repeatedly during their worklives. Despite this, some analysts contend that increased pension portability should remain an important policy goal so that workers who change jobs or spend part of their careers out of the workplace, will benefit from increased retirement income. On the other hand, many recognize that limiting access to retirement funds is necessary by requiring rollover into another retirement vehicle, so that workers are not tempted to spend lump sum amounts that should be saved for retirement. Thus, DC plans are seen as meeting portability needs, primarily because they can pay benefits in the form of lump sums when a worker changes employers. However, when benefits are spent rather than saved, they cease to be available as retirement benefits. Requiring more liberal pension portability would undermine some of the good reasons employers offer pensions – namely to reduce turnover and to regulate retirement flows – and would probably not encourage pension growth overall. If Congress limits the availability of lump sums with requirements that they be rolled over, this could benefit many, though some are concerned that too much labor force immobility might be detrimental.

Another policy concern alluded to above is the continuing issue of who bears risks related to retirement, and how they should be divided between active workers, retirees, employers and the government. For example, many retirees currently bear virtually all the risk of non-Medicare retiree health care costs, while the federal government bears much DB plan termination risk (Bodie, 1992). Restructuring the retiree health, or the DB pension promise and its insurance system, would dramatically alter employers' and employees' willingness to keep plans, or to start new plans. DC plans offer yet a different pattern of risk-sharing, depending on their specific structures; for example, in a common money-purchase plan, the worker bears diversified capital market risk, while in a profit-sharing or stock-ownership plan, the risks are much more concentrated (Blasi and Kruse, 1991.) The worker bears the full inflation risk with all DC plans, although in some plans this can be partially offset by the type of investments chosen. Understanding how these risks differ across benefit plans, and how they relate to company profitability as well as the overall economic environment, deserves much more attention in years to come.

Stepping back and viewing pensions from a broader perspective, there remains the ultimate public policy question of whose responsibility should retirement saving be, and what role should pensions play in achieving the savings targets? Over the years, many have urged increased private saving, but the efforts have not worked: personal savings as a percentage of personal income dropped between 1970 and 1990. This trend is even more alarming when considered in combination with pressures on long-term government and business spending for retirement. The savings debate will have to be paired with a national debate over the socially optimal retirement age, as the workforce continues to grow older and more diverse, and as pressures grow stronger on the Social Security and medical care systems. We believe that public policy should preserve a central role for pensions in the decades ahead, and both DB and DC pension plans should be available in service to a diverse business and labor community. On the other hand it must be recognized that pensions have many important functions beyond their retirement savings role. Increasingly burdensome restrictions and the frequency of change in those restrictions on pensions are threatening the multi-dimensional benefits that pensions offer to employees, the sponsoring employers and the economy as a whole.

## BIBLIOGRAPHY

- Aaron, Henry. *Economic Effects of Social Security*. Washington, D.C.: Brookings 1982.
- Allen, Steven G., Clark, Robert L. and McDermed, Ann A. "Pension Bonding and Lifetime Jobs." *National Bureau of Economic Research Working Paper 3688*. April 1991.
- Andrews, Emily. *The Changing Profile of Pensions in America*. Washington, D.C.: Employee Benefit Research Institute, 1985.
- Andrews, Emily. *Pension Policy and Small Employers: At What Price Coverage?* Washington, D.C.: Employee Benefit Research Institute, 1989.
- Beller, Daniel J. and Lawrence, Helen H. "Trends in Private Pension Coverage." *Trends in Pensions: 1992*. Eds: John Turner and Daniel J. Beller. Washington, DC: U.S. Government Printing Office. Forthcoming (1992).
- Belous, R.S. "Flexible Employments: The Employer's Point of View." In *Bridges to Retirement*. Ed: Peter Doeringer. Ithaca, NY: ILR Press, 1990.
- Bernheim, B. Douglas. *The Vanishing Nest Egg*. New York: Priority Press Publications for The Twentieth Century Fund, 1991.
- Biggs, John H. "Implications of Demographic Changes for the Design of Retirement Programs." *Pension Research Council, Working Paper Series 91-5*. Forthcoming (1992).
- Blasi, Joseph and Kruse, Douglas. *The New Owners*. New York: Harper Business, 1991.
- Bodie, Zvi. "Pensions as Retirement Income Insurance." *Journal of Economic Literature*. March 1990, 28(1), pp. 28-49.

Bodie, Zvi. "Federal Pension Insurance: Is it the S&L Crisis of the 1990's?" *Paper presented at the Industrial Relations Research Association meetings, New Orleans, January, 1992.*

Brown, Charles and Medoff, James. "The Employer Size-Wage Effect." *Journal of Political Economy.* October 1989, 97(5), pp. 1027-1059.

"Big Employers Retain Defined Benefit Plans." *Business Insurance.* November 18, 1991.

Clark, Robert L. and McDermed, Ann A. *The Choice of Pension Plans in a Changing Regulatory Environment.* Washington, D.C.: American Enterprise Institute 1990.

Congressional Budget Office. *Tax Policy for Pensions and Other Retirement Savings.* Washington, DC: U.S. Government Printing Office, April 1987.

Ehrenberg, Ronald and Jakubson, George. *Advance Notice Provisions in Plant Closing Legislation.* Kalamazoo, MI: Upjohn, 1988.

Employee Benefit Research Institute. "Databook on Employee Benefits." Washington, D.C., 1990.

Employee Benefit Research Institute. "New Evidence That Employees Choose Conservative Investments for Their Retirement Funds." *EBRI Notes.* February 1992.

Employee Benefit Research Institute. "Questions and Answers on Employee Benefit Issues." *EBRI Issue Briefs.* October 1991.

Employee Benefit Research Institute. "Types of Pension Plans and Their Assets." *EBRI Issue Briefs.* April 1990.

Fields, Gary and Mitchell, Olivia S. *Retirement, Pensions and Social Security*. Cambridge, MA: MIT Press, 1984.

Grant, Paul B. "The Open Window – Special Early Retirement Plans in Transition." *Employee Benefits Journal*. March 1991.

Greenwich Associates. "Going Global, Good Going." *Greenwich Associates Reports*. Greenwich, CT, 1991.

Gustman, Alan and Mitchell, Olivia S. "Pensions and the Labor Market: Behavior and Data Requirements." *Pensions and the U.S. Economy: The Need for Good Data*. Eds: Bodie, Zvi and Munnell, Alicia. Philadelphia, PA: Pension Research Council. Forthcoming (1992).

Gustman, Alan, Mitchell, Olivia S., and Steinmeier, Thomas. "The Role of Pensions in the Labor Market." *Cornell University Department of Labor Economics Working Paper*. Forthcoming (1992).

Gustman, Alan and Steinmeier, Thomas. "Pensions, Efficiency Wages and Job Mobility." *National Bureau of Economic Research Working Paper 2426*. November 1987.

Hay-Huggins Company, Inc. *Pension Plan Expense Study for the Pension Benefit Guaranty Corporation*. September 1990.

Ippolito, Richard A. "Selecting Out High Discounters: A Theory of Defined Contribution Pensions." *Working paper*. Forthcoming (1992).

Ippolito, Richard A. "Pensions, Economics and Public Policy." *Pension Research Council*. Homewood, IL: Dow Jones-Irwin, 1986.

- Ippolito, Richard A. "The Economics of Pension Insurance." *Pension Research Council*. Homewood, IL: Dow Jones-Irwin, 1989.
- Ippolito, Richard A. "An Economic Appraisal of Pension Tax Policy." *Pension Research Council*. Homewood, IL: Dow Jones-Irwin, 1990.
- Kotlikoff, Lawrence and Smith, Daniel. *Pensions in the American Economy*. Chicago, IL: University of Chicago Press, 1983.
- Lazear, Edward P. "Pensions as Severance Pay." *Financial Aspects of the United States Pension System*. Eds: Bodie, Zvi and Shoven, John. Chicago: National Bureau of Economic Research The University of Chicago Press, 1983.
- Levine, Philip and Mitchell, Olivia S. "The Baby Boom's Legacy: Relative Wages in the Twenty-first Century." *American Economic Review* 78, May 1988.
- Lumsdaine, Robin; Stock, James and Wise, David. "Three Models of Retirement: Computational Complexity Verses Predictive Validity." *National Bureau of Economic Research, Working Paper 3558*. December 1990.
- Lumsdaine, Robin; Stock, James and Wise, David. "Efficient Windows and Labor Force Reduction." *Journal of Public Economics*, 43. November 1990.
- Luzadis, Rebecca A. and Mitchell, Olivia S. "Explaining Pension Dynamics." *Journal of Human Resources*. Fall 1991, 26(4).
- "Are Defined Benefit Plans Dead?" *Mercer Bulletin*. August 1991, No. 194.
- Mitchell, Olivia S., ed. "As the Workforce Ages." Ithaca, NY: ILR Press. Forthcoming (1992).



- Mitchell, Olivia S. "The Effects of Mandatory Benefit Packages." *Research in Labor Economics*. Eds: L. Bassi, D. Crawford and R. Ehrenberg. Greenwich, CT: JAI Press, 1991, pp. 297-320.
- Mitchell, Olivia S. "Fringe Benefits and Labor Mobility." *Journal of Human Resources*. Spring 1982, 17(2), pp. 286-298.
- Mitchell, Olivia S. "Trends in Retirement Provisions." *Trends in Pensions: 1992*. Eds: J. Turner and D. Beller. Washington, D.C.: U.S. Government Printing Office. Forthcoming (1992).
- Mitchell, Olivia S. "Worker Knowledge of Pension Provisions." *Journal of Labor Economics*. January 1988, 6(1), pp. 28-39.
- Mitchell, Olivia S. and Andrews, Emily. "Scale Economies in Private Multi-Employer Pension Systems." *Industrial and Labor Relations Review*. July 1981, 34(4), pp. 522-530.
- Mitchell, Olivia S. and Smith, Robert S. "Public Sector Pensions: Benefits, Funding and Unionization." *Industrial Relations Research Association Papers and Proceedings*. Madison, WI. Forthcoming (1992).
- Munnell, Alicia H. "It's Time To Tax Employee Benefits." *New England Economic Review*. July/August 1989.
- Pension Benefit Guaranty Corporation. "Creating a Sound Insurance Program." *1990 Annual Report*. Washington D.C: U.S. Government Printing Office, 1991.
- Pension Benefit Guaranty Corporation. *Pension Plan Cost Study*. Washington D.C: U.S. Government Printing Office, 1990.

Pension Benefit Guaranty Corporation. *Pension Plan Choice*. Washington D.C: U.S. Government Printing Office, 1990.

Piascentini, Joseph. "An Analysis of Pension Participation at Current and Prior Jobs, Receipt and Use of Preretirement Lump-Sum Distributions, and Tenure at Current Job." *Employee Benefit Research Institute Report to the U.S. Department of Labor*. May 1990.

Quinn, Joseph F., Burkhauser, Richard V. and Myers, Daniel A. *Passing the Torch: The Influence of Economic Incentives on Work and Retirement*. Kalamazoo: W.E. Upjohn Institute, 1990.

Rappaport, Anna. "Retirement Benefit Structure in the 1990s – Defined Benefit vs. Defined Contribution Plan Structure." *LACA*, Forthcoming (1992).

Rappaport, Anna. "Defined Contribution Plans: Do They Offer a Solution to Retiree Medical Liability Problems?" *Postemployment Benefits*. Winter 1991, 8(1).

Rappaport, Anna. "The Future of Employee Benefit-Related Public Policy." *Employee Benefits Journal*. September 1989, 14(3).

Rappaport, Anna. "New Ideas in Employee Benefits Planning." *Journal of Pension Planning and Compliance*. Spring 1987, 12(1).

Rappaport, Anna. "Human Resources Implications of a Changing Labor Force." *Benefits Quarterly*. Second Quarter 1988, IV(2).

Rappaport, Anna. "The Role of the Actuary in Defining Public Policy Implications of an Aging Society." *IAA Congress*. Forthcoming (1992).

Rappaport, Anna and Schieber, Sylvester. Discussion of Biggs Paper "Demography and Retirement: The Twenty-First Century." *Pension Research Council Proceedings of 1991 Conference*. Forthcoming (1992).

Rosenbloom, Jerry S. and Hallman, G. Victor. *Employee Benefit Planning*. Third Edition. Englewood Cliffs, N.H.: Prentice Hall, 1991.

Spencer, Charles D. and Associates. *Spencer's Research Report on Employee Benefits*. June 22, 1990.

Society of Actuaries. "Plan Design for the Next Decade." *Record*. October 1990, 16(4B), p. 2779.

Turner, John and Beller, Daniel, eds. *Trends in Pensions: 1989*. Washington, D.C.: U.S. Government Printing Office, 1990.

U.S. Department of Labor, Bureau of Labor Statistics. *Employee Benefits in Medium and Large Firms*. Washington, D.C.: U.S. Government Printing Office, 1989.

U.S. Department of Labor, Bureau of Labor Statistics. *Employee Benefits in Small Firms*. Washington, D.C.: U.S. Government Printing Office, 1990.

U.S. Department of Labor, Bureau of Labor Statistics. *Employee Benefits in State and Local Governments*. Washington, D.C.: U.S. Government Printing Office, 1987.

U.S. Government Accounting Office. *Pension Plans: Terminations, Asset Reversions and Replacements Following Leveraged Buyouts*. U.S. Government Printing Office, GAO/HRD 91-21, 1991.

U.S. Government Accounting Office. *States Need Labor's Help in Regulating Multiple Employer Welfare Arrangements*. U.S. Government Printing Office, USGAOHRD 92-40, March 1992.

U.S. President. *Economic Report of the President 1990*. Washington, D.C.: Government Printing Office, 1990.

Woodbury, Stephen A. and Huang, Wei-Jang. *The Tax Treatment of Fringe Benefits*. Kalamazoo, MI: The Upjohn Institute, 1991.

Zeisler, Paul and Rappaport, Anna. "Public Policy and Pension Plan Taxation: The Implication for Plan Design and for Participants." *Journal of Pension Planning and Compliance*. Forthcoming (Spring 1992).

**Table 1**

**Percentage of Employees Participating in Private Sector Retirement Plans  
(1989 and 1990)**

--From 1989 Survey of Medium and Large Firms--

--From 1990 Survey of Small Firms--

	<u>All Employees</u>	<u>Prof. and Admin.</u>	<u>Tech. and Clerical</u>	<u>Prod. and Service</u>	<u>All Employees</u>	<u>Prof. and Admin.</u>	<u>Tech. and Clerical</u>	<u>Prod. and Service</u>
All retirement	81%	85%	81%	80%	42%	49%	47%	37%
Defined benefit pension	63%	64%	63%	63%	20%	20%	23%	18%
Wholly employer financed	60%	61%	61%	60%	19%	18%	21%	18%
Partly employer financed	3%	3%	2%	2%	1%	2%	1%	1%
Defined contribution	48%	59%	52%	40%	31%	40%	36%	24%
Uses of funds								
Retirement	36%	43%	39%	31%	28%	36%	32%	21%
Wholly employer financed	14%	15%	14%	12%	16%	19%	17%	15%
Partly employer financed	22%	28%	24%	18%	11%	17%	16%	6%
Capital accumulation	14%	18%	14%	11%	4%	5%	4%	2%
Wholly employer financed	2%	1%	1%	3%	1%	2%	2%	1%
Partly employer financed	12%	17%	13%	8%	2%	3%	3%	2%
Types of plans								
Savings and thrift	30%	41%	35%	21%	10%	16%	15%	5%
Deferred profit sharing	15%	13%	13%	16%	15%	17%	17%	13%
Employee stock ownership	3%	4%	3%	3%	1%	1%	1%	**
Money purpose pension	5%	8%	6%	3%	6%	9%	6%	6%

Sources: U.S. Department of Labor, Employee Benefits in Medium and Large Firms, 1989, June, 1990, Bulletin 2363, Table 1

U.S. Department of Labor, Employee Benefits in Small Firms, 1990, September, 1991, Bulletin 2388, Table 1

\*\* Less than .5%

**Table 2****Percentage of Employees Participating in Public Employer Retirement Plans  
Compared to Private Sector Participation**

Employees of State and Local Governments - 1987

	<u>Medium and Large Firms</u>	<u>Small Firms</u>	<u>All Employees</u>	<u>Regular Employees</u>	<u>Teachers</u>	<u>Police and Firefighters</u>
All retirement	81%	42%	98%	97%	99%	98%
Defined benefit pension	63%	20%	93%	92%	95%	93%
Wholly employer financed	60%	19%	20%	22%	17%	17%
Partly employer financed	3%	1%	73%	70%	78%	76%
Defined contribution	48%	31%	9%	9%	8%	13%
Uses of funds						
Retirement	36%	28%	9%	9%	8%	12%
Wholly employer financed	14%	16%	4%	4%	5%	4%
Partly employer financed	22%	11%	4%	5%	3%	8%
Capital accumulation	14%	4%				
Wholly employer financed	2%	1%				
Partly employer financed	12%	2%				
Types of plans						
Savings and thrift	30%	10%				
Deferred profit sharing	15%	15%				
Employee stock ownership	3%	1%				
Money purpose pension	5%	6%				

Sources: U.S. Department of Labor, Employee Benefits in Medium and Large Firms, 1989, June, 1990, Bulletin 2363, Table 1

U.S. Department of Labor, Employee Benefits in Small Firms, 1990, September, 1991, Bulletin 2388, Table 1

U.S. Department of Labor, Employee Benefits in State and Local Governments, 1987, May, 1988, Bulletin 2309, Table 1

\*\* Less than .5%

**Table 3**

**Patterns in Defined Benefit and Defined Contribution Pension Plans  
(1975 - 1989)**

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
<u>Number of Plans in Operation (000s)</u>							
Defined benefit	107	179	224	230	234	NA	NA
Defined contribution	233	410	581	617	638	NA	NA
<b>Total</b>	<b>340</b>	<b>589</b>	<b>805</b>	<b>847</b>	<b>872</b>	<b>NA</b>	<b>NA</b>
<u>Percentage of Total</u>							
Defined benefit	31.5%	30.4%	27.8%	27.2%	26.8%	NA	NA
Defined contribution	68.5%	69.6%	72.2%	72.8%	73.2%	NA	NA
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>NA</b>	<b>NA</b>
<u>Annual Rate of Increase From Prior Year</u>							
Defined benefit		10.8%	4.6%	2.7%	1.7%		
Defined contribution		12.0%	7.2%	6.2%	3.4%		
<b>Total</b>							
<u>Number of private multi-employer plans (000s)</u>							
Defined benefit	2.1	2.3	2.3	2.2	2.2	2.1	NA
Defined contribution	0.3	0.4	0.8	0.9	1.0	1.2	NA
<b>Total</b>	<b>2.4</b>	<b>2.7</b>	<b>3.1</b>	<b>3.1</b>	<b>3.2</b>	<b>3.3</b>	<b>NA</b>
<u>Favorable Determination Letter Applications Issued by IRS (000s)</u>							
Note: 1987 includes three quarters only							
<u>Initial Applications</u>							
Defined benefit	NA	19	17	22	16	17	5
Defined contribution	NA	50	30	45	40	46	23
<b>Total</b>		<b>69</b>	<b>47</b>	<b>67</b>	<b>56</b>	<b>63</b>	<b>28</b>
<u>Termination Applications</u>							
Defined benefit	NA	4	12	11	11	12	16
Defined contribution	NA	9	14	15	13	13	13
<b>Total</b>		<b>13</b>	<b>26</b>	<b>26</b>	<b>24</b>	<b>25</b>	<b>29</b>
<u>Initial Applications as a Percentage of Existing Plans</u>							
Defined benefit		10.6%	7.6%	9.6%	6.8%	NA	NA
Defined contribution		12.2%	5.2%	7.3%	6.3%	NA	NA
<b>Total</b>		<b>11.7%</b>	<b>5.8%</b>	<b>7.9%</b>	<b>6.4%</b>	<b>NA</b>	<b>NA</b>
<u>Termination Applications as a Percentage of Existing Plans</u>							
Defined benefit		2.2%	5.4%	4.8%	4.7%	NA	NA
Defined contribution		2.2%	2.4%	2.4%	2.0%	NA	NA
<b>Total</b>		<b>2.2%</b>	<b>3.2%</b>	<b>3.1%</b>	<b>2.8%</b>	<b>NA</b>	<b>NA</b>

Sources: 1990 EBRI Databook on Employee Benefits, page 79  
EBRI Issue Brief, October 1991, page 8 (multi-employer plan data only)

## Table 4

### Major Differences Between Defined Benefit and Defined Contribution Pension Plans

<u>Plan Feature</u>	<u>Defined Benefit</u>	<u>Defined Contribution</u>
Benefit accrual pattern	Higher in later years	Higher in earlier years
Cashouts for early leavers	Not usually	Lump sum
Retirement benefit payment	Annuity until death	Lump sum
Early retirement subsidy possible	Yes	Not usually
Postretirement benefit increases	Often	Not usually
Investment risk	Borne by employer	Borne by employer
Benefits fully funded	No	Yes
PBGC benefit guarantee	Yes	No
Employee makes asset allocation decision	No	Yes



## Table 5

### Rates of Return by Plan Type

<u>(for period ending December 31, 1989)</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>
All plans	20.7%	14.4%	16.7%
Single employer defined benefit	20.7%	15.0%	17.3%
Single employer defined contribution	21.4%	14.4%	16.4%
Multi-employer	18.4%	11.8%	14.7%
Consumer price index	4.7%	4.5%	3.7%

Source: April, 1990 EBRI Issue Brief, page 6; EBRI Quarterly Pension Investment Report

**Table 6**

**Number of Plans and Participants in Employee Stock Ownership Plans**

<u>Year</u>	<u>Number of Plans</u>	<u>Number of Employees (000s)</u>	<u>Average Number of Employees Per Plan</u>
1975	1,601	248	155
1980	5,009	4,048	808
1985	7,402	7,353	993
1986	8,046	7,860	977
1987	8,777	8,860	1009
1988	9,400	9,630	1024
1989	10,230	11,530	1127

Source: 1991 Statistical Abstract Number 890

**Table 7****Defined Contribution Plan Asset Mix, by Size of Plan**

	--Total Plans--		--By Size of Plan Assets in 1990--			
	<u>1989</u>	<u>1990</u>	<u>&gt;\$500M</u>	<u>\$201-500M</u>	<u>\$50-200M</u>	<u>≤\$50M</u>
Company stock	26.0%	24.2%	26.5%	18.1%	12.4%	31.0%
Other common stock	16.4%	19.1%	19.1%	17.7%	20.6%	19.5%
Bonds	6.9%	9.0%	9.2%	8.2%	8.1%	9.5%
Guaranteed investment contracts	41.2%	38.2%	36.6%	43.6%	46.6%	28.0%
Cash and short-term securities	6.7%	7.1%	6.5%	9.0%	9.5%	8.3%
Other	2.8%	2.4%	2.1	3.4%	2.8%	3.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Greenwich Associates (1991), p. 62.

**Table 8****Integration of Defined Benefit Plans With Social Security  
(1980-89)**

<u>Type of Formula</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1988</u>	<u>1989</u>
Without integrated formula	55	57	55	45	44	39	38	38	37
With integrated formula	45	43	45	55	56	61	62	62	63
Benefit offset by SS payment*	30	33	35	35	36	40	43	39	41
Excess formula**	16	10	10	20	20	27	24	26	24

\* Pension benefit calculated is reduced by a portion of primary Social Security payments.

\*\* Pension formula applies lower benefit rate to earnings subject to Social Security taxes or below a specified dollar threshold.

NOTE: Data exclude supplemental pension plans. Sums may not equal totals because of rounding.

Source: Mitchell (1992 forthcoming), Table 9.11. Data cover plans in medium and large firms only. An Employee Benefits Survey (EBS) for this group was not conducted in 1987. The EBS sampling frame changed in 1988 to include smaller firms and more industries than before, so data for 1988 and 1989 are not precisely comparable with previous years' tabulations.

**Table 9**

**Minimum Requirements for Early Retirement in Defined Benefit Pension Plans  
(1980-1989)**

	Percent of full-time participants								
	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1988</u>	<u>1989</u>
<b>Plans permitting early retirement*</b>	98	98	97	97	97	97	98	98	97
<b>Service requirements alone</b>									
30 years required	10	5	5	6	5	4	5	7	6
<b>Age requirements alone</b>									
Age 55	9	10	9	10	10	9	10	10	6
	8	9	9	10	9	9	10	10	6
<b>Age and service requirements</b>									
Age 55 and 5 years	3	4	4	3	4	3	3	4	9
Age 55 and 10 years	NA	36	35	35	39	43	41	44	43
Age 55 and 15 years	NA	11	10	9	7	8	7	10	8
Age 60 and 10 years	NA	4	4	5	5	4	4	5	4
Age 62 and 10 years	NA	--	--	--	--	--	--	--	2
<b>Age plus service sum</b>									
Sum equals 80 or less	5	9	10	9	10	10	9	4	
Sum equals 85 or more	NA	NA	NA	6	6	5	5	2	1
	3	6	5	5	5	4	4	1	--
<b>Plans not permitting early retirement</b>	2	2	3	3	3	3	2	2	3

\* Early retirement as the point when a worker can retire and immediately receive accrued benefits based on service and earnings; benefits are reduced for years prior to the normal age.

NOTE: Data exclude supplemental pension plans. Sums may not equal totals because of rounding. NA means data not available, and "--" means less than 0.5 percent.

Source: Mitchell (1992 forthcoming), Table 9.3. Data cover plans in medium and large firms only. A comparable Employee Benefits Survey (EBS) was not conducted in 1987. The EBS sampling frame changed in 1988 to include smaller firms and more industries than before, so data for 1988 and 1989 are not precisely comparable with previous years' tabulations.