

Trends in Pension Benefit Formulas and Retirement Provisions

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Abstract

Changes in pension plan retirement formulas and benefit provisions over the last decade are examined, drawing on data collected and tabulated by the U.S. Department of Labor's Employee Benefits Survey of medium and large firms. The evidence shows that pension provisions have changed a great deal over the last decade, among both defined benefit and defined contribution plans.

In the defined benefit environment, participation and vesting rules changed substantially; early retirement became more accessible and benefits somewhat more generous; normal retirement ages declined; and pension benefits were increasingly likely to depend on final rather than career earnings. Benefit integration with social security also grew to almost two-thirds of all participants in defined benefit plans. Overall, though pension replacement rates rose slightly over time, benefit ceilings remained pervasive for work at older ages and disability benefit provisions became more stringent.

Defined contribution pension plans also changed a great deal over the decade of the 1980s. Workers were increasingly likely to be covered by combinations of defined benefit and defined contribution plans, with the latter usually a savings and thrift plan permitting a lump sum distribution. Profit sharing and stock plans appear to have stagnated during the latter part of the 1980s.

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INTRODUCTION

The decade of the 1980s witnessed a transformation in the U.S. private sector pension environment. Employee demands for pension programs changed, partly as a result of the aging of the baby boom, because of increasing numbers of working women and minorities, and because of changes in taxes that affected the overall demand for employee benefits. Employer willingness to supply pensions also changed, in part because of shifts in the industrial and occupational mix of employment, and possibly also because of regulatory constraints increasingly restricting pension provisions. (For a discussion of these effects see the studies reviewed in Gustman and Mitchell [forthcoming], Ippolito and Kolodrubetz 1986, and Ippolito 1986).

The purpose of this report is to discuss changes in pension plan retirement formulas and benefit provisions over the decade of the 1980s. Data for the analysis were collected over the last decade by the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor, who has conducted an Employee Benefits Survey (EBS) for many years. Individual year survey tabulations of pension plan characteristics appear in a series of annual BLS reports, collected here for the purpose of examining the transformation of pension provisions over time. In some cases, the published reports have been supplemented by unpublished tabulations generously provided by the BLS.

A substantive section begins the discussion with an analysis of how retirement benefit formulas and provisions affect the environment in which older workers make retirement decisions. Following this appears an analysis of observed trends in retirement provisions and benefit formulas found in defined benefit and defined contribution plans over time. The paper concludes with a summary of findings.

PENSION PLAN FORMULAS AND RETIREMENT PROVISIONS

Pensions in the United States can be classified into two general types, namely defined contribution plans and defined benefit plans. In a defined contribution plan, the sponsoring group makes a specified contribution to the pension fund on behalf of each participating employee. These funds are then invested in the capital market; the retiree receives pension benefits that depend on the outcomes from this investment process. In a defined benefit plan, in contrast, what is specified is the eventual pension benefit that workers will receive on retirement, or more generally the formula for determining the eventual benefit. Defined benefit plan formulas generally relate retirement payments to workers' age, pay, and/or service levels.

Both types of pension plans embody many different provisions and formulas, ranging from rules regulating participation and vesting in the plan, to requirements that must be met in order to receive retirement payments, to formulas determining contributions into and payouts from the plan. In addition there are myriad special provisions regarding post-retirement benefit increases, provisions for special payouts (e.g., disability or lump-sum cashouts), and other features.

Pension research in the last decade has demonstrated that many of these institutional provisions and formulas powerfully affect the nature of the pension promise (c.f., Gustman and Mitchell 1991, Quinn et al. 1990). For instance, an employee covered by a pension plan permitting lump-sum cashouts after only a minimal vesting period gains access to pension savings early in the worklife. In contrast, an employee who cannot cash out the pension accrual, or who is required to work the maximum legal period before becoming vested, must defer access to the accrued pension. These and other structural features of pensions have been demonstrated to alter turnover patterns among workers at younger ages. Benefit provisions and formulas have also been found to powerfully affect older workers' behavior. Thus, for example, an early retiree receives higher benefits when his or her defined benefit plan imposes only a small early retirement reduction factor; conversely early retirement is penalized when early retirement reduction factors are high (c.f., Lazear 1985, Kotlikoff and Wise 1987). Eventual retirement benefits from defined contribution plans are also shaped by their institutional structures: for example, benefit accruals

may be more predictable when contributions are determined as a fraction of earnings, versus when they are determined by such factors as corporate profits.

Evidence on trends in pension provisions and formulas over time is provided in a series of reports issued by the U.S. Bureau of Labor Statistics (BLS). Here we focus on published tabulations covering the period from 1980 to 1989 summarizing evidence from a survey conducted periodically by the BLS on employee benefits, called the Employee Benefits Survey (EBS). This survey has examined the incidence and characteristics of employee benefit plans covering private sector establishments in the continental United States. (Cost information for these benefit plans was not collected in the same format.) In a few cases unpublished information was generously provided by the BLS to supplement the published tables.

Before describing the data and trends in more detail, it is first useful to define terminology and explain the importance of specific pension provisions.

Plan Participation and Vesting

Workers covered by a pension generally do not become plan participants immediately. Instead, many pensions limit participation to workers who have been at the firm more than 1 year, and further restrict participation to employees over a certain age. (The Employee Retirement Income Security Act [ERISA] of 1974, as amended, mandated that plan participation requirements could not be more stringent than this, but plans may be more generous). The definition of plan participation matters because many pensions begin to count years of service (used in benefit computations) from the date that a worker becomes a plan participant.

Vesting refers to the point at which the worker gains a legal claim to an eventual benefit from a pension plan in which he or she is a participant. Relatively few firms grant their workers immediate rights to a benefit; instead, plans tend to specify that workers will gain this legal claim only when they meet the criteria specified in the plan's vesting formula. This is often expressed in terms of a minimum age and/or years of service required to gain a legal claim over a retirement benefit. In 1974, ERISA spelled out a series of legally permissible vesting schedules including the very common "10-year cliff vesting rule", which required a worker to be vested after 10 years of

service. Vesting standards were eased under the Tax Reform Act of 1986, with most plans now using a "5-year rule" for cliff vesting.

Retirement Eligibility Requirements.

Most private pension plans specify that an employee must complete a certain number of years of service, and/or attain a specified age, in order to receive a pension annuity payment. Thus, for instance, a worker may be eligible for early retirement if he or she is at least age 55 with 10 years of service, while normal retirement might be defined as leaving at age 65 with at least 10 years of service. Many plans also denote particular age and/or service conditions for what is often termed "delayed" retirement, or retirement after the plan's normal age.

Such age and service requirements are important because they establish conditions under which the worker can claim plan benefits, and are common in both defined benefit and defined contribution plans. However these requirements play a special role in defined benefit plans, since age and service also affects the level of benefits a retiree can expect. This is because defined benefit plans often base payments on a retiree's age and/or service as of his or her departure date. For instance, an early retiree might receive a lower annual benefit amount than the one payable at the plan's normal retirement age. The higher benefit for normal retirement is reflective of the fact that at the later age, a worker has more years of service, possibly a higher pay level, and fewer years of life remaining over which to draw a benefit. In addition, defined benefit plans frequently structure their benefit formulas so as to subsidize early retirement (Fields and Mitchell 1984, Kotlikoff and Wise 1987, Luzadis and Mitchell 1991). Hence retirement requirements are important insofar as they establish when a worker may begin to receive subsidized early payouts.

Until recently, firms were also permitted to induce older workers to leave by limiting pension accruals. However the Omnibus Reconciliation Act of 1986 required pension plans to continue benefit accruals after the normal retirement age, a ruling which took effect for most private sector pensions in 1988. (Collectively bargained plans were permitted somewhat longer to come into compliance.) Hence retirement eligibility rules for postponed or delayed retirement must be understood, because they determine benefit incentives to remain employed at older ages.

Retirement Contribution and Benefit Provisions

Defined Benefit Plans:

Defined benefit plans use a variety of methods to compute participants' payouts. As the data will show, some pension benefit formulas provide for flat dollar amount entitlements. In most cases, however, workers are covered by plans wherein benefits are based on the worker's pay, age and/or service at retirement.

When pension benefits depend on earnings, the formula generally specifies what percentage of earnings will be paid per year of service. In addition, earnings-based plans must indicate the definition of earnings that is relevant. For instance straight-time pay alone may be considered, or alternatively the plan can include overtime, shift pay, and/or commissions in the formula. In addition, pay-based plans differ in terms of the period of time over which earnings are computed. In a career earnings plan, pay during the entire period of employment is considered; conversely, a terminal earnings plan focuses on compensation just prior to retirement. Even terminal earnings benefit formulas generally include more than the final year's pay in the formula; it is not uncommon to use the worker's highest or last 5 years as the basis for a final average pay figure.

In some cases pension formulas are integrated with social security rules, following two general patterns. "Offset" formulas typically reduce a pension benefit payment by some fraction of the worker's primary social security amount, while an "excess" plan will apply lower pension benefit accruals to earnings below the social security taxable wage base (or some similar threshold) and higher benefit accumulations to earnings above this amount. Terminal earnings plans tend to use the offset approach when they are integrated, while career earnings plans tend to use the excess method. Integration is less common in plans using flat dollar amounts.

Defined benefit pension plans have various other special benefit rules, many of which affect retirement benefits under certain conditions. Data have been collected by the BLS for several years on benefit reduction factors, important in determining the rate at which annual benefit payments are reduced for workers retiring early. These reduction factors often turn out to

encourage early retirement, because they reduce early retirement benefits by less than the amount required to be actuarially neutral. In other words, early retirement pension payments often prove to be larger than the normal retirement benefits in present value terms, providing a pension subsidy for early retirement (Fields and Mitchell, 1984). Trends in these are examined in the next section.

Useful tabulations on other aspects of defined benefit plans may be developed with other Employee Benefits Survey tabulations. Of some interest is a time series on average replacement rates for employees of varying pay and service levels, indicating how retirement pensions compare to pay levels just prior to retirement. These tabulations indicate the extent to which pensions have risen relative to final pay. In addition benefit maximums are indicated, usually as a function of service and/or pay. Many plans also offer pension increases after retirement, in partial recognition of the declining purchasing power of benefits fixed in nominal terms. Though most pensions do not formally index benefit payouts, ad hoc increases are fairly prevalent and contribute to increased economic security in retirement (Allen et al. 1986) .

Two other features of some interest are provisions describing workers' access to pension accruals for special reasons, including for early receipt of vested benefits and for disability. When workers have access to vested accrued benefits, they sometimes fail to save the accumulations for retirement, a subject of much policy debate of late (Fernandez, this volume). Disability pensions are another way in which workers can receive benefits prior to becoming qualified for a regular pension, which also plays a role in increasing economic security.

Defined Contribution Plans:

The institutional structure of defined contribution plans is as varied as among their defined benefit counterparts, but along different dimensions. There are many different types of plans, categorized according to various classification schemes. One approach, used by the BLS, is to distinguish between what it calls "retirement" versus "capital accumulation" plans, where the former generally prohibits withdrawal of pension accruals prior to retirement, and the latter lends easier access to plan assets. Of course as the BLS recognizes, "most defined contribution plans can

be used to provide retirement income or to accumulate financial assets" (US DOL, 1989, p. 107). In addition many of these plans allow lump-sum cash-outs rather than a benefit annuity. For these reasons, the distinction between the two plan types, retirement versus capital accumulation, is somewhat arbitrary from an economic perspective.

An alternative approach, also used in BLS data, differentiates defined contribution plans according to what gives rise to them, or on the basis of their holdings. Examples here include a variety of offerings such as savings and thrift plans, profit-sharing programs, money purchase pension plans, and employee stock ownership/stock bonus plans. Savings and thrift plans are those where workers contribute a percentage of their pay and employers generally offer some amount of matching contribution (perhaps up to a maximum). The tax treatment of employee contributions depends on both individual plan structure and overall tax code limitations on the amount of compensation that can be tax deferred. Savings and thrift plans often permit workers to borrow from or make taxable withdrawals from their plans in special circumstances (e.g., educational or medical expenses). Profit sharing plans offering deferred income tend to link employer contribution levels to company profits, and then allocate the employer contribution based on workers' pay or other formulas. Early withdrawals or loans are rather less common here than in other plans. In a money purchase plan, employer contributions are fixed, usually as a fraction of earnings, whereas in stock ownership and stock bonus plans the employer contributions are usually in the form of company stock.

Individual company practice and the tax code limits the amount and distribution of funds going into defined contribution plans, as well as withdrawals from these plans. The Employee Benefits Survey offers some information on changes in these practices over time for both profit sharing and savings/thrift plans. In addition there is limited information on participation and vesting requirements in defined contribution plans over time, though the time series are shorter than for defined benefit provisions.

Data Sources

Before discussing specific trends in pension plan formulas and retirement provisions, a few comments are in order about the data used in developing this report. Until 1988, the BLS Employee Benefit Survey used a sampling frame that focused on firms employing at least 50, 100, or 250 workers, depending on the industry in question. Thus in the mining, construction, retail trade, and some manufacturing and transportation sectors, only establishments employing 250 workers or more were included. In accounting, auditing, and bookkeeping, the minimum firm size was 50 employees. Beginning in 1988, however, the BLS altered its survey sampling frame by making the universe of all firms employing at least 100 workers the new focus of analysis. As a result, in 1988 the survey sample size increased from about 1,300 to about 2,100 firms by virtue of this change in scope (US DOL, 1989).

In addition to the change in firm size, the BLS also extended industrial coverage of the benefits survey as of 1988. Industries analyzed prior to the change included mining; construction; manufacturing; transportation; communications; electric, gas, and sanitary services; wholesale and retail trade; finance, insurance, and real estate; and selected services. Beginning in 1988, coverage for the service sector became more extensive; in particular, health and educational services had previously been underrepresented and are now included in the sample.

In all years, the BLS has consistently concentrated its data collection efforts on three major occupation groups: professional and administrative, technical and clerical, and production and service. Not included in the survey are executive management workers and part-time, seasonal, temporary, and traveling employees.

As a result of these changes in EBS scope and coverage, it is important to recognize that pension information collected before and after 1988 is not strictly comparable. In particular, from 1988 onward, the tabulations cover more small firms and offer slightly broader industrial coverage. Selected summary tables were prepared by the BLS in 1988 only, for the purpose of indicating how the changed survey scope altered reported pension statistics; these do not, however, indicate whether differences in reported tabulations due to coverage format changes are statistically

significant. Parallel tabulations using both the "old" and the "new" coverage formats are presented for four of the time series discussed below.

We conclude that along many of the important pension dimensions of interest here, the 1988 tabulations of pension data using both the "old" and the "new" scopes appear similar. Some differences do emerge, mainly because the expanded surveys of 1988 and thereafter include more smaller firms where benefit coverage as well as benefit generosity is typically less. Thus using the new format, pension coverage appears lower, requirements for normal retirement appear more stringent, and fewer plans appear to provide post-retirement benefit increases among defined benefit plan participants. In the defined contribution area, even more changes are evident, partly because such plans are more prevalent among smaller firms. For this reason, the reader should be aware that the "new scope" 1988 and 1989 data are not precisely comparable with the "old scope" information from previous years.

TRENDS IN PLAN FORMULAS AND RETIREMENT PROVISIONS--DEFINED BENEFIT PLANS

Available tabulations of Employee Benefits Survey data provide time series data on three important institutional characteristics of defined benefit pension plans: (1) participation, eligibility and vesting; (2) benefit formulas, and (3) special provisions. Each set of trends is examined in turn.

Participation, Eligibility, and Vesting.

Defined benefit pension plans frequently specify criteria that workers must meet before becoming full-fledged pension participants. Such requirements are justified by the need to reduce administrative costs that would otherwise be incurred for young workers. Their effect is to reduce turnover by offering workers an incentive to remain with the company (See the review in Gustman and Mitchell, forthcoming). Under the Employee Retirement Income Security Act (ERISA) of 1974, full-time employees age 25 or older had to be granted participant status after completing 1 year of service. Participation rules were subsequently amended by the 1984 Retirement Equity Act

(REA), which for most plans lowered the participation requirement to age 21 (as of mid-1986, some plans that make vesting immediate on participation are still permitted a 3-year participation requirement).

Published information on plan participation patterns over time indicates remarkable stability in the fraction of full-time workers with no minimum age and/or service requirements between 1981 and 1986 (Table 1). After 1986, however, there were some apparently large changes in participation patterns. Consistent with expectations under REA, the fraction of participants covered by the "age 21/service 1" rule grew quickly, almost doubling from 18 percent in 1986 to one-third of all participants by 1988; on this count, then it appears that the law change was successful in bringing about earlier participation for many workers. On the other hand, and more unexpected, is the large decline in the fraction of workers permitted to participate in their plans immediately, and the concomitant increase in the probability of facing minimum age and/or service rules for participation.

It may be that the law change actually prompted plans to impose minimum requirements instead of bringing about intended liberalization, for some portion of the workforce. However confirming this hypothesis is difficult using published data because the "new scope" figures published for 1988 cannot be precisely compared with earlier data. Patterns remain somewhat inconclusive even when using unpublished "old scope" data generously provided by the BLS for this analysis (these appear in the column headed "1988†"). Part of the trend during the latter part of the 1980s may be due to changes in survey scope, though by no means all. Coverage figures were once again quite stable for 1988 and 1989.

Also in Table 1 is information on a practice permitted by ERISA until 1988, which was the imposition of participation limits when a worker joined a pension plan within 5 years of the plan's normal retirement age. These rules made it possible for firms to hire older workers without incurring large pension obligations, and until 1986 these rules were very common -- about 60 percent of plan participants were covered by this practice. The Omnibus Reconciliation Act (OBRA) of 1986 eliminated maximum age restrictions as of 1988 for most pension plans, and

comparable data were not tabulated in 1989. Judging from the fact that the practice was widespread during the mid-1980s, OBRA was probably important for older workers taking new jobs close to a firm's normal retirement age. Nevertheless it must be recognized that relatively few employees would be in this category, concentrated in a few industrial sectors (Hutchens, 1986, 1988).

Once a worker becomes a plan participant, he or she must often meet a plan service requirement before gaining a legal vested right to the plan (Table 2). It is widely held that these vesting requirements are structured to deter worker turnover, inasmuch as vesting guarantees an eventual retirement benefit which would otherwise be lost upon moving (c.f., Gustman and Mitchell, forthcoming). ERISA specified a number of different vesting formulas, including a 10-year cliff vesting practice requiring an employee to participate in the plan for ten years before becoming 100 percent vested. The Tax Reform Act (TRA) of 1986 required single-employer plans to convert to a 5-year schedule if using cliff vesting (or 7 years if graded vesting was in place); the 5-year approach was adopted by most plans during 1989. Table 2 indicates that most defined benefit plans used cliff vesting both before and after TRA, but the modal number of years until vesting fell from 10 to 5 between 1988 and 1989, consistent with expectations (Turner and Beller, 1989). Graduated vesting schedules give an employee rights to a gradually increasing share of accrued benefits, eventually reaching 100 percent at a specified age and/or service point. Graduated vesting schedules covered about 11 percent of all defined benefit participants in 1989, with little clear evidence of change over time. In general, vesting requirements appear to have eased over the decade of the 1980s.

Defined benefit plans generally specify age and/or service criteria under which a worker can retire and receive "early" benefits (Table 3). Virtually all defined benefit plans in the Employee Benefits Survey sample have permitted early retirement during the last decade, with coverage between 97 and 98 percent since 1980. However, the fact that early retirement was usually available obscures changes in criteria for collecting early benefits. To some extent, rule changes have made earlier retirement more accessible: two-thirds of all participants could leave at age 55 in

1989, up from 60 percent 10 years earlier (ignoring service). More people can now leave at age 55 and 10 years of service, and between 1988 and 1989 participation in plans requiring only age 55 and 5 years of service for early retirement more than doubled. Only half as many participants in 1989 were required to have 30 years of service as compared to a decade ago.

In most defined benefit plans, the modal normal retirement age is age 65, as it has been since 1980 (Table 4). However what is changing is the fact that many workers can retire before this age and still receive full (unreduced) benefits. For instance, 10 percent of all workers could retire at age 60 or 62 with no particular service requirement in 1989, up from 6 percent in 1980. Many others could take retirement in their early 60s if they met a service criterion: 26 percent could leave prior to age 65 in 1989, up from 22 percent in 1981, after working a specified number of years. Moreover, service requirements seem to be declining: the "30-and-out" rule here covered 11 percent of participants in 1980, and only 7 percent by 1989. These patterns are in line with findings from other studies indicating that many pension plans have encouraged earlier retirement over time (Luzadis and Mitchell forthcoming, Mitchell and Luzadis 1988). Whether or not this pattern will persist into the labor market shortages some have predicted for the 1990s remains to be seen.

Table 4 also contains information useful for comparing the "old" and "new" scopes of the EBS survey, since the BLS published 1988 data computed both ways. There are some strong similarities between the two 1988 data columns: for instance, the same general patterns of requirements are evident, in roughly the same proportions. However noteworthy differences also stand out: the "old" scope survey revealed a much lower rate of plans using age alone (35 percent versus 42 percent), a higher rate of service (9 percent versus 7 percent), and a higher rate of age and service combinations (41 percent versus 39 percent). While it is not clear whether the differences are statistically significant, the differences here should reinforce the point made above that the 1988 and 1989 surveys are not strictly comparable with those from earlier years.

In the past, many defined benefit pension plans provided no credit for work after age 65, a policy intended to discourage work after the normal retirement age. Thus, for instance, between

1981 and 1986 more than half of all participants were given no credit for service after age 65 (Table 5). Less than a fifth of all plans credited all service after age 65, and half of the plans deferred pension payouts with no actuarial increase. In 1986, however, the Omnibus Reconciliation Act mandated that benefit accruals had to be continued for work beyond the plan's normal retirement age (subject to any plan maximum credited service provisions), beginning in 1988 for most plans. As a result, the 1988 figures represent only partial year information (both "old scope" and "new scope" data are remarkably close here), and most of the entries are not available for 1989. Hence there is little information on how practices which discouraged continued work at older ages prior to 1988 have changed.

Benefit Formulas.

The vast majority of defined benefit plans surveyed use workers' earnings in their benefit formulas. The evidence shows that the prevalence of earnings-based plans is increasing (Table 6). In 1980, 68 percent of participants had earnings figure directly in their payments; the fraction rose to 72 percent by 1986, and 75 percent of the participants had earnings-based formulas by 1989. (Data are presented for 1988 using both the old and the new survey scope, and here the patterns are quite similar; apparently the change in scope makes little difference to the results). There has also been a trend toward the use of terminal earnings in the benefit formula with a rather large jump observed between 1988 and 1989 from 55 percent to 64 percent. Conversely, the fraction of workers in 1989 with career average (11 percent) and flat dollar amount (22 percent) plans is lower than previously.

Each of these changes somewhat reduces the risk of inflation that workers bear in their prospective pension payments, by linking benefits to pay during the final few years prior to retirement. In addition, the increasing prevalence of terminal earnings plans ties retirement benefits much more tightly to individual performance toward the end of the worklife, as compared to previously more popular career average plans. The fact that benefits and pay have become more tightly linked over time is confirmed by the tendency in 1989 of plans not to offer alternative

minimum benefits for employees with short service or low earnings. In contrast, at the beginning of the decade, alternative minimum formulas were far more prevalent.

In the three-quarters of all plans that linked benefits to earnings in 1989, roughly half (53 percent) included only base or straight-time pay in the formula (Table 7). This was a substantial increase from the previous year (44 percent of both career and terminal earnings plans used this pay formula). When base pay became more widely used, other forms of compensation (e.g., overtime pay, commissions, bonuses, and shift differentials) declined in importance insofar as determining benefits. This pattern is consistent with an earlier conclusion: limiting earnings used in computing benefits clearly reduces incentives to remain employed at older ages.

Among the almost two-thirds of pension participants with terminal earnings plans in 1989, the vast majority (81 percent) had formulas that averaged pay over 5 years (Table 9). Of these, most plans used the highest consecutive 5 years (65 percent) prior to retirement. Only 16 percent used 3 years of earnings in the benefit formula, though this fraction seems to have increased in the last several years. These plans typically provided a flat percentage per year of service (54 percent in 1989 used this approach), with the modal figure being between 1.25 and 1.75 percent of terminal pay ever since 1983 when the figures were first tabulated in this fashion. Just over one-tenth of the participants received 2 percent or more per year of service, with no clear-cut trend over time.

About 11 percent of plan participants had benefit formulas based on career earnings in 1989. Of these, the vast majority (59 percent) received benefit entitlements that varied with service, earnings, age, or a combination of these factors, and the pattern has changed little since 1983 (Table 8). Many of these plans are integrated with social security; for instance, such a benefit formula might provide 1 percent of pay up to the social security earnings threshold per year of service, and 1.5 percent for pay above this level. When a career earnings plan employs a flat percent per year of service, the modal percent is between 1.25 and 1.74, similar to the most common fraction used in terminal earnings plans. Most of these patterns seem fairly constant over the time period covered by the Employee Benefits Survey data. At the top end some increases in

benefit generosity are evident: 8 percent of all eligibles had benefits worth 2 percent per year of service or more in 1989, up four times the rate in 1983. However the small number of these plans, and the change in survey scope, may account for some of the variability in these estimates.

Plans paying retirees a dollar amount per year of service covered 22 percent of all participants, and four-fifths of these (81 percent) utilized a flat amount in the benefit formula (Table 10). For instance, 23 percent of the plans paid monthly amounts of around \$20 per year of service in 1989; in such a case, a worker retiring with 20 years of service would have expected \$400 per month. Benefit multiples have grown over time, most probably in recognition of inflation: the modal flat payment in 1983 was smaller than in 1989, at around \$15 per month. The early 1980s saw a decline in the prevalence of dollar amount benefit formulas, with a resurgence between 1988 and 1989. The U-shaped coverage pattern suggests a decline in flat monthly amounts between 1983 and 1986, followed by an apparent rise between 1986 and 1988. Even if differences in the survey scope before and after 1988 are taken into account, the trends remain contradictory. Perhaps the simplest conclusion is to recognize that fewer workers today are covered by dollar amount benefit formulas than previously, but when they are, flat dollar credits per year of service remain the norm.

One unmistakable trend in the Employee Benefits Survey data pertains to the growing practice of integrating pension benefits with social security (Table 11). In 1980 fewer than half (45 percent) of all participants were in integrated plans, while by 1989, almost two-thirds were integrated (63 percent). Integration takes two forms, and both forms became more prevalent over the period, with most of the changes occurring between 1980 and 1985. The practice of reducing or offsetting pension benefits by a portion of social security payments grew from 30 to 40 percent, and plans using the excess formula increased from 16 to 27 percent over the first 5 years of the decade. During the latter part of the 1980s, integration practices appeared to have changed far less quickly, and the change in sampling format had no important impact on the figures between 1986 and 1988. It is of interest to recognize that the largest changes in pension integration practices coincided with substantial payroll tax increases resulting from the 1983 social security reforms

(Fields and Mitchell, 1984), and though a causal relationship cannot be proven in the data, the correlation is striking.

Early retirement has for some time been virtually universal among defined benefit plans, but eligibility requirements are making early retirement more accessible. Table 12 suggests that subsidization of early retirement is widespread: in 1989, two-thirds of all workers covered by a uniform early retirement reduction factor faced benefit reductions smaller than 6 percent for each year he or she left early (6 percent is often considered to be a roughly actuarially neutral reduction factor for early retirement; see McGill 1984). It is possible that early retirement is also subsidized in other plans using factors which vary with age and service, but this cannot be determined from available tabulations. Data on reduction factors applied to deferred vested benefits are even sketchier since the tabulations begin only in 1986, but here too, the evidence suggests that two-thirds of all workers covered by a uniform reduction factor for vested deferred benefits face benefit reductions smaller than 6 percent. Deciding whether this tendency is increasing or declining over time will require additional survey years of data, however.

One way in which pension analysts compare retirement payments across defined benefit pension plans is to compute "replacement rates", or the ratio of the retirement pension to the final year's earnings. The BLS calculated replacement rates at the normal retirement age in the EBS pension plan surveys between 1984 and 1989; data are reported using six standardized pay levels and three seniority profiles (Table 13). Replacement rates generally rise with service, holding pay level fixed, for a given year and across all years. If one compares replacement patterns within service categories, the plans appear redistributive in that replacement rates decline as pay rises for particular levels of service -- in all cases except the \$40,000 bracket where rates rise slightly in all years. It must be recognized that the illustrative pay levels reported in the table are not comparable over time since a constant nominal earnings assumption actually implies falling real pay levels over the 6-year period. One can take this into account by comparing the replacement rate for a \$25,000 worker in 1984 with that for a \$30,000 level in 1989, which roughly controls for the change in inflation over this period. This comparison shows that pension benefits became more generous

over the period, but by not as much as one might gather from focusing on the constant nominal pay levels (i.e., looking at the same nominal pay level in 1984 and 1989, benefits appeared to increase 7.2, 8.7, and 11.7 percent at 10, 20, and 30 years of service; but holding constant real pay levels the benefit increases were smaller, at approximately 2.0, 7.0, and 10.5 percent).

Special Provisions.

In general most retirees are vulnerable to inflation (Allen et al. 1986), because pension benefits are usually paid in the form of fixed nominal annuities. Rarely is the benefit explicitly indexed to a cost of living index; indeed in 1989 only 7 percent of EBS participants were covered by a COLA, and most often the COLA was capped at some maximum amount. Quite frequently benefits are not increased at all: for instance between 1984 and 1988, the Consumer Price Index rose 19 percent, during which time one-half to three-quarters of defined benefit plan participants were in plans where retirees were awarded no post-retirement increases at all (Table 14). When benefits after retirement were increased, an ad-hoc adjustment factor was used which tended to be a flat amount (56 percent in 1989). The most common alternative was to offer an amount per year of service (29 percent) or per year since retirement (15 percent). It is interesting to note that many fewer participants in 1989 had a post-retirement increase than in 1983 (24 versus 51 percent) but it must be recognized that declining inflation rates over the decade drive this trend.

For various reasons, pension plans frequently impose a ceiling on benefit amounts. This phenomenon has been prevalent for some time, as is evident from Table 15. Though information is available only since 1984, few dramatic changes over time are evident: about two-fifths of all plans imposed a maximum limit on benefits over time, mostly in the form of service years. The modal choice for a maximum has generally been between 30 and 39 years of service, though this seems to be declining and higher limits becoming more widespread (e.g., 40 or more years) since 1985.

Most defined benefit plans in Employee Benefits Survey tabulations contain special disability provisions (Table 16). The prevalence of disability pensions remained in the high 80s and low 90s from 1980 until 1988, whereupon there was a sudden and substantial drop in

disability pension coverage to 81 percent. It is not entirely clear why this decline occurred, though the change did not coincide with the adoption of the new EBS scope. Changes in rules determining eligibility suggest that plans may be tightening restrictions, requiring that workers qualify for long term disability insurance in one-third of the cases by 1989 versus in only 11 percent of cases in 1980. On other fronts, plans seem to be limiting disability benefits as well: availability of unreduced and immediate benefits fell by a third, while many more workers in 1989 had to defer receipt.

TRENDS IN PLAN FORMULAS AND RETIREMENT PROVISIONS--DEFINED CONTRIBUTION PLANS

This section explores (1) coverage and vesting patterns across a variety of defined contribution plan types, (2) contributions and withdrawals in savings and thrift plans, and (3) features of profit sharing plans. Detailed data on defined contribution plans tend to be of recent vintage, in contrast to the extensive BLS tabulations on defined benefit plans. This is probably because defined contribution plans experienced a rapid growth in popularity over the last decade, and consequently have been the focus of interest only relatively recently.

Plan Types, Coverage, and Vesting.

BLS reports provide a variety of different tabulations regarding defined contribution pension plan coverage over time. Information on coverage by retirement and capital accumulation plans is sketchy, since the tabulations extend only as far back as 1985 in comparable format. In addition, the change in the EBS survey scope in 1988 makes it inadvisable to draw strong conclusions on patterns that are less than completely clear. Thus available data on coverage by retirement and capital accumulation plans does not yet indicate clearcut trends; additional surveys will be needed to sort out long-term tendencies (Table 17).

Similar problems limit ability to derive conclusions from tabulations on coverage by combinations of retirement and capital accumulation plans for the period 1985-89 (Table 18). The majority of pension-covered workers have defined benefit plans, but more and more often,

employees also had defined contribution plans as well. In 1989, for instance, fully one-third of all workers with a defined benefit plan had at least one form of defined contribution coverage, and some had more than one. Workers with more than one plan tended to have a savings and thrift plan most often, with profit sharing running a far second. While the modal coverage pattern in the EBS data remained the defined benefit plan, coverage by a defined benefit plan alone declined as a fraction of overall pension participants between 1985 and 1986, and again between 1988 and 1989. Conversely, coverage either remained steady or increased for savings and thrift plans, money purchase, and stock plans. These findings tend to reinforce conclusions from other data sources suggesting that the latter half of the 1980s saw increased participation in defined contribution plans, along with a drop in sole coverage by a defined benefit plan (Piascentini and Cerino 1990, Turner and Beller 1989).

Within the defined contribution universe, time trends are somewhat difficult to pin down since again BLS tabulations are available only from 1985 onward. One strong conclusion is that savings and thrift plans have been the most prevalent plan in the defined contribution category for several years, covering 30 percent of workers in 1989 (Table 19). The change in Employee Benefits Survey scope apparently did affect tabulated results, as is evident from the one-time decline in coverage rates for savings and thrift plans (compare the 1988† and 1988 figures). Nevertheless, patterns before and after the survey change are consistent with the conclusion that growth in savings and thrift plans characterized the entire period. This same conclusion may be drawn from Table 20, where it may be seen that coverage by salary reduction plans, and particularly savings and thrift plans, grew between 1985 and the 1988† figures, a trend that was reiterated between 1988 and 1989. In contrast, growth among profit sharing, money purchase, and stock plans was far less in the latter part of the 1980s.

Participation and vesting data in the two major types of defined contribution plans appear in Tables 21 and 22. Both plan types have similar minimum age and service requirements for participation, though participation appears somewhat easier in savings plans: in 1989, for instance, 15 percent of savings/thrift plans had no minimum requirements, while 6 percent were thus

permissive among the deferred profit sharing plans. Among both types of defined contribution plans, the most common requirement was 1 year of service to participate. These numbers contrast starkly with those for defined benefit plans where 35 percent in 1989 had no minimum requirement.

Vesting patterns in defined contribution plans indicate similarities across plan types (Table 22), though more profit sharing plans provide graduated vesting (50 percent in 1989, with the majority vesting between 6 and 10 years) as compared to savings plans (30 percent in 1989, with the majority vesting at 5 years). The major contrast is with defined benefit plans, where immediate vesting is virtually nonexistent while 37 percent of profit sharing plans offered immediate vesting in 1989, and 30 percent of savings plans. Cliff vesting in the defined contribution arena is also easier, and becoming more popularity since 1985. Among savings plans, most use 5 years but almost as many use 3 to 4 years of service. The trend to shorter cliff vesting will probably continue in future years, since the 1986 Tax Reform Act required most plans using cliff vesting to convert to a 5-year schedule as of 1989.

Saving and Thrift Plan Features.

Three types of plan-specific information are available on savings and thrift plans in the published tabulations of EBS results: data on employee contributions, employer contributions, and conditions under which employer contributions can be withdrawn prior to retirement.

Most savings and thrift plans base employee contributions on workers' earnings, with 16 percent being the most widespread maximum percentage of earnings allowed in 1989 (Table 23). The top panel of the table also shows that more than half of all plans in 1989 imposed a maximum on employee contributions less than 16 percent of earnings annually, with the bulk of these falling in the 10 to 14 percent range. In general these patterns seem fairly constant over the short time period for which data are available, between 1985 and 1989. More striking is the second panel of the table, indicating dramatic changes in the tax status of employee contributions. More than 90 percent of all covered employees could contribute to their plan on a pretax basis in 1989, whereas only 65 percent were permitted this in 1985. Notwithstanding changes in the EBS sample scope,

which makes it difficult to obtain a precise picture of trends between 1985 and 1989, it must be concluded that more and more covered workers have been taking advantage of the tax deferred status of savings and thrift plans over time.

Evidence on employer matching contributions is summarized in Table 24, and shows that in 1989 almost half of all employers matched worker contributions at a rate of 6 percent of pay, with another third matching at a rate of 5 percent or less. In general, then, employer matching contributions average a much smaller fraction of earnings than do employee contributions.

Some savings and thrift plans permit withdrawals of employer contributions "early", where early is generally defined as prior to retirement age. Overall, there was little change between 1985 and 1988 in the prevalence of plans permitting early withdrawal using the "old scope" survey frame, and similar stability characterizes the new sampling frame in the 1988-1989 years (Table 25). While it cannot be determined with certainty, it appears that the survey's scope change in 1988 does not account for much of the upward trend in the prevalence of plans permitting withdrawals for hardship reasons; this pattern persisted in the later 1980s irrespective of sampling frame. Exactly what constitutes a hardship according to plan sponsors is somewhat imprecise; the BLS indicates that possible reasons include purchase or repair of a primary residence, illness or death in the family, education of an immediate family member, or sudden uninsured loss. More precision about the definition of hardship would be useful in future surveys, particularly since it appears that the ability to withdraw such funds without penalty is increasing.

At retirement, savings and thrift plans may pay out accumulated funds in various ways. Table 26 spells out different methods of distributing the funds, and indicates that cash is the most common method for 97 percent of participants in 1989. This figure has not changed much in recent years. Somewhat surprising, perhaps, is the finding that in 1989 as many of 96 percent of participants could obtain a lump sum cash-out of their accumulation, 52 percent could get the funds in installments, and only 28 percent had an annuity form available to them. These patterns do not appear to have changed much over time, after allowing for a time trend discontinuity due to the 1988 changes in EBS scope.

Profit Sharing Plan Features.

Deferred profit sharing plans have numerous provisions (Table 27). Of interest is the way in which employer contributions are determined: the data show that 60 percent of all participants had a stated formula in 1989, while the remainder did not. These data were not tabulated prior to 1986, and it is inadvisable to generalize about trends from three datapoints. Additional information had to do with how employer contributions get allocated to workers' accounts. The most common format is based on earnings, though this method fell in popularity between 1988 and 1989. Another piece of information about these plans pertains to whether or not loans are permitted from the accounts: in 1989 loans were not permitted in as many as 81 percent of the plans, up from 68 percent the year before. Additional years of data are needed to determine whether these patterns constitute a trend, and if so, in what direction.

SUMMARY AND CONCLUSIONS

While findings from Employee Benefits Surveys cannot necessarily be generalized to the entire workforce, a great deal can still be learned by examining pension trends among workers in medium and large firms over time. Pension provisions in the EBS changed a great deal over the last decade, in both defined benefit and defined contribution plans.

Defined Benefit Plans

The last decade has seen several noteworthy changes in the defined benefit environment. These include changes in participation and vesting rules; increased accessibility of early retirement and growth in early retirement benefits; a decline in normal retirement ages; and the movement of pension benefit formulas toward final rather than career earnings. Benefit integration with social security also grew, with almost two-thirds of all participants in integrated plans in 1989. Overall, though pension replacement rates rose slightly over time, benefit ceilings remained pervasive for work at older ages and disability benefit provisions became more stringent of late. Specific findings are summarized as follows:

- Participation rules in defined benefit plans were fairly stable between 1981 and 1986. However, after 1986, minimum age and service requirements for pension participation grew more prevalent. Also until 1986, firms could exclude older workers from pension participation, but a law change as of 1988 made pension participation easier for older workers taking a job close to a firm's normal retirement age.
- Vesting rules changed substantially over time. While most defined benefit plans continued to use cliff vesting over the period, the modal number of years required has fallen from 10 to 5.
- Early retirement has been permitted by virtually all defined benefit plans since 1980, but several changes in plan rules made early retirement more accessible over the decade. Two-thirds of all participants in 1989 could leave at age 55, up from 60 percent 10 years earlier (ignoring service requirements). Early retirement with a combination of age 55 and 10 years of service became more prevalent, and participation in plans requiring only age 55 and 5 years of service for early retirement more than doubled between 1988 and 1989. Many fewer plans required 30 years of service, as compared to a decade ago.
- Subsidization of early retirement has become widespread. In 1989, two-thirds of all workers covered by a uniform early retirement reduction factor faced benefit reductions smaller than 6 percent per year early, and approximately the same fraction of workers covered by uniform reduction factors for deferred vested benefits received subsidized benefit promises. It is possible that early retirement is also subsidized in other plans using factors which vary with age and service, but this cannot be determined from available tabulations.
- The modal normal retirement age according to pension plan definitions has been age 65 over the entire decade of the 1980s. However, more workers in 1989 could retire before this point and still receive full (unreduced) benefits, implying that incentives for early retirement are increasing. In 1989, 10 percent of plan participants could retire at age 60 or 62 with any service level, and 26 percent could leave prior to age 65 upon completing a service requirement; these are up from 6 percent and 22 percent in 1981. This finding is in line with others indicating that earlier retirement has been encouraged over time.

- Throughout the 1980s, pension replacement rates were higher for those with more years of service, holding pay level fixed. Pension replacement rates tended to fall as earnings rose, for a given level of service (except in the highest pay bracket reported). Over the decade of the 1980s, pension replacement rates increased somewhat, after controlling on inflation.
- Benefit formulas depend on workers' earnings in most plans. Terminal earnings plans grew from 55 to 64 percent of participants between 1988 and 1989, while benefit formulas in career pay plans have been stable since 1983. Both terminal earnings and career pay plans in 1989 had formulas where the modal percentage was between 1.25 and 1.75 percent per year of service. Dollar amount benefit formulas declined in prevalence during the first half of the 1980s, with a slight resurgence between 1988 and 1989; modal monthly payments in 1989 were \$20 per year of service.
- Integration with social security is increasing over time. In 1980, 45 percent of all participants were in integrated plans, while by 1989 almost two-thirds were integrated. Observed changes in integration practices appear to have coincided with the 1983 social security reforms.
- Many pension plans discourage work after age 65. More than half of the plans offered no credit at all for work after age 65 throughout the first half of the decade, and less than one-fifth of all plans credited all years of service after age 65. After the law changed in 1986, little information was gathered on whether these practices have been curtailed. Benefit ceilings remain common, with about two-fifths of all plans in 1989 limiting benefits. Most plans restrict the number of service years that can be included in the formula; the modal service maximum has generally been between 30 and 39 years since the mid-1980s.
- Disability benefit provisions have become more stringent of late. Disability pension coverage has dropped, plans are increasingly requiring workers to qualify for long term disability insurance, and the availability of unreduced and immediate benefits has fallen by a third.
- Defined benefit pension payments are generally vulnerable to inflation because benefits are not automatically tied to cost of living escalators. It is interesting to note that many fewer

participants in 1989 had a post-retirement increase than in 1983 (24 versus 51 percent) but it must be recognized that declining inflation rates drive this change.

Defined Contribution Plans

For the sample of participants in defined contribution plans, Employee Benefits Survey data also indicate changes in provisions over time. Coverage by both defined benefit and defined contribution plans is increasing, where the latter is often a savings and thrift plan permitting a lump sum distribution. Profit sharing and stock plans did not grow during the latter part of the 1980s.

Specific findings include:

- Workers are more likely to be covered by combinations of defined benefit and defined contribution plans. In 1989, one-third of all workers with a defined benefit plan also had at least one form of defined contribution coverage, and some had more than one. Workers with more than one plan tended most often to have a savings and thrift plan, with profit sharing running a far second.
- Savings and thrift plans have grown quickly, covering 30 percent of workers in 1989. The vast majority allow or require pretax employee contributions based on pay, typically around 16 percent of earnings. Matching employer contributions also depend on pay, with the modal fraction for employer contributions being 6 percent between 1985 and 1989. Most savings plans pay out in cash, and most permit lump sum distributions: in 1989, 96 percent of participants had a lump sum option, 52 percent could get the funds in installments, and only 28 percent had an annuity form available to them. These patterns have not changed much over time. Overall, there was an upward trend in plans permitting withdrawals for hardship.
- Profit sharing and stock plans appear to have stagnated during the latter part of the 1980s. Employer contributions in profit sharing plans frequently use a stated formula, though many do not; employer contributions are usually allocated based on workers' earnings, though this seems to be declining in importance over time. Most plans do not permit loans.

DISCUSSION

The evidence presented here substantiates the claim that decade of the 1980s witnessed a transformation in the private sector pension environment. It also suggests important questions deserving of policymaker attention over the next several years (c.f. Levine and Mitchell forthcoming). For instance, what will happen to overall pension participation, as well as the mix of defined benefit and defined contribution plans, as the demography of the workforce and industrial/occupational patterns continue to change? Will vesting and participation standards become more relaxed, responding to new demands for pensions by an aging workforce? Will the declining availability of younger workers induce firms to revise early retirement provisions, so as to increase the rewards from remaining employed at older ages? What effects will future pension, tax, and other regulations have on the environment in which workers and their firms make pension choices? Much remains to be seen.

Answering these questions requires a continuation of the careful data collection effort undertaken by the BLS over the last decade. In addition, future surveys will answer parallel questions across plan types: for instance, cash-out options in defined benefit plans can and will be examined in future reports. Additionally it would be extremely valuable to structure the Employee Benefits Survey database so that benefit plans could be linked across type so that, for instance, health and pension plans in a given firm could be related. Last but not least, it would be invaluable to link information on benefit provisions with benefit costs and consequences (Gustman and Mitchell 1991). Pension research in the 1990s and beyond would be immeasurably benefited by these additions.

Table 1.
Age and length of service requirements for pension participation: Defined benefit pensions plans, 1981-89

Type of Requirements	Percent of full-time participants								
	1981	1982	1983	1984	1985	1986	1988 [§]	1988	1989
No minimum age and/or service requirements	41	39	37	37	40	40	37	33	35
With minimum age and/or service requirements	59	61	63	63	59	59	63	66	66
Service only	20	23	20	22	23	21	27	28	26
1 year or less	NA	NA	18	20	21	17	23	24	22
Age only	4	4	3	3	3	3	3	3	4
Age and service	35	34	39	39	32	35	33	34	34
Age 25 and 1 year*	NA	NA	35	34	NA	NA	NA	NA	NA
Age 21 and 1 year*	NA	NA	NA	NA	13	18	31	33	31
With maximum age limitation**	58	61	55	61	61	58	47	47	NA

*The Employee Retirement Income Security Act (ERISA) of 1974 required that pension plans allow full-time employees age 25+ with at least 1 year of service to participate. The Retirement Equity Act of 1984 required that nearly all plans allow participation to full-time employees age 21+ with at least 1 year of service by June 1986. The 1986 data surveyed plans prior to the law change.

**ERISA permitted plans to impose a maximum age for participation within 5 years of the plan's normal retirement date. The Omnibus Reconciliation Act of 1986 eliminated such maximums for plan years beginning in January 1988, with slightly later dates for collectively bargained plans.

§In a few cases the Bureau of Labor Statistics tabulated 1988 results using a sampling frame similar to that employed in previous years. For comparability purposes these figures have been presented, where available, under columns headed "1988[§]", whereas tabulations from 1988 and 1989 otherwise employ the new, larger survey sampling frame.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1981-1989" and unpublished data from the BLS for 1988[§] figures. 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.

Table 2.
Vesting schedules: Defined benefit pension plans, 1980-89

Vesting Formula	Percent of full-time participants									
	1980	1981	1982	1983	1984	1985	1986	1988	1989	
Cliff Vesting:*	89	91	90	89	89	88	89	82	89	
Full vesting after:										
10 years at any age	70	67	66	65	66	69	69	62	29	
10 years after given age	19	21	22	22	19	17	18	15	9	
5 years at any age	NA	NA	NA	NA	NA	NA	NA	5	44	
Graduated Vesting:**	11	13	12	13	14	13	13	17	11	
Full vesting after:										
≤ 10 years of service	NA	NA	NA	NA	NA	NA	6	9	9	
15 years of service	5	4	4	4	4	3	3	5	2	

* A cliff vesting schedule requires an employee to satisfy specific service conditions in order to become 100% vested. ERISA defined 10 years as the maximum requirement for this form of vesting. The Tax Reform Act of 1986 required single-employer plans to convert to a 5-year schedule if using cliff vesting; this provision was to be adopted by most plans during 1989, with slightly later dates for collectively bargained plans.

** Graduated vesting schedules give an employee rights to a gradually increasing share of accrued pension benefits, eventually reaching 100% at specified age and/or service points.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1980-1989". 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.

Table 3.
Minimum age and service requirements for early retirement: Defined benefit pension plans, 1980-89

Type of requirement	Percent of full-time participants								
	1980	1981	1982	1983	1984	1985	1986	1988	1989
Plans permitting early retirement*	98	98	97	97	97	97	98	98	97
Service requirements alone	10	5	5	6	5	4	5	7	6
30 years required	9	5	5	6	5	4	5	6	5
Age requirements alone	9	10	9	10	10	9	10	10	6
Age 55	8	9	9	10	9	9	10	10	6
Age and service requirements									
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
Age plus service sum	5	9	10	9	10	10	9	4	4
Sum equals 80 or less	NA	NA	NA	6	6	5	5	2	1
Sum equals 85 or more	3	6	5	5	5	4	4	1	--
Plans not permitting early retirement	2	2	3	3	3	3	2	2	3

*Early retirement is defined 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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1980-1989". 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.

Table 4.

Minimum age and service requirements for normal retirement:* Defined benefit pension plans, 1980-89

Type of requirement	Percent of full-time participants									
	1980	1981	1982	1983	1984	1985	1986	1988†	1988	1989
Service requirements alone	11	14	13	17	17	14	13	9	7	8
30 years required	11	14	13	16	16	14	13	9	7	7
Age requirements alone	45	46	43	38	40	37	40	35	42	43
Age 60	2	2	2	4	3	4	4	4	3	4
Age 62	4	4	4	2	4	4	4	4	6	6
Age 65	39	39	36	31	33	29	32	27	33	33
Age & service reqs.	37	33	36	36	34	39	36	41	39	37
Age 55 and 20 years	NA	2	2	2	2	1	2	1	1	1
Age 55 and 30 years	NA	2	2	2	2	2	1	1	1	1
Age 60 and 1-5 years	NA	--	--	--	2	--	3	2	2	2
Age 60 and 10 years	NA	2	2	2	2	4	3	3	2	2
Age 60 and 15-20 years	NA	1**	2**	3**	2	1	1	3	3	1
Age 60 and 30 years	NA	2	2	4	3	3	3	2	1	3
Age 62 and 1-5 years	NA	1	1	1	1	1	1	4	--	2
Age 62 and 10 years	NA	8	9	6	7	11	7	13	11	10
Age 62 and 15-20 years	NA	2**	2**	2**	2	4	4	2	2	2
Age 62 and 30 years	NA	2	2	3	1	2	1	3	2	2
Age 65 and 5 years	2	1	1	1	1	1	2	1	3	2
Age 65 and 10 years	NA	3	5	5	3	2	2	2	5	2
Age plus service sum	6	7	8	9	9	10	11	15	12	12
Equals 80	1	--	1	1	1	1	1	1	1	1
Equals 85	3	3	3	4	4	4	5	6	5	6
Equals 90+	1	1	2	2	2	3	4	5	4	4

*At normal retirement a participant can retire and receive unreduced benefits immediately.

**Data available for 15 years' service only instead of 15-20.

†In a few cases the Bureau of Labor Statistics tabulated 1988 results using a sampling frame similar to that employed in previous years. For comparability purposes these figures have been presented, where available, under columns headed "1988†", whereas tabulations from 1988 and 1989 otherwise employ the new, larger survey sampling frame.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1980-1989". 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.

Table 5.
Provisions for adjusting accrued benefits for service beyond age 65: Defined benefit pension plans, 1980-89

Type of provision	Percent of full-time participants							
	1981	1982	1983	1984	1985	1986	1988 [§]	1988
Credit for service after age 65	42	42	47	44	38	41	49	49*
All service credited	26	25	30	26	19	23	NA	NA
Service credited to max-age	15	16	18	17	19	18	NA	NA
Service credited to max-years	1	1	--	--	1	--	NA	NA
No credit for service after age 65	58	58	53	56	61	59	49	49*
Pension deferred with no change in amt.	51	52	45	49	54	51	42	40
Pension deferred, increased actuarially	4	4	4	5	5	5		
Pension deferred, increased by percent	2	2	3	2	2	2	7	9
Pension begins at 65	1	1	--	1	--	1		--

*The Omnibus Reconciliation Act of 1986 required that benefit accruals be continued for service beyond the plan's normal retirement age. This took effect in January of 1988 for non-collectively bargained plans and later for negotiated plans. Data for 1989 are not comparable, for this reason.

§In a few cases the Bureau of Labor Statistics tabulated 1988 results using a sampling frame similar to that employed in previous years. For comparability purposes these figures have been presented, where available, under columns headed "1988[§]", whereas tabulations from 1988 and 1989 otherwise employ the new, larger survey sampling frame.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1981-1989" and unpublished data from the BLS for 1988[§] figures. 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.

Table 6.
Benefit formulas in defined benefit pension plans, 1980-89

Formula based on	Percent of full-time participants									
	1980	1981	1982	1983	1984	1985	1986	1988†	1988	1989
Dollar amount	30	32	30	28	28	29	26	27	26	22
No alternative	27	29	28	27	27	28	25	26	25	19
Earnings	68	66	67	70	68	70	72	71	72	75
Terminal earnings	53	50	52	54	54	57	57	54	55	64
No alternative*	21	26	27	24	24	27	29	26	30	35
Career earnings	15	16	15	16	14	13	15	17	17	11
No alternative*	8	10	9	10	8	7	8	10	11	6
Cash account or money purchase	--	--	--	1	2	--	--	1	1	2
Percent of contributions	--	2	2	1	2	1	--	--	1	1

*Alternative formulas are generally designed to provide a minimum benefit for employees with short service or low earnings.

†In a few cases the Bureau of Labor Statistics tabulated 1988 results using a sampling frame similar to that employed in previous years. For comparability purposes these figures have been presented, where available, under columns headed "1988†", whereas tabulations from 1988 and 1989 otherwise employ the new, larger survey sampling frame.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1980-1989". 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.

Table 7.**Definition of earnings used in earnings-based benefit formulas:* Defined benefit pension plans, 1988-89**

Type of formula	Percent of full-time participants					
	Total		Terminal earnings		Career earnings	
	1988	1989	1988	1989	1988	1989
Basic or straight-line earnings only	44	53	44	55	47	56
Plus overtime	43	37	46	38	38	34
Shift differentials	35	30	33	25	36	34
Bonuses	32	29	34	29	30	25
Commissions	32	28	30	23	32	30
Other earnings	56	47	56	45	52	44

*Tabulations exclude supplemental pension payments.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1988-1989". Comparable Employee Benefits Survey (EBS) tabulations are not available for earlier years.

Table 8.
Career earnings benefit formulas by type: Defined benefit pension plans, 1983-89

Type of formula	Percent of full-time participants					
	1983	1984	1985	1986	1988	1989
Flat percent per year of service	37	36	31	40	35	40
Less than 1.25 percent	7	5	6	5	4	8
1.25-1.74	26	27	18	29	24	23
1.75-2.00	1	3	1	--	2	2
2.00 or more	2	1	6	4	5	8
Percent per year of service	63	64	68	60	63	59
By earnings	60	62	63	56	57	43
By service	3	2	4	4	5	4
Other	--	--	1	--	1	12

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1983-1989". 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.

Table 9.
Terminal earnings benefit formulas by type: Defined benefit pension plans, 1983-89

Type of formula	Percent of full-time participants					
	1983	1984	1985	1986	1988	1989
Definition of terminal earnings						
Five years	83	86	84	84	82	81
Last 5	5	2	5	4	4	3
High 5	8	9	11	10	12	12
High consecutive 5	70	75	70	69	67	65
Three years	14	11	12	13	13	16
Last 3	--	1	1	1	1	1
High 3	2	1	3	1	1	3
High consecutive 3	12	9	7	11	11	12
Other	3	3	4	3	5	3
Fraction of pay used in benefit formulas						
Flat percent per year of service	47	49	50	57	54	54
Less than 1.25 percent	8	5	6	7	6	12
1.25-1.74	23	26	29	32	34	25
1.75-2.00	4	5	5	5	4	5
2.00 or more	11	14	9	13	10	12
Other percent per year of service	53	51	50	43	46	46
By earnings	23	24	25	20	23	24
By service	24	22	18	16	16	16
Other	6	5	7	7	7	6

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1983-1989". 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.

Table 10.**Dollar amount benefit formulas by type: Defined benefit pension plans, 1983-89**

Amount per year of service	1983	Percent of full-time participants				
		1984	1985	1986	1988	1989
Flat monthly amount:	71	75	66	59	73	81
≤ \$5.00	3	--	3	4	--	2
\$5.00 - 9.99	16	19	10	10	8	7
\$10.00 - 14.99	16	18	16	10	16	12
\$15.00 - 19.99	27	30	28	21	20	18
\$20.00 - 24.99	4	4	4	10	19	23
\$25.00 - 29.99	1	2	2	3	5	16
\$30.00 +	3	2	2	2	5	3
Amount varies:	29	25	34	40	27	19
With service	3	5	8	6	8	4
With earnings	26	20	26	34	19	15

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1983-1989". 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.

Table 11.
Integration of benefit payments with social security: Defined benefit pension plans, 1980-89

Type of formula	Percent of full-time participants								
	1980	1981	1982	1983	1984	1985	1986	1988	1989
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. NA means data not available, and "--" means less than 0.5 percent.

Source: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1980-1989". 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.

Table 12.
Reduction factors for early retirement and early receipt of deferred vested
benefits: Defined benefit pension plans, 1982-89

Type of formula	Percent of full-time participants						
	1982	1983	1984	1985	1986	1988	1989
(1) Early retirement reduction factor where applied:							
Uniform percentage* per year	46	45	41	49	46	50	49
Less than 3.0 percent	2	1	1	2	2	3	3
3.0	7	7	7	10	10	8	8
3.1 to 4.9	9	8	10	12	9	9	10
5.0 to 5.9	7	9	6	7	9	10	12
6.0	16	16	15	14	13	14	11
over 6.1	5	3	2	3	3	6	4
Percent varies with:							
Age	30	35	56	49	51	49	49
Service	3	3	3	2	2	2	1
(2) Deferred vested reduction factor where applied:							
Uniform percentage* per year	NA	NA	NA	NA	NA	34	34
Less than 3.0 percent						1	1
3.0						4	5
3.1 to 4.9						4	7
5.0 to 5.9						6	9
6.0						12	8
over 6.1						5	4
Percent varies with:							
Age						65	65
Service						1	1

*Uniform percentage early retirement reduction factors may approximate actuarial reductions.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1981-1989". 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.

Table 13.
Average pension replacement rates for specified illustrative workers: Defined benefit pension plans, 1984-89

Illustrative worker with	Retirement annuity as percent of final earnings*				
	1984	1985	1986	1988	1989
10 years of service					
and final annual earnings of:					
\$15,000	11.0	10.9	11.1	11.9	12.1
20,000	9.9	9.8	10.0	10.5	10.9
25,000	9.7	9.5	9.7	10.0	10.4
30,000	9.7	9.5	9.7	9.8	9.9
35,000	9.7	9.6	9.7	9.8	9.8
40,000	9.8	9.6	9.8	9.9	10.0
20 years of service					
and final annual earnings of:					
\$15,000	21.0	21.2	21.6	23.1	23.4
20,000	18.8	19.1	19.5	20.4	21.1
25,000	18.4	18.6	18.9	19.3	20.0
30,000	18.5	18.6	18.9	19.0	19.8
35,000	18.6	18.7	19.1	19.1	19.9
40,000	18.7	18.8	19.2	19.2	20.2
30 years of service					
and final annual earnings of:					
\$15,000	30.8	31.4	31.5	33.5	34.6
20,000	27.4	28.3	28.5	29.6	31.3
25,000	26.6	27.6	27.6	28.0	29.7
30,000	26.5	27.3	27.4	27.3	29.4
35,000	26.5	27.3	27.4	27.3	29.5
40,000	26.6	27.4	27.5	27.4	29.8

*The maximum private pension was calculated using the earnings and service shown, not reduced for early retirement or joint-and-survivor annuities. Replacement rates refer to the ratio of the retirement pension to the final year's earnings.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1984-1989". 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.

Table 14.**Prevalence of adhoc postretirement benefit annuity increases:* Defined benefit pension plans, 1983-89**

Characteristic	1983	Percent of full-time participants				
		1984	1985	1986	1988	1989
With at least one postretirement increase in last 5 years	51	47	41	35	27	24
<u>Characteristics of most recent increase**</u>						
Flat amount	32	29	36	38	56	56
Amount per year of retirement	39	43	37	32	20	15
Amount per year of service	23	24	21	28	21	29
Other	7	3	5	2	3	4

*Unscheduled increases in pension payments for already-retired employees.

**Figures exclude one-time lump-sum payments.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1983-1989". 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.

Table 15.
Maximum benefit provisions: Defined benefit pension plans, 1984-89

Type of formula	Percent of full-time participants				
	1984	1985	1986	1988	1989
Not subject to maximum	58	60	59	60	59
Subject to maximum*	42	40	41	40	41
Limit on service years	34	34	36	37	37
Less than 20	2	2	2	1	1
20-29	5	3	6	6	5
30-39	32	24	22	23	24
40 or more	4	5	7	9	9
Other limit	11	8	7	6	6

*Sums of individual items do not equal totals because more than one maximum may apply.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1984-1989". 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.

Table 16.
Disability retirement provisions: Defined benefit pension plans, 1980-89

Plan characteristics	Percent of full-time participants									
	1980	1981	1982	1983	1984	1985	1986	1988	1989	
Disability retirement available	87	88	89	91	90	85	89	92	81	
Minimum requirements for disability retirement where available:										
No age or service	16	15	16	14	17	16	13	13	12	
Service only	61	57	56	57	52	54	50	57	56	
Age only	1	1	--	--	--	--	--	1	--	
Qualifies for LTD*	11	18	20	21	22	20	25	31	31	
Benefit provisions for disability retirement where available:										
Immediate	70	67	66	66	62	60	55	52	57	
Unreduced normal	55	51	51	50	48	47	41	39	42	
Other	15	16	15	16	14	13	14	13	15	
Deferred	30	33	34	34	38	40	45	48	43	
Service credit to retirement	24	27	30	29	31	32	37	39	37	
Other	6	6	4	5	7	8	8	9	6	

*Long term disability insurance.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1980-1989". 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.

Table 17.
Participation in retirement and capital accumulation plans, 1985-89

Plan participation	Percent of full-time employees				
	1985	1986	1988 [†]	1988	1989
Not covered by a plan	8	9	12	18	17
Covered by a plan	92	91	88	82	83
Retirement only*	71	67	69	68	69
Capital accumulation only**	1	1	2	2	1
Both	20	22	17	12	12

*Includes defined benefit and defined contribution plans such as money purchase pensions, profit sharing, and savings and thrift plans when employer contributions must remain in the participant's account until retirement, death, disability, separation from service, age 59 1/2, or hardship.

**Includes plans in which employer contributions may be withdrawn from participant's account prior to retirement, death, disability, separation from service, age 59 1/2, or hardship.

[†]In a few cases the Bureau of Labor Statistics tabulated 1988 results using a sampling frame similar to that employed in previous years. For comparability purposes these figures have been presented, where available, under columns headed "1988[†]", whereas tabulations from 1988 and 1989 otherwise employ the new, larger survey sampling frame.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1980-1989". 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.

Table 18.
Combinations of retirement and capital accumulation plans, 1985-89

Combinations covering participants	Percent of full-time participants			
	1985	1986	1988	1989
Defined benefit plan	89	85	76	76
with: No other plan	45	35	45	42
Profit sharing*	5	13	9	7
Savings/thrift	15	15	21	24
Stock plan	23	22	1	2
Money purchase	--	--	1	1
Profit sharing plan	9	11	12	10
with: No other plan	7	8	10	8
Savings/thrift	1	1	1	1
Stock plan	1	1	1	1
Money purchase plan	--	--	5	5
with: No other plan	--	--	5	4
Savings/thrift	--	--	1	1
Savings/thrift plan	1	3	5	8
with: No other plan	1	2	5	8
Stock plan	--	1	1	1
with: No other plan	--	1	1	1

*Includes profit sharing and saving/stock combination plans; excludes pure cash profit sharing plans.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1985-1989". 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.

Table 19.
Participation in defined contribution plans, 1985-89

Type of plan	Percent of full-time employees				
	1985	1986	1988 [†]	1988	1989
Savings and thrift	27	28	32	25	30
Profit sharing	18	22	21	18	16
Stock ownership	24	30	2	2	3
Stock bonus	1	--	--	--	--
Money purchase	4	2	3	6	5

[†]In a few cases the BLS tabulated 1988 results using a sampling frame similar to that employed in previous years. For comparability purposes these figures have been presented, where available, under columns headed "1988[†]", whereas tabulations from 1988 and 1989 otherwise employ the new, larger survey sampling frame.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1985-1989". 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.

Table 20.
Participation in cash or deferred plans including salary reduction plans, 1985-89

Type of plan	Percent of full-time employees				
	1985	1986	1988 [†]	1988	1989
Cash or deferred plan*	26	33	42	36	41
Salary reduction plan	26	31	40	34	38
Savings and thrift	18	21	27	22	28
Profit sharing	4	6	9	7	4
Money purchase	1	1	--	--	1
Other	3	3	5	6	5

*Cash or deferred plans are included only if they allow income to be deferred; data include employee contributions to various retirement plans but exclude cases where employee contributions may be required to a defined benefit pension plan.

[†]In a few cases the BLS tabulated 1988 results using a sampling frame similar to that employed in previous years. For comparability purposes these figures have been presented, where available, under columns headed "1988[†]", whereas tabulations from 1988 and 1989 otherwise employ the new, larger survey sampling frame.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1985-1989". 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.

Table 21.
Age and length of service requirements for participation: Savings and thrift and deferred profit sharing plans, 1985-89

Type of requirement	Percent of full-time participants							
	Savings and Thrift				Deferred Profit Sharing			
	1985	1986	1988	1989	1985	1986	1988	1989
Without minimum age and service requirements	14	10	14	15	NA	14	9	6
With minimum age and service requirements*	86	90	86	85	NA	86	91	94
Service only	70	73	64	62	NA	69	66	65
< 1 year	16	15	11	12	NA	11	15	4
1 year	48	50	43	45	NA	49	44	54
2+ years	6	7	10	5	NA	9	6	6
Age requirements								
Age 20 or less	4	6	6	5	NA	3	4	4
and 1 year service	2	2	2	1	NA	2	1	1
Age 21	11	10	16	19	NA	12	21	25
and 1 year service	6	8	13	15	NA	7	19	23

*The Retirement Equity Act of 1984 required that nearly all plans allow participation to full-time employees who have reached age 21 and have completed 1 year of service. Plans may impose a service requirement of up to 3 years if vesting is then immediate on participation. The compliance date for most plans was June 1986, but collectively bargained plans had slightly longer to comply.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1985-1989". A comparable Employee Benefit 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.

Table 22.
Vesting schedules: savings and thrift and deferred profit sharing plans, 1985-89

Type of formula	Percent of full-time participants							
	Savings and Thrift				Deferred Profit Sharing			
	1985	1986	1988	1989	1985	1986	1988	1989
Immediate full vesting	25	26	27	30	NA	29	22	37
Cliff vesting* with full vesting after:	12	20	20	24	NA	2	2	12
1-2 years	3	5	3	2	NA	2	--	--
3-4	2	7	7	11	NA	1	--	4
5+	7	8	10	12	NA	1	2	8
Graduated vesting** with full vesting after:	28	25	32	30	NA	66	73	50
≤ 4 years	4	2	4	4	NA	--	1	2
5	16	15	21	19	NA	3	7	6
6-9	4	4	3	5	NA	14	29	28
10+	4	4	4	2	NA	49	35	15
Other	35	29	21	16	NA	4	2	1

*A cliff vesting schedule requires an employee to satisfy specific service conditions in order to become 100% vested. ERISA defined 10 years as the maximum requirement for this form of vesting. The Tax Reform Act of 1986 required single-employer plans to convert to a 5-year schedule if using cliff vesting; this provision was to be adopted by most plans during 1989, with slightly later dates for collectively bargained plans.

**Graduated vesting schedules give an employee rights to a gradually increasing share of accrued pension benefits, eventually reaching 100% at specified age and/or service points.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1985-1989". 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.

Table 23.
Employee contributions in savings and thrift plans, 1985-89

Type of formula	Percent of participants			
	1985	1986	1988	1989
Basis of maximum contribution, if allowed/required				
Specified dollar amount	2	2	2	1
Fraction of earnings	97	98	95	97
≤ 5%	--	1	1	2
6-9	5	10	8	9
10	17	13	13	12
11-14	21	20	19	20
15	8	9	14	17
16	32	29	24	21
17-19	8	8	9	9
20+	6	7	6	7
Other	1	--	3	2
Tax status of contribution, if allowed/required				
Pretax contribution				
Not allowed	35	25	15	8
Allowed	65	75	85	92

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1985-1989". 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.

Table 24.
Employer contributions in savings and thrift plans, 1985-89

Employer matching* contributions	Percent of full-time participants			
	1985	1986	1988	1989
Specified dollar amount	9	7	5	4
Fraction of salary up to:				
≤ 5%	12	28	35	36
6%	52	54	47	47
≥ 7%	14	11	11	12

*Employees may contribute a percentage of salary up to a maximum; ceilings on employer matching contributions are generally lower.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1985-1989". 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.

Table 25.
Provisions for withdrawal of employer contributions prior to retirement,
disability or termination of employment: Savings and thrift plans, 1985-89

Type of formula	Percent of full-time participants				
	1985	1986	1988 [§]	1988	1989
No withdrawals permitted	20	18	29	28	29
Withdrawals permitted	80	82	71	72	71
For any reason	61	56	42	41	37
No penalty	30	19	15	14	17
Some penalty	30	37	26	25	18
For hardship reason [*]	19	26	29	30	34
No penalty	14	21	21	22	27
Some penalty	3	5	6	7	7

*Commonly expressed hardship reasons include purchase or repair of primary residence, death or illness in the family, education of an immediate family member, or sudden uninsured loss.

§In a few cases the Bureau of Labor Statistics tabulated 1988 results using a sampling frame similar to that employed in previous years. For comparability purposes these figures have been presented, where available, under columns headed "1988[§]", whereas tabulations from 1988 and 1989 otherwise employ the new, larger survey sampling frame.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1981-1989" and unpublished data from the BLS for 1988[§] figures. 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.

Table 26.
Method of distribution of account at retirement: Savings and thrift plans, 1985-89

Type of distribution	Percent of full-time participants			
	1985	1986	1988	1989
Cash distribution*	99	99	97	97
Lifetime annuity	29	25	25	28
Installments	59	52	49	52
Lump sum	99	98	95	96
Stock distribution	--	1	1	1

*Many plans offer more than one form of cash distribution so sums of individual items exceed total.

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1985-1989". 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.

Table 27.
Provisions of deferred profit sharing plans, 1986-89

Type of formula	Percent of full-time participants		
	1986	1988	1989
Employer contributions			
(1) Based on stated formula	59	55	60
Fixed % of profits	NA	16	10
Variable % of profits	NA	12	18
Other formulas	NA	27	33
(2) No formula	41	45	40
Allocation of profits to employees			
Equally to all	1	1	1
Based on earnings	61	74	64
Based on earnings and service	10	12	9
Other	8	13	26
Loans from employees' accounts			
Permitted	25	32	19
Not permitted	75	68	81

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: U.S. Department of Labor, Bureau of Labor Statistics, "Employee Benefits in Medium and Large Firms, 1985-1989". 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.

References

- Allen, S., R. Clark, and D. Sumner. "Post-Retirement Adjustments of Pension Benefits." Journal of Human Resources 21(1). Winter 1986. pp. 118-127.
- Fernandez, Phyllis "Pre-retirement Lump Sum Distributions", In Trends in Pensions 1991. Ed. John Turner. Washington, D.C.: US GPO, forthcoming.
- Fields, G. S. and O.S. Mitchell. Retirement, Pensions and Social Security. Cambridge: MIT Press. 1984.
- Gustman, A. and O.S. Mitchell. "'Pensions and the US Labor Market.'" In Pensions and The US Economy. Eds. Z. Bodie and A. Munnell. Philadelphia: Irwin (forthcoming).
- Hutchens, R.M. "Delayed Payment Contracts and a Firm's Propensity to Hire Older Workers." Journal of Labor Economics. October 1986. pp. 439-457.
- _____. "Do Job Opportunities Decline with Age?" Industrial and Labor Relations Review. October 1988. pp. 89-99.
- Ippolito, R. A. Pensions, Economics and Public Policy. Pension Research Council. Homewood, Illinois: Dow Jones-Irwin. 1986.
- Ippolito, R. A. and W. W. Kolodrubetz, Editors. Handbook of Pension Statistics. Chicago, IL: Commerce Clearing House, 1986.
- Kotlikoff, L. J. and D. A. Wise. "The Incentive Effects of Private Pension Plans." In Issues in Pension Economics. Eds. Z. Bodie, J. Shoven and D. Wise. Chicago: University of Chicago Press. 1987. pp. 283-336.
- Lazear, E. P. "Incentive Effects Of Pensions." In Pensions, Labor, and Individual Choice. Ed. D. Wise. National Bureau of Economic Research. Chicago: The University of Chicago Press. 1985. pp. 357-375.
- Levine, P. and O.S. Mitchell. "Expected Changes in the Workforce and Implications for Labor Markets", with Phillip Levine. In Demography and Retirement: The 21st Century, Eds. A. Rappaport and S. Sheiber, Dow Jones Irwin, forthcoming.

- Luzadis, R. and O.S. Mitchell. "Explaining Pension Dynamics", Journal of Human Resources.
(forthcoming, 1991)
- McGill, D. M. Fundamentals of Private Pensions. Fifth Edition. Homewood, Illinois: Richard
D. Irwin, Inc. 1984.
- Mitchell, O. S. and R. A. Luzadis. "Changes In Pension Incentives Through Time." Industrial
and Labor Relations Review 42. October, 1988. pp. 100-108.
- Piascentini, J. and T. Cerino. EBRI Databook on Employee Benefits. Washington, D.C:
Employee Benefit Research Institute, 1990.
- Quinn, J. F.; R. V. Burkhauser; and D. A. Myers. Passing The Torch: The Influence of
Economic Incentives on Work and Retirement. New York: Basic Books. 1990.
- Turner, J. A. and D.J. Beller. Trends In Pensions, 1988. Washington, DC: U.S. Government
Printing Office. 1989.
- US Department of Labor, Bureau of Labor Statistics, Employee Benefits in Industry.
Washington, D.C.: US GPO, various years.
- US Department of Labor, Bureau of Labor Statistics, Employee Benefits in Medium and Large
Firms. Washington, D.C.: US GPO, various years.