Pension Evolution in a Changing Economy

- This Issue Brief examines historical trends in employer sponsorship of defined benefit and defined contribution plans by looking at trends in participation, plan design, plan usage, and plan sponsorship. It evaluates employers' incentives for offering different types of pension plans as influenced by managerial needs; highlights major government regulations and how they have helped shape the environment in which benefit decisions must be made; and examines changes in work force demographics and how they may alter employer and employee preferences for different plan types.

- Between 1975 and 1989, the number of private pension plans more than doubled, from 311,000 to 731,000, and the number of active participants in these plans increased from 31 million to 43 million.

- Between 1985 and 1989, the number of small and mid-sized defined benefit plans declined, while the number of defined contribution plans of all sizes increased. The number of primary defined benefit plans decreased by 36,823 plans, with 28,158 of these plans having two to nine active participants. The number of large defined benefit plans remained stable, and the number of very large plans, those with 10,000 or more active participants, increased slightly. The number of primary defined contribution plans increased by 233,271 plans, with 58 percent of the total increase (135,068 plans) in plans with two to nine participants. The number of primary defined contribution plans with 2,500 or more participants increased by 88 plans. There is little evidence that a "shift" from defined benefit to defined contribution plans has occurred.

- Much of the growth in defined contribution plans has been through primary and supplemental 401(k) plans, which came into existence as a result of the Revenue Act of 1978. Between 1984 and 1989, the number of 401(k) plans increased from 17,303 to 83,301, or from 4 percent to 14 percent of all defined contribution plans. It is possible, given the unique advantages of 401(k) plans and their rapid growth, that the creation of these plans caused employers that otherwise would not have sponsored any pension plan to establish a 401(k) plan.

- Trends in defined contribution and defined benefit plans have been driven by the changing environment in which retirement plans are designed. Employment shifts, changes in work force demographics and worker preferences, and federal government regulations and legislation have changed public and private employers' preferences for offering different pension plan types. A decrease in the proportion of workers employed in manufacturing and unionized industries and an increase in the proportion of workers employed in service industries has increased the role of defined contribution plans in providing retirement income.

- Younger, more mobile workers can benefit more from defined contribution plans, and older employees entering into their final job can benefit more from a defined benefit plan. As workforce age demographics change, employers may need to alter their benefit programs to continue to attract the quantity and quality of workers they desire. A more even population distribution may lead employers to offer retirement benefits that are attractive to a broad range of employees.
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Since the enactment of the Employee Retirement Income Security Act (ERISA) in 1974, the environment in which employers must design their retirement benefits has changed significantly. Government regulations and legislation, changes in work force demographics, and worker preferences can greatly influence employers’ preferences for offering different plan types. Many observers have argued that these forces have led to a shift from defined benefit to defined contribution plans and hybrid plans.

Analysis of current and historical trends in the types of pension plans employers offer clearly indicates that the number of defined contribution plans has increased and the number of defined benefit plans has fallen. However, it is misleading to look only at the change in the net number of defined contribution and defined benefit plans offered over time without considering the number of employees these plans cover as well as whether the plans are intended to provide a primary or a supplemental source of retirement income. According to Employee Benefit Research Institute (EBRI) tabulations of Form 5500 annual reports filed with the Internal Revenue Service (IRS), while the number of private primary defined benefit plans decreased by 36,823 plans between 1985 and 1989, a relatively small percentage of participants was affected by this reduction because 76 percent of the decrease occurred in plans with two to nine active participants. In 1985, 1.2 percent of active participants in primary defined benefit plans were in plans with two to nine active participants, decreasing to 0.9 percent in 1989. Similarly, while the number of private primary defined contribution plans increased by 233,271, 58 percent of this increase in was in plans with two to nine active participants. In 1985, 7.5 percent of active participants in primary defined contribution plans were in plans with two to nine active participants, increasing to 8.5 percent in 1989.

Federal and state and local governments generally sponsor primary defined benefit plans; however, they are increasing the number of defined contribution plans they offer, typically as a supplement to defined benefit plans. The federal government offers primary defined benefit plans to all employees. State and local governments primarily offer defined benefit plans.

According to a survey of state and local governments by the U.S. Department of Labor (DOL), Bureau of Labor Statistics (BLS), 90 percent of all full-time state and local employees participated in a defined benefit plan in 1990. In 1984, the federal government adopted a defined contribution plan to supplement the new defined benefit plan in the Federal Employee Retirement System (FERS). Civilian employees participating in the Civil Service Retirement System (CSRS) could also participate in the thrift savings plan. The percentage of full-time state and local employees participating in defined contribution plans increased from 5 percent in 1987 to 9 percent in 1990 (U.S. Department of Labor, 1988, 1992b).

While the net number of private defined benefit plans has declined and the net number of defined contribution plans has increased significantly, there is little evidence of a shift from defined benefit to defined contribution plans. Between 1985 and 1989, the net increase in primary defined contribution plans exceeded the net decrease in primary defined benefit plans by 196,448 plans. This indicates that the growth in defined contribution plans resulted from something in addition to plan sponsors terminating defined benefit plans and replacing them with defined contribution plans.

Another measure of whether there has been a shift from defined benefit to defined contribution plans is the percentage of private employers that sponsor primary defined benefit plans over time. An examination of publicly held employers indicates that, in the aggregate,
the percentage of employers with 100 or more employees sponsoring primary defined benefit and defined contribution plans increased between 1985 and 1989. The percentage of employers with 100–9,999 employees that sponsored defined benefit plans decreased, but the percentage of very large employers (those with 10,000 or more employees) sponsoring primary defined benefit plans increased. Very large private employers have continued to offer defined benefit plans, and it appears likely that large employers at the corporate, state, local, and federal levels will continue to do so. Defined benefit and defined contribution plans both have provisions that are useful as management tools, and an understanding of the differences in plan provisions provides insight into the stability of the pension system.

Employers’ pension plan design choices can best be examined by evaluating the changing environment employers face when structuring and restructuring their benefits packages. Plan choice is affected by many factors, including the average age of the work force; the relative desire of employers to motivate their current work force; work force mobility; growth rates in sectors of the economy (including heavily unionized and older industrial sectors) in which traditional defined benefit plan coverage is most firmly established; federal tax laws; the level of basic income tax rates; private employers’ profitability and desire to increase cash flow; public employers’ ability to fund their pension plans and balance budgets; and plan sponsors’ overall employee benefit philosophies. All employers will have to reassess their objectives, including pension plan design, over time as they experience work force, economic, and regulatory change.

This Issue Brief examines historical trends in employer sponsorship of defined benefit and defined contribution plans by looking at trends in participation, plan design, plan usage, and plan sponsorship. It evaluates employers’ incentives for offering different types of pension plans as influenced by managerial needs; highlights major government regulations and how they have helped shape the environment in which employers must make benefit decisions; and examines how changes in work force demographics may alter employer and employee preferences for different plan types. The discussion provides insight into the options available to employers, given their changing work force, economic and management needs, and regulatory environment.

Defined benefit plans are used by employers to provide employees with retirement benefits and are usually structured to replace a percentage of employees’ preretirement pay in retirement. In a defined benefit plan, the employer agrees to provide the employee a benefit amount at a stipulated retirement age, based on a specified formula. The formula is typically based on years of service and/or earnings (U.S. Department of Labor, 1988, 1992b, 1993). There are three basic types of defined benefit formulas: flat benefit formulas in which benefits are based on a flat-dollar amount for every year of service recognized under the plan; career-average formulas in which benefits are based on a percentage of current pay for every year of service recognized under the plan; and final-pay formulas in which benefits are based on a percentage of average earnings during a specified number of years at the end of a participant’s career or when earnings are highest, multiplied by years of service recognized under the plan. The plan sponsor is responsible for making contributions to the pension fund, investing the fund’s assets, and paying benefits from the
fund. The plan sponsor invests the pension assets, absorbing the investment risk, and uses the fund’s assets to fulfill benefit promises. Traditionally, these plans only paid an annuity at the stipulated retirement age, but an increasing number of participants in private-sector defined benefit plans are offered the option of a lump-sum distribution when they leave the job. Public employer plans still primarily use annuities.

Defined contribution plans provide tax-deferral of current compensation through individual accounts. There are several types of defined contribution plans. The most common defined contribution plans include profit-sharing, stock bonus, savings or thrift plans, and money purchase plans. Profit-sharing, stock bonus, and savings or thrift plans do not require fixed contributions but allow employers to make contributions based on profit or on a discretionary basis. Many defined contribution plans known as 401(k) plans make the employer contribution contingent on the rate of employee contribution. In other words, the employer will match all or a fraction of the employee’s contribution to the plan.

Money purchase plans require that employers provide regular contributions to individual accounts based on a fixed percentage of pay or a flat dollar amount. The final retirement benefit in all defined contribution plans reflects the total of employer contributions, any employee contributions, investment gains or losses, and possibly forfeitures. The final account balance is generally paid to the individual as a lump sum when he or she leaves the job or retires. The individual will receive either more or less than the amount contributed, depending on investment experience.

Many defined contribution plans are supplemental plans offered to participants with primary defined benefit plans. Employers will often offer two or more pension plans in order to provide employees with different types of retirement benefits. For example, an employer may offer a traditional defined benefit plan as a primary pension plan to insure that employees receive a base level of retirement income in exchange for the service they provide. The employer may then offer a secondary defined contribution plan that employees can use to supplement the retirement income from their primary pension plans. By offering both a defined contribution and defined benefit plan, employers may provide a base level of retirement security for longer-term and older employees, while allowing employees access to supplemental funds prior to retirement, either through lump-sum distributions on separation from service, plan loans, or hardship withdrawals—features that are often desirable to younger, more mobile employees.

An increasing number of employers have been offering retirement plans that combine features of both defined benefit and defined contribution plans. There are a variety of these plans, called hybrid plans, that include cash balance plans, age-weighted profit-sharing plans, target benefit plans, and life-cycle pension plans among many others.

Definitions

Primary pension plans are plans intended to provide the primary source of employment-based retirement income. The term active benefits of defined benefit plan participants if the plan sponsor should enter into bankruptcy without sufficient assets to pay promised benefits. The security of defined contribution plan benefits has been questioned since the failure of Executive Life Insurance Company, which largely backed its guaranteed insurance contracts (GICs) with junk bonds. GICs are a common investment option provided to participants of defined contribution plans.
participants refers to current employees who are participating in the plans. Primary plan participant counts are most useful in determining whether there has been a movement away from defined benefit plans and toward defined contribution plans because these counts look solely at individuals' primary source of pension coverage, eliminating double counting for supplemental defined contribution plans. Furthermore, the use of primary plan active participant counts reduces double counting of employees who are in supplemental and primary plans or who have left one employer and are participating in another employer-sponsored plan. Employees who participate in multiple primary plans because they hold more than one job are still double counted in primary plan active participant counts. Active participant counts also consider only those employees currently working for an employer, allowing evaluation of work force trends.

Total counts of plans include both primary and supplemental pension plans. Total counts of participants count the participants in these plans, double counting participants for each plan in which they participate. Total counts of active participants include active participants in both primary and supplemental plans. Total counts of all participants include active, retired, and separated vested participants, and survivors in both primary and supplemental plans. These counts provide a picture of the number of total participants in a plan whether or not they are still employed by the plan sponsor.

Public Plan Trends

Among public employers, defined benefit plans remain the predominant primary retirement plan. In state and local governments in 1990, 90 percent of full-time employees participated in a defined benefit plan (U.S. Department of Labor, 1992a). The number of active participants in the major federal pension systems, Civil Service Retirement System (CSRS), Federal Employee Retirement System (FERS), and the Military Retirement System (MRS) increased from 4.8 million in 1980 to 6.5 million in 1990, decreasing slightly to 6.1 million in 1992. The total number of participants in these plans, including those who are retired or have left federal employment but will receive a benefit at a later date, increased from 8.0 million in 1980 to 10.9 million in 1992 (table 1). In 1987, the federal government established a supplemental plan called the thrift savings plan, an optional tax-deferred plan similar to a private-sector 401(k), for employees covered by FERS and CSRS. By the end of 1992, there were approximately 2.9 million federal employees eligible to participate in the plan. Approximately 66 percent of those eligible to participate, or 1.9 million federal employees, had active accounts, and 45 percent, or 1.3 million, made contributions to the thrift savings plan during that year.

Defined contribution plans have also gained popularity at the state and local level. In 1990, 9 percent of full-time state and local employees participated in defined contribution plans, compared with 5 percent in 1987 (U.S. Department of Labor, 1988, 1992). A few state and local governments sponsoring defined benefit plans are currently considering establishing, or have already adopted, defined contribution plans as primary pension plans. These governments believe a defined contribution plan would enable them to better control liabilities, regardless of plan underfunding and investment return. On July 1, 1991, the state of West Virginia established a defined contribution plan for all newly hired employees in the teachers' system, while all previously hired employees still participate in the states' defined benefit plan. West Virginia's defined benefit plan for teachers does not have sufficient assets to pay benefits to current retirees. By offering the defined contribution plan to all new employees, the state is able to limit its future liabilities. Alaska also has an underfunded defined benefit plan and has

proposed adding a defined contribution plan to its public employees' and teachers' retirement systems, requiring all new employees to participate in the defined contribution plan and providing current employees with the option of switching. Michigan has made a similar proposal; however, its defined benefit plans are not severely underfunded. Michigan views the defined contribution plan as a means to make predictable contributions at a lower cost to the state.

Some state and local employers also sponsor hybrid plans. For example, the state of Wisconsin offers a defined benefit plan that has defined contribution features. The plan provides employees with the greater of the annuitized value of a defined benefit final pay formula or the annuitized value of the employee’s money purchase plan individual account. The final pay formula is based on a percentage of final average earnings multiplied by years of service. The money purchase plan individual account balance is the sum of annual employee contributions, which are generally picked up.
by the employer, and the employer's matching contribution, both of which are credited with a designated interest rate.

Nearly all state and local governments sponsor primary defined benefit plans. However, economic hardships have caused a few public employers—particularly those with underfunded pension plans—to consider limiting their defined benefit plan coverage to current employees by providing defined contribution plan coverage to new employees. It is possible that more state and local governments will consider sponsoring primary defined contribution plans if the funding status of their defined benefit plans worsens and/or if investment returns worsen.

Private Plan Trends

Between 1975, when ERISA became effective, and 1989, the latest year for which these data are available, the total number of private tax-qualified employer-sponsored plans more than doubled, from 311,000 to 731,000. The total number of participants in these plans, including active workers, separated vested, survivors, and retirees rose from 45 million to 76 million over the same period (table 2). Data on active participants in private primary plans show similar trends. The number of active participants increased from 31 million in 1975 to 43 million in 1989.

While the number of private employer-sponsored pension plans and plan participants has been increasing, proportionately fewer of these plans are defined benefit plans. An increasing number of employers have been offering primary and supplemental defined contribution plans as well as an array of hybrid plans. The total number of private defined benefit plans increased from 103,000 in 1975 to 175,000 in 1983, then decreased to 132,000 in 1989. The total number of private defined contribution plans increased from 208,000 to 599,000 between 1975 and 1989, increasing from 67 percent to 82 percent of total private pension plans.

The number and percentage of individuals participating in private defined contribution plans is increasing relative to the number and percentage participating in defined benefit plans. The total number of participants in all defined benefit plans was 33 million in 1975. Participation increased to 40 million in 1983 and has remained in the 40 million–41 million range since that time. The total number of participants in defined contribution plans increased from 12 million in 1975 to 38 million in 1987, and decreased to 36 million in 1989. According to unpublished DOL data, this decline was caused by the termination of several large supplemental employee stock ownership plans (ESOPs).

The trends for active participants in private primary plans are similar to those for total participants. In 1975 and 1989, there were 27 million active participants in primary defined benefit plans. The number fluctuated between 27 million and 30 million between 1975 and 1984 and then gradually decreased between 1984 and 1989 from 30 million to 27 million. Between 1975 and 1989, the number of active participants with a primary defined contribution plan significantly increased, from 4 million to 15 million. Between 1975 and 1988, the number of active participants with a supplemental defined contribution plan increased from 6 million to 16 million.

More recent data from the IRS Office of Employee Plans and Exempt Organizations indicates that a recent slowing of the defined contribution growth trend may be occurring. When requested, the IRS Office of Employee Plans and Exempt Organizations issues determination letters regarding the tax-favored status of private plans when they are established, amended, and terminated. Plans are not required by law to apply for these letters, and their issuance may precede (or more commonly follow) the relevant plan transactions by a year or more. While IRS determination letter activity is at best an imperfect measure of plan starts and terminations, it gives some insight into more current plan and participant trends.
In fiscal 1990, the number of favorable letters issued regarding defined contribution terminations exceeded the number issued in response to initial defined contribution applications for the first time since the passage of ERISA (table 3). The two were equal in fiscal 1991; however, the number of favorable applications for defined contribution plans in 1992 slightly exceeded the number of termination applications, with 14,000 initial applications and 11,000 termination applications.

IRS determination letter statistics also indicate that the decline in the number of defined benefit plans may be flattening. While the number of favorable letters issued regarding defined benefit plan applications has been declining since 1989, and the number of termination applications still far exceeds the number of initial applications for these plans, the number of termination applications decreased from 16,000 in 1990 to 10,000 in 1991 and was less than 500 in 1992.

Putting the Past in Perspective

An examination of the change in the aggregate number of private pension plans and participants masks trends in plans by size. Examining defined benefit and defined contribution plans by plan size allows us to determine the number of participants being affected by trends in plan sponsorship. This section examines private defined benefit and defined contribution plan trends using EBRI and DOL tabulations of 1985 and 1989 Form 5500 annual reports filed with IRS. The number of plans and participants in these plans is presented by participant size categories using various participation definitions. Defined benefit and defined contribution plan trends are examined individually and then together to evaluate the extent to which a shift from defined benefit to defined contribution plans has occurred.

Defined Benefit Plans

Primary Plan Trends—Examining private primary defined benefit plan trends by plan size shows that the vast majority of plan terminations were very small plans: those with two to nine active participants. Between 1985 and 1989, there was a net decrease in the number of primary defined benefit plans of 22 percent, or 36,823 plans. The net number of plans with two to nine active participants decreased by about 28,000 plans, or 76 percent of the total reduction in defined benefit plans (table 4). It has been suggested

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4 The fiscal year ends September 30.
that very small plans were often top-heavy plans used by employers as tax shelters.\(^5\) After enactment of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), which imposed penalties on top-heavy plans, and the Tax Reform Act of 1986 (TRA '86), which lowered basic income tax rates and imposed faster minimum vesting standards, there was less incentive for these employers to maintain their defined benefit pension plans. TRA '86 also included a provision that eliminated the tax qualification of some small defined benefit plans, primarily single-participant plans. Under this provision, a plan is not qualified unless it includes the lesser of 50 employees or 40 percent of an employer's work force.\(^6\) The number of single-participant defined benefit plans increased from 9,000 in 1977 to 54,000 in 1985. Data on the number of single-participant defined benefit plans are not available for 1989 due to changes in reporting requirements. However, it is likely that this TRA '86 provision caused many small plans to terminate, particularly plans covering a relatively small number of employers' higher-paid employees (e.g., partners in law firms and accounting firms).

Between 1985 and 1989, the net change in the number of primary defined benefit plans was generally greater for plans with fewer active participants. While the number of mid-sized defined benefit plans declined, a smaller number of larger plans declined. The number of defined benefit plans with 10–24 active participants decreased 26.7 percent between 1985 and 1989, while the number of defined benefit plans with 500–999 active participants decreased 14.2 percent. Some of the change in the number of plans by plan size is due to changes in individual plans' demographics. For example, a plan that had 400 participants in 1985 may have had 600 participants in 1989.

The number of large primary defined benefit plans remained stable between 1985 and 1989. In fact, the number of plans with 10,000–19,999 active participants increased 7.6 percent, and the number of plans with 20,000 or more participants increased 1.7 percent. The number of primary defined benefit plans with 1,000–2,499 active participants decreased 5.9 percent during this period, while the number of plans with 2,500–4,999 active participants and 5,000–9,999 active participants remained relatively constant, decreasing 1.7 percent and 1.1 percent, respectively.

Because most of the decline in primary defined benefit plans occurred in plans with two to nine participants, the decline in the number of employees covered by a primary defined benefit plans is relatively small. Approximately 78 percent of active participants in primary defined benefit plans in 1989 were in plans with 1,000 or more active participants. Even

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\(^5\) See the section on the Tax Equity and Fiscal Responsibility Act of 1982 on page 32 for an expanded discussion of top-heavy plans and penalties.

\(^6\) Internal Revenue Code (IRC) §401(a)(26).
if the 112,558 plans with fewer than 1,000 participants in 1989 were to terminate, 78 percent of active participants with primary defined benefit plans would continue to accrue benefits in their pension plans, while 22 percent of defined benefit participants (6.0 million) would have their pension benefits frozen. Many of these latter employees would still be covered by an existing defined contribution plan or contribute to another retirement arrangement (See section on total plan trends in defined contribution plans below).

**Total Plan Trends**—Trends in the number of plans and active participants by active participant plan size are almost identical to those of primary plans because there are very few supplemental defined benefit plans (table 5). Trends in total participants show the same general trends but reflect the greater stability of large defined benefit plans when all participants are included in the plan size count. Between 1985 and 1989, the net change in the number of defined benefit plans was positive for all plans with more than 5,000 total participants, while the net change in the number of defined benefit plans using primary active participant size definitions was negative for plans with fewer than 10,000 participants. Also, the net increase was greater in large defined benefit plans using total participants to define plan size because more plans move into larger plan size categories when retired, survivors, and separated vested participants are included. The number of plans with more than 2,500 total participants increased by 105 plans, while the number of plans with more than 2,500 primary active participants decreased by one plan.

**Policy Implications**—While large numbers of defined benefit pension plans terminated during the 1980s, the fact that these plans were small makes the terminations less of a public policy concern than large plan terminations would be. In general, small employers have not offered pension plans even when regulations were minimal and tax incentives were greater. It is unlikely that small employers will ever significantly increase defined benefit plan sponsorship on a voluntary basis, particularly given these employers' other concerns. Small employers are preoccupied with the high and rising costs of health care, the most important benefit to employees. When deciding among benefit options, employers with limited resources may assign less priority to offering a pension because they already contribute to employees’ retirement income through the Social Security program.

Another area of concern to policymakers regarding defined benefit plan terminations is the

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**Table 4**

<table>
<thead>
<tr>
<th>Primary Defined Benefit Plan and Active Participant Trends, 1985 and 1989</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Plans</strong></td>
</tr>
<tr>
<td><strong>Active</strong></td>
</tr>
<tr>
<td>Participants</td>
</tr>
<tr>
<td>2-9</td>
</tr>
<tr>
<td>10-24</td>
</tr>
<tr>
<td>25-49</td>
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<tr>
<td>50-99</td>
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<td>100-499</td>
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<tr>
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<td>1,000-2,499</td>
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<tr>
<td>2,500-4,999</td>
</tr>
<tr>
<td>5,000-9,999</td>
</tr>
<tr>
<td>10,000 or more</td>
</tr>
<tr>
<td>None or none</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: Employee Benefit Research Institute tabulations of 1985 and 1989 Form 5500 annual reports filed with the Internal Revenue Service.

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Table 5  
Defined Benefit Plan and Participant Trends, by Total and Active Participant Group Size, 1985 and 1989

<table>
<thead>
<tr>
<th>Total Plans</th>
<th>1985</th>
<th>1989</th>
<th>Net change</th>
<th>Percentage change</th>
<th>Total Participants (thousands)</th>
<th>1985</th>
<th>1989</th>
<th>Net change</th>
<th>Percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Participants</td>
<td>85,222</td>
<td>56,245</td>
<td>-28,977</td>
<td>-34.0%</td>
<td>345</td>
<td>229</td>
<td>-119</td>
<td>-34.1%</td>
<td></td>
</tr>
<tr>
<td>2-9</td>
<td>25,613</td>
<td>16,904</td>
<td>-8,709</td>
<td>-34.8%</td>
<td>398</td>
<td>279</td>
<td>-119</td>
<td>-32.9%</td>
<td></td>
</tr>
<tr>
<td>10-24</td>
<td>37,999</td>
<td>9,862</td>
<td>-28,137</td>
<td>-70.2%</td>
<td>487</td>
<td>328</td>
<td>-159</td>
<td>-32.6%</td>
<td></td>
</tr>
<tr>
<td>25-49</td>
<td>10,737</td>
<td>1,814</td>
<td>-8,923</td>
<td>-82.9%</td>
<td>772</td>
<td>560</td>
<td>-212</td>
<td>-27.5%</td>
<td></td>
</tr>
<tr>
<td>50-99</td>
<td>10,260</td>
<td>2,024</td>
<td>-8,236</td>
<td>-80.3%</td>
<td>1,648</td>
<td>1,288</td>
<td>-360</td>
<td>-22.1%</td>
<td></td>
</tr>
<tr>
<td>100-249</td>
<td>5,002</td>
<td>4,595</td>
<td>-407</td>
<td>-8.1%</td>
<td>1,953</td>
<td>1,611</td>
<td>-342</td>
<td>-17.5%</td>
<td></td>
</tr>
<tr>
<td>250-499</td>
<td>3,728</td>
<td>2,996</td>
<td>-732</td>
<td>-19.3%</td>
<td>2,645</td>
<td>2,338</td>
<td>-307</td>
<td>-11.6%</td>
<td></td>
</tr>
<tr>
<td>500-999</td>
<td>2,943</td>
<td>3,843</td>
<td>900</td>
<td>30.8%</td>
<td>4,534</td>
<td>4,342</td>
<td>-192</td>
<td>-4.4%</td>
<td></td>
</tr>
<tr>
<td>1,000-2,499</td>
<td>1,124</td>
<td>1,120</td>
<td>-4</td>
<td>-0.4%</td>
<td>3,875</td>
<td>3,810</td>
<td>-65</td>
<td>-1.7%</td>
<td></td>
</tr>
<tr>
<td>2,500-4,999</td>
<td>607</td>
<td>623</td>
<td>16</td>
<td>2.6%</td>
<td>4,237</td>
<td>4,609</td>
<td>372</td>
<td>8.6%</td>
<td></td>
</tr>
<tr>
<td>5,000-9,999</td>
<td>286</td>
<td>362</td>
<td>64</td>
<td>30.0%</td>
<td>4,117</td>
<td>4,808</td>
<td>691</td>
<td>16.7%</td>
<td></td>
</tr>
<tr>
<td>10,000-19,999</td>
<td>254</td>
<td>283</td>
<td>29</td>
<td>11.4%</td>
<td>14,625</td>
<td>15,757</td>
<td>1,132</td>
<td>7.7%</td>
<td></td>
</tr>
<tr>
<td>None or none reported</td>
<td>9,859</td>
<td>17,853</td>
<td>7,994</td>
<td>81.1%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>170,172</td>
<td>132,467</td>
<td>-37,705</td>
<td>-22.2%</td>
<td>39,639</td>
<td>39,957</td>
<td>318</td>
<td>0.8%</td>
<td></td>
</tr>
</tbody>
</table>

Active Participants

<table>
<thead>
<tr>
<th>Total Plans</th>
<th>1985</th>
<th>1989</th>
<th>Net change</th>
<th>Percentage change</th>
<th>Total Participants (thousands)</th>
<th>1985</th>
<th>1989</th>
<th>Net change</th>
<th>Percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Participants</td>
<td>88,250</td>
<td>59,957</td>
<td>-28,293</td>
<td>-32.0%</td>
<td>353</td>
<td>247</td>
<td>-107</td>
<td>-30.2%</td>
<td></td>
</tr>
<tr>
<td>2-9</td>
<td>24,398</td>
<td>17,792</td>
<td>-6,606</td>
<td>-26.9%</td>
<td>370</td>
<td>271</td>
<td>-99</td>
<td>-26.8%</td>
<td></td>
</tr>
<tr>
<td>10-24</td>
<td>14,204</td>
<td>8,735</td>
<td>-5,469</td>
<td>-38.3%</td>
<td>482</td>
<td>341</td>
<td>-141</td>
<td>-30.8%</td>
<td></td>
</tr>
<tr>
<td>25-49</td>
<td>11,342</td>
<td>9,025</td>
<td>-2,317</td>
<td>-20.4%</td>
<td>912</td>
<td>646</td>
<td>-266</td>
<td>-20.4%</td>
<td></td>
</tr>
<tr>
<td>50-99</td>
<td>9,567</td>
<td>7,123</td>
<td>-2,444</td>
<td>-25.5%</td>
<td>1,503</td>
<td>1,137</td>
<td>-366</td>
<td>-24.4%</td>
<td></td>
</tr>
<tr>
<td>100-249</td>
<td>4,691</td>
<td>4,034</td>
<td>-657</td>
<td>-14.0%</td>
<td>1,659</td>
<td>1,435</td>
<td>-224</td>
<td>-13.5%</td>
<td></td>
</tr>
<tr>
<td>250-499</td>
<td>3,160</td>
<td>2,712</td>
<td>-448</td>
<td>-14.2%</td>
<td>2,230</td>
<td>1,917</td>
<td>-313</td>
<td>-14.0%</td>
<td></td>
</tr>
<tr>
<td>500-999</td>
<td>2,377</td>
<td>2,231</td>
<td>-146</td>
<td>-6.0%</td>
<td>3,658</td>
<td>3,453</td>
<td>-205</td>
<td>-6.6%</td>
<td></td>
</tr>
<tr>
<td>1,000-2,499</td>
<td>854</td>
<td>833</td>
<td>-21</td>
<td>-2.5%</td>
<td>2,255</td>
<td>2,940</td>
<td>-685</td>
<td>-20.0%</td>
<td></td>
</tr>
<tr>
<td>2,500-4,999</td>
<td>456</td>
<td>452</td>
<td>-4</td>
<td>-0.9%</td>
<td>3,165</td>
<td>3,166</td>
<td>1</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>5,000-9,999</td>
<td>201</td>
<td>214</td>
<td>13</td>
<td>6.5%</td>
<td>2,781</td>
<td>2,967</td>
<td>186</td>
<td>6.7%</td>
<td></td>
</tr>
<tr>
<td>10,000-19,999</td>
<td>175</td>
<td>179</td>
<td>4</td>
<td>2.2%</td>
<td>8,985</td>
<td>8,792</td>
<td>-193</td>
<td>-2.1%</td>
<td></td>
</tr>
<tr>
<td>None or none reported</td>
<td>10,309</td>
<td>18,827</td>
<td>8,518</td>
<td>82.6%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>169,926</td>
<td>133,127</td>
<td>-36,809</td>
<td>-21.7%</td>
<td>28,964</td>
<td>23,710</td>
<td>-5,254</td>
<td>-15.7%</td>
<td></td>
</tr>
</tbody>
</table>


*Total plans for both active and total plan counts differ slightly due to use of different data sources.

Pension Benefit Guaranty Corporation's (PBGC) financial solvency. PBGC was created under ERISA to strengthen retirement security by guaranteeing some benefits for defined benefit plan participants. PBGC is funded by premiums paid by private defined benefit plan sponsors. It has been the focus of attention during the past two years because of its single-employer programs' present deficit. Some have questioned whether a general taxpayer bailout might be necessary if the deficit continues to grow. Some have further argued that, if the current decline in the number of defined benefit plans continues, the likelihood of a general taxpayer bailout is more imminent because PBGC's premium base would also decline. However, employers pay premiums based on a per participant fee; therefore, a large number of small plan terminations would have less effect on the PBGC's total premiums than terminations of large plans (PBGC premiums are based on total participants). If all single-employer defined benefit plans with fewer than 1,000 total participants were to terminate, PBGC would lose $117 million per year, which would represent a 15 percent reduction in premium receipts, based on 1992


11 The PBGC charges a flat premium of $19 per participant and an additional variable premium of $9 per $1,000 of unfunded vested benefits, with an overall premium cap of $72 per participant.
Table 6
Primary Defined Contribution Plan and Active Participant Trends, 1985 and 1989

<table>
<thead>
<tr>
<th>Active Participants</th>
<th>1985</th>
<th>1989</th>
<th>Net change</th>
<th>Percentage change</th>
<th>1985</th>
<th>1989</th>
<th>Net change</th>
<th>Percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-9</td>
<td>199,704</td>
<td>334,762</td>
<td>135,056</td>
<td>67.6%</td>
<td>852</td>
<td>1,410</td>
<td>558</td>
<td>65.5%</td>
</tr>
<tr>
<td>10-24</td>
<td>70,424</td>
<td>107,113</td>
<td>36,689</td>
<td>52.1%</td>
<td>1,056</td>
<td>1,637</td>
<td>581</td>
<td>55.0%</td>
</tr>
<tr>
<td>25-49</td>
<td>31,406</td>
<td>48,351</td>
<td>16,945</td>
<td>54.0%</td>
<td>1,091</td>
<td>1,680</td>
<td>589</td>
<td>54.0%</td>
</tr>
<tr>
<td>50-99</td>
<td>17,620</td>
<td>29,987</td>
<td>12,377</td>
<td>70.2%</td>
<td>1,224</td>
<td>2,081</td>
<td>857</td>
<td>70.0%</td>
</tr>
<tr>
<td>100-249</td>
<td>8,878</td>
<td>13,394</td>
<td>4,516</td>
<td>50.2%</td>
<td>1,331</td>
<td>1,991</td>
<td>660</td>
<td>49.6%</td>
</tr>
<tr>
<td>250-499</td>
<td>2,552</td>
<td>3,599</td>
<td>1,047</td>
<td>41.0%</td>
<td>686</td>
<td>1,239</td>
<td>553</td>
<td>42.8%</td>
</tr>
<tr>
<td>500-1,999</td>
<td>1,186</td>
<td>1,675</td>
<td>490</td>
<td>41.4%</td>
<td>608</td>
<td>1,151</td>
<td>543</td>
<td>42.4%</td>
</tr>
<tr>
<td>1,000-4,999</td>
<td>784</td>
<td>1,148</td>
<td>364</td>
<td>46.4%</td>
<td>1,194</td>
<td>1,709</td>
<td>515</td>
<td>43.1%</td>
</tr>
<tr>
<td>5,000-9,999</td>
<td>219</td>
<td>265</td>
<td>46</td>
<td>21.0%</td>
<td>752</td>
<td>907</td>
<td>155</td>
<td>20.5%</td>
</tr>
<tr>
<td>10,000-19,999</td>
<td>97</td>
<td>107</td>
<td>10</td>
<td>10.3%</td>
<td>683</td>
<td>726</td>
<td>43</td>
<td>6.3%</td>
</tr>
<tr>
<td>20,000 or more</td>
<td>34</td>
<td>59</td>
<td>25</td>
<td>73.5%</td>
<td>460</td>
<td>788</td>
<td>328</td>
<td>71.4%</td>
</tr>
<tr>
<td>None or none reported</td>
<td>29</td>
<td>36</td>
<td>7</td>
<td>24.1%</td>
<td>1,100</td>
<td>1,329</td>
<td>229</td>
<td>20.8%</td>
</tr>
<tr>
<td>Total</td>
<td>346,014</td>
<td>579,285</td>
<td>233,271</td>
<td>67.4%</td>
<td>11,420</td>
<td>16,647</td>
<td>5,227</td>
<td>45.8%</td>
</tr>
</tbody>
</table>

Source: Employee Benefit Research Institute tabulations of 1985 and 1989 Form 5500 annual reports filed with the Internal Revenue Service.

In order to keep premium revenues at 1992 levels, PBGC would need to raise premiums $4.68 per participant (a 17 percent increase from the average 1992 premium) for the remaining 25 million participants in 22,000 defined benefit plans. Such an increase would not be unprecedented. PBGC raised the flat rate premium from $16 to $19 as recently as 1990. Therefore, it appears that, if small plan terminations continue, even at a level far greater than expected, PBGC should be able to continue to operate on its own premium and investment revenues.

Defined Contribution Plans

Primary Plan Trends—Between 1985 and 1989, there was a net increase in the number of primary defined contribution plans of 67 percent, or 233,271 plans. However, most of this increase was in plans with two to nine active participants. The net number of such plans increased by 135,058 plans, or 58 percent of the total increase in primary defined contribution plans (table 6).

The net increase in the number of primary defined contribution plans declined as plan size increased. Primary defined contribution plans with 10-24 active participants increased by 36,689 plans (52 percent), while plans with 100-249 active participants increased by 4,456 plans (50 percent). The increase in primary defined contribution plans with 1,000 or more active participants was 452 plans, or 0.2 percent of the total increase.

The net increase in the number of active participants in primary defined contribution plans is most heavily distributed in plans with fewer than 250 participants. These plans accounted for 62.1 percent of the total net increase, or 3,244,000 active participants in primary defined contribution plans. The increase in plans with 250 or more active participants accounted for an additional 1,983,000 participants.

Total Plan Trends—The difference between the total number of defined contribution plans and the number of primary defined contribution plans reflects trends in supplemental plans. Between 1985 and 1989, the number of supplemental plans decreased by 96,571 plans, most of which were very small plans (calculated from tables 6 and 7).

There is little difference between the total number of participants and the number of active participants included in all defined contribution plans. Approximately 2,500 additional participants are in total participant counts, distributed across most plan size categories. These participants represent individuals other than active participants who are still included in the plan, such as retired participants, participants who have separated from service and are vested in the plan, or survivors. Fewer individuals remain participants in a...
defined contribution plan than remain in a defined benefit plan after terminating employment with the plan sponsor because most defined contribution participants receive lump-sum distributions on leaving.

Policy Implications—Concern over the increased prevalence of defined contribution plans has arisen because these plans serve to shift the burden of planning for retirement from employers to individuals and could result in reduced retirement security for some individuals. Decisions regarding participation, how much current pay to defer, how the funds should be invested, and whether to save benefit distributions for retirement or spend them sooner are more frequently faced by defined contribution plan participants than by defined benefit plan participants.

Employees can often receive a higher benefit from defined contribution plans than they would from comparable defined benefit plans, assuming the same investment income, particularly if they are young and mobile. It has been widely documented that workers with accrued pension benefits (i.e., those in a traditional defined benefit plan) can experience pension losses if they change jobs prior to retirement. Participants in defined contribution plans do not experience the same losses just by changing jobs. These plans work best for participants when they elect to participate, invest plan assets appropriately, and pre-

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serve their benefits until retirement. Defined contribution plan participants may have the opportunity to save more for retirement than they would in a comparable defined benefit plan; however, they need to recognize their responsibility for retirement planning and make decisions to maximize their retirement income.

Was There Really a Shift from Defined Benefit to Defined Contribution Plans?

Between 1985 and 1989, an inverse relationship can be observed between the net change in defined benefit plans and that in defined contribution plans across plan sizes. The smaller the plan size, the greater the net increase in defined contribution plans and the greater the net decrease in defined benefit plans. Examination of these trends could lead to an hypothesis that individual plan sponsors have terminated defined benefit plans, replacing them with defined contribution plans. However, to date there is no evidence that individual plan sponsors have actually done this. Furthermore, across all plan sizes, the net increase in defined contribution plans was greater than the net decrease in defined benefit plans, indicating that the growth in defined contribution plans must have resulted from something more than a shift from defined benefit to defined contribution plans (chart 1, table 1).

Much of the growth in defined contribution plans has been through primary and supplemental 401(k) plans. Unlike some other defined contribution plans, these plans generally require employee contributions as a condition of participation, and it is often up to the employee to decide how much current pay to defer (within plan and legal limits). Many 401(k) plan participants also receive employer contributions that match all or a fraction of the employees' contribution. In 1988, 71 percent of 401(k) participants were in plans to which the employer contributed (Employee Benefit Research Institute, 1989c). These defined contribution plans, while providing an effective means for individuals to save, require individuals to take more responsibility in their retirement planning than defined benefit plans. Between 1984 and 1989, the number of 401(k) plans increased from 17,303 to 83,301, or from 4 percent to 14 percent of all defined contribution plans, and these plans represented 11 percent of all private-sector pension plans (table 8).

Research has shown that some of the increase in the proportion of pension plan partici-

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14 A participant may be better off spending benefits before retirement if he or she would otherwise take out a loan with higher interest payments than the tax-deferred equivalent of the investment income gained by saving.
pants covered by primary defined contribution plans can be explained by employment shifts in the economy or by federal regulations of pension plans. A recent paper by Ippolito considers the hypothesis that the introduction of 401(k) plans caused the increase in the percentage of pension plan participants covered by these defined contribution plans that could not be explained by employment shifts away from union jobs, large firms, and industries that traditionally offered defined benefit plans. Furthermore, he argues, federal regulations affecting administrative costs are only relevant to small plans because plans with 500 or more workers have roughly equivalent costs for both defined benefit and defined contribution plans. He finds that, after their introduction in 1981, 401(k) plans absorbed market share from both defined benefit plans and the then existing forms of defined contribution plans. Specifically, he finds that 74 percent of 401(k) plans in existence in 1988 would have been defined benefit plans if 401(k)s were not allowed, and 26 percent of 401(k)s would have been another type of defined contribution plan. However, this analysis assumes that all firms that adopted a 401(k) plan would have sponsored a defined benefit plan or another type of defined contribution plan. It is possible, given the unique advantages of 401(k) plans and their rapid growth, that the creation of 401(k) plans caused employers that otherwise would not have sponsored a pension plan to establish a 401(k). Perhaps the creation of 401(k) plans expanded the defined contribution plan market rather than, or in addition to, taking market share away from other plan types.

Other research supports the idea that growth in defined contribution plans is not necessarily a direct result of individual plan sponsors changing preferences from defined benefit to defined contribution plans (Kruse, 1991). Kruse found that very little of the growth in defined contribution plan coverage between 1980 and 1986 was due to companies terminating defined benefit plans. He attributed the decline in defined benefit plan participation primarily to a decrease in participants in these plans rather than a decrease in plans. Kruse's findings add to the evidence that plan sponsors are not replacing defined benefit plans with defined contribution plans. More research needs to be done to determine if plan sponsor behavior changed after 1986.

While on the surface there appeared to be a shift from defined benefit to defined contribution plans, on closer examination it appears that, while the number of small and mid-sized defined benefit plans has declined, and the number of defined contribution plans of all sizes has increased, large defined benefit plans are stable and increasing by some measures.

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What Percentage of Employers Sponsor Defined Benefit and Defined Contribution Plans?

Much of the analysis of defined benefit and defined contribution plan trends measures these plans and participants as a percentage of all private pension plans and participants. While this measure is relevant for understanding the relative coverage of participants by defined benefit and defined contribution plans, it does not address the question of what proportion of employers offer defined benefit or defined contribution plans and what percentage of employees are covered by these plans. It is misleading to look at the proportion of pension plans that are defined benefit plans as a measure of the status of the defined benefit system, because an increase in the number of defined contribution plans can reduce the market share of defined benefit plans without reducing the number of defined benefit plans. A better measure of the status of the defined benefit system is the percentage of employers that sponsor defined benefit plans over time.

An analysis of private plan sponsorship by public firms, with at least 100 employees, that are traded on the New York Stock Exchange and American Stock Exchange indicates that the percentage of firms sponsoring primary defined benefit and defined contribution plans increased from 1985 to 1989 (table 9). During this period, defined benefit plan sponsorship increased from 55.1 percent to 61.3 percent of firms, while defined contribution plan sponsorship increased from 22.1 percent to 29.4 percent.

A smaller percentage of employers with 100–9,999 employees sponsored defined benefit plans in 1989 than in 1985, with the exception of firms with 250–499 employees, where defined benefit plan sponsorship increased slightly. The percentage of firms with more than 10,000 employees that sponsored defined benefit plans increased over the period. The percentage of firms that sponsored defined contribution plans increased across most firm size categories, with the exception of a slight decrease by firms with 2,500–4,999 employees and a decrease in sponsorship from 21.5 percent to 14.4 percent of firms with 10,000–19,999 employees. The greatest percentage point increase in defined contribution plan sponsorship was by firms with 100 to 249 and 500 to 999 employees.

Analysis of the percentage of employees in publicly held firms that sponsored a primary pension plan in 1985 and 1989 reflects similar trends in aggregate and by firm size. The percentage of employees in firms sponsoring defined benefit plans increased from 75.5 percent to 80.2 percent and the percentage of employees in firms sponsoring defined contribution plans increased from 13.4 percent to 18.9 percent.

While plan sponsorship trends for firms that are not publicly held may differ, this analysis provides further evidence that large employers are continuing to sponsor defined benefit pension plans, small employers are decreasing defined benefit plan sponsorship, and plan sponsorship overall is increasing.

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17 Multiple primary plans of the same plan type were counted as one plan and participants in the plan were summed.
differences between defined benefit and defined contribution plans in terms of their use in workforce management. Traditional defined benefit and defined contribution plans have their relative merits and drawbacks in terms of their use as management tools. While employers may not evaluate each of the following objectives highlighted below, understanding the differences between defined benefit and defined contribution plans is important in understanding why defined benefit plans have remained the foundation of large employers’ retirement benefits and defined contribution plans’ role has continued to evolve. Employers face many considerations when designing a pension plan, including management objectives, cost constraints, and legal limitations. As employers’ workforce demographics, finances, and objectives change, they may need to reconsider their reasons for offering their current retirement benefit package.

Within legal and cost constraints, employers design pension plans to match their management goals for attracting a specific type of worker, retaining workers for a desirable time period, and encouraging them to leave or retire at a specified age or after a specified amount of time. For example, the military’s defined benefit pension plan encourages individuals to serve for at least 20 years by making benefits payable at any age after at least 20 years of active duty. Individuals retiring prior to completing 20 years of service receive no retirement benefit at all unless they are eligible for disability retirement pay. The plan is structured to allow employees to retire at a relatively young age. The military needs more younger enlisted personnel than senior officers. Similarly, police and firefighters have pension plans that enable them to retire at a very early age. In 1990, 39 percent of full-time police and firefighters participating in a defined benefit plan could retire at any age after meeting a service requirement and still receive an unreduced pension benefit. Forty percent of police and firefighters with no age requirement for receiving a

---

This discussion focuses on single-employer pension plans because multiemployer plan sponsors have historically chosen defined benefit pension plans.
full pension benefit could receive the full benefit after 20 years of service (U.S. Department of Labor, 1992b). Some employers also have a philosophy about how pension benefits, as well as other employee benefits, should be structured. For example, some employers believe that employees should contribute to their pension plan in order to share responsibility in planning for retirement. Employers have significant flexibility in designing plans to meet both managerial and philosophical objectives, including choosing vesting schedules (the rate at which participants become entitled to their accrued benefit), specifying normal and early retirement ages, specifying formulas that determine benefit amounts and employer and employee contributions, and integrating plan benefits with Social Security benefits. Traditional defined benefit and defined contribution plans also have their respective advantages and disadvantages in accommodating philosophical concerns. Over the last decade, many plan innovations and hybrids have served to pull together some features of both types of plans. The following are some of the most common managerial considerations employers review when deciding what type of pension plan to offer.

Retirement Income

A defined contribution plan provides retirement income based on the investment performance of each participant’s account and the level of contributions the employer and/or employee make to the plan. In a defined benefit plan, retirement income is based on a benefit formula that is typically tied to years of service and pay and does not rely on investment performance.

Chart 2 compares the difference between the annual marginal cost to employers of providing a final pay defined benefit plan with that of providing a defined contribution plan over time. The example assumes that an employee in each plan will receive the same retirement benefit if he or she works for the employer for 40 years until retirement at age 65 and receives a rate of return on investments of 10

![Chart 2: Comparison of the Marginal Change in Employer Cost of Providing a Defined Benefit and a Defined Contribution Plan]

Source: Employee Benefit Research Institute simulations.

The employer cost of providing an additional year’s defined benefit accrual is the marginal change in the present value of a deferred annuity for an employee in a final pay plan that pays an annual annuitized benefit based on years of service times 1 percent of average pay for the final five years of service for working an additional year. The present value of the deferred annuity is based on the annuity purchase price of 8.80 and a discount rate of 8 percent. The marginal change in employer cost for defined contribution plans is the change in annual contributions, expressed as a percentage of pay, that would be required to provide the same benefit as a defined benefit plan given a rate of return of 10 percent. Wages are assumed to increase 5 percent annually. Both plans are assumed to provide the same retirement benefit at age 65 after 40 years of service.

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19 Benefits that have been accrued by individuals but are not yet vested are forfeited if a participant separates from service. Private plan sponsors may select vesting schedules within legal limits. In general, plans are required to meet minimum vesting schedules of either cliff vesting, requiring 100 percent vesting after five years, or graduated vesting, with vesting starting in the third year and increasing to 100 percent by the seventh year.

20 Issues of preserving preretirement distributions are discussed on page 26 in the section titled “Retirement Income Preservation Issues.”

21 The investment rate of return chosen is a simplifying assumption. The average defined contribution plan likely receives a lower rate of return because of the conservative investment allocations typically chosen by participants. However, investments in diversified portfolios may experience returns competitive with the 10 percent used in the example.
The benefit to an employee in the defined benefit plan will be the same as the employer cost because the employer pays a benefit to the employee based on a benefit formula. The benefit to an employee in the defined contribution plan will vary from the employer cost depending upon the difference between the rate at which the employee's salary increases (assumed to be the same as the inflation rate) and the rate of return on investments. The greater this difference, the greater the benefit to the employee; however, the employer's cost remains the same.

Because the benefit a defined contribution plan participant receives at retirement or separation from service is his or her account balance, the employer has little control over retirement income or retirement patterns. In a defined contribution plan, even though employers can structure contribution schedules to meet target levels of retirement income, the actual benefits at the point of retirement, or separation from service, can be far below or far above the target, depending on the investment experience and the level of contributions. While some employees participating in defined contribution plans may receive enough investment income to be able to retire relatively early, others may need to continue to work as long as they are able to.

Employers are able to provide employees with a moderate, but predictable, retirement benefit with a defined benefit plan because retirement income is independent of investment performance. Employees should have adequate retirement income when they reach the plan's normal retirement age provided they have worked for the employer long enough and their perception of retirement income adequacy does not vary significantly from that of the plan sponsor. It is unlikely that defined benefit plan participants will be able to retire significantly earlier than the plans' normal retirement age or will need to work significantly beyond this age unless the employer encourages early retirement through a monetary benefit, such as an early retirement provision of a defined benefit plan, or unless the employee has alternate sources of retirement income.

Retirement income from defined benefit plans changes with varying inflation rates. Chart 3 shows how the marginal change in annual benefit accruals as a percentage of pay changes with varying interest rate assumptions. At higher rates of inflation, the marginal annual benefit accrual increases more gradually at shorter years of service, accelerating toward the end of the career. Employers' cost of providing pension benefits becomes relatively more expensive for older employees during periods with higher rates of inflation and for younger employees during periods with lower rates of inflation.
Several newer defined contribution plans include features that improve their ability to meet a target retirement income. For example, target benefit plans are defined contribution plans in which the employer uses a defined benefit formula to calculate benefits at normal retirement age. The employer makes contributions as a percentage of salary, and the percentage increases with age and years of service. The benefit formula attempts to provide a level of benefit expressed as a percentage of salary at retirement. The plan specifies an annual contribution as a percentage of annual pay based on age, years of service, and a target benefit, such as 50 percent of final pay. While employers may have greater ability to predict benefits with a target benefit plan than with a typical defined contribution plan, they do not have to honor the target benefits if investment performance is poorer than anticipated, because this plan is not technically a defined benefit plan.

Retirement and Job Tenure Patterns

Employers influence retirement through defined benefit plan design. As stated above, defined benefit plans allow employers to provide long-term employees with a predetermined benefit level at retirement—a benefit the employer believes should be sufficient (combined with other benefits and Social Security) to enable the employee to retire. Defined benefit plans also allow employers to influence retirement and job tenure by including specific provisions such as normal and early retirement age, benefits accruing after retirement age, and vesting schedules. Defined contribution plans are retirement neutral; they allow employers to influence job tenure through vesting schedules, but their ability to control retirement age is limited.

Defined benefit plan sponsors have some control over retirement age through specifying the number of years of service that employees can accrue benefits and setting a minimum or normal retirement age at which they are entitled to receive their full retirement benefits. Employees retiring prior to normal retirement age may receive reduced benefits or may have to wait until they reach normal retirement age to begin receiving benefit payments. Most defined benefit pension participants working in medium to large private establishments are in plans that specify a normal retirement age between the ages of 62 and 65. In contrast, many state and local employers only specify years of service required before receiving full retirement benefits, without regard to age (U.S. Department of Labor, 1990, 1992b).

Currently, many employees retire early, often prior to pension plans' normal retirement age and often in response to defined benefit pension plan incentives or other retirement incentives such as retiree health benefits. Between 1970 and 1991, the labor participation of men aged 55–64 dropped from 83 percent to 67 percent. The participation rate for women in this age cohort grew slightly during this period, from 43 percent to 45 percent. Relatively few persons aged 65 and over were labor force participants in 1991—only 16 percent of men and 9 percent of women. The decrease in labor force participation of men aged 55–64 appears to have slowed, remaining approximately 67 percent to 68 percent between 1985 and 1991. According to one study, the trend toward early retirement may be slowing, or possibly reversing, as both average life expectancy and the cost of health care in retirement continue to increase.22

In the future, employees may not desire or be financially prepared to retire early, and employers may attempt to encourage them to stay in the work force past the age of 65. At the same time that work force demographics will shift, leaving fewer younger workers and more older workers, more individuals may find that they do not have sufficient retirement income to retire early or at the normal retirement age. The greater role of defined

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contribution plans, particularly as primary plans in small- to mid-sized employers may result in individuals receiving lower than anticipated investment income and having insufficient retirement funds. These workers may need to stay in the work force longer because they are not financially prepared to retire. However, if downsizing trends continue, employers may use defined benefit plans to encourage downsizing through attrition. Regardless of whether employers desire to encourage early retirement or keep employees in the work force longer, defined benefit plans provide a mechanism for them to influence retirement patterns.

Defined contribution plans do not have a mechanism to allow for increasing account balances for a temporary period of time. However, an overfunded defined benefit pension plan has excess assets that can be used to provide the supplemental benefits. There may be financial advantages for a defined benefit sponsor even if the plan is not overfunded. For example, sponsors facing short-term financial constraints may find that the increased payment of benefits out of plan assets may decrease the cash wages paid by the employer sufficiently to more than offset any increased minimum required contributions.

Early window retirement program incentives can be paid out of a qualified plan in various ways. One of the more popular techniques is to provide temporary supplements when a participant retires prior to Social Security normal retirement age (SS NRA). For example, the plan could provide a monthly supplement to the retiree until he or she reaches the age of 65. Until the retiree reaches age 62, the supplement would be equal to the full Social Security benefit received by individuals who retire at SS NRA. After the retiree reaches age 62, the supplement would be equal to the difference between the Social Security benefit received by individuals retiring at SS NRA and the reduced Social Security benefit to which the employee is entitled beginning at age 62.

Another popular method is to credit the employee with additional service and/or to impute

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23 The sponsor's flexibility in designing early retirement window programs may be constrained by several sections of the IRC. For example, the sec. 415 limits provide for a steep reduction in the maximum amount of benefit that can be paid in an annuity form as employees retire at earlier ages. Furthermore, the regulations for the sec. 401(a)(4) nondiscrimination requirements may limit the success of these programs in several respects. Under the benefits, rights, and features requirement of these regulations, the early retirement program will be in violation if it turns out that the effect of the program is to disproportionately benefit highly compensated employees, which is a distinct possibility because many of the older employees eligible under the plan's terms will be highly compensated employees. Also, plans forced to use the general rule to pass the amounts testing requirement will find that these window plans are considered in testing most valuable accrual rate. Again, if significant numbers of highly compensated employees benefit under the subsidy, it may be difficult for the plan to pass this requirement.
additional years to his or her age. For example, for purposes of benefit delivery, an employee aged 55 with 15 years of service would get the same benefit as if he or she were aged 60 with 20 years of service.

Other techniques to encourage early retirement include:
- adding additional benefit forms (e.g., people who retire within a particular period of time get a lump-sum distribution that is not otherwise available),
- reducing or eliminating early retirement reductions,
- accelerating vesting,
- using a shorter final average pay period,
- using projected pay rather than actual pay, and
- providing cost-of-living adjustments to the postretirement monthly benefits.

Employers may also find it possible to use other parts of the employee benefit package to provide disincentives. One example would be to tell employees that if they don’t retire by a specified cutoff date, they will not have the full postretirement medical benefit because the program is going to be changed.

Ability to Attract and Retain Workers

In addition to encouraging retirement, pension plans may also be used to attract and retain employees. Employers attempting to attract younger, more mobile workers would be more likely to choose a defined contribution plan, while employers attempting to retain workers for longer time periods would be more likely to offer a defined benefit plan.

Since benefits in defined benefit plans accrue at a slow rate for the initial years of service and accrue at faster rates for older employees with more service, they reward long-tenure employees. The losses incurred by shorter-term employees can be illustrated through a simplified example. Consider two career paths in which one worker is employed on one job for 40 years and the other worker is employed on four jobs for 10 years each, both retiring at age 65. Both employees have an initial salary of $15,000, increasing at a rate of 5 percent per year. If both employees are in a defined benefit plan throughout their careers that provides a benefit of 1 percent of final pay times years of service, the long-tenure worker would receive an annual benefit of $40,229 at retirement, while the worker who holds four jobs would receive $22,349. Chart 4 shows the marginal change in annual benefit as a percentage of pay for each employee. The mobile worker will suffer large benefit losses, because each time he or she changes employment a fixed dollar benefit is determined—a benefit that no longer increases with salary increases and years of service.

On the other hand, defined contribution plans do not cause large benefit losses for mobile employees, assuming that each of their employers has an equally
There are also defined contribution plans that should be more attractive to long-term and older employees than traditional defined contribution plans because they allow employers to make contributions using variable contribution schedules.

generous plan. These plans generally provide higher benefits to participants for short service periods than would a comparable defined benefit plan. As discussed earlier, chart 2 shows the marginal annual employer cost of providing a defined benefit plan for an employee in the plan for 40 years and for an employee in a defined contribution plan receiving the same retirement benefit. The marginal increase in the traditional defined contribution plan benefits stays relatively constant as a percentage of wages over an employee's tenure, with increases depending upon investment income. Therefore, **younger workers who change jobs several times receive a greater level of retirement income with a series of equal defined contribution plans than they would with a comparable series of equal defined benefit plans, because they do not incur large losses by leaving early and, provided they do not spend the defined contribution benefit after leaving a job, investment income may continue to accrue in a tax-deferred vehicle until retirement.**

Since a defined benefit plan participant's benefit increases toward the end of tenure and decreases with job mobility, short-tenure workers will receive more retirement income with a defined contribution plan than with a defined benefit plan.

Defined contribution plans are also easier to communicate, particularly to younger employees, because they are able to see their benefits accumulate in an account while working rather than being told they will receive a monthly income on retirement. The cash balance plan is a defined benefit plan that also incorporates some aspects of defined contribution plans. Each employee has a hypothetical account that is credited with a dollar amount resembling an employer contribution that is determined as a percentage of pay. The contribution is then credited with an annual amount of interest set annually by the employer at a fixed interest rate. The benefit to the employee on termination is the amount in the hypothetical account, which is not dependent on the pension fund’s actual investment experience. The cash balance plan eliminates the “back-loaded” accrual effect of final pay defined benefit plans, because years of service are not used in the benefit formula. Therefore, cash balance plans favor shorter-term employees more than traditional defined benefit plans because they provide a more even distribution of pension benefit accruals over employees’ tenure than do traditional final pay defined benefit plans.

**There are also defined contribution plans that should be more attractive to long-term and older employees than traditional defined contribution plans because they allow employers to make contributions using variable contribution schedules.** For example, employers are able to weight contributions to money purchase plans by age and service to reward longer-tenure employees at a faster rate than shorter-term employees. Target benefit plans also incorporate variable contribution schedules and use benefit formulas to predict retirement benefits. Similarly, age-weighted profit-sharing plans increase pension contributions for older employees. The primary difference between an age-weighted plan and a target benefit plan or money purchase plan with a variable contribution schedule is that employers are able to improve communication of the plan’s benefits by allowing individuals to see their account balances grow.

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24 The basis for the annual interest credits must be specified in the plan. Typically, the basis is tied to an outside variable index such as 1-year Treasury bill rates.

25 Cash balance plans may also be designed to use variable accrual schedules that cause the plan to operate more like a traditional final pay defined benefit plan. Presumably, employers would offer this type of cash balance plan if they desire to reward longer-tenure employees more than mobile workers but desire to improve communication of the plan’s benefits by allowing individuals to see their account balances grow.
to make discretionary contributions to age-weighted plans. The age-weighted plan is particularly attractive to small employers, who often are reluctant to commit themselves to a plan requiring regular contributions yet desire to reward valued older employees and owners.

**Ability to Provide Benefits over Short Time Horizon**

Employers may desire to provide employees with substantial benefits over a short time period. Employers that do not sponsor a pension plan may desire to establish a plan as the company grows and owners and management age. If the owners are approaching the age 45–50, they would likely choose to adopt a defined benefit plan that would allow them to retire after working for a relatively short time by including their service prior to plan establishment in determining pension benefits.26 Traditional defined contribution plans, however, are prospective in nature, only accounting for service occurring after the plan is established. Even newer defined contribution plans that account for service do so by increasing the current contribution level for employees with more years of service and/or for older employees rather than providing additional contributions for years of service prior to plan establishment. The defined benefit plan feature of including service prior to plan establishment drove much of the growth in defined benefit pension plans beginning in 1949 and 1950, when many individuals in their 40s and 50s did not have substantial savings (Employee Benefit Research Institute, 1982b). Defined benefit plans became a means to provide retirement income in a relatively short period. For owners of small companies who approach their mid-to late 40s and do not currently offer a pension plan, defined benefit plans may be the best option for the same reason.

**Equitable Pension Benefits**

Employers have conflicting perspectives on whether defined benefit or defined contribution plans provide more equitable pension benefits to all employees. Defined benefit plans that take employees' past service and salary into account provide a greater annual benefit accrual as a percentage of annual compensation for longer-term workers. Some employers would view this as the most equitable method of providing pension benefits, because they believe that employees who have been with the employer longer have given more and should receive a greater benefit than those who leave after a relatively short period. However, other employers may argue that traditional defined contribution plans provide more equitable benefits because benefits are based on salary, rewarding all employees equally in proportion to their value to the firm.

**Integration of Benefits with Social Security**

Some employers choose to integrate pension benefits with Social Security in order to spend an equal amount, as a percentage of pay, on retirement benefits for all employees. Lower earners receive proportionately higher federal Social Security benefits than higher earners. Integrated plans typically seek to provide benefits that, in combination with Social Security benefits, replace a similar percentage of preretirement pay for their employees at all earnings levels. Employers are able to integrate benefits with Social Security more effectively through defined benefit plans because the integration can be done by adjusting benefit formulas. Defined contribution plan sponsors can integrate pension benefits by adjusting contribution levels; however, the final benefit is also dependent on the investment return and is out of the employer's direct control.

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26 All defined benefit plans, including hybrids such as cash balance plans, maintain the ability to provide increases in past service benefits.
Employers may wish to insure that money is used for retirement rather than spent earlier by keeping plan assets in the plan until retirement. For example, a traditional defined benefit plan provides employers with more control over targeting a level of retirement income because it provides an annuity, or periodic payments to employees, after retirement. According to a 1991 BLS survey of medium and large establishments, 14 percent of defined benefit participants were in plans that allowed individuals to take a lump-sum distribution at retirement. Money purchase defined contribution plans allow employees to take their benefit in an annuity if they are retiring. Other defined contribution plans, such as thrift savings plans, infrequently offer an annuity option to employees. Many defined benefit plans and defined contribution plans in general allow employees to take lump-sum distributions on separation from service or retirement. Employers have the legal right to require employees to take lump-sum distributions for amounts less than, or equal to, $3,500 in both defined benefit and defined contribution plans. The individual decides whether to roll over all or part of a lump sum distribution into an individual retirement account (IRA), tax deferred annuity, or another tax-deferred vehicle, or not to roll over the distribution at all. Because most individuals receiving lump-sum distributions have not rolled these distributions over into a tax-deferred retirement arrangement, some employers may choose to require annuities to see that the benefits are used for retirement income, while others may believe that it is up to the individual to determine the best use for the benefit distribution. Individuals have clear reasons to prefer lump-sum distributions with a rollover to leaving funds in a plan if they are concerned about the plan sponsor's future behavior, future investment performance, and particularly the plan sponsor's survival. Growth in bankruptcy rates, changes in company ownership, and changes in company culture may serve to increase demand for lump-sum distributions. Recently enacted liberalization of current pension rollover rules and changes in the tax withholding of lump-sum distributions (P.L. 102-318) are likely to increase the amount of money preserved for retirement from both defined benefit and defined contribution plans.

Inflation and Investment Return Risk

Employers may have a philosophy about who should bear investment return and inflation risks, two major risks in providing pension plan benefits. In a defined benefit plan, employers generally absorb the investment return risk by providing a specific benefit regardless of investment income. In a defined contribution plan, the employee bears the investment risk, sometimes specifying the investment allocation.

Defined contribution and defined benefit plan hybrids still maintain the investment risk characteristic of their basic defined contribution or defined benefit plan design. For example, cash balance plans, which are defined benefit plans but resemble defined contribution plans to employees, maintain the same risk characteristics as traditional defined benefit plans. These plans apply a specified interest rate each year to the "employer

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28 See Paul Yakoboski, "New Evidence on Lump-Sum Distributions and Rollover Activity," EBRI Notes, no. 7 (Employee Benefit Research Institute, July 1993): 6-8; and forthcoming EBRI Issue Brief on lump-sum distributions presenting new evidence from Internal Revenue Service data.

29 While PBGC guarantees basic benefits of defined benefit plan participants, not all benefits are covered, and no defined contribution benefits are covered.

30 Lower investment income could have some effect on employees by reducing increases in benefit formulas or post-retirement ad-hoc benefit increases.
contribution," which is independent of the plan's actual investment experience. Similarly, age-weighted profit-sharing plans and target benefit plans are defined contribution plans that still place investment risk on the employee even though the manner in which benefits accrue in these plans resembles defined benefit plan benefit accruals. The ultimate retirement benefit received is still the assets in individuals' accounts at the point of separation from service.

Defined benefit plans may also provide better protection against inflation during employment. Many employers structure defined benefit plans to provide a benefit based on a percentage of employees' final pay. This type of plan, a final pay plan, provides the most protection against inflation during employment. However, a worker who is no longer employed by the plan sponsor has no inflation protection unless he or she receives a lump-sum distribution that is saved and invested. Defined contribution plans may also provide protection against inflation, but at a higher risk to employees because they receive most of their inflation protection through investment returns. A conservative investor who chooses a fixed income portfolio (e.g., bonds and fixed interest rate contracts) may not receive sufficient protection from inflation. However, a target benefit plan may shift the inflation risk from the employee to the employer, by using a defined benefit formula to calculate annual contributions. Alternatively, participants in a cash balance plan absorb more inflation risk than participants in a final pay defined benefit plan because benefits are based on an annual percentage of current pay each year rather than on final pay.

However, once an employee retires, he or she is typically responsible for postretirement inflation risks. Private employers sponsoring defined benefit and/or defined contribution plans do not provide automatic cost-of-living adjustments (COLAs) to retirees, but defined benefit plan sponsors may offer ad hoc postretirement benefit increases—designed to offset inflation—to individuals who get a monthly check. These ad hoc benefit increases are not given to participants in defined contribution plans or to those who take lump-sum distributions from either type of plan. However, many government employee plans provide for automatic inflation adjustments. According to a 1990 survey of state and local governments, 50 percent of full-time participants in defined benefit pension plans were in plans with automatic postretirement adjustments (U.S. Department of Labor, 1992b). In the private sector, ad hoc increases or lump-sum payments were made to retirees between 1986 and 1990 in defined benefit plans covering 7 percent of active participants in firms with 100 or more employees in 1991. (In 1991, 5 percent of active participants in these establishments were in defined benefit plans that provided cost-of-living increases to retirees.) (U.S. Department of Labor, 1993).

Profitability Concerns

Employers that have uncertain or volatile profits, such as small employers or new businesses, may prefer a defined contribution plan in order to have flexibility in contributing to the plan. Profit-sharing plans allow employers to use discretion in making plan contributions and are only required to contribute on a "substantial and recurring" basis. For example, an employer may choose to contribute to a profit-sharing plan only when the company experiences a certain level of profit. Defined benefit plans do not allow for as much flexibility in determining the level of plan contributions, and their actuarial determination depends on many factors that may be out of the sponsor's direct control, such as investment performance. For example, when investment income is lower than expected, the employer may have to contribute more to the plan. Employers who desire flexibility in making contributions can adopt a profit-sharing plan without risking the employer liability. Small employers and newly formed companies are more likely to be risk adverse to the possible employer liability that is associated with defined benefit plans.
Employee Contributions

Some employers believe that employees should contribute to their pension plans to share responsibility in the provision of benefits or to reduce their benefit costs. **Employers that require employees to contribute or wish to allow employees to contribute to a retirement plan generally offer profit-sharing plans because these plans enable employees to make tax-deferred contributions under IRC sec. 401(k) and similar arrangements.** Under sec. 401(k), employee contributions are not currently taxable as income to the employee but instead are taxed later when received as pension income. Employees may also contribute to defined benefit plans, but these contributions may only be made on an after-tax basis and are virtually nonexistent in the private sector.

State or political subdivisions may “pick up” defined benefit plan contributions that have been designated by the plan as employee contributions under IRC sec. 414(h)(2). When such contributions are picked up, they are treated as if they were made by the employer instead of by the employee, and employees are not taxed on the contributions until they receive them as benefits. According to a BLS survey of state and local governments, 20 percent of full-time employees participating in a defined benefit plan made tax-deferred contributions to their plan in 1990.

Improve Productivity/Company Identification

**Employers may use profit-sharing or company stock plans to improve productivity.** Some 401(k) plans are also used to improve productivity by increasing the employer's matching contribution when profitability improves. These plans provide employees with direct incentives to increase productivity and identify more strongly with the employer.

**Some employers may also use defined benefit plans to increase productivity by encouraging longer job tenure.** It has been argued that long tenure increases productivity for many reasons; for example, workers’ efficiency may improve when training in firm-specific skills pays off and when, through repetition, they gain in speed in performing tasks.

Flexible Benefits Plans

**Employers that desire to maximize employee choice in benefits may elect to offer flexible benefit plans, or cafeteria plans.** These plans allow employees to choose among benefits that typically include life insurance, health insurance, flexible spending accounts, and cash and deferred profit-sharing or savings plan benefits under IRC sec. 125. Retirement plans other than profit-sharing and savings plans with 401(k) arrangements cannot be part of a flexible benefit plan.

Retiree Health Plans

**Employers may also offer a defined contribution plan as a retiree health fund for employees.** While employers do not fund health benefits by using a defined contribution arrangement, they provide a means for employees to save for medical expenses in retirement. In 1991, 10.1 million, or 33.1 percent of the 30.6 million elderly, received employer-sponsored health insurance coverage (Foley, Snider, and Boyce, 1993).

The issue of financing retiree health coverage rose to the forefront of policy debate when the Financial Accounting Standards Board (FASB) issued Statement No. 106 (FAS 106), requiring companies with more than

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31 The IRS regulations define profit-sharing plans as including stock bonus plans and savings or thrift plans—all plans that allow discretionary contributions.


33 See Jill Foley, "Flexible Benefits Plans and Changing Demographics," EBRI Issue Brief no. 139 (Employee Benefit Research Institute, July 1993).
500 retiree plan participants to account for retiree benefits as a liability on their annual balance sheets effective for fiscal years after December 15, 1992. In response to FAS 106 and escalating health care costs, some employers have already begun to restructure retiree medical plans for current and future retirees. In light of FAS 106 and employers’ recognition of the large liabilities many retiree health plans have created, employers may opt for a defined contribution approach to providing retiree health benefits.

Whether intentionally or unintentionally, the government has had a profound effect on influencing the relative attractiveness of defined benefit and defined contribution plans over time. ERISA was designed to improve the retirement security of pension promises made by employers to employees. ERISA brought about significant changes for both private defined benefit and defined contribution plans by establishing new participation, vesting, funding, reporting, fiduciary, and disclosure requirements and creating PBGC to provide plan termination insurance. Further pension regulations also expanded upon and added to these legislative changes. The following section highlights major government regulations and how they have helped shape the environment in which employers must make benefit decisions.

PBGC

Under ERISA, defined benefit plan sponsors are required to pay premiums to PBGC. The premium is an annual per participant payment in exchange for PBGC’s guarantee of basic benefits up to a maximum monthly benefit level ($2,437.50 in 1993) in the event that a defined benefit pension plan terminates with insufficient assets to pay promised benefits. The premium was a flat rate of $1 per participant per year when the program was established. However, legislation has since increased the premium to a flat rate of $19 per participant and an additional variable premium that increases with increased underfunding. The combined maximum premium is $72 per participant for underfunded plans. The PBGC premium added an additional cost that defined benefit plan sponsors must pay. If employers believe the insurance provided by PBGC is worth the expense, the premium would not affect plan sponsors’ decisions to establish or maintain a defined benefit plan. However, if employers view the premium as too high, it could affect their plan sponsorship choice.

The Age Discrimination in Employment Act (ADEA)

The 1986 amendments to ADEA fundamentally changed the environment in which employers make plan design decisions by eliminating a mandatory retirement age for workers. Prior to these amendments, employers were able to, and frequently did, specify a mandatory retirement age at which employees would be required to retire whether or not they were prepared or ready to retire. While employers may have sponsored defined benefit pension plans to provide employees with a comfortable retirement, they did not need to use the plan to encourage employees to retire, because they could require employees to retire upon reaching a certain age. Without the ability to require mandatory retirement at a specific age, employers must find other means to encourage employees to retire.

34 A limited exception applies to executives with annual employer-provided benefits from all sources of $44,000 or more. Employers are able to require mandatory retirement of these individuals at age 65.
In the absence of mandatory retirement many individuals will continue to work as long as they are able until they feel prepared to retire. While employees currently retire earlier than the normal retirement age, there is no guarantee that they will be able to do so in the future. Defined benefit plans are an obvious means by which employers may encourage retirement. Defined benefit plan early retirement plan features and windows have already demonstrated their effectiveness in encouraging retirement. Furthermore, the ability of employers to predict retirement income with a defined benefit plan enables them to provide what they view as adequate retirement income after a full career with the employer, thereby encouraging the employee to retire. A defined contribution plan does not provide employers with the same degree of control in providing retirement income. With a defined contribution plan, employees may receive far greater or lower benefits than they expect, which may either enable them to retire much earlier than planned or oblige them to work much longer than they desire.

While the 1986 amendments to ADEA were certainly not intended to influence employers' preferences for defined benefit and defined contribution plans, the inability of employers to require mandatory retirement based on age increases the importance of defined benefit plans as a means to encourage employees to retire. If employers recognize and value this defined benefit design feature, ADEA may have an effect on the types of plans they sponsor.

**Administrative Costs**

Many observers attribute the decline in the number of small defined benefit plans to employers' increased costs for plan administration. Congress has enacted changes to pension regulations nearly every year since ERISA's enactment. The frequency and complexity of changes in private defined benefit pension plan regulation have raised defined benefit administrative costs enough to make defined contribution plans more attractive to many plan sponsors, particularly small employers. Small employers are less able to afford to sponsor defined benefit plans because per participant administrative costs increase as plan size decreases.35

A study published by PBGC examined per participant administrative costs resulting from changes in the legal environment for a typical plan—one requiring outside actuarial consulting services.36 The legislation causing the greatest administrative cost increases included Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), the Deficit Reduction Act of 1984 (DEFRA), the Retirement Equity Act of 1984 (REA), the Single Employer Pension Plan Amendments Act of 1986 (SEPPAA), TRA '86, amendments to ADEA '86, the Omnibus Budget Reconciliation Act of 1987 (OBRA '87), and the Omnibus Budget Reconciliation Act of 1989 (OBRA '89).

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37 The exclusion of plans that do not require outside actuarial consulting services may inflate aggregate administrative cost estimates.
The study shows that in each year between 1981 and 1991, per participant administrative costs for defined benefit plans, both one-time costs required for compliance and ongoing costs, were higher for plans with fewer participants. In 1990, plans with 15 participants experienced a per participant administrative cost of $805.45, compared with the per participant cost of $161.73 for plans with 500 participants and the per participant cost of $55.50 for plans with 10,000 or more participants. Per participant administrative costs for all plan sizes generally increased between 1981 and 1986, decreased between 1986 and 1987, then started increasing again reaching a high in 1990. Administrative costs then decreased dramatically in 1991 (chart 5). The reduction in cost between 1990 and 1991 primarily reflects the high one-time administrative costs in 1990 as plans conformed to final TRA '86 amendments and the changes needed to meet FASB requirements.

The PBGC study also compared the per participant administrative costs of defined benefit plans with those of defined contribution plans. Private defined contribution plan per participant administrative cost for all small plans (those with 15 or fewer participants) between 1981 and 1991 was less than 100 percent of the defined benefit plan per participant administrative cost. This percentage was also less than 100 percent for all large defined contribution plans (those with 10,000 or more participants) after 1985. Between 1981 and 1985, the per participant cost for large defined benefit plans was less than that of large defined contribution plans because administrative costs of large defined contribution plans were higher during that period than during the post-1985 period (table 10). The low per participant cost of administering defined contribution plans, relative to that of defined benefit plans, particularly for small employers, likely explains some of the increased defined contribution plan sponsorship.

OBRA '87

OBRA '87 also has provisions that may discourage continuation or establishment of defined benefit plans. OBRA '87 established a stricter upper limit on tax-deductible contributions to defined benefit plans than previously existed for most of these plans. If a plan has assets to cover more than 150 percent of the present value of accrued liabilities measured as though the plan would terminate that year, any additional contributions to the fund are not tax deductible. Many employers had pension assets to cover more than 150 percent of liabilities and as a result have not made contributions to their plans for years. A study by the Department of the Treasury found that, in 1989, 49 percent of defined benefit plans (weighted by plan assets) were affected by this limit as demonstrated by the decrease in plan assets as a percentage of liabilities.

According to Ippolito, the inability to contribute to these plans effectively acts as an excise tax on defined benefit plans (Ippolito, 1990). If employers that are currently at the maximum limit wish to set aside funds for their pension plan, they have to accumulate funds outside of the actual pension funds. While contributions to a pension fund are tax deductible and investment income may accumulate without taxation until benefits are paid, the investment income on the accumulated assets outside the pension fund is subject to ordinary corporate income tax treatment. Ippolito argues that the

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<tr>
<td>1990</td>
<td>72.7</td>
<td>71.9</td>
</tr>
<tr>
<td>1991</td>
<td>50.0</td>
<td>73.8</td>
</tr>
</tbody>
</table>


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income tax treatment of additional contributions may cause some firms to terminate defined benefit plans, possibly in favor of defined contribution plans. Defined contribution plans are not subject to the same excise tax because these plans' sponsors are able to fully fund their plans at all times inasmuch as the individuals' account balances at the time of separation from the employer represent the benefit. The disincentive for forming defined benefit plans would be particularly important for the establishment of new plans.

However, Ippolito's argument assumes that employers are interested in making additional contributions, beyond 150 percent of liabilities. Employers may not be interested in making additional contributions, particularly when company profits are low. Employers with a higher ratio of active workers to retirees have the greatest incentive to make additional contributions because their plan liabilities are markedly lower when calculated as if the plan would terminate at the end of the plan year than if liabilities were calculated based on the assumption that the plan will continue on an ongoing basis. These plan sponsors are most affected by the OBRA '87 limits because they will have to make larger contributions in the future than they would have had to make prior to the OBRA '87 limit. Employers' liabilities calculated on a termination basis will increase as their work force matures, salary levels increase, and the number of retirees receiving benefit payments from the pension fund increases.

**TEFRA Top-Heavy Penalties**

Some observers attribute the decline in small defined benefit plans to the introduction of top-heavy legislation in TEFRA. In general, defined benefit plans are defined as top-heavy if the present value of a plan's accumulated accrued benefits for key employees is greater than 60 percent of the present value of accrued benefits for all employees. Similarly, defined contribution plans are top heavy if the aggregate account balances of all key employees are greater than 60 percent of the aggregate account balances of all employees covered by the plan.

TEFRA required that these plans meet more stringent rules for vesting requirements and that they provide minimum contribution and/or benefit levels for nonkey employees; it also substantially reduced the combined 415 limits (the limits on annual benefit accruals and annual contributions) for employers sponsoring a top-heavy defined benefit plan and a top-heavy defined contribution plan. TEFRA was the first piece of legislation requiring plan sponsors to provide a minimum level of pension benefits. The legislation primarily impacted small corporate plans and partnership plans, which are generally more likely to be top heavy than large plans, by increasing administrative costs and benefits. While this legislation affected both defined benefit and defined contribution plan sponsors, its impact was likely greatest on small employers that sponsored defined benefit plans because of the greater tax advantages these plans provide.

**Lowering of Basic Income Tax Rates**

The lowering of basic income tax rates decreases the value to plan sponsors of their pension plans' balances at the time of separation from the employer. Because these plans' sponsors are able to fully fund their accrued benefits for all employees, defined benefit plans would be particularly important for covered by the plan.

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39 Key employees include officers with annual compensation in excess of 50 percent of the annual defined benefit annual limit, 1 of the 10 employees owning the largest number of shares of the employer and having compensation in excess of the annual defined benefit annual limit, employees who own more than 5 percent interest in the employer, or a 1 percent owner of the employer whose compensation exceeds $150,000.

40 Defined contribution and defined benefit top-heavy plans may also be part of a top-heavy group that is the combination of two or more plans subject to the above 60 percent rule.

41 Nonkey participants in defined benefit plans must accrue an annual benefit of at least 2 percent of compensation for each year the plan is top heavy, up to the 10th year. Compensation is typically defined as the average salary over the five consecutive years of highest pay. Sponsors of top-heavy defined contribution plans must contribute the lesser of 3 percent of compensation for each nonkey employee or the same percentage of compensation contributed for key employees for each year that the plan is top heavy.
tax exempt status. The reduction of marginal tax rates in TRA '86, particularly when viewed in combination with other provisions of the law affecting small employers (i.e., top-heavy penalties discussed below), may have served as a reason for terminating small defined benefit plans. Employers offering tax qualified defined benefit plans are able to deduct contributions to their plan as an ordinary business expense, and investment income on contributions accrues tax free until it is distributed to employees. Defined benefit plan sponsors can maximize tax advantages by adopting a number of plan features, including choice of benefit formulas and formulas for integrating benefits with Social Security. However, large employers are not as likely as small ones to consider the maximization of personal tax advantages a primary objective when designing a pension plan because their large work force causes them to place more priority on minimizing costs and establishing benefit levels that create their desired incentives (Allen et al., 1992). Small employers, particularly those sponsoring top-heavy defined benefit plans, that established their plans as a tax shelter have less incentive to maintain their defined benefit plans as basic income tax rates decline.

Similarly, the higher marginal tax rates resulting from the tax increases in the Omnibus Budget Reconciliation Act of 1993 (OBRA '93) may increase some small employers' incentives to sponsor defined benefit plans. Individuals would have more incentive to contribute more to their retirement plans, particularly to 401(k) type plans, in which they can determine, up to the plan or legal maximum contribution, how much current pay to defer. Employees may also pressure employers to establish retirement plans to provide a means for them to reduce current taxable income.

Sec. 401(k) Only Applies to Defined Contribution Plans

The Revenue Act of 1978, which created 401(k) plans, encouraged the formation of defined contribution plans by allowing elective pretax employee contributions to profit-sharing plans, savings plans, and ESOPs but not to defined benefit plans. The creation of 401(k) plans provided the first means by which most employees could make pretax contributions to their employment-based retirement plan. Some analysts argue that allowing employees to make pretax contributions to defined benefit plans or repealing sec. 401(k) would provide more equal incentives for employers to sponsor defined benefit or defined contribution plans.

Creation of Defined Contribution Savings Vehicles

The formation of defined contribution plans was also encouraged by the creation of several savings vehicles designed to increase personal savings by utilizing a defined contribution approach. Individual retirement accounts (IRAs) and simplified employee pensions (SEPs), which utilize IRAs, are defined contribution plans. The creation of flexible benefits plans, or cafeteria plans, by the Revenue Act of 1978 also encouraged the establishment of 401(k) plans. Furthermore, IRC provisions encourage the formation of certain defined contribution plans, including the use of tax-deferred annuities for educational and nonprofit employees, defined contribution Keoghs for the self-employed, and ESOPs (Allen et al., 1992).

43 State and local governments and nongovernment tax-exempt organizations sponsored 401(k) plans and certain tax-exempt organizations sponsored 403(b) plans where employees could make pre-tax contributions prior to the Revenue Act of 1978.
44 Single-participant plans are not included in the private plan and participant data presented here.
45 Simplified employee pensions are arrangements under which an individual retirement account is established for each eligible employee. The employee is immediately vested in employer contributions and generally directs the investment of the money.
In-Service Distributions and Loan Provisions

The ability to allow in-service distributions and loans from defined contribution plans may also foster the establishment of these plans if employers want to provide more flexibility to employees. In-service distributions of accumulated funds are permissible only from profit-sharing plans, not from defined benefit or money purchase defined contribution plans. IRS regulations define profit-sharing plans as providing for distributions of accumulated funds "under the plan after a fixed number of years, the attainment of a stated age, or upon the prior occurrence of some event such as a layoff, illness, disability, retirement, death or severance of employment." Some employers may have considered that plans allowing in-service withdrawals would be desirable to the type of employees they were attempting to attract, particularly as work force demographics changed. Loan provisions are also easier to establish in defined contribution plans (including money purchase plans) than in defined benefit plans. While loans provisions in defined benefit plans are not prohibited by law, technically they are more difficult to establish.

Some analysts argue that allowing in-service distributions from defined benefit plans and money purchase plans would equalize the treatment of all defined benefit plans, money purchase defined contribution plans, and all other defined contribution plans. However, other analysts argue that nonretirement distributions should be eliminated entirely from all pension plans.

Other Considerations

Lowering the maximum level of benefits that qualified plans provide may cause plan sponsors to curtail benefit increases in their qualified plans and provide benefit increases through either qualified supplemental defined contribution plans or nonqualified "ERISA excess plans." TRA '86 contained changes designed to limit the use of pension plans by highly compensated individuals. These changes included limits on maximum benefits that can be paid from a qualified pension (415 limits) and limits on the maximum level of compensation that can be included in benefit and contribution calculations (401(a)(17)). Conversely, employers concerned about increasing current cash flow may be able to do so by increasing or maintaining benefits in defined benefit plans while placing less emphasis on defined contribution plans.

Employers already offer ERISA excess plans, or nonqualified arrangements such as supplemental executive retirement plans (SERPs), that are used to fund benefits for executive employees that are not allowable under sec. 415, particularly for funding early retirement benefits that exceed the 415 limits as amended in TRA '86. Reducing the level of benefits that employers can provide for more highly paid employees creates a rift between the plan decision makers and rank and file employees. The formation of SERPs and coverage in these plans occurred after the restrictions on qualified plans, suggesting that these limits do encourage a separation of benefits for executives and rank and file employees (Korczyk, 1990). If executives cannot increase their personal benefits in qualified defined benefit plans, they may be inclined to limit benefit increases in these plans, focusing on supplemental plan benefit increases or benefit increases in the nonqualified plan.

Lowering 401(a)(17) limits, as required in President Clinton's budget and economic package, will affect not only executive employees' compensation but also the funding of rank and file employees' pension benefits (VanDerhei, 1993). ERISA excess plans do not automatically provide ben-

45 Reg. §1.401-1(b)(ii)
46 The Omnibus Budget Reconciliation Act of 1993 includes a provision that lowers the 401(a)17 limit from $235,840 in 1993 to $150,000 in 1994.
benefits in excess of the 401(a)(17) limit, and increased use of supplemental defined contribution plans may be a common vehicle for making up the difference in benefits for employees whose benefits are limited. However, employers desiring to maximize current cash flow may choose to place more emphasis on benefits provided by defined benefit plans, rather than on defined contribution plans, as a result of the lower 401(a)(17) limits. Because lowering 401(a)(17) limits would delay at least a portion of funding for promised benefits from early until later in a worker’s career, lower 401(a)(17) limits would result in a reduction in the maximum allowable contributions for plan sponsors with well-funded plans and with a relatively young work force. Favorable investment returns would further encourage favoring defined benefit plans because higher investment returns result in lower contributions. Providing greater benefits through a defined benefit plan, rather than a defined contribution plan, would allow plan sponsors to increase current cash flow without reducing the level of benefits provided.

Role of Work Force Demographics

employers are more likely to offer different plan types, and different types of employees prefer different plans. Historically, smaller employers have not extensively offered pension plans and are more likely to offer a defined contribution plan than a defined benefit plan. A decrease in the proportion of the work force employed in small firms could decrease the number of defined contribution plans relative to defined benefit plans. Similarly, a reduction in the proportion of employers that historically have offered traditional defined benefit plans, such as heavily unionized and older industrial sectors, has resulted in a decline in traditional defined benefit plans. Changes in the distribution of employees’ ages could also alter worker preferences for different types of retirement plans in the aggregate.

Effect of Industrial Sector Shifts

Evidence of the continued importance of defined benefit plans and the increasing role of defined contribution plans can also be seen in the trends in the distribution of private-sector participants by plan type and industrial sector over time. Between 1985 and 1989, the total number of private defined benefit and defined contribution plan participants increased in most industrial sectors (table 11). Even though the industrial sectors of the economy in which defined benefit plans have been most firmly established, including heavily unionized and older industrial sectors, have generally contracted or grown more slowly than other sectors, the total number of defined benefit plan participants has continued to increase. Defined benefit participation in the manufacturing sector increased slightly (3.6 percent), while defined contribution participation increased by 42 percent, from 9.0 million to 12.8 million. This reflects the increase in supplemental defined contribution plans offered by manufacturing employers. In 1987, the latest year for which these data are available, 41 percent of pension plans sponsored by employers in the manufacturing industry were supple-

the primary form of pension coverage for a growing number of participants in large firms, a decrease in the proportion of workers employed in manufacturing and unionized industries and an increase in the proportion of workers employed in service industries should increase the role of defined contribution plans in providing retirement income. Union membership has been declining since 1970, contracting at a significant rate after 1983. Between 1983 and 1990, the percentage of employees who are union members has decreased from 20 percent to 16 percent of the work force. The decline in unionization has been caused in part by the shift toward services and away from manufacturing (Andrews, 1989).

Furthermore, between 1975 and 1991, the percentage of full-time wage and salary workers employed in the service producing sector (including the finance, insurance, and real estate, and the service sectors) has increased, while the percentage of workers employed in manufacturing, transportation, and trade has decreased (chart 6). Between 1975 and 1991, the percentage of workers employed in the manufacturing sector decreased from 24 percent to 18 percent, and the percentage employed in the service sector increased from 18 percent to 26 percent.

Effect of Firm Size

Small employers are less likely than large employers to offer pension plans and more likely to offer primary defined contribution plans if they offer a

Table 11
Private-Sector Participation by Industry and Plan Type, 1985–1989

<table>
<thead>
<tr>
<th>Industry</th>
<th>Defined Benefit</th>
<th></th>
<th>Defined Contribution</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Participants</td>
<td>36,566</td>
<td>39,958</td>
<td>9.3%</td>
<td>25,702</td>
</tr>
<tr>
<td>Agriculture</td>
<td>160</td>
<td>115</td>
<td>-28.1</td>
<td>130</td>
</tr>
<tr>
<td>Mining</td>
<td>617</td>
<td>480</td>
<td>-25.4</td>
<td>178</td>
</tr>
<tr>
<td>Construction</td>
<td>2,366</td>
<td>2,710</td>
<td>14.4</td>
<td>718</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>16,931</td>
<td>17,659</td>
<td>3.6</td>
<td>9,025</td>
</tr>
<tr>
<td>Transportation</td>
<td>2,086</td>
<td>2,365</td>
<td>12.9</td>
<td>533</td>
</tr>
<tr>
<td>Communications and Utilities</td>
<td>2,079</td>
<td>2,615</td>
<td>25.8</td>
<td>3,012</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>823</td>
<td>925</td>
<td>12.1</td>
<td>1,018</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>3,007</td>
<td>3,489</td>
<td>16.0</td>
<td>3,106</td>
</tr>
<tr>
<td>Finance, Insurance and Real Estate</td>
<td>2,969</td>
<td>3,700</td>
<td>24.6</td>
<td>3,318</td>
</tr>
<tr>
<td>Services</td>
<td>3,584</td>
<td>4,351</td>
<td>21.4</td>
<td>3,617</td>
</tr>
<tr>
<td>Tax-Exempt Organizations and Industry Not Reported</td>
<td>1,940</td>
<td>1,704</td>
<td>-12.2</td>
<td>1,038</td>
</tr>
</tbody>
</table>


While a smaller percentage of employees in the service sector are covered by defined benefit plans than are covered by defined contribution plans, the number of participants in both types of plans increased between 1985 and 1989. The number of defined benefit participants in the service sector increased 21 percent, from 3.6 million to 4.4 million, and the number of defined contribution participants increased 72 percent, from 3.6 million to 6.2 million. Defined benefit and defined contribution plan participation in the service producing sector (including finance, insurance, and real estate) also increased between 1985 and 1989, with the number of defined benefit plan participants increasing 25 percent, from 3.0 million to 3.7 million, and the number of defined contribution participants increasing 26 percent, from 3.3 million to 4.2 million.

Mining and agriculture were the only two sectors of the economy in which defined benefit plan participation declined between 1985 and 1989. Defined benefit plan participants in agriculture and mining decreased 28 percent and 25 percent, respectively. The industry with the greatest increase in defined benefit plan participants, the communications and utilities sector, was also the only industrial sector to have fewer defined contribution plan participants in 1989 than in 1985.

Defined benefit plan participants in this sector increased 26 percent between 1985 and 1989, while defined contribution plan participants decreased 12 percent.

While defined benefit plans have remained
plan at all because they are faced with economic circumstances which often discourage them from sponsoring plans, particularly defined benefit plans. In addition to the legislative changes discussed above, below average employee compensation and high employee turnover may limit the usefulness of pension plans as a desirable benefit to employees. EBRI tabulations of the March 1992 Current Population Survey (CPS) show that in firms with fewer than 25 workers, 19.2 percent of workers (5.5 million) were covered, and 14.3 percent (4.1 million) participated in an employer-sponsored pension plan in 1991. By comparison, in firms with 1,000 or more workers, 78.1 percent (38.4 million) were covered and 61.8 percent (30.3 million) participated.

EBRI tabulations of the May 1979, May 1983, and May 1988 Current Population Survey employee benefit supplements (CPS ebs) show that the percentage of employees working for employers with fewer than 25 employees that sponsor a pension plan has historically been low (Piacentini, 1989). In 1979 and 1983, 9 percent of employees in these small firms were covered by a pension plan, and 8 percent participated in the plan. In 1988, coverage and participation rates dropped to 7 percent and 6 percent, respectively. The number of employees working for small employers that offered a pension plan was 4 million and the number of participants was 3 million during each survey year. The results from another CPS ebs, conducted in April 1993, should indicate whether coverage and participation rates have continued to decline or if the trend has reversed.

The percentage of employees working for small employers has remained constant over the last several years. Between 1989 and 1991, the percentage of all workers employed by firms with fewer than 25 workers remained in the 28 percent to 29 percent range, and the percentage employed by firms with 25–99 employees remained approximately 17 percent. 48

Perhaps the most important economic reason that fewer small employers offer plans is the overall lower compensation levels common to small employers. Nineteen percent of nonfarm workers at firms with fewer than 25 employees earned more than $20,000 annually in May 1988, compared with 35 percent of workers at firms with 25–99 employees, 40 percent of those at firms with 100 to 249, and 50 percent of those at firms with 250 or more. 49 Lower paid employees typically face lower marginal tax rates than higher paid employees and therefore have less


incentive to defer income and taxes. In addition, given competing current consumption needs, they may be reluctant to defer a substantial portion of their pay, whether as elective contributions to a 401(k) or as automatic employer contributions to some other type of plan. Small employers may in turn be ill-equipped to add retirement plan contributions on top of existing payroll, given tight or uncertain profit margins. Small firms that sponsor plans tend to be those with higher paid, skilled work forces, according to one study (Andrews, 1989).

Low compensation is often associated with other economic factors that inhibit retirement plan sponsorship, particularly sponsorship of defined benefit plans. Small employers, who pay lower wages, often employ less skilled employees who may be easier to replace. Furthermore, less skilled and lower-paid employees may be younger or more loosely attached to the labor force; that is, they may be shorter-term employees. Retirement plans, particularly defined benefit plans, are often cited as retention tools. Small employers would have little incentive to provide a defined benefit plan to encourage a long-lasting employment relationship with unskilled workers. Moreover, because of gradual benefit accruals, vesting delays, and other plan design features, shorter-term employees generally tend to benefit less from retirement programs than do longer-term employees.

Effect of Age Demographics

As discussed above, younger more mobile workers can benefit more from defined contribution plans, and older employees entering into their final job can benefit more from a defined benefit plan. As work force age demographics change, employers may need to alter their benefit programs to continue to attract the quantity and quality of workers they desire (Anzick, 1993). The U.S. Bureau of the Census issued new population projections in 1992 (U.S. Department of Commerce, 1992). According to Census projections, the proportion of elderly persons in the population will increase in the future as a result of the aging of the baby boom generation and longer average life spans.

Under the medium assumptions, the dependency ratio, as measured by the number of persons aged 65 and over per 100 persons aged 18–64, increased from 17 in 1960 to 20 in 1987. This ratio is projected to remain constant in the 20–21 range until about 2010, then to increase steadily, reaching 37 in 2035. These changing age demographics will eventually lead to a more even distribution of the population across age groups (chart 7). The baby boom generation, those born between 1946 and 1964 added 76 million people to the population. The youngest members of this generation are approaching 30 years of age and the oldest are approaching 50. Declining fertility rates since the baby boom have produced smaller population cohorts since 1960. Whether or not fertility rates will continue to decline is a matter of some controversy, but most analysts believe that they will not increase substantially.

A more even population distribution may lead employers to offer benefit packages attractive to a broad range of employees. In retirement benefits, this may result in the continuation, or perhaps increase, in the use of a combination of defined benefit and defined contribution plans to provide a floor level of retirement benefits appreciated by older workers and a more visible accumulation of benefits in a defined contribution account that is typically appreciated by younger workers. Similarly, cash balance plans may become more popular because they provide retirement income security by guaranteeing a level of benefits on retirement and also provide individuals with hypothetical accounts, enabling them to see the accumulation of their retirement benefit.

Despite the many changes in government regulation regarding defined benefit plans and the increased prevalence of defined contribution plans, defined benefit plans are still an

Conclusion
important part of both the private and public retirement system. In fact, the net number of large defined benefit plans has been increasing, and the percentage of large employers offering defined benefit plans appears to have increased.

These historical trends—the stability of the large defined benefit system, the growth of the defined contribution system, and the decline in small defined benefit plans—all lead to the question of what will be the future of defined benefit and defined contribution plans. It seems clear that large defined benefit plans will remain the basic component of the retirement system for the majority of large employers, and defined contribution plans will continue to be used by employers of all sizes.

However, the dynamics of government regulation, individual preferences, and the performance of capital markets make it difficult to predict the future roles of defined benefit and defined contribution plans. During the 1980s, despite increasing regulatory complexity and cost, reduction in marginal tax rates, and tighter maximum contribution limits, private large employers and public employers of all sizes continued to offer defined benefit plans. Policy enacted in the future could provide incentives to encourage sponsorship of defined benefit plans and/or defined contribution plans or it could discourage plan sponsorship. The following important issues could significantly affect the types employers choose and the types employees prefer:

- Increasing health care costs: As health care costs have increased as a percentage of total compensation, employer spending on retirement plans has decreased. If health care costs are controlled, employers may be more willing to spend more on pension benefits. Conversely, if health care costs continue to escalate, employers may find that they cannot afford to maintain or enhance their retirement programs.

- Tax policy: The enactment of President Clinton's marginal tax increases contained in OBRA '93 will likely increase small employers' incentives to sponsor defined benefit pension plans and employees incentives to contribute to their plans as well as to pressure employers to provide retirement plans. If tax rates are decreased for any portion of the population, employers and employees may see less value in their pension plans.

- Regulatory cost: If any pension simplification proposals are passed that reduce the administrative costs of sponsoring defined benefit plans to costs competitive with defined contribution plans, small and mid-sized employers would likely establish more defined benefit plans. Alternatively, if regulations are passed that further complicate or add more expense to defined benefit plan administration, employers would be less willing to sponsor defined benefit plans.
• Value of PBGC insurance: If PBGC premiums increase or the benefits PBGC insures decrease to a level where employers believe they are paying more in premiums than the value of the insurance, employers may decide to terminate or not establish defined benefit plans. However, if premiums decrease or insured benefits increase, some employers may be encouraged to establish or maintain defined benefit plans, particularly if they previously believed the premiums were too expensive.

• Pension fund investment returns: When defined benefit plan investment returns are high, employers are able to contribute less to their pension fund while still maintaining the same level of funding. High investment returns enable employers with well-funded plans to maintain their defined benefit pension plans with lower contributions than if investment returns were low. Continued high rates of return in the capital markets could encourage employers to maintain or establish defined benefit plans, while low rates of return increase employers' expenses to maintain defined benefit plans and could deter establishment or maintenance of these plans.

• Retirement and job tenure preferences: If employers prefer either to promote early retirement or to keep employees in the workforce longer, they may find defined benefit plans the best management tool to influence retirement patterns. If employers desire to encourage workers to leave at younger ages, they may find defined contribution plans to be the best tool, as vesting requirements are relatively short and employees do not incur large benefit losses if they leave early in their career as they would with a defined benefit plan. If employers become indifferent to employees' tenure or retirement ages, the type of plan they offer would not be important for managing their employee work/retirement patterns.

• Work force demographics: As the age distribution of workers continues to become more even, if employers desire to attract both younger and older employees, they may choose to use a combination of defined benefit and defined contribution plans, or hybrid plans, to achieve this goal. If they desire to attract younger employees, they may choose to establish defined contribution plans, or if they choose to attract older employees, they may establish defined benefit plans.

• Profitability: Employers that are concerned about profitability and prefer flexibility in making contributions to pension plans are likely to continue offering profit-sharing plans. These employers also have the option of offering age-weighted profit-sharing plans that combine the ability to make discretionary contributions and to provide greater contributions to older and longer-service workers. Employers with stable profits would be in a better financial position to sponsor defined benefit plans than those with unstable profits, but their desire to offer defined benefit or defined contribution plans would be driven by other factors.

Historical data on plan and participant trends document the stability of defined benefit plans among large employers, the decline in both defined contribution and defined benefit plans among very small employers, and the increased prevalence of defined contribution plans as primary and supplemental plans. Employers will continue to sponsor both defined benefit plans and defined contribution plans because of the unique benefits offered by each plan type. As the composition of the work force becomes more diverse, employers will likely respond by continuing to offer both defined benefit and defined contribution plans as well as hybrid plans and flexible benefits such as cafeteria plans in order to appeal to a broader range of employees. However, the relative importance of defined benefit and defined contribution plans in the future depends on too many unpredictable factors to permit a full evaluation of the relative growth of these plans. Policymakers should be
aware of the interactions between tax, health care, PBGC, and other policy proposals and their long-term effects on retirement income security.

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