The Quarterly Pension Investment Report (QPIR), a new EBRI database, shows that pension fund investments have done well in recent years, when compared to inflation and other market indices.

Pension Fund Management and Financial Markets

The first comprehensive analysis from a new data service developed by the Employee Benefit Research Institute and the Federal Reserve Board, using Trust Universe Comparison Service data compiled by Wilshire Associates, documents the growth of pension fund assets, analyzes investment policies and reports on investment performance.

By the end of 1985, total assets in private and public pension systems reached $1.7 trillion. Since ERISA, state and local government pension funds have shown more impressive growth than private pension plans—with total assets increasing more than threefold, compared to an increase of only two and one-half fold by private pension funds during this same 10-year period.

Private and public pension funds have shifted their investment emphasis from bonds to equities. In 1950 private trusteed funds invested almost five dollars in bonds to one dollar in equities; their current bond/equity mix is just under one dollar to two dollars. Public pension funds are also investing more in equities, but their shift is not as dramatic as that of private funds. Multiemployer plans, however, still invest almost twice as much in bonds than in equities.

In aggregate, private trusteed pension funds have fared quite well, despite a poor showing in the third quarter of 1986. Over a four-quarter period (85Q4-86Q3) equity investments show a rate of return of 36.5 percent compared to 31.8 percent in the Standard and Poor's 500. Aggregate bond investments of private trusteed plans have had virtually the same rate of return as the overall bond market, using the Lehman corporate/government bond index.

For nonfederal employees, interest in pension investment issues has grown in recent years with the growth of defined contribution retirement plans (e.g. 401(k)) that place investment "risk" on the employee. Federal employees will have the same high interest in investment performance with initiation of the Federal Retirement Thrift Savings Plan in April 1987. And, in 1988 when the plan offers a stock index fund, the issues will become even more important.
Introduction

In the past decade, the assets in the nation's public and private pension system have grown rapidly so that by the end of 1986, they approached $2 trillion. These funds provide a major source of income for a growing population of retired workers. To protect workers and retirees in the private sector, Congress passed the Employee Retirement Income Security Act of 1974 (ERISA), which specifically required that pension plan fiduciaries manage their funds in the sole interest of plan participants.

As a more practical matter, plan sponsors, participants and federal regulatory agencies all have legitimate interests in how these funds are invested. Fortunately, their respective interests do not necessarily conflict. Better investment returns can reduce the firm's pension costs and provide greater retirement income security for plan participants.

This Issue Brief presents findings from a new financial data set developed by the Employee Benefit Research Institute (EBRI) and the Federal Reserve Board using Trust Universe Comparison Service data compiled by Wilshire Associates (Wilshire-TUCS). EBRI publishes these nationwide estimates regularly in its new Quarterly Pension Investment Report (QPIR). This Issue Brief documents the growth of pension fund assets, analyzes their investment policies and reports on their investment performance.

Legally, in defined contribution plans the firm's financial obligation does not go beyond the amount it has already contributed to the plan, but firms cannot overlook the importance of good employee relations.

The investment performance of pension funds has been a subject of some controversy. Some critics claim that pension funds have invested poorly, and that their performance ought to be improved. Like their critics, defenders of current management practices have also suggested new investment options and new management approaches. The more prominent suggestions include incentive fees for money managers and investment in equity funds that mimic the market (index funds).

To put these suggestions in perspective, this Issue Brief also reviews some theories and supporting evidence about the way in which corporate pension plan sponsors make investment decisions.

Corporate, Participant and Regulatory Interests

Both corporations and employees have a financial interest in the investment returns of pension funds. In a defined benefit plan, the firm promises workers specific future benefits upon retirement. When the rate of return achieved by the pension fund is low, the firm must meet its future pension obligations by increasing its contributions. Conversely, for every extra dollar that the pension fund earns, the firm may contribute one dollar less. For firms that opt to pay a higher percentage of compensation in pension benefits, this cost-offsetting effect becomes more important.

Sponsors' financial interests in the investment results of defined contribution plans are less direct. But, the firm may have considerable responsibility here too; for instance, in choosing the money managers. In these plans, participants' pension benefits are a result of the money manager's acumen. Since money managers are hired by the firm, if the pension fund does poorly, participants may hold the employer morally responsible for plan performance. Participants may ask for higher direct wages or larger employer pension contributions to make up for such a shortfall in expected retirement benefits. Legally, the firm's financial obligation does not go beyond the amount it has already contributed to the plan, but firms cannot overlook the importance of good employee relations.

From a regulatory perspective, pension plans have one financial objective: to manage their funds for the exclusive benefit of the plan participants. Firms, as the primary fiduciary, must design their plans and formulate their investment policies to achieve this broad objective. In setting standards for managing pension funds, ERISA employs the "prudent man" rule, which emphasizes "care, skill, prudence and
diligence." The Department of Labor (DOL) also has promulgated regulations interpreting congressional intent. While DOL defines prudence on a case-by-case basis, the prudent man rule has come to be known as the prudent expert rule.

DOL looks at performance criteria using a total return concept based on a risk/return tradeoff (Coleman, 1985). This concept takes a portfolio approach, in which specific holdings in the portfolio are not judged. In addition to diversifying their portfolios, pension fiduciaries are required to consider liquidity, current return, future cash flow and projected return. Therefore, a risk standard for pension fund investments has been established implicitly through current law and regulations. Pension fund managers are expected to maximize the rate of return within this risk parameter.

Maximizing investment returns benefits both plan sponsors and plan participants. Particularly in the case of negotiated plans, low investment returns may create the need for higher employer contributions at the expense of wages. Furthermore, unless the plan has a benefit formula tied to final wages, its participants are not protected from inflation erosion. Over 40 percent of all participants in medium and large firms are in plans with benefits that are not tied to final earnings (Department of Labor, 1986). Should sponsors want to provide retirement benefits that have a high real value, they must regularly amend benefit formulas to account for inflation. Firms might be more willing to do so if their additional costs are offset by good investment results. Similarly, most pension plans do not have a formal policy of granting postretirement benefit adjustments. When adjustments are made, they are done on an ad hoc basis. These ad hoc increases might also depend on good investment results.

Although lacking statutory authority to regulate private pension investments, the Pension Benefit Guaranty Corporation (PBGC) often has a direct financial stake in plan performance. When a private defined benefit plan terminates without adequate funds to pay promised pension benefits, PBGC must absorb the deficit. Both the lack of adequate corporate contributions and poor performance could build up this deficit. Inadequate contributions have long been identified as a source of the PBGC's financial problems; but the effect of pension fund investments on the PBGC has not been thoroughly examined.

When ERISA was enacted in 1974, pension fund executives and money managers were concerned about the adverse effects on pension investments. They feared that ERISA's strict standards might limit investment opportunities and reduce investment returns. Annual corporate pension surveys by Greenwich Associates show this initial perception has changed gradually (Greenwich Associates, annual). In 1976, Greenwich found that 61 percent of pension executives seriously believed that ERISA restricted their investment opportunities. By 1980, only 30 percent remained concerned, and few felt as severely restricted as before. Even though more recent data are not available, the fact that such questions are no longer being asked in the survey might indicate that plans have fully adjusted to the ERISA environment.

◆ Investment of Pension Fund Assets

Pension plan assets have grown considerably during the postwar period, and phenomenally in more recent years. To a very large extent three factors have been responsible for this growth: increases in the number of pension plans, growth in contributions and positive investment returns from income and capital gains. The next section discusses some of the major trends in pension fund investments. Using the new national estimates published in QPIR, the discussion will focus on recent trends in private trusted 1 pension asset growth, portfolio allocation and investment performance.

Size and Growth of Pension Assets

The pension system in the U.S. has accumulated vast sums of reserves. According to QPIR data, by the end of 1985, the private system and the state and local government system had combined total assets of $1.7 trillion. Over the years, these assets have grown rapidly. Private pension fund assets first broke the $1 trillion mark in 1983, reaching $1.3 trillion by the end of 1985. By that time, state and local government pension funds reached $432 billion. These asset figures are enormous by any measure.

1 A trusted plan is one in which individuals act as trustees of the plan.
The assets of private trusteed pension funds have doubled nearly every five years for the past thirty-five years. In 1950, when these assets were a mere $7 billion, few observers could have imagined how large the system would become. As shown in table 1, these pension funds grew very rapidly in the early 1950s: between 1951 and 1955 the average annual growth exceeded 20 percent.

In 1950, the assets in insured pension funds were more than three times as large as those of trusteed funds, but growth in subsequent years was slower. The slower growth reflected a preference among newly established pension plans to use trusteed plans rather than insured plans (plans funded through contracts with a life insurance company). As a result, by 1970, assets in trusteed plans overtook those of insured plans. However, higher growth in the past 10 years means that insured plans have remained an important holder of pension assets.

This rapid growth in private pension assets probably was accomplished by a concurrent expansion in the number of private pension plans and in the number of covered workers. After 1955, growth slowed somewhat for the next twenty years, but remained impressive.

The passage of ERISA and new funding standards appear to have added new vigor to private pension funds. In 1975 alone, pension assets in private trusteed plans increased by over 40 percent. Asset growth remained strong after ERISA's enactment despite a sometimes sluggish economy and stock market. Even though accelerated contributions began to ebb toward the late 1970s, the subsequent recovery in the stock market buoyed pension fund growth. Since 1981, private trusteed pension funds have continued to increase by 15 percent per year.

Although unregulated by ERISA, state and local government pension funds have shown even more impressive growth than private pension funds since ERISA. QPIR data show that between 1975 and 1985, total assets in public pension funds increased more than threefold, averaging about 30 percent per year. In contrast, private pension funds increased only two and one-half fold during the same 10-year period.

### Pension Ownership of Financial Markets

Despite impressive portfolio growth, pension plans have held a relatively stable position in the capital market. As chart 1 shows, equity ownership edged up from 16 percent of all equities in 1981 to slightly more than 18 percent in 1985, while bond holdings moved from 17 percent of the bond market to just under 16 percent.

These changes in ownership reflect a gradual shift in the investment mix of the state and local pension

<table>
<thead>
<tr>
<th>Period</th>
<th>Assets at End of Period (billions)</th>
<th>Avg. Annual Growth During Period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Private</td>
<td>Private</td>
</tr>
<tr>
<td></td>
<td>Trusteed</td>
<td>Insured</td>
</tr>
<tr>
<td>1946-1950</td>
<td>$ 7.1</td>
<td>$ 26.2</td>
</tr>
<tr>
<td>1951-1955</td>
<td>18.3</td>
<td>46.5</td>
</tr>
<tr>
<td>1956-1960</td>
<td>38.1</td>
<td>66.1</td>
</tr>
<tr>
<td>1961-1965</td>
<td>73.6</td>
<td>90.4</td>
</tr>
<tr>
<td>1966-1970</td>
<td>110.4</td>
<td>108.5</td>
</tr>
<tr>
<td>1971-1975</td>
<td>212.6</td>
<td>132.9</td>
</tr>
<tr>
<td>1976-1980</td>
<td>467.4</td>
<td>209.0</td>
</tr>
<tr>
<td>1981-1985</td>
<td>935.6</td>
<td>351.0</td>
</tr>
</tbody>
</table>

Source: EBRI Quarterly Pension Investment Report, Third Quarter, 1986
funds: their equity share has been increasing, while their bond share has been decreasing. Specifically, the equity share of state and local pension funds grew from 3 percent to 5 percent of all equity holdings between 1981 and 1985.

For private pension plans, abstracting from minor interyear movements, ownership shares have remained practically the same. When different types of private pension plans were examined, none showed any significant changes in their asset share pattern over the five-year period.

Trend in Contributions

Over the past few years, the asset growth of private pension funds has depended in part on a strong financial market. The euphoria of an upbeat market has obscured the negative cash outflow that private trusted pension funds have experienced for quite some time, with fund withdrawals outpacing cash contributions. Negative contributions occurred in six of the last eight quarters (84Q4-86Q3), and the net cumulative cash outflow was $72.6 billion during this period.

The bulk of the cash outflow is attributed to single-employer defined benefit plans, particularly those with assets over $60 million. Even multemployer plans, which normally have a rather stable cash flow, show some sporadic dips in the cash flow balance during this period.

Similar to private pension funds, public pension funds have also shown a historical shift from bond investment to equity investment.

Several economic and demographic factors could have contributed to the increase in negative net contributions. For example, in the last couple of years many sponsors have terminated their pension plans to capture "surplus" pension fund reserves. Most surplus terminations were replaced by new plans (Hay/Huggins Company, Inc., 1986), nevertheless, based on the most recent PBGC data, sponsors have recaptured a total of $11.1 billion since 1980.

More fundamental changes have also taken place in the pension system as a result of demographic and economic trends. For example, the nation's overall work force is aging. To the pension system, this means that with each passing year, more workers are retiring and drawing pension checks. Moreover, not only are...
more workers retiring, but many are retiring earlier. No doubt, some of these earlier retirees were induced by generous offers by their employers who use early retirement incentives to restructure their work force (Employee Benefit Research Institute, August 1986).

In addition, other recent retirees may have opted for a lump-sum payment instead of a monthly pension check, causing a further cash drain in their pension funds. A case in point is the terminated LTV Corporation pension plans. When PBGC finally forced these plans to terminate, practically all assets in some of its plans were depleted by lump-sum payments. Of course, as long as pension plans are fully funded, lump-sum payments by themselves pose no danger to plan participants or PBGC. In the LTV case, severe underfunding may have induced retirees to take lump-sum payments, especially for the larger pension benefits that were not fully covered by the PBGC guarantee.

Net contributions may have also decreased for defined benefit plans, because recent actuarial valuations have incorporated higher interest rate assumptions reducing the level of new contributions required to fund the plan. According to Greenwich Associates (1986), in 1985 the average interest rate for all plans surveyed was 8 percent compared to a 6.5 percent rate in 1981. Greenwich Associates also reports that between 1977 and 1981 rate of return expectations of corporate executives increased significantly for all types of investments. Since 1981, however, rate of return expectations have moderated. If slackening real interest rates turn around current actuarial assumptions, plan contributions might be forced up.

**Investment Mix of Pension Assets**

Private trusted pension funds have shifted their investment emphasis from bonds to equities (chart 2). In 1950 such pension funds invested almost five dollars in bonds for every dollar invested in equity. The ratio of equity/bond investments rose rapidly after 1955 (one dollar to two) and reached a high in 1972 (three dollars to one), falling somewhat thereafter. The passage of ERISA, coupled with a poor stock market, might have reduced the importance of equity investments in recent years as they are considered more volatile than bond investments and thus more risky. Currently, the equity/bond mix is just under two dollars to one.

Among single-employer plans, defined contribution plan funds have substantially increased their equity position. Most recently (86Q3), the equity/bond ratio in these funds stood at 5 to 1, compared to 3.5 to 1 four years ago. In single-employer defined benefit funds, the increase in the equity position has been much less. Their most recently reported (86Q3) equity/bond mix is
The annualized rate of return for 1986 was 16.5 percent, substantially lower than that of earlier years. Despite strong earnings, skepticism continues about whether pension fund managers have done a good job. To evaluate pension fund performance, the choice of a benchmark becomes critically important. In terms of the total investment-portfolio return, some feel that the appropriate measure of the performance of pension fund holdings is the Consumer Price Index (CPI). Comparing total returns to the CPI shows how well funds have kept up with inflation. While inflation has run at a 1.1 percent rate over the first three quarters of 1986, pension funds have shown an annual rate of return of 16.5 percent. Over a three-year period, pension funds have been exceeding the CPI with a total average annual return of 15 percent compared to a 3.0 percent rise in CPI.

The new QPIR data do not yet allow for comparisons over a longer period, in particular that of the late 1970s when many felt that market conditions were sluggish. Earlier EBRI analysis suggests that pension investment returns do not always match inflation. The S.E.I. Funds Evaluation Service reported that in the 1970s and the early 1980s, the median fund in its sample achieved an overall return of 6.9 percent per year, while the average annual rate of inflation was 7.2 percent (Employee Benefit Research Institute, 1985). If the high earnings of recent years continue, however, these gains would make up for the subpar performance of earlier years. Overall, these data suggest that pension funds have protected themselves from erosion by inflation.

Nevertheless, some wonder whether pension funds are really invested to preserve capital. They speculate that if pension funds were only interested in keeping up with inflation, pension funds could simply put all their money in short-term government debt. Instead, pension funds are actively invested in corporate equities seeking a maximum return on investments.

Despite strong earnings, skepticism continues about whether pension fund managers have done a good enough job. To evaluate pension fund performance, the choice of a benchmark becomes critically important. In terms of the total investment-portfolio return, some feel that the appropriate measure of the performance of pension fund holdings is the Consumer Price Index (CPI). Comparing total returns to the CPI shows how well funds have kept up with inflation. While inflation has run at a 1.1 percent rate over the first three quarters of 1986, pension funds have shown an annual rate of return of 16.5 percent. Over a three-year period, pension funds have been exceeding the CPI with a total average annual return of 15 percent compared to a 3.0 percent rise in CPI.

The new QPIR data do not yet allow for comparisons over a longer period, in particular that of the late 1970s when many felt that market conditions were sluggish. Earlier EBRI analysis suggests that pension investment returns do not always match inflation. The S.E.I. Funds Evaluation Service reported that in the 1970s and the early 1980s, the median fund in its sample achieved an overall return of 6.9 percent per year, while the average annual rate of inflation was 7.2 percent (Employee Benefit Research Institute, 1985). If the high earnings of recent years continue, however, these gains would make up for the subpar performance of earlier years. Overall, these data suggest that pension funds have protected themselves from erosion by inflation.

Nevertheless, some wonder whether pension funds are really invested to preserve capital. They speculate that if pension funds were only interested in keeping up with inflation, pension funds could simply put all their money in short-term government debt. Instead, pension funds are actively invested in corporate equities seeking a maximum return on investments.

The new QPIR data do not yet allow for comparisons over a longer period, in particular that of the late 1970s when many felt that market conditions were sluggish. Earlier EBRI analysis suggests that pension investment returns do not always match inflation. The S.E.I. Funds Evaluation Service reported that in the 1970s and the early 1980s, the median fund in its sample achieved an overall return of 6.9 percent per year, while the average annual rate of inflation was 7.2 percent (Employee Benefit Research Institute, 1985). If the high earnings of recent years continue, however, these gains would make up for the subpar performance of earlier years. Overall, these data suggest that pension funds have protected themselves from erosion by inflation.

Nevertheless, some wonder whether pension funds are really invested to preserve capital. They speculate that if pension funds were only interested in keeping up with inflation, pension funds could simply put all their money in short-term government debt. Instead, pension funds are actively invested in corporate equities seeking a maximum return on investments.

Equity Performance of Private Trusteed Pension Funds

Total returns are built on the earnings of the individual components of the portfolio—and ultimately on

<table>
<thead>
<tr>
<th>Table 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock/Bond Ratio of Private Trusteed Pension Plans by Type of Plan</td>
</tr>
<tr>
<td>Year/Quarter</td>
</tr>
<tr>
<td>82Q4</td>
</tr>
<tr>
<td>83Q4</td>
</tr>
<tr>
<td>84Q4</td>
</tr>
<tr>
<td>85Q4</td>
</tr>
<tr>
<td>86Q3</td>
</tr>
</tbody>
</table>

Yet Wilshire-TUCS reports have consistently shown that more pension funds do worse than the equity market. Chart 4 shows the third-quarter 1986 investment results of actively managed equity portfolios in the Wilshire-TUCS data. For this quarter, 47 percent of pension funds performed worse than the S&P 500. For the year, 66 percent fell into this category. And for a four-year period, the number underperforming the S&P 500 increased to 73 percent.

Because a majority of pension funds in the Wilshire-TUCS survey and in other surveys have not been able to match market performance, these survey results could cast doubt on the validity of the QPIR aggregate data. Two statistical features may explain the difference, however. First, the Wilshire-TUCS report does not weight the plans by pension fund assets. As a result, if larger-fund managers do better than smaller-fund managers, the combined rate of return would be underestimated. In addition, plans included in the Wilshire-TUCS data are not selected on a random-sample basis. If higher rate of return plans are underrepresented, the aggregate rate of return would be lower. Further analysis is needed, however, to evaluate the strength of these effects.

**Bond Performance of Private Trusted Pension Funds**

Currently, private trusted pension funds are investing about 30 percent of their assets in bonds, both corporate and government. Like equity investments, aggregate bond investments have virtually the same rate of return as the bond market, in this case using the Lehman corporate/government bond index (chart 5). Nonetheless, the rate of return on bonds fluctuates less than that for equities in both the short run and the long run. In the long run, bond investments have a lower rate of return than equities, indicating the type of risk/return tradeoffs assumed for these two types of investments. Changes in the rate of return in the bond market, however, seem to follow those of the equity market reducing the bond market’s potential for diversification. Although bonds are less risky they also have smaller potential payoffs from market-timing strategies.

Chart 4 compares the rate of return of individually managed fixed-income (bond) portfolios reported by Wilshire-TUCS with the market. Like investments in the equity market (also shown in chart 4), most

---

**Chart 3**

Annual Rates of Return for Periods Ending Third Quarter 1986

![Graph showing annual rates of return for periods ending third quarter 1986](chart3.png)

Source: EBRI Quarterly Pension Investment Report, Third Quarter 1986

the individual investments selected. Chart 3 shows the cumulative annual rate of return of the equity component of private trusted pension plans for the past 18 quarters ending with the third quarter of 1986. The pension fund rate of return for equities closely follows that of the stock market as measured by the Standard and Poor (S&P) 500. Like the stock market, the investment results of pension funds fluctuate widely over the short run, as suggested by the most recent four quarter period. On an annualized basis, the pension fund rate of return for the most recent quarter (86Q3) is -25.0 percent; the three-quarter period (85Q4-86Q3) result is 16.9 percent. When the period reaches about 5 quarters, the fluctuation in the annual rate of return reduces to a more stable range.

In aggregate, private trusted pension funds’ equity investments are comparable with the market. For example, over a four-quarter period (85Q4-86Q3), the rate of return was 36.5 percent; the S&P 500 was 31.8 percent. Even for the entire 18-quarter (four and one-half year) period, trusted pension funds in the aggregate still performed slightly ahead of the S&P 500.
individual pension funds performed worse than the market. These Wilshire-TUCS data, however, have the same statistical limitations as their companion equity data.

Investment Implications

Private trusted pension investment performance statistics present a mixed picture. Before QPIR, most performance data were based on restrictive and often nonrandom samples. As a result, studies using these data were likely to report inconsistent findings. QPIR data suggest that the total returns of both bond and equity portfolios have generally met market indices over the past 18 quarters. Pension sponsors have pointed out that funds have accumulated sufficient assets to pay their obligations and have grown at a rate commensurate with inflation. But others have pointed to the relative mediocre performance of specific segments of the investment portfolio. Perhaps, this disagreement stems from different perceptions of the purpose of pension fund investments. In view of these disagreements, the interest in plan investment performance is not likely to subside.

Lately, instead of relying on contributions, the private pension system has seen a different growth pattern that relies completely on investment performance.

The passage of ERISA saw a period of accelerated corporate contributions to pension funds. This rapid inflow of new money created a demand for money managers and a demand for information systems to monitor them. Lately, instead of relying on contributions, the private pension system has seen a different growth pattern that relies completely on investment performance. As a result, performance monitoring has become even more important. Not only has new pension money tapered off, but some invested assets have been cashed in to pay for pension benefits. Since 1982, more than $96 billion in investments have been liquidated.

The decreased role of net contributions and the increased role of investment returns have restricted the share of financial markets claimed by pension funds. The market share of pension funds could decline if future investment gains are not adequate to offset the effect of low contributions. This could happen if financial markets slow down or shift gears while fund contributions are not immediately augmented. If this happens, pension funds would face lower market values for their assets, and sponsors eventually would need to make higher plan contributions. But pension plans would be affected differently. The high asset cushion of well-funded plans would help them weather their paper losses. Others might not fare as well.

Pension Fund Management and Investment Decisions

Recently, a number of suggestions have emerged to improve pension fund performance. Many of these suggestions seem to depend upon the perspective of current fund management practices and objectives.

Some economists have suggested that pension fund management is an integral part of corporate planning. For instance, Bodie, Light, Morck and Taggart (1985) linked pension investments to corporate taxes and profits. They hypothesize that when firms are profitable and paying taxes, their pension funds will
be heavily invested in corporate bonds to maximize the tax advantage. When firms are unprofitable and less likely to pay taxes, their pension funds will be invested heavily in stocks, which are presumably riskier assets but with higher expected gains. Contrary to Bodie et al, a survey conducted by Malley and Jayson (1986) found that a majority of pension executives stated that corporate taxes or profits did not influence their pension investment decisions. Even fewer identified maximization of shareholders' wealth as a factor in their decisions.

According to a survey by Buck Consultants (1986), most pension plan executives spend half their time managing pension assets and the other half on corporate finance, corporate treasury, and other investment-related matters. In their dual corporate/pension roles, pension executives reject the idea that their corporate responsibilities interfere with their pension investment responsibilities.

Others, including Kathleen Utgoff, Executive Director of the PBGC, feel that mandatory government pension insurance has created opportunities for firms to use funding and investments to benefit the firm. Under that scenario, if there are any downside risks in these funding and investment decisions, the firm can pass the risk to the PBGC by terminating the pension plan.

Delegating Responsibilities

Since 1975, Greenwich Associates has regularly asked pension executives a set of investment-policy questions. As expected, pension executives do not take every investment decision upon themselves. Some decisions are delegated to money managers. Based on the latest Greenwich data pertaining to investment policy questions (1984), pension executives generally set formal policies to balance risk factors in different investment markets. Pension executives also decide which market to invest in—be it stocks, bonds, real estate or foreign securities. Among those executives who gave specific answers to the survey, more than 50 percent set target stock/bond ratios. Less formalized policies are provided on the minimum acceptable total rate of return. In addition to the 30 percent surveyed who had a formal investment policy, about 40 percent provided guidelines to their money managers.

Money managers are more likely to have full discretion in managing the portfolios assigned to them. More than 60 percent of money managers decide on the volatility of equity investments under their management and more than 50 percent on the maturity of their bond investments.

Pension executives have taken an increasingly active role in deciding investment policies. Chart 6 shows the percentage surveyed that have formal policies in specific investment areas. Chart 7 shows the percentage that gave money managers full discretion in these same areas. In every area, money managers have less discretion than 10 years ago. An increasing number of pension funds have set up guidelines for their money managers even in areas in which money managers previously had the most discretion.

Using Money Managers

Many private pension funds hire outside money managers who actively seek the best investment opportunities, especially in the stock market, rather than simply trying to mimic the market. According to
many pension executives, the short-term potential to maximize returns by picking the right stocks, and the successes of their active equity managers (those who invest in selected stocks rather than passively buy stocks in a stock index) are strong incentives for stockmarket investments. Pension funds also invest in bonds for market diversification. But managing the equity/bond ratio is the province of the pension executive (Greenwich Associates, 1981, 1985, 1986).

Private pension fund executives are quite satisfied with their managers’ performance. According to a 1986 A.S. Hansen, Inc. survey of single-employer defined benefit plans (1986), one-half of the pension executives surveyed felt that their money managers performed better than they were expected to; more than 40 percent felt that their managers performed as well as expected; and only 6 percent felt that their managers did not do the job as promised. This high praise for money managers comes as a surprise to critics of active pension fund management, who feel that only those money managers who have consistently outperformed the market deserve congratulations.

Although survey data suggest that active managers are hired to do better than the market, according to Wilshire-TUCS reports, fewer than half of all money managers would have earned this distinction. In its annual surveys, Greenwich Associates asked pension fund executives whether it is unrealistic to expect most institutional money managers to beat the market. The number of pension executives who disagree has increased over the years, showing a trend of rising expectations. In the 1982 survey, an overwhelming majority—91 percent—believed that with the right kind of money managers, they should be able to beat the market by at least 1 to 2 percentage points. By contrast, Arnott (1985) found that not many pension executives truly believe that beating the market is possible, nor do they believe that active management adds much value. These pension executives believed

---

Pension executives have taken an increasingly active role in deciding investment policies.

---

Source: Greenwich Associates, Large Corporate Pensions: Report to Participants, annual surveys.
that long-term strategic planning of asset allocation has a greater potential for improving total fund returns. These conflicting findings suggest that pension executives may not have firm convictions about how well they can expect their money managers to perform. Perhaps their perceptions are influenced by the external investment environment and by their particular internal needs at that moment.

Market timing and picking stocks can be highly profitable but is also hazardous. And constant vigilance to identify market swings may not always pay off either. A study by Brinson, Hood and Beebower (1986) found this kind of market maneuvering actually reduced the annual rate of return by 1.1 percent, with 0.7 percent of this decline a result of misjudging the market timing, and 0.4 percent from poor security selections. They found that only sound overall investment policies contributed to positive investment returns.

As new contributions into private pension funds have waned, money managers have tried more aggressively to keep old clients and attract new clients. Pension executives face similarly difficult choices in this new environment. Independent performance reports may help those plan sponsors with more than one manager (57 percent according to the Hansen survey) monitor managers more effectively. Through most of 1986, pension funds quickened their pace to search for new investment managers (Pensions & Investment Age, 1986).

Pension executives have expressed more conservative investment sentiments in the most recent Greenwich Associates' surveys. Between 1980 and 1985, the percentage of funds that used conservative common-stock managers—defined by Greenwich as managers that invest in established stocks that pay regular dividends—increased from 39 percent to 87 percent. In contrast, during the same period, the percentage of funds that used emerging growth stock managers—defined by Greenwich as managers that invest in stocks of small companies with growth potential—increased only from 41 percent to 59 percent.

◆ New Investment Strategies and Instruments

Seemingly contradictory concerns about the relative underperformance of pension funds and their substantial recent portfolio appreciation have
provided the impetus to look at other ways of doing business. For instance, in response to plan sponsors wishing to protect recent market gains, a new investment strategy called portfolio insurance has been developed. This type of portfolio insurance is not based on traditional policies developed by insurance companies. Instead, pension funds sell stock-index futures to hedge against market collapse. In the past few years, a number of security exchanges have devised ingenious futures options targeted at this new market. Several major investment bankers have started to offer them to pension customers; but the market has remained small, at an estimated $40 billion of institutional equity holdings under insurance (Wall Street Journal, 1986). The most recent survey (Institutional Investor, 1986) shows that only 7.5 percent of pension funds have committed any of their assets to portfolio insurance. However, according to the same survey, 15.7 percent of those not using portfolio insurance at present are planning to start using it sometime in the future.

While potentially protecting pension investments from unexpected market collapse, portfolio insurance is not costless. According to one estimate, for a $100 million equity investment, it would cost the pension fund 3 to 4 percent of assets a year to maintain portfolio insurance (New York Times, 1986).

Incentive Fees

Recent interest has been generated in using performance-related incentive fees to spur investment performance. Following an earlier ruling by the Securities and Exchange Commission, DOL has issued an advisory opinion that allows plan sponsors to use two performance-related, incentive-fee structures to manage their ERISA funds. Previously, plan sponsors were not sure whether such a compensation structure would be legal under ERISA. The two incentive fee proposals agreed to by DOL are somewhat different (U.S. Department of Labor, 1986). In one, the fee would be based on a percentage of capital appreciation in the portfolio. In the other, the fee would be based on the relative rates of return of the pension funds and of the S&P 500.

The push for incentive fees may have stemmed from the desires of pension sponsors to inject an additional market mechanism into plan management procedures to encourage better pension fund performance. Money managers generally are less enthusiastic about incentive fees, but many are ready to follow their clients' wishes (Institutional Investor, 3 September 1986). More aggressive money managers view this as a marketing opportunity to capture the attention of pension executives and to position themselves for an incentive-fee environment (Pensions & Investment Age, 1986). So far, only public pension funds (which are not subject to ERISA) have actively adopted incentive fee programs. Even with this long-awaited DOL opinion, it remains unclear whether private plans will embrace this new system in any great numbers. According to a recent study by S.E.I. Funds Evaluation Service, only 25 of 175 money managers surveyed have used incentive fees and their use is generally limited to one or two clients (Wall Street Journal, 1986).

Some money managers see incentive fees as an ominous move by pension plan sponsors who are trying to cut management costs. Results of three surveys may alleviate their fears. The first survey, conducted by Institutional Investor (1985) found that about half of pension executives felt that their current fee structures were reasonable. When fees were considered too high, some pension sponsors opted to negotiate lower fees. Others moved to index funds or to in-house management. Only a few considered switching to low-cost money managers.

Another earlier survey by Institutional Investor (1984) found that two-thirds of the sponsors favored a performance-based fee structure. While many sponsors are interested in rewarding good performance, they differ about whether money managers should share investment losses. Specifically, 40 percent of the sponsors surveyed would consider requiring managers to share in capital losses. Eighteen percent would not pay any fees if investment returns were flat or negative. Another 30 percent were willing to pay a flat fee even if the pension fund lost money. Since this 1984 survey was taken, the number of sponsors who favor incentive fees has declined substantially. Instead of a two-thirds majority, a more recent survey by Callan Investments Institute (1986) found that only 36 percent favored a performance-based fee structure, while 45 percent had not made up their minds.

The incentive-fee system has its detractors even among pension plan sponsors. The Callan survey found that
sponsors were skeptical whether investment outcomes would be much different from those obtained under current fixed-fee arrangements, even though incentive fees were expected to encourage money managers to try harder.

Harsher critics believe that heightened pressure to beat the market in an incentive system could lead to timid managers or wanton risk seekers. Timid managers would choose low-risk strategies, essentially mimicking the market. Consequently, pension funds would be paying for active management, but getting passive management results. Conversely, others believe that the lure of high performance bonuses would tempt money managers to take excessive risks, particularly if the incentive system requires them to share in a disproportionately small portion of the downside risk.

The growing use of equity index funds for pension investment may be impressive at first glance, but it remains a tiny share of pension funds' total investments.

Whether these potential perils of an incentive system materialize depends on two factors. First, pension sponsors could take precautionary steps so that the incentive system would also include adequate disincentives for money managers to choose either extreme investment strategy. Second, once the incentive system is in place, pension sponsors could set up monitoring mechanisms. Nevertheless, these criticisms are constructive reminders of the possible perils of instituting an incentive-fee program. Ultimately, whether the incentive system will succeed or fail depends on how well the market will take into account these potential perils.

Market Index Funds

Active management is based on the premise that diligent investors can profit in the financial market. By hiring active money managers, pension funds are buying expert research. Even though critics do not doubt the diligence of money managers, they doubt that many money managers can systematically predict market behavior. Some of these critics have supported index funds as an alternative investment strategy to active management. In indexing, pension funds simply buy a bundle of stocks or bonds that mirrors a financial market index. In addition to automatically earning market parity, passive investment costs are substantially less.

If index funds are a desirable alternative to active management, it has not been proven by the number of private funds selecting this option. The growing use of equity index funds for pension investment, from $2 billion in 1977 to $8 billion in 1980, may be impressive at first glance (Charles D. Spencer & Associates, Inc., 1986), but it remains a tiny share of pension funds' total investments. Bond investments have been even slower to go into index funds. Data compiled by Money Market Directories, Inc. (1985) show that only 5.1 percent of private pension fund portfolios were invested in either equity or bond index funds.

There are, however, isolated reports that some substantial pension sponsors have begun to move into index funds. In a major change in investment policy, IBM targeted 75 percent of its pension assets ($15 billion) for passive index-type investments (Institutional Investor, 1986). Similarly, GTE reportedly has 50 percent of investments ($5.7 billion equity) in an internally managed index-like portfolio (Pensions & Investment Age, 1986). The newly created Federal Employee Thrift Saving Plan will offer an indexed equity fund as an investment alternative. This new development might serve to increase policymaker interest in fund indexing.

Index funds are part of a broader debate underway. There are those who fear that a concerted use of index funds by the public or by institutional investors would lead to a sluggish market and lower overall investment returns. With such broad and conflicting concerns among those who have misgivings about the increased use of index funds, their growth is likely to remain a topic of continued controversy.

Inflation-Indexed Bonds

A suggestion gaining some policy interest is the potential development of a government bond indexed
for inflation. Indexed bonds would provide a new investment option for both defined benefit and defined contribution plans. As the name implies, the return on investing in these bonds is indexed to inflation, making it easier for companies to offer an indexed retirement benefit. However, their possible development raises a number of important public policy issues and financial considerations for the plan.

Those who propose such a new instrument do so for two reasons: first, to ensure that participants, particularly retirees, are protected in times of high inflation; and, second, to ensure that pension fund performance at least meets the minimum standard of equaling the rate of price increase in the economy.

The concern that pension funds need inflation protection arises from the joint concern that postretirement cost-of-living adjustments may not be adequate. During the high inflation of the late 1970s, most retirement cost-of-living adjustments were less than the full rate of inflation (Clark, et al, 1984). In a typical defined benefit plan, retirees receive a fixed nominal pension. With inflation, the purchasing power of the pension becomes smaller, imposing a financial hardship on some older retirees.

---

Indexed bonds would provide a new investment option for both defined benefit and defined contribution plans.

---

Corporate sponsors have been concerned about the inflation erosion of retirement income. An increasing number of plan sponsors look to indexed Social Security benefits and the retirement income available from supplemental defined contribution plans to keep retirees whole. Nearly all employees of large employers have such supplemental plans. With the advent of 401(k) salary reduction plans and the new (and similar) Federal Retirement Thrift Savings Plan, the number of supplemental pensions is growing. The Tax Reform Act of 1986 makes changes in the law that will explicitly allow employer and employee cost sharing of indexed benefits through 401(k) plans. (EBRI Issue Brief, October 1986). This cost sharing approach is designed and advocated by many private pension sponsors.

The erosion of retirement benefits also could be eliminated by indexing, but inflation is difficult to predict. Consequently, corporate sponsors have been reluctant to index pension payments in the face of costs that are difficult to estimate. Presumably, if pension plans set aside funds in inflation-indexed instruments, they would be able to assess the real cost of indexed benefits. Initial investments would be based on current nominal dollars determined by the pension-benefit formula. By investing pension funds in indexed bonds of different maturities, pension funds would be able to pay constant real benefits when payments are due. This is similar to what pension sponsors have done with "immunized" bond portfolios where the maturity of assets is matched to the payment of retirement benefits. Sponsors have used this immunization technique to avoid additional costs in the future.

Indexed pension fund investments may not lead to indexed retirement benefits. In defined benefit plans, indexed investments and indexed benefits must still be treated as two separate, though related, issues. No doubt, if only inflationary uncertainty prevented the plan sponsor from offering indexed benefits, indexed investments would be a convenient approach. But whether a defined benefit plan sponsor wants to fully eliminate inflationary uncertainty also depends on the plan's financial policies. To gain the advantages of inflation-proofing, plans must also accept a constant rate of return, which some may consider too low in relation to what they could achieve by actively investing in stocks or other nonindexed bonds. As a matter of benefits policy, such lowered real rate of return expectations could lead companies to offer lower real retirement benefits.

The use of indexed investments in defined contribution plans, though less frequently mentioned, is nevertheless quite interesting. In these plans, pension plan participants assume the investment risk, but they often rely on management's acumen for investment returns. By investing in indexed bonds, the inflationary uncertainty that could erode participants' purchasing power in retirement is eliminated. Participants earn a stable, positive real rate of return. From a
management-labor relations perspective, indexed investments also could remove friction between management and participants that may result from different investment expectations. But, participants might have to settle for a smaller distribution from their plan at retirement. And preretirement distributions might not reap the gains of inflation protection unless the indexed bonds could be transferred to the plan participant's individual retirement account (IRA).

Those in favor of inflation-indexed bonds point to their use in Great Britain and elsewhere and believe that inflation-indexed bonds are feasible in this country too. They believe that pension funds should be the target investor for such bonds. The dollar volume of pension fund assets could ensure adequate demand. Moreover, pension funds should be better adapted than individual savers to the long-term investment of inflation-indexed bonds. Unless holding them to maturity, individual savers might incur losses from such investments, because in the short-term, the market prices of these bonds could fluctuate. Offering inflation-indexed bonds only to pension funds and other tax-exempt retirement accounts also avoids the problem of how to tax investment income from these bonds.

The government issuance of indexed bonds also has macroeconomic implications. However, without actual experience, it is unclear how indexed bonds would affect the U.S. government budget. Some believe there would be substantial savings (Munnell and Gorlin, 1986). Exactly how much the government could save, or whether it would have to pay more, would depend on investors' abilities to predict inflation. The better the prediction, the lower the inflation risk premium. A low risk premium means that government savings are smaller. In conventional bonds, long-term issues normally command a higher risk premium. Because of higher potential savings, longer-term indexed bonds (five years or longer) are suggested (Walters, 1984).

Would pension funds flock to this new instrument? Inflation-indexed bonds would attract risk-averse investors, who are willing to forego potential unexpected gains in the future in exchange for a constant predetermined real rate of return. Because a very large portion of pension investments are actively managed, these pension funds may not consider risk-free bonds an essential component of their portfolios. This predetermined real rate of return may not be high enough to persuade the actively managed funds to switch. Instead, investment managers might prefer to assume that greater future demand for invested capital would bid up the price, thus yielding higher real rates of return in the long run.

So far no one has suggested limiting the availability of inflation-indexed bonds to defined benefit pension plans offering inflation-indexed benefits. If other defined benefit pension plans—those without indexed benefit features—were to invest in these bonds, they would not be obligated to pass on all inflation-related investment gains to plan participants. Instead, inflation-indexed bonds would simply add to the array of investment opportunities available to all pension funds. The Federal Employee Thrift Savings Plan offers employees several investment options: in government securities, in fixed-income funds and in stock index funds. However, Congress did not provide an investment fund with returns tied to inflation.

The need for inflation protection may have also diminished in the current economic environment of low inflation. During 1986, the consumer price index increased 1.1 percent. With short-term Treasury yields at about 5 to 6 percent, investors are getting good real rates of return. Some believe that inflation is finally under control. As a result, they assign a small premium to inflation risk. Concerns have also been voiced that the issuance of government indexed bonds could be interpreted as a signal that inflation control is no longer a major public policy objective. Others believe that some in Congress would not be receptive to inflation indexing because inflation is a convenient way to reduce the real value of mushrooming government debt.

**Conclusion**

Corporations and participants have common interests in ensuring that funds are managed prudently and that investments yield high returns on a consistent basis. For corporate sponsors, poor performance is likely to be costly and is likely to lead to increased plan contributions. When the pension component of compensation increases, participants may face lower wages or forego ad hoc benefit increases in retirement.
Poor investment performance could cause a decline in the funding ratio of pension assets to benefit liabilities. As the new QPIR data show, despite very impressive growth in pension fund reserves over the past few decades, net contributions have slackened recently, making fund growth completely reliant on investment performance. Because of this dependence, a change in the direction of the financial market might revive policy concerns about the funding adequacy of the private pension system—especially if the situation is compounded by poor business conditions.

Theoretically, pension funds are invested for the long term; short-run asset fluctuations matter little as long as funds can meet benefit payments. However, underfunding matters a great deal even in the short run. When pension liabilities become underfunded, sponsors have an option of reneging on their pension promises and passing their unfunded liabilities onto PBGC. Fortunately, so far, a relatively small number of pension plans in declining industries have opted to terminate underfunded plans. But although they are few in number, their unfunded liabilities, such as those of Wheeling-Pittsburgh and LTV, have been substantial.

Although Congress imposed additional termination liabilities on sponsors through 1986 legislation (The Consolidated Omnibus Budget Reconciliation Act), PBGC Executive Director Kathleen Utgoff feels that even those added measures are not adequate to encourage sufficient funding or to deter the termination of underfunded pension plans. (Employee Benefit Notes, December 1986). In contrast to its major financial obligation, PBGC has little statutory authority over funding matters but must rely on interagency cooperation. Some believe it would be desirable to formalize this cooperation to reduce PBGC's vulnerability.

Few doubt the seriousness with which pension funds take their role in the financial market. As holders of a substantial, but not a majority, share of the market, pension funds are constantly reviewing their way of doing business and evaluating new options to improve their performance. For instance, the incentive fee structure approved by DOL adds a new element of competition into the pension investment market. Nevertheless, doubts remain about how incentive fees will work in practice. Concerns have been voiced that the market may not be efficient enough and the new fee structure might end up harming pension funds. If there is any consolation for the doubters, surveys show that fewer pension executives are interested in adopting incentive fees than a few years ago.

Concerns about pension fund rates of return have led others to propose a new financial instrument, the inflation-indexed bond. Such an instrument would fit certain perceptions of pension fund investment objectives: predictable real rate of return and inflation protection. To its proponents, inflation-indexed bonds are ideal investment alternatives for both defined benefit and defined contribution pension funds. But, for defined benefit plans, the perceived investment objectives that make inflation-indexed bonds so attractive may not always be related to the purpose of providing indexed benefits.

Pension investment issues are generally complex, and research findings have often been ambiguous both in terms of market performance and government regulation. Consequently, new investment policies require considerable caution on the part of both government regulators and pension fund managers. In particular, the volatility of short-term fund performance may sometimes obscure the fact that pensions are a long-term commitment. Investment decisions and government policy both need to take a long-term perspective, but this may be increasingly difficult in an economic and policy environment in which short-term problems tend to dominate decision making in the public and private sectors.

◆ References


Buck Consultants, Inc., Named Fiduciary/Pension Executive Survey Results. 1986.

Callan Investments Institute, The Performance Fee Controversy: Incentive or Disincentive? Spring Regional Conference. 1986.


Hundreds of America's leading plan sponsors and money managers are now tracking the flow of pension dollars and federal actions with...

**EBRI Quarterly Pension Investment Report**

Your decisions are too important not to be one of them.

Published by the Employee Benefit Research Institute, the *Quarterly Pension Investment Report* contains information on pensions you can't find anywhere else!

Pension funds are now the largest institutional investor in the country. Recognizing the growing national interest in pensions, EBRI and the Federal Reserve System have launched a joint, ongoing project with the Trust Universe Comparison Service (TUCS) and Wilshire Associates to develop reliable data on private and public pension assets.

The **EBRI Quarterly Pension Investment Report** offers greater detail of pension asset management, performance, and investment vehicles than asset figures currently available through any other source.

*"The Quarterly Pension Investment Report is chock full of meaty and essential information."

Edward C. Hamill  
Senior Vice President  
Meridian Management Company

EBRI's report:

- provides historical data on net contributions to pension plans and the investment allocation of the contributions by plan type
- examines pension plan earnings and rates of return by plan type
- looks at the portfolio allocation of pension funds

The report supplements the financial data with a review of legislative and regulatory issues affecting private- and public-sector pension plans. Changes in issues such as asset reversion, performance fees, use of soft dollars, fiduciary liability and others can affect the rate of accumulation of pension assets, the level of net contributions and the manner in which the funds are managed and invested.

The **EBRI Quarterly Pension Investment Report** is necessary reading for plan managers, investment advisors, plan sponsors, and anyone else interested in the growing pool of pension funds. This report is available only to EBRI sponsors. For information on becoming an EBRI sponsor and receiving the NEW EBRI Quarterly Pension Investment Report, please complete the form below.

---

**Employee Benefit Research Institute**  
2121 K Street, N.W., Suite 860  
Washington, DC 20037-2121

☐ YES! I would like more information on becoming an EBRI Sponsor and on receiving the NEW EBRI Quarterly Pension Investment Report.

Name ____________________________________________

Company __________________________________________

Address __________________________________________

City ___________________________ State _______ Zip Code _______
The Employee Benefit Research Institute (EBRI) is a nonprofit, nonpartisan public policy research organization based in Washington, DC. Established in 1978, EBRI provides educational and research materials to employers, employees, retired workers, public officials, members of the press, academics, and the general public. Through its books, policy forums, and monthly subscription service, EBRI contributes to the formulation of effective and responsible health, welfare, and retirement policies. The Institute has—and seeks—a broad base of support among interested individuals and organizations, as well as among private-sector companies with interests in employee benefits education, research, and public policy.

EBRI Issue Brief and Employee Benefit Notes (a monthly newsletter featuring the latest news on legislation, corporate trends, statistics, events, and reviews in the field of employee benefits) are written, edited, and published by the staff of the Employee Benefit Research Institute and its Education and Research Fund (ERF). For information on periodical subscriptions and other EBRI publications, contact EBRI-ERF Publications, 2121 K Street, NW, Suite 860, Washington, DC 20037-2121, (202) 659-0670.

Nothing herein is to be construed as necessarily reflecting the views of the Employee Benefit Research Institute or as an attempt to aid or hinder the passage of any bill pending before Congress.

© 1987. Employee Benefit Research Institute. All rights reserved. ISSN: 0887-137X