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PENSION PLANS

Effect of the 1987 Stock Market Decline on Selected Large Plans

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The Honorable John Glenn
Chairman, Committee on
Governmental Affairs
United States Senate

The Honorable J. J. Pickle
Chairman, Subcommittee on
Oversight
Committee on Ways and Means
House of Representatives

The Honorable William V. Roth, Jr.
Ranking Minority Member
Committee on Governmental Affairs
United States Senate

The Honorable Jeff Bingaman
United States Senate

This briefing report responds to your requests[1] that we review the effects of the October 1987 stock market decline on selected pension plans with large amounts of assets. The briefing report expands on information provided during our July 12, 1988, testimony before the Subcommittee on Oversight, House Committee on Ways and Means.

Our specific objectives were to determine (1) how the market decline affected the plans' assets, (2) whether there was a relationship between the proportion of funds invested in stock and the changes in the plans' asset values, and (3) how defined benefit and defined contribution plans fared during the market decline.

Background

The financial position of pension plans has improved significantly in recent years, largely due to a reported doubling of plan assets from 1982 through 1986. A major factor contributing to the increase in pension assets was the extensive increase in the value of equity assets. The Dow Jones Industrial Average, an often-used indicator of the stock market's performance, more than doubled during the 5-year period. During the

[1]We received a request letter dated December 17, 1987, from the Chairman and other members of the Senate Committee on Governmental Affairs and a similar request dated February 8, 1988, from the Chairman of the Subcommittee on Oversight, House Committee on Ways and Means.

first 8 months of 1987, the stock market continued to climb with the Dow reaching an all-time high of 2,722 on August 25, 1987.

However, after reaching this high, the Dow dropped 126 points by October 1, 1987; fell another 350 points during the first 18 days of October; and plunged a record 508 points (23 percent) on October 19. This decline was comparable, in percentage terms, only to the October 1929 stock market crash. During the first 19 days of October, the Dow lost about 33 percent of its total value. From the close of trading October 13 through the close on October 19, the value of all U.S. stocks decreased by almost $1 trillion.

Methodology

We focused our work on 174 plans sponsored by 92 private employers and unions that (1) represented a large portion of total pension assets and (2) covered a large number of participants. As of December 31, 1987, the 174 plans had combined assets of about $300 billion, or 19 percent of all private pension assets.

The 174 plans included 89 defined benefit plans (plans with benefits based on such factors as compensation and years of service) with $229 billion in assets and 6.4 million participants. They also included 85 defined contribution plans (plans with benefits based on the amount in a participant's account) with $70 billion in assets and 2.75 million participants.

We obtained information on where each plan's assets were invested as of January 1, September 30, and December 31, 1987. We also obtained plan officials' views on the effect of the stock market decline on their plans. Our findings apply only to the plans we surveyed and should not be generalized beyond these large plans. A more detailed discussion of our methodology can be found on page 7.

Results in Brief

Our principal findings are summarized below and explained in more detail beginning on page 8.

- The combined asset value of the 174 plans surveyed decreased substantially ($34.5 billion) during the last quarter of 1987, when the stock market decline occurred. However, most plans experienced increases in asset values for the year, and the combined assets of all plans gained about 6 percent during 1987.

- Fourth quarter decreases were more than offset by significant gains ($51.5 billion) during the first 9 months of the year. These early 1987 gains were in addition to the enormous increase in plan assets from 1982 through 1986. Other factors that helped to lessen the effect of the October stock market decline on plans' 1987 performance were that most plans diversified investments and the stock market partially recovered during the final months of 1987.
- The changes in plan asset values during 1987 were, with some significant exceptions, related to the proportion of assets in stock and the rise and fall of the stock market. The exceptions to the relationship suggest that such factors as asset diversification, the quality of individual investments, and the timing of buy and sell transactions, also affected plan asset increases and decreases.
- Most defined benefit and defined contribution plans we surveyed fared about the same—increasing in asset value when the market was rising, decreasing when the market declined, and increasing for the year. However, for the year, a larger percentage of the defined contribution plans had asset decreases and their asset changes were more wide ranging. The poorest performing defined contribution plans lost more than the poorest performing defined benefit plans, but the best performing defined contribution plans gained more than the best performing defined benefit plans.

As requested by your offices, we did not obtain agency comments on this briefing report. We are sending copies to the Department of Labor, the Internal Revenue Service, and other interested parties, and we will make copies available to others on request. Should you wish to discuss the information provided, please call me on 275-6193.

Joseph F. Delfico

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Senior Associate Director

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Abbreviations

ERISA	Employee Retirement Income Security Act of 1974
GAO	General Accounting Office
GIC	Guaranteed Investment Contract

Pension Plans: Effect of the 1987 Stock Market Decline on Selected Large Plans

Background

Private pension plans are an important source of retirement income promised to millions of retired and working Americans. According to the Department of Labor, in 1987, 900,000 pension plans covered an estimated 62 million participants, slightly more than half of all full-time workers in America.

Pension plans fall into two categories—those with defined benefits[1] and those with defined contributions.[2] Of all active plan participants in 1980, 60 percent were in only a defined benefit plan, 26 percent were in a defined benefit plan and at least one supplemental defined contribution plan, and 14 percent participated only in a defined contribution plan.

The financial position of pension plans has improved significantly in recent years, largely due to an enormous increase in plan assets. According to the Employee Benefit Research Institute,[3] from 1982 through 1986, plan assets doubled. By 1987, there was about $1.6 trillion in pension plan assets, and most defined benefit plans had more assets than necessary to pay for earned benefits.

A major factor contributing to the increase in pension assets was the extensive increase in the value of equity investments. The Dow Jones Industrial Average, an often-used indicator of the stock market's performance, more than doubled from 875 at the beginning of 1982 to 1,927 at the end of 1986.

During the first 8 months of 1987, the stock market continued to climb with the Dow reaching an all-time high of 2,722 on August 25, 1987. By October 1, however, the Dow had dropped by 126 points, and it fell another 350 points during the first 18 days of October. The decline culminated on October 19, when the Dow plunged a record 508 points (23 percent)—comparable, in percentage terms, only to the October 1929 stock market crash. During the first 19 days of October, the Dow lost about 33 percent of its total value. From the close of trading on October 13 through the close on October 19, the value of all U.S. stocks decreased by almost $1 trillion.

[1]Defined benefit pension plans generally provide definitely determinable benefits to participants based on such factors as years of employment, retirement age, and compensation received.

[2]A defined contribution plan is a plan in which the contributions, but not the benefits, for each participant are specified.

[3]The Employee Benefit Research Institute is a nonprofit, nonpartisan public policy research organization.

Objectives, Scope, and Methodology

The Chairman and other members of the Senate Committee on Governmental Affairs, and the Chairman of the Subcommittee on Oversight, House Committee on Ways and Means, expressed concern about the effects the stock market decline had on pension plans and asked us to look into the matter. In response to these requests, we reviewed the calendar year 1987 investments of selected plans with large amounts of assets.

Our objectives were to determine (1) how the 1987 stock market decline affected the plans' assets, (2) whether there was a relationship between the proportion of funds invested in stock and the changes in the plans' asset values, and (3) how defined benefit and defined contribution plans fared during the market decline.

We focused on private employers and unions that sponsored plans with large amounts of assets because they (1) included a large portion of pension assets and (2) covered a large number of participants. We identified 118 private plan sponsors from a published list[1] of the 200 plan sponsors with the largest amount of pension assets. We did not select the other 82 because they sponsored plans, such as public and church plans, that are generally not subject to provisions of the Employee Retirement Income Security Act of 1974 (ERISA).

Between March 18 and April 8, 1988, we contacted the 118 private plan sponsors and attempted to obtain information on the largest defined benefit and defined contribution plans they sponsored. We were able to obtain information from officials representing 174 plans sponsored by 92 private employers and unions. The other 26 plan sponsors were excluded because we were not able to reach the appropriate officials or we could not obtain the necessary information on the sponsor's plans within our survey time frames.

We used a structured data collection instrument to obtain information by telephone. The types of information collected included where each plan's assets were invested as of January 1, September 30, and December 31, 1987. In order to focus on how investments affected plan assets, we also obtained information on plan contributions and distributions made during the year. We adjusted plan assets for these factors to

[1]This list, published in the January 25, 1988, issue of Pensions & Investment Age, was based on a survey of the pension plan sponsors with the largest amount of assets as of September 30, 1987.

remove their influence on asset value changes. We also asked plan officials their views on the effect of the stock market decline on their plans. We did not verify the information provided by the plans.

As of December 31, 1987, the 174 plans had combined assets of about $300 billion, or 19 percent of all private pension assets. The plans included 89 defined benefit plans with $229 billion in assets and 6.4 million participants, and 85 defined contribution plans with $70 billion in assets and 2.75 million participants.

We also reviewed other studies and publications related to the effect of the stock market's decline on plan assets. Our findings apply only to the plans we surveyed and should not be generalized beyond these large plans.

Assets Decreased Substantially During Market Decline but Most Plans Showed Increases for the Year

The combined asset value of the 174 surveyed plans decreased substantially ($34.5 billion) during the last quarter of 1987, when the stock market decline occurred. However, most plans experienced increases in asset values for the year. Overall, assets for the 174 plans increased about 6 percent. The fourth quarter decreases were more than offset by significant gains ($51.5 billion) during the first 9 months of the year. These early 1987 gains were in addition to the enormous increase in plan assets from 1982 through 1986. Decreases were also mitigated because plans diversified their investments and the stock market recovered somewhat in the last few months of 1987.

October Losses Offset by Earlier Gains

The primary reason the plans' annual results were not more seriously affected by the October stock market decline was that October losses were offset by increases of $51.5 billion (18.3 percent) during the first 9 months of 1987. As shown in table 1, from January 1 through September 30, 1987, 168 of the 174 surveyed plans had asset gains, including 117 plans that each gained more than 15 percent. Although 158 plans saw their assets decrease during the fourth quarter, 154 plans gained for the year. For the year, 89 plans gained more than the 6-percent increase in combined assets for all surveyed plans.

Table 1: Percentage Change in Asset Value for 174 Plans, by Period

Percentage Change in Asset Value	Number of plans: January 1-September 30	October 1-December 31	Calendar Year (1987)
Increased more than 20 percent	64	•	10
15.1 to 20	53	•	7
10.1 to 15	25	•	26
5.1 to 10	19	1	65
0 to 5	7	15	46
−0.1 to −5	3	18	10
−5.1 to −10	2	60	7
−10.1 to −15	•	57	•
−15.1 to −20	•	18	2
Decreased more than 20 percent	1	5	1
Total Plans	**174**	**174**	**174**

Other Factors Mitigated Effect of October Decline

Other reasons why the surveyed plans were not more seriously affected by the October 1987 stock market decline were that most plans diversified their assets among investments other than stock and the stock market partially recovered during the final months of 1987.

Asset Diversification

ERISA established fiduciary standards to protect pension plan assets from financial losses caused by mismanagement or abuse that jeopardize the security of plan benefits. Generally ERISA's fiduciary provisions, which are primarily enforced by the Department of Labor, require plan assets to be prudently invested and diversified so as to minimize the risk of large losses.

Department of Labor regulations require fiduciaries to ensure that investments are reasonably designed to further the purposes of the plan, taking into consideration such factors as (1) liquidity and anticipated cash flow requirements of the plan, (2) portfolio diversification, and (3) the projected rate of return of the portfolio relative to the plan's funding objectives.

ERISA does not specify the degree of investment diversification for plan assets except that the act prohibits plans from investing more than 10 percent of plan assets in the sponsoring employer's securities. However, defined contribution plans—such as profit sharing plans, stock-bonus plans, thrift or savings plans, employee stock-ownership plans, and certain money purchase plans—are exempted from the 10-percent restriction.

On October 1, 139 of the 174 plans had at least 30 percent of their portfolio in assets other than stock, with 110 having 40 percent or more in other assets. Table 2 shows the mix of investments held by the 174 plans at selected dates in 1987.

Table 2: Percentage of Assets Held by 174 Large Pension Plans, by Investment Category and Date

Figures are percentages

Investment category	January 1, 1987	October 1, 1987	December 31, 1987
Stocks	53.8	56.2	46.9
Bonds	21.9	19.2	23.5
Cash and equivalents	6.0	6.7	8.6
Guaranteed Investment Contracts (GICs)[a]	7.4	7.3	8.3
Other[b]	10.9	10.6	12.7
Totals	**100.0**	**100.0**	**100.0**

[a] A fixed income investment that provides a fixed rate of interest

[b] This category includes real estate, mortgages and mortgage backed securities, annuities, hedging devices, and other investments

Pension plans have often been associated with the use of hedging devices, such as options and futures, to minimize the risk of large losses. However, plan officials' views indicate that hedging contributed only marginally to reducing the effect of the market decline. Of the 174 plans, 25 (about 14 percent) had assets in hedging devices on October 1—just before the stock market decline. All but one of the hedged plans were defined benefit plans.

Representatives of the 25 hedged plans had different views on the extent to which the hedging devices limited their losses during the stock market decline. One-third of them said that hedging had a moderate to very significant effect on limiting their losses, but the other two-thirds said that the impact of hedging was, at best, minor.

Partial Stock Market Recovery

Another factor that mitigated the effect of the decline on plan assets was the stock market's partial recovery between October 19 and December 31, 1987. During this period, the Dow rose 200 points. It is likely that the plans we surveyed benefited from this rise for several reasons. Nine out of 10 plans told us that they did not change their investment policy (most of which included investment in stock) as a result of the decline. The plans continued to hold large portions of their assets in stocks. For example, as shown in table 2, the 174 plans held about 47 percent of their assets in stocks on December 31.

Asset Changes Generally Related to Stock Holdings

The changes in asset values during 1987 for the plans we surveyed were, with some significant exceptions, related to (1) the proportion of assets in stock and (2) the rise and fall of the stock market. The exceptions to the relationship strongly suggest that other factors, such as asset diversification, the quality of individual investments, and the timing of buy and sell transactions, also affected plan asset increases and decreases.

As shown in table 3, 98 of the 174 surveyed plans had more than 50 percent of their assets in stock on January 1, 1987. By September 30, the assets in 80 of the 98 plans had increased more than 15 percent. In contrast, about half the plans with 50 percent or less of their assets invested in stock (37 of the 76 plans) had asset increases of more than 15 percent.

Table 3: Percentage Change in Asset Value From January 1 to September 30, 1987, by Percentage of Assets in Stock on January 1

		Change in asset value January 1 to September 30, 1987		
Percentage in stock January 1, 1987	**Number of plans**	**Increase of more than 15 percent**	**Increase of 1-15 percent**	**Decrease**
More than 50 percent	98	80	15	3
50 percent or less	76	37	36	3
Totals	**174**	**117**	**51**	**6**

There were, however, significant exceptions to this pattern. At one extreme, a plan with about 98 percent of its assets in stock on January 1, including a significant amount of the sponsoring company's stock, experienced a 26-percent decrease in its assets by September 30. At the other extreme, two plans with less than 20 percent of their assets in stock on January 1 had asset increases of slightly more than 20 percent in the first 9 months.

During the fourth quarter, when the stock market decline occurred, plans with a majority of their assets invested in stock had greater asset decreases than plans with smaller stock holdings. As shown in table 4, 109 plans had more than 50 percent of their assets in stock on October

1, 1987. One of the 109 plans had an asset increase during the fourth quarter, but 74 of those plans had asset decreases of more than 10 percent. Conversely, 15 of the 65 plans with 50 percent or less of their assets in stock on October 1 had asset increases in the fourth quarter, while 44 plans had asset decreases of 10 percent or less, and only 6 had decreases of more than 10 percent.

Table 4: Percentage Change in Asset Value From October 1 to December 31, 1987, by Percentage of Assets in Stock on October 1

		Change in asset value October 1 to December 31, 1987		
Percentage in stock October 1, 1987	**Number of plans**	**Increase**	**Decrease of 1-10 percent**	**Decrease of more than 10 percent**
More than 50 percent	109	1	34	74
50 percent or less	65	15	44	6
Total	**174**	**16**	**78**	**80**

There were also significant exceptions to this pattern. For example, two plans with more than 60 percent of their assets in stock on October 1 lost less than 2 percent in asset value during the last quarter. Another plan with 36 percent of its October 1 assets in stock and the balance in GICs lost about 16 percent in total asset value during the quarter.

The exceptions to the pattern of asset changes in the first 9 months and the fourth quarter of 1987 suggest that factors such as diversification of investments, the quality of individual investments, and the timing of buy and sell transactions can greatly influence performance.

Defined Contribution Plans' Performance Varied More Widely Than Defined Benefit Plans'

Most defined benefit and defined contribution plans we surveyed fared about the same—increasing in asset value when the market was rising, decreasing when the market declined, and increasing for the year. However, for the year, a larger percentage of the defined contribution plans had asset decreases and their asset changes were more wide ranging. The poorest performing defined contribution plans lost more than the poorest performing defined benefit plans, but the best performing defined contribution plans gained more than the best performing defined benefit plans.

Defined Benefit Plan Performance

A defined benefit plan uses a specific formula to compute workers' pension benefits. In defined benefit plans, employers' promises are generally framed in terms of the benefit to be paid. For example, a worker's pension may be based on a factor of compensation times years of service. Employers are responsible for ensuring that there are sufficient assets to pay these promised benefits. Employers generally manage investment of defined benefit plan funds either directly or through investment managers. Employers bear the risk of investment losses and realize the benefits of gains. Although participants in defined benefit plans may not be directly affected by investment losses, a decline in plan assets could limit or eliminate future cost-of-living adjustments. Significant investment losses could also reduce participants' benefits if the plan terminated without enough assets to pay for benefits not guaranteed by the government's insurance program.

As shown in table 5, 88 of the 89 defined benefit plans had increases in asset value during the first 9 months of 1987. Increases ranged up to 31.3 percent, with most plans gaining more than 15 percent. Table 5 also shows that 83 of the defined benefit plans decreased in asset value during the fourth quarter of 1987. Decreases ranged to about 19 percent, with most plan's assets declining between 5 and 15 percent. For the year, 86 defined benefit plans increased in asset value. Increases ranged up to 27 percent with most of the plans gaining between 1 and 10 percent.

Table 5: Percentage Change in Asset Value for 89 Defined Benefit Plans, by Period

	Number of Defined Benefit Plans		
Percentage change in asset value	**January 1-September 30**	**October 1-December 31**	**Calendar Year (1987)**
Increased more than 20 percent	31	•	1
15.1 to 20	34	•	3
10.1 to 15	11	•	8
5.1 to 10	8	•	45
0 to 5	4	6	29
−0.1 to −5	•	7	2
−5.1 to −10	1	31	1
−10.1 to −15	•	38	•
−15.1 to −20	•	7	•
Decreased more than 20 percent	•	•	•
Total plans	**89**	**89**	**89**

The funded status of the defined benefit plans we surveyed also improved during 1987. For example, on January 1, 1987, 17 of the 89 defined benefit plans were underfunded (assets less than the value of participants' benefits). By the end of the year, the number of underfunded plans dropped to 13. In addition, the number of defined benefit plans that were substantially overfunded, with assets exceeding 130 percent of benefit liabilities, increased from 52 at the beginning of the year to 56 at the end of the year.

Defined Contribution Plan Performance

The pension benefit in a defined contribution plan is based on the amount accumulated in the participant's individual account. Employers' promises in these types of plans are generally limited to making contributions to each participant's account. Fund investments may be directed by the sponsoring employer, the participants, or shared. Plan participants bear the risk of investment losses and realize the benefits of investment gains. According to a Congressional Research Service report,[3] major employers often provide defined contribution plans to supplement their defined benefit plans. Defined contribution plans include thrift or savings plans, profit-sharing plans, stock-bonus plans, and employee stock-ownership plans.

As shown by table 6, 80 of the 85 defined contribution plans surveyed had increases in asset value during the first 9 months of 1987, with most plans gaining more than 15 percent. Ten plans gained more than 31 percent, exceeding the largest increase for any defined benefit plan in the same period. However, more defined contribution plans decreased in asset value during this period than defined benefit plans. Of the 5 defined contribution plans that decreased in value, 4 declined less than 10 percent while 1 plan declined about 26 percent.

During the fourth quarter, 75 of the defined contribution plans showed asset decreases. Most plans experienced declines of between 5 and 15 percent, with 5 plans losing more than 20 percent. In comparison, none of the defined benefit plans lost more than 20 percent during the same period. However, 10 defined contribution plans had asset gains of up to 5.4 percent despite the stock market crash.

For the year, 68 of the 85 defined contribution plans showed asset increases ranging up to 45 percent. The other 17 defined contribution plans had decreases in asset value of as much as 35 percent. In comparison, only 3 defined benefit plans declined in asset value for the year.

[3] Effect of Stock Market Downturn on Pensions, Congressional Research Service, Dec. 29, 1987, p. 3.

Table 6: Percentage Change in Asset Value for 85 Defined Contribution Plans, by Period

Percentage change in asset value	Number of defined contribution plans: January 1-September 30	October 1-December 31	Calendar Year (1987)
Increased more than 20 percent	33	•	9
15.1 to 20	19	•	4
10.1 to 15	14	•	18
5.1 to 10	11	1	20
0 to 5	3	9	17
−0.1 to −5	3	11	8
−5.1 to −10	1	29	6
−10.1 to −15	•	19	•
−15.1 to −20	•	11	2
Decreased more than 20 percent	1	5	1
Total	**85**	**85**	**85**

The value of a participant's benefit in a defined contribution plan generally fluctuates with changes in plan assets. The wide range of asset increases and decreases experienced during the year by the plans we surveyed demonstrates that participants' benefit values can rise and fall sharply within a short period.

For example, one plan's assets increased 28 percent in the first 9 months of the year, but decreased 27 percent during the fourth quarter and 6 percent for the year. The plan was a defined contribution plan that had about 17,000 participants and $400 million of assets as of January 1, 1987. Both the employer and the participants contributed to the plan, but investments were directed by the participants. The investment options available to the participants included investments in the sponsoring company's stock, a stock fund, GICs, and cash equivalents. In 1987, the plan maintained a consistent investment position at the three points in time covered by our survey—approximately 77 percent invested in company stock, 9 percent in GICs, 8 percent in a stock fund, and 6 percent in cash equivalents. The increases and decreases in the value of plan assets appear to have been caused primarily by changes in the value of the company stock held by the plan.

In another plan, assets increased 36 percent in the first 9 months, declined 15 percent in the fourth quarter, and increased 15 percent for the year. This defined contribution plan had 9,000 participants and $237 million of assets on January 1, 1987. Both the employer and the participants contributed to the plan and, as in the above example, investments were directed by the participants. Investment options included company stock, a stock fund, bonds, and GICs. At the three dates we surveyed, the plan held between 45 and 57 percent of its assets in company stock, 30 to 40 percent in GICs, 10 to 12 percent in a stock fund, and 2 to 3 percent in bonds. The increases and decreases in the value of the fund appear to have been caused primarily by changes in the value of company stock held by the plan.

Concluding Observations

The combined asset value of the surveyed plans decreased substantially during the last quarter of 1987 when the stock market decline occurred. However, the decreases were more than offset by gains during the first 9 months of the year, with most plans experiencing increases in asset values for the year. The extensive growth in the stock market from 1982 through 1986 resulted in gains that far exceeded the losses from the October 1987 stock market decline.

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