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Statement

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Supplemental Sheet: July 12 hearing on the Investment of Pension Plan Assets

On Monday October 19, 1987, the Dow Jones Industrial Average dropped a record 508 points, or 23 percent, causing great concern throughout financial markets. Private trusteed pension funds, with direct and indirect stock holdings totalling $590 billion (45 percent of total fund assets) as of September 30, suffered large losses. State and local government pension funds, which held $226 billion in stock (40 percent of total assets) on September 30, were adversely affected as well.

Findings from the EBRI/FRB pension investment database study shed some light on the impact of the market decline on private trusteed pension funds and on the behavior of these pension funds in stock markets during the fourth quarter of 1987. The study reveals that these funds did not react to the decline by fleeing the market. And, though fourth quarter investment losses were large, they did not fully offset gains realized during the first three quarters of the year.

On net, private trusteed pension funds neither bought nor sold stock to any large extent during the fourth quarter of 1987 (that is, stock sales were offset by stock purchases of equal value). This compares with a net sale of $14 billion in stock during the prior quarter and $35 billion during the first three quarters of the year.

Overall, private trusteed pension funds suffered net losses of $135 billion, or 10.4 percent of total assets, during the fourth quarter of 1987. This is the largest loss recorded during the last five years. Net capital losses of $152 billion were partially offset by dividend payments and interest income of $18 billion. Among plan types, fourth quarter 1987 losses relative to total assets increased with the proportion of total assets invested in stock. Single-employer defined contribution funds, with 42 percent of total assets invested directly in stock on September 30, lost $55 billion, or 12.0 percent of total assets. Single-employer defined benefit funds (40 percent in stock) lost $71 billion (10.1 percent of total assets); multiemployer plans (29 percent in stock) lost $8.1 billion (6.3 percent of total assets).

The gains made during the first three quarters of 1987 combined to offset fourth quarter losses, for total 1987 earnings of $69 billion, or 6.1 percent. Even direct stock holdings of private trusteed funds, responsible for most of the fourth quarter loss, showed a positive return for the year. Furthermore, total 1987 returns were positive for all plan types. Single-employer defined benefit and defined contribution funds realized returns of 6.4 percent and 6.6 percent respectively, while multiemployer funds realized a 3.6 percent return.

Although private trusteed pension funds generally did not sell their stock during the fourth quarter, the overall investment mix of these funds did change. Direct holdings of corporate equity fell from 40 percent of their total assets to 36 percent, primarily due to the decline in value of stock holdings.

State and local government retirement funds, which held total assets of $561 billion on September 30, 1987, suffered capital losses of $54 billion on their corporate equity holdings during the fourth quarter. Capital gains and losses on other investments of these funds cannot be estimated, because FRB data (on which these estimates are based) value non-equity assets at cost rather than market value. These funds realized interest income and dividend payments of more than $10 billion during the fourth quarter.

The Impact of the October 1987 Stock Market Decline on Pension Plans

Statement of
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The stock market collapse of October 1987, which followed 5 years of bull markets, called new attention to the risks associated with various pension fund investment strategies. For example, it highlighted questions about the appropriate level of equity exposure for pension funds and the effectiveness of portfolio insurance. This testimony presents data and surveys the literature on the effect of the market collapse on pension plans and on the behavior of pension funds during the fourth quarter of 1987.

Aggregate Statistics

Data on private trusteed pension funds reported here were developed by the Employee Benefit Research Institute (EBRI) and the Federal Reserve Board (FRB) using Trust Universe Comparison Service data compiled by Wilshire Associates (Wilshire-TUCS). EBRI publishes these estimates on an ongoing basis in its Quarterly Pension Investment Report (QPIR). State and local government pension data are drawn from the FRB's Flow of Funds (FOF) publications. Data on private insured pension reserves are tabulated from the American Council of Life Insurance's Life Insurance Factbook.

On Monday October 19, 1987, the Dow Jones Industrial Average dropped a record 508 points, or 23 percent, causing great concern throughout financial markets. Private trusteed pension funds, with direct and indirect stock holdings totalling $590 billion (45 percent of total fund assets) as of September 30, suffered large losses. State and local government pension funds, which held $226 billion in stock (40 percent of total assets) on September 30, were adversely affected as well.

Private Trusteed Pension Funds

Findings from the EBRI/FRB pension investment database study shed some light on the impact of the market decline on private trusteed pension funds and on the behavior of these pension funds in stock markets during the fourth quarter of 1987. The study reveals that these funds did not react to the decline by fleeing the market. And, though fourth quarter investment losses were large, they did not fully offset gains realized during the first three quarters of the year.

On net, private trusteed pension funds neither bought nor sold stock to any large extent during the fourth quarter of 1987 (that is, stock sales were offset by stock purchases of equal value). This compares with a net sale of $14 billion in stock during the prior quarter and $35 billion during the first three quarters of the year. The results did vary by type of plan however. Defined benefit plans and multiemployer plans were net sellers of equity during this quarter with sales of $7.1 billion and $0.5 billion respectively. Based on asset allocations at the end of the third quarter of 1987, this represents 2.4 percent of all equities held by defined benefit plans and 1.3 percent for multiemployer plans. Defined contribution plans, however, were net buyers of equities during this quarter with net purchases of $7.2 billion (3.6 percent of the total in the previous quarter).

It should be noted that, in the case of defined benefit pension plans, the net sales of equities during the market decline is not a new development. In fact, an analysis of the time series for this figure reveals that defined benefit pension plans were net sellers of equities in each quarter from the first quarter of 1985 to the first quarter of 1988. Moreover, the sales of equities by defined benefit pension plans in the fourth quarter of 1988 varied by plan size. Defined benefit plans with more than $75 million in assets had net sales equal to 3.6 percent of existing equity levels while defined benefit pension plans with assets less than that amount had net sales of equities of only 0.6 percent of existing levels.

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10.4 percent of total assets, during the fourth quarter of 1987. This is the largest loss recorded during the last five years. Net capital losses of $152 billion were partially offset by dividend payments and interest income of $18 billion. Among plan types, fourth quarter 1987 losses relative to total assets increased with the proportion of total assets invested in stock. Single-employer defined contribution funds, with 42 percent of total assets invested directly in stock on September 30, lost $55 billion, or 12.0 percent of total assets. Single-employer defined benefit funds (40 percent in stock) lost $71 billion (10.1 percent of total assets); multiemployer plans (29 percent in stock) lost $8.1 billion (6.3 percent of total assets).

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Private Insured Pension Reserves

No data are currently available on the effect of the October 1987 stock market decline on private insured pension reserves. Presumably, any effect on the 79 percent of insured reserves that are backed by general accounts was limited by state regulations restricting common stock investments of general accounts. In addition, in 1986 total assets of U.S. life insurance companies exceeded total obligations (including pension obligations) by $61 billion. Corporate stock holdings of life insurance companies totalled $91 billion, or just 9.7 percent of total assets.[1] It is therefore unlikely that the stock market decline seriously threatened the security of insured pension reserves backed by general accounts.

Some private insured pension reserves invested in separate accounts may have been more adversely affected. Separate accounts were invested 43 percent in corporate equity in 1986, and a given separate account may be 100 percent invested in stock. However, equity investments in separate accounts accounted for just 9.1 percent of all private insured pension reserves in 1986. Therefore, while some private pension funds invested through life insurance companies may have suffered substantial losses due to the stock market decline (at least in the short run), most probably did not.

State and Local Government Retirement Funds

State and local government retirement funds, which held total assets of $561 billion on September 30, 1987, suffered capital losses of $54 billion on their corporate equity holdings during the fourth quarter. Capital gains and losses on other investments of these funds cannot be estimated, because FRB data (on which these estimates are based) value non-equity assets at cost rather than market value. These funds realized interest income and dividend payments of more than $10 billion during the fourth quarter.[2]

The Impact on Plan Sponsors and Participants

While the preceding material suggests that the market decline (when viewed in

[1]American Council of Life Insurance, Life Insurance Fact Book Update (Washington, D.C.: American Council of Life Insurance, 1987).

[2]Interest and dividends from U.S. Department of Commerce, Bureau of Census, Finances of Selected Public Employee Retirement Systems (Washington, D.C., April 1988). Capital loss based on Flow of Funds data calculated by EBRI.

context of the entire year's results) had an insignificant impact on the pension plan system in aggregate, additional questions concerning the effect on individual plan sponsors and their plan participants remain. It is important to note that the relative impact of October's results depend in large part on the manner in which investment risk is shared between plan sponsors and plan participants[3]. While there are several plan design considerations, such as the availability of lump-sum distributions, that affect the allocation of risk, it is determined primarily by the type of pension plan (defined benefit or defined contribution) selected by the sponsor.

Under the defined benefit plan the employer provides a specified benefit, usually related to an employee's length of service and/or pay. Under this approach, the employer's cost is whatever is necessary to provide the benefit specified. Under the defined contribution approach, the employer's contribution is specified. A defined contribution plan can involve a specific contribution (as in a money purchase pension plan), or it can take the form of a profit-sharing, thrift or savings, or employee stock ownership plan. Contributions are accumulated in individual participant accounts. A participant's benefit amount varies with the level of contributions, age at entry, retirement age, and investment earnings (or losses).[4]

The effects of the market decline on defined benefit plan sponsors are complicated and multifaceted. The next portion of the testimony will discuss individual components of the overall impact including the impact of the Pension Benefit Guaranty Corporation, the minimum funding standard revisions introduced by the Omnibus Budget Reconciliation Act of 1987, the new pension accounting standards mandated by the Financial Accounting Standards Board, and investment strategies including portfolio insurance. Effects on defined contribution participants are then discussed including cash or deferred arrangements and employee stock ownership plans.

<u>Benefit Security for Defined Benefit Participants</u>

Since the participant's benefit amount in a defined benefit plan does not depend upon the investment experience of the plan assets, any immediate losses to such a plan resulting from the October decline will be borne by the sponsor unless the plan terminates in an underfunded status.[5] If an underfunded termination

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[3]It is also possible to distinguish plans by the source of employer contributions to the pension plan (i.e., private versus public pension plans). While this section deals primarily with issues relating to private plans covered under ERISA, one survey has found that according to the pension executives of 29 of the nation's largest state and municipal funds, the equity positions of the funds were generally below the maximum levels allowed before the October stock market decline. Most of those interviewed indicated their funds are maintaining a conservative equity stance at a time when others are increasing their equity stakes to take advantage of reduced stock prices. For 20 funds surveyed, equity exposures have been limited by the respective state or local governments. The median maximum equity position allowed in the funds was 50%, but the stock exposure of the median fund was just 40%. Of the 9 remaining funds, the median equity was 35%. Jacqueline Dutton and Fred Williams, "Public Funds Survive Market Decline: Cautious Equity Stance Limits Damage/Two Smell Trouble, Sell Stocks," <u>Pensions & Investment Age</u>, November 30, 1987, pp. 47-48.

[4]Although only the two polar cases in selecting a pension plan are discussed here, it is important to note that in recent years several employers have been adopting plans that combine the best features of both approaches.

[5]A defined benefit pension plan termination is referred to as insufficient if the market value of plan assets is less than the present value of all benefits guaranteed by the PBGC. Underfunded terminations are only permitted if certain distress criteria (e.g., liquidation or reorganization in bankruptcy) are met.
Although a plan's guaranteed benefits will be closely related to its vested benefits, they will differ due to the maximum monthly limitation on insured amounts (currently $1909.09) and ERISA Section 4022(b) which provides for the gradual phase-in of insurance coverage to make the program less subject to abuse from newly established or recently liberalized plans. Vesting is a legal concept

does take place, the Pension Benefit Guaranty Corporation (PBGC) insures a certain level of the nominal vested benefits for the majority of defined benefit plan participants. Thus to the extent that the PBGC remains solvent (at least on a cash flow basis) there is little immediate impact on the plan participants.

Based on fiscal year 1987 figures, there does not appear to be any immediate concern for the solvency of the PBGC as a result of the market drop, especially after the modifications to the single-employer component of the system enacted by the Omnibus Budget Reconciliation Act of 1987.[6] The changes included an increase of the per-participant premium from $8.50 to $16.00 and the introduction of a variable rate premium based on the amount of underfunding for the plan. A full assessment of the impact of the market decline on PBGC's expected claims would require a detailed analysis based on plan funding ratios and estimated probability of termination.[7] However, the increased exposure faced by the PBGC as a result of the decline has been documented in two studies. The U.S. Department of Labor produced preliminary estimates of the changes in the assets and liabilities for single-employer, defined benefit pension plans from December 31, 1986 to October 19, 1987. The results indicate an overall decrease in surplus assets (assets minus liabilities) of $41 billion to $177 billion (a decrease of 18.8 percent).[8] The other evidence, a study by Salomon Brothers, found the average funding ratio of the 500 largest corporations shrank from more than 200 percent at the beginning of October to 166 percent by the end of the month; however, this is well above the 143 percent funding ratio seen at year end 1986.[9]

Another potential impact of the market decline on benefit security results from the fact that the vast majority of private defined benefit pension plans promise a benefit stated in nominal terms after the benefit accrual period ceases (i.e., no post-employment inflation protection). If the plan does not terminate and the sponsor remains profitable it appears to be quite likely that at least a portion of the impact of post-retirement inflation will be indemnified on an ad hoc basis.[10] A severe reduction in the level of pension assets could postpone cost of living adjustments for retirees and perhaps cause sponsors involved in collective bargaining agreements to take a harder line when negotiating new or improved benefit plans for current workers.

Accounting Implications for Defined Benefit Pension Plans

FASB Statement No. 87, Employers' Accounting for Pensions (FASB 87) establishes standards for financial reporting and accounting for an employer that offers

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that defines what percentage, if any, of the participant's accrued benefits attributable to employer contributions are nonforfeitable. Since the implementation of ERISA, the longest period of service that can be required for 100 percent vesting was 15 years.

[6]The fiscal year 1987 figures do not include the impact of the market decline on the equities in the PBGC portfolio (estimated to be in the range of $146 million for the first 26 days of October). The effect of the market activity is minimal however in comparison to the potential impact of an adverse legal decision in the dispute with the LTV Corporation over who should pay for the company's $2 billion pension fund shortfall. See Cynthia F. Mitchell and Ann Hagedorn, "LTV Pension Fund Case Goes Unresolved As Judge Rules More Evidence is Needed," The Wall Street Journal, June 12, 1988, p. 10.

[7]The methodology is explained in detail in Jack L. VanDerhei, "An Empirical Analysis of Risk-related Premiums for the Pension Benefit Guaranty Corporation," Report to the Pension Benefit Guaranty Corporation, June 1988.

[8]Ray Schmitt, Effect of Stock Market Downturn on Pensions, Congressional Research Service, December 29, 1987, p. 11.

[9]Hilary Rosenberg, "Going on the Defensive," Institutional Investor, January 1988, pp. 60-62.

[10]See Steven Allen, Robert Clark and Daniel Sumner, "Post-Retirement Adjustments of Pensions," Journal of Human Resources (1986), pp. 118-137.

pension benefits to its employees. The new accounting requirements mandated by FASB 87 are phased in with a two step process. The income statement (expense) provisions must be applied for years beginning after December 15, 1986 while the balance sheet (liability) provisions must be applied for years beginning after December 15, 1988. If the present value of plan liabilities, ignoring future salary growth, is greater than the market value of plan assets, employers must recognize a balance sheet liability equal to the unfunded amount (including unfunded accrued pension cost).

The prospect of including a pension liability on the body of the balance sheet has prompted some sponsors to consider altering at least a portion of their pension asset allocation from equities to bonds in a manner that would ensure at least a minimum amount of surplus for the plan. Likewise, a significant decrease in the plan's funding ratio would provide an incentive to forgo any further benefit liberalizations until the plan was restored to a surplus position. Although asset levels decreased significantly as a result of the October market decline, this effect can not be viewed in isolation as plan sponsors were at least partially insulated from the eventual balance sheet impact by a corresponding increase in the interest rate used to compute the present value of liabilities in 1987. This is due to the fact that FASB 87 provides much more guidance than its predecessors with respect to the interest rate assumptions chosen by the plan sponsor. In essence, the assumed discount rate must reflect the rates at which the pension benefit could be effectively settled. In other words, a "market value" of the termination liability must be calculated. Fortunately for plan sponsors, the PBGC (immediate) close-out rate increased from 7.5 percent at the beginning of 1987 to 8.25 percent at the end of the year.[11]

<u>Implications for Defined Benefit Contributions</u>

Although a decrease in pension assets levels will generally result in an increase in required minimum pension contributions, it is impossible to predict how firms will be affected because of the variety of methods permitted for smoothing market value fluctuation. An asset valuation method will be acceptable to the Internal Revenue Service for funding purposes if it produces an actuarial value of assets that is between 80 percent and 120 percent of fair market value.[12] Moreover, the cash flow impact of the market decline depends on the type of actuarial cost method adopted.[13]

Contrary to some reports, it appears that the new minimum funding standards enacted by the Omnibus Budget Reconciliation Act of 1987 will <u>not</u> accentuate the increase in the minimum required contribution for underfunded plans. An additional funding charge equal to the excess of the deficit reduction contribution (primarily an 18 year amortization of existing unfunded liabilities measured on a termination basis) over a portion of the minimum funding contribution otherwise required by ERISA (primarily 30 or 40 year amortization of unfunded past service costs) will be required for underfunded plans for plan years beginning after December 31, 1988. However it appears that, with few exceptions, this will not impact existing plans until such time that they are

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[11]Although not the only determinant of the interest rate assumption under FASB 87, it is appropriate to consider rates used to price annuity contracts that could be used to settle the pension obligation (including the rates used by the PBGC to value the liabilities of terminating pension plans).

[12]Treasury Regulation Sections 1.412(c)(2)-1(b)(4)(i) and 1.412(c)(2)-1(b)(6).

[13]Some actuarial cost methods (unit-credit, entry age normal and individual level premium) provide an explicit amortization component while others (frozen initial liability, attained age normal and aggregate) attribute a portion of the normal cost to amortization of gains. See Arthur W. Anderson, <u>Pension Mathematics for Actuaries</u>, (Wellesley, Massachusetts: The Windsor Press, 1985), p. 86

liberalized by the sponsors.[14]

Investment Issues for Defined Benefit Pension Plans

A major factor determining the extent of the short term impact of the market decline on defined benefit pension plans is whether the sponsors took advantage of the fact that they generally have more opportunity to sit out this type of market movement than other investors. This is due to the fact that most defined benefit pension plans have a positive cash flow as well as significant cash reserves and do not necessarily have to rely on selling securities to meet cash needs.[15] A survey of 48 of the largest managers of tax-exempt assets shows that pension fund money managers were not selling on October 19. Between that day and the end of November, more than 60% of the money managers reported they had been net buyers to varying degrees, and only 17% were net sellers. Only 3 of the 48 managers surveyed, including one major vendor of portfolio insurance, sold into the decline, and 7 did some buying on the day of the decline. Many of the respondents neither bought nor sold for the first day or two after the decline, and others took advantage of sharply lower equity prices.[16]

The long term impact on pension investment decisions will depend on future asset allocation practices. Although the rebalancing of portfolios appear to be a natural consequence of companies striving to meet target equity allocations that have been exceeded by the strength of the five-year bull market, the apparent degree of conservatism produced by the decline was dramatic. A Pensions & Investment Age survey indicates that the 1,000 largest pension funds might have reduced their long-term commitment to the stock market by as much as $10 billion following the October 1987 market decline. Of the 173 respondents, 7.5% had made "significant shifts in their long-term asset mixes in the wake of the crash."[17] On average, these funds had reduced their long-term equity commitments by 8 percentage points, much more than the previously mentioned EBRI/FRB results of large defined benefit pension plans for the entire fourth quarter of 1987 (3.6 percent).

Portfolio Insurance[18]

Portfolio insurance, perhaps the most controversial aspect of the market decline, represents an alternative to active asset allocation strategies. By 1987, fund managers had bought coverage for more than 60 billion of assets; at the beginning of this year only half of that remain covered. Although much has been written on this topic in the academic and financial literature, five basic questions appear relevant for this discussion:

1. what is it

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[14]One reason for this apparent contradiction (i.e., an 18 year amortization producing a smaller amount than a 30 or 40 year amortization) is that the latter amortization period is applied to a liability which reflects expected future pay increases while the 18 year amortization period is applied to a liability amount that reflects the obligations of the sponsor if the plan was terminated immediately.

[15]"Impact of the Stock Market Drop on Employee Benefit Plans," BNA Pension Reporter, October 26, 1987, pp. 1401-3.

[16]Joel Chernoff, "Managers Didn't Sell on 'Black Monday'," Pensions & Investment Age. November 30, 1987, p. 1.

[17]Joel Chernoff, "Equity Market Exodus: $10 Billion Cut Could Be Legacy of Crash," Pensions & Investment Age. February 8, 1988, p. 1.

Individual responses to the asset allocation issue were at times even more pronounced. In mid-November, Rockwell reportedly told its managers to liquidate all their stock holdings which had comprised an estimated 75 percent of the $6 billion fund. At the same time, Boeing reportedly purged most of the fund's stocks. Hilary Rosenberg, "Going on the Defensive," Institutional Investor, January 1988, pp. 60-62.

[18]Portions of this section originally appeared in Everett T. Allen, Jr., Joseph J. Melone, Jerry S. Rosenbloom, and Jack L. VanDerhei, Pension Planning, 6th ed., (Homewood, Illinois: Richard D. Irwin, 1988).

2. how was it used before the October market decline
3. was it successful during the October market decline
4. what is the market for portfolio insurance for defined benefit pension plans today
5. what is the likely future of portfolio insurance for defined benefit pension plans

Portfolio insurance is a device used to protect the value of the portfolio in the event of a significant market decline without giving up the potential to benefit from rising markets.[19] Although numerous variations of this approach exist, it is basically implemented through one of two approaches: dynamic hedging or transactions in the financial futures markets.

It should be noted at the outset that there is nothing intrinsically unique about a device that reduces the risk of a pension plan portfolio. Indeed, this decision is often made implicitly in the asset allocation stage. An investment manager could easily decrease the riskiness of the portfolio by 50 percent by lowering the active asset allocation from 100 percent to 50 percent (and leaving the remainder in a risk-free asset such as T-bills). However, this strategy would automatically result in a proportionate decrease in the portfolio's expected return. In contrast, portfolio insurance offers a combination of financial instruments that will--at least in theory--truncate the distribution of possible rates of return at some pre-specified minimum floor return (e.g., no more than a 15 percent decline during the next year). There is obviously a cost associated with such a "guarantee"; although in the case of portfolio insurance, it can be conceptualized as a constant cost (as opposed to a cost that is proportional to the rate of return the portfolio would have otherwise produced) in the region above the minimum floor return.[20]

Portfolio insurance may be created by dynamic hedging strategies that periodically adjust a portfolio's asset allocation between active and risk-free assets.[21] Based on the level and term of protection desired, an initial active allocation is established. It is then adjusted in response to changes in portfolio values and the passage of time. Portfolio insurance is not a market timing technique, there is no attempt to forecast returns. In rising markets, an increasing percentage of the portfolio is allocated to active assets; in declining markets, an increasing percentage is allocated to reserve assets. Under extreme conditions, the portfolio may be allocated entirely to either active or reserve assets.

Alternatively, portfolio insurance may be implemented by indirectly changing asset allocations through the financial futures markets. As the market declines, more financial futures are sold short against the equity assets insured. The profit generated from these sales is presumed to offset the losses on the pension plan assets. Conversely, as the market rises, these contracts can be removed.

Theoretically, both forms of this technique offer two advantages to a plan sponsor. First it enables pension funds to retain most of the asset gains they achieve when the markets move upwards, yet also enables them to limit their losses when the markets fall. This may be done with or without regard to timing considerations. For example, it could be used only at times of perceived market vulnerability. It also allows portfolios to be invested more aggressively.

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[19] Hayne E. Leland, "Who Should Buy Portfolio Insurance?" Journal of Finance, (May 1980), pp. 581-594.

[20] This cost does not materialize directly; instead, it can be thought of as the opportunity cost of having a portion of the pension plan assets in risk-free assets at the time of a market increase. The cost will obviously be positively associated with the degree of protection desired. In other words, a "guarantee" that the portfolio will not decline by more than 15 percent in one year will require less activity than one which permits no decline at all in the same time period. Perhaps less obvious is that the cost should decline as the term of protection is lengthened. For more information, the mathematically-inclined reader should see Simon Benninga and Marshall Blume, "On the Optimality of Portfolio Insurance," Journal of Finance, (December 1985), pp. 1341-1352.

[21] John R. Meneghetti, "Portfolio Insurance: Finding the Right Balance," Pension World, September 1986, p. 36 ff.

If the process is implemented through financial futures, other advantages may also exist:[22]

1. It is cheaper and easier to employ than to trade sizable blocks of stocks and bonds because the commission of futures contracts are lower than those on stocks.
2. It continues to reduce exposures to the market's vagaries as the market drops by short selling more and more futures contracts.
3. It lets pension fund portfolios remains undisturbed.

With a portfolio insurance program in place, it is expected that pension portfolios would take on a less conservative investment posture. Indeed this was the case prior to the October market decline as pension funds using portfolio insurance had a larger percentage of their assets in equities than those not using the strategy. The 80 respondents to the survey produced by the Presidential Task Force on Market Mechanisms (the Brady Commission) had an average of 45 percent of their assets in equities as of September 30. Of those, 11 were using portfolio insurance and had an average equity allocation of 56 percent.[23]

It appears safe to conclude that portfolio insurance was not universally successful during the market decline, however. The chairman of Leland O'Brien Rubenstein (LOR), the firm that pioneered portfolio insurance, estimates that a typical fund insured by his firm took losses of two to four percentage points beyond the promised limit due to discontinuities between the Chicago Mercantile Exchange (where futures contracts tied to the S&P 500 index are traded) and the New York Stock Exchange (where the market determines the price of the stocks that make up the index).[24]

The post-October market for portfolio insurance appears to be characterized by increased prices.[25] However, alternatives to portfolio insurance are expensive too: a static mix with a lower stock component would cut the investor out of the higher long term returns expected from equities, and strategic asset allocation and other timing approaches are likely to misjudge a large part of the market volatility. Some pension funds that discontinued portfolio insurance after the stock market decline in October have tried to reduce market volatility in other ways such as reducing the equity exposure of the portfolio. Some executives have stayed with the allocations they had while using portfolio insurance, indicating they had not assumed extra risk because of the hedging strategy.[26]

When portfolio insurance faced its first real test during the October decline, it failed miserably in the judgment of some commentators. Furthermore, regulators were investigating charges that portfolio insurance was a major cause of the market's fast drop. Disillusioned, such pension sponsors as Honeywell, Mead Corp., and San Diego Gas & Electric Co. suspended or canceled

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[22]Ralph L. Knisley, Jr. "Portfolio Insurance: Will the New Importance of Surplus Management Change the Strategy of Fund Managers?" FE Manual, April 1987, pp. 82-83.

[23]Barry B. Burr, "Restrictions 'Poor Medicine': Pension Execs Greatly Favor Free Market," Pensions & Investment Age, Feb 8, 1988, pp. 13-14.

[24]However, Wells Fargo investment advisers, another large purveyor of portfolio insurance and a licensee of LOR's technique, claim to have provided protection within a fraction of a percentage point of the level clients expected.

[25]In mid-November, Bankers Trust calculated that a one-year plan with a -5 percent floor would then cost between 4 and 6.25 percent in lost upside capture. Earlier in the year that plan would have cost 2 percent. Mark Voorhees, "Can Portfolio Insurance Make a Comeback?," Institutional Investor, January 1988, pp. 57-58.

[26]The Burlington Industries Inc. pension fund switched all of its equities to cash in November in order to lock in gains. The San Diego Gas & Electric Co. pension fund has continued selling stock index futures to hold down its equity exposure. Some of the funds that have retained portfolio insurance are contemplating changes in long-term asset allocation. Trudy Ring, "Risks Hedged in New Ways," Pensions & Investment Age, April 18, 1988, p. 3.

their policies. For pension committees, the main questions now concerns whether the cost of portfolio insurance has become prohibitive and whether it will work in volatile markets. However, LOR is apparently ready to respond to these criticisms by providing longer term policies that require less trading and that will protect, if not total equity portfolios, at least the surplus of pensions funds.[27]

Defined Contribution Pension Plans

The impact of the market decline on defined contribution pension plans depends on the types of investments offered and whether lump sum distributions are provided. Participants in defined contribution plans will see the results of fallen prices in their accounts, although the losses of October 1987 should be offset by the large gains of the previous nine months. Those about to retire may suffer if they cash out their accounts in the near future, and therefore might consider remaining employed for another year or two.

Many 401(k) plans also were adversely affected by the decline, since they are often significantly invested in company stock and equity pools.[28] Pension executives may begin to reconsider the options provided. Such options might include a highly diversified balanced fund or use of more guaranteed investment contracts.

ESOPs

The extent of the losses was greater for plans with a higher investment in publicly traded stocks; possibly the most affected were employee stock ownership plans (ESOP) that contain only such stocks. Most ESOPs have investments in closely or privately held companies. Six ESOPs that own 30 percent or more of their companies' publicly traded stocks suffered a total paper loss of $410 million between October 15 and 27. FMC Corporation, which held 32 percent of the company shares outstanding on June 30 was estimated to lose $239 million.[29]

The Tax Reform Act of 1986 contained provisions that, over time, will offer those ESOP participants nearing retirement age an option to diversify their investment portfolios. An employee who is at least 55 years old and has completed ten years of ESOP participation must be permitted to diversify up to 25 percent of his or her account balance at the end of the year less amounts previously diversified; after five additional years he or she must be permitted to diversify up to 50 percent less amounts previously diversified. It should be noted, however, that this provision is effective only for stock acquired after December 31, 1986.

An employee is entitled to make this election during a five year period. This period begins with the plan year of the ESOP following the later of (1) the plan year in which the employee attains age 55 or (2) the plan year in which the employee completes ten years of participation in the ESOP. The election period ends in the plan year following the fifth such plan year. The ESOP is required to allow participants to make the diversification election within 90 days following the end of the plan year.

The ESOP will either have to provide at least three investment options that are not inconsistent with regulations issued or elect to distribute an amount to the participant not in excess of the maximum amount which the participant could elect to have diversified. Such a distribution must be made within 90 days following the end of the diversification election period.

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[27]Mark Voorhees, "Can Portfolio Insurance Make a Comeback?," Institutional Investor, January 1988, pp. 57-58.

[28]A survey of more than 1,000 executives responsible for employee benefit funds at 1,400 of America's largest corporations found that 48 percent of 401(k) assets were invested in domestic stock, including company stock which accounted for 28 percent of all assets for these plans. See Greenwich Associates, More Policy, Less Tactics, Large Corporate Pensions, 1988, p. 48.

[29]Jacqueline Dutton, Nicky Robertshaw, "ESOPS Take a Bath -- Market Socks Defined Contribution Plans," Pensions & Investment Age, November 2, 1987, p. 8.

Conclusions

In the aftermath of the stock market decline, a number of conclusions can be drawn.

- It appears that the majority of pension funds were not involved in the October decline.

- The aggregate level of pension funds at the end of 1987 exceeded the level established at the end of 1986.

- Net sales of equities was not unusually large when viewed in a time series perspective.

- Investment gains produced in the first three quarters of 1987 more than offset the losses recognized in the fourth quarter of that year.

- Direct holdings of equities by pension funds declined marginally in the fourth quarter of 1987.

- Portfolio insurance, as implemented by some firms, was not completely successful in limiting equity losses during the market decline.

- It appears that the majority of pension funds did not have portfolio insurance programs in place during October 1987.

- The overall impact of the market decline can not be viewed in isolation. Trustees are simultaneously responding to incentives created by increased volatility in the financial markets as well as the pension accounting practices mandated by the Financial Accounting Standards Board and several new provisions enacted by the Omnibus Budget Reconciliation Act of 1987, including a new exposure-related premium for the Pension Benefit Guaranty Corporation, more rigorous minimum funding standards for underfunded plans and a more restrictive full funding limitation for overfunded plans. The net effect of these changes may be to make trustees more conservative as to investment management.

- Defined contribution plan participants suffered short-term losses to the extent their investments included equities. ESOP participants may have suffered the largest losses. Unfortunately, the diversification requirements added by the Tax Reform Act of 1986 have not been in force long enough to be of any real value to ESOP participants nearing retirement age.