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REPORT BY THE U.S.

General Accounting Office

Financial Conditions Of Multiemployer Pension Plans Generally Improved From 1978 To 1980

The Multiemployer Pension Plan Amendments Act of 1980 made major changes to federal requirements for insuring and funding the benefits of over 8 million participants in about 2,500 multiemployer pension plans. The changes were enacted because of concern raised in 1978 that plans could place billions of dollars of unfunded benefit claims on the federal insurance program administered by the Pension Benefit Guaranty Corporation.

GAO estimated selected financial condition indicators for 1,276 plans with 100 or more participants for the period MPPAA's provisions were being considered--from 1978 to 1980. These data establish a baseline for future analysis of plan changes and could be useful in considering legislative proposals.

The estimates indicate that the overall financial condition of the plans and the industry and participant size groups they covered generally improved during the period. Based on plan data, the plans' benefits were about 56 percent funded by assets in 1978. By the end of 1980, their benefits of about $46 billion were 66 percent funded. Further,the estimates indicate that the plans' overall ability to build asset reserves and generate sufficient contributions to pay for unfunded benefits remained adequate to strong.

However, the plans' contribution ratio (active to other participants) declined, and GAO's analysis of the 1980 indicators for 149 sample plans showed that (1) the plans' unfunded benefits of about $11.2 billion posed a substantial contingent liability against the insurance program and (2) some individual plans may not be in adequate financial condition.

UNITED STATES GENERAL ACCOUNTING OFFICE

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HUMAN RESOURCES DIVISION

B-211411

The Honorable Bob Packwood
Chairman, Senate Committee on Finance

The Honorable Orrin G. Hatch
Chairman, Senate Committee on Labor and Human Resources

The Honorable Augustus F. Hawkins
Chairman, House Committee on Education and Labor

The Honorable Dan Rostenkowski
Chairman, House Committee on Ways and Means

The Multiemployer Pension Plan Amendments Act of 1980 required GAO to study the effects of its provisions. To conduct the study, GAO collected comparable multi-year data on a sample of multiemployer plans and issued a series of reports on the act's provisions using the data. Your offices requested GAO to provide in a report the data it obtained. The data show changes in (1) characteristics of plan participants, (2) plan financial characteristics, and (3) indicators of the plans' financial condition. This report examines the changes in these data from 1978 to 1980.

Copies of this report are being sent to the Director, Office of Management and Budget; the Secretaries of Labor and the Treasury; the Board of Directors and Executive Director of the Pension Benefit Guaranty Corporation; and other interested parties.

Richard L. Fogel
Director

About 2,500 collectively bargained multiemployer defined benefit pension plans cover over 8 million participants. In 1974, the Employee Retirement Income Security Act (ERISA) established an insurance program to guarantee, within certain limits, participants' unfunded vested benefits. The September 26, 1980, Multiemployer Pension Plan Amendments Act's (MPPAA's) changes to ERISA's provisions were enacted because of concern that underfunded plan terminations could place billions of dollars in claims against the program. (See pp. 1 to 4.)

MPPAA required GAO to study the effects of its provisions. To conduct the study, GAO collected comparable multi-year data on a sample of multiemployer plans and issued a series of reports on the act's provisions using the data. The legislative committees concerned with ERISA requested GAO to use the data it obtained to show changes in (1) characteristics of plan participants, (2) plan financial characteristics, and (3) indicators of the plans' financial condition. This report examines the changes in these data from 1978-80. (See pp. 1 and 6 to 8.)

Because of the short time period covered by the data, GAO believes they cannot be used to comment on future plan condition trends. However, GAO believes the data establish a baseline for future analysis of plan changes and could be useful to the pension community in researching future legislative considerations. (See pp. 9 and 10.)

BACKGROUND

Considerable participant and financial data are generated to meet plan administrative needs and ERISA requirements. These data can be used to develop indicators of the financial condition of the plans and the existence of potential risks to the insurance program from unfunded plan benefits. These indicators include the plans'

--funded position (ratio of assets to vested benefits), which measures the extent benefits are funded and indicates, therefore, whether there is a contingent liability against the insurance program;

--cash flow (income to expenses), which indicates plan asset growth or decline; and

--contribution ratio (active to other participants), which indicates a plan's ability to generate enough contributions based on working participants to fund their benefits and the unfunded benefits of other participants (generally retirees). (See pp. 4 and 5.)

In conducting its MPPAA study, GAO collected data on a stratified sample of 149 of the 1,276 plans that had 100 or more participants and were administered in GAO's study area which included 14 states and the District of Columbia. When GAO ended data collection efforts in February 1983, the most complete and latest comparable data available were for plan years 1978-80--generally the period MPPAA's provisions were being considered. Using the sample data, GAO estimated the funded position, cash flow, and contribution ratio for the 1,276 plans in the study area for the period. (See pp. 7 to 9, 11, 26, and 33.)

RESULTS IN BRIEF

GAO's analysis indicates that the overall financial condition of the 1,276 study area plans improved during the 1978-80 period. Based on plan data, the plans' funded position and cash flow improved, but their contribution ratio declined. (See pp. 11, 26, and 33.)

Changes to the financial indicators for industry and plan participant size groups (e.g., manufacturing and plans with 25,000 or more participants) varied during the period. However, the funded position of all groups improved, and their cash flows and contribution ratios remained adequate to strong. In addition, the 149 sample plans' financial condition indicators for 1980 showed that (1) the plans posed a substantial contingent liability against the insurance program and (2) some may not have been in adequate financial condition. (See pp. 11, 12, 26, and 33.)

PRINCIPAL FINDINGS

Funded Position

Based on plan actuarial data, the vested benefits of the 1,276 study area plans improved from being 56 to 66 percent funded during the 1978-80 period because the percentage increase in the value of the plans' assets was greater than the percentage increase in vested benefits.

While estimated assets grew from $22.1 billion in 1978 to $30.5 billion in 1980 (38 percent), vested benefits grew from $39.2 to $46.1 billion (about 18 percent). Also, the funded position of all industry and size groups improved during the period, but varied widely in 1980. In 1980, the industry groups' funded positions ranged from about 48 percent to about 85 percent.

Even with the improved funded position of plans overall, unfunded plan benefits continued to pose a substantial contingent liability against the insurance program. For example, although 29 percent of the 149 plan sample were fully funded, 71 percent had unfunded benefits totaling $11.2 billion at the end of 1980. (See ch. 2.)

Cash Flow Changes

During the 1978-80 period, the cash flow of the 1,276 plans improved from $2.42 to $2.65 of income for every expense dollar. While the plans' estimated income increased from $5.8 billion in 1978 to $7.8 billion in 1980 (about 34 percent), expenses (most of which was benefit payments) increased from $2.4 to $2.9 billion (21 percent). Cash flow also increased for most of the industry and size groups and was strong for all groups in 1980. The industry groups' cash flow for 1980 ranged from $2.37 to $3.07 of income for every expense dollar.

However, the cash flow of individual plans varied substantially from the study area plans' ratio. For plan year 1980, the cash flow of the 149 sample plans ranged from less than a dollar (negative cash flow indicating asset depletion) to over $6 of income for every expense dollar. A low cash flow may indicate an inadequate financial condition and a potential risk to the insurance program. Twelve of the plans had a low ratio (3 had negative cash flow and 9 had an income of less than $1.25 for every expense dollar) and unfunded benefits totaling $839 million. (See ch. 3.)

Contribution Ratio Changes	Total participants in the 1,276 plans increased from about 6.1 to 6.4 million during the 1978-80 period. However, the plans' contribution ratio decreased from 3.2 to 3.0 actives for every other participant. While other participants (retirees) totaled about 1.6 million in 1980 (about a 12 percent increase over 1978), active participants totaled about 4.8 million (about a 2-percent increase). Most of the industry and size groups' contribution ratios decreased during the period, but remained adequate to strong for 1980. For example, the 1980 contribution ratios for the industry groups ranged from 2.53 for one group to 5.08 for another. Some of the 149 sample plans, however, had a low number of actives to other participants which indicated to GAO that the plans may not have the ability to generate enough contributions to pay for unfunded benefits. Ten of 149 plans had less than 1.0 active for every other participant and 9 of these had unfunded vested benefits totaling $2.1 billion. (See ch. 4.)
RECOMMENDATIONS	This report presents descriptive information. GAO is making no recommendations.
AGENCY COMMENTS	The Pension Benefit Guaranty Corporation suggested some technical changes to the report which were made where appropriate. A Department of Labor official advised GAO that the Department had no comments on the report. (See p. 7.)

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ILLUSTRATIONS

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CHART

TABLE

ABBREVIATIONS

ERISA	Employee Retirement Income Security Act of 1974
GAO	General Accounting Office
MPPAA	Multiemployer Pension Plan Amendments Act of 1980
PBGC	Pension Benefit Guaranty Corporation

CHAPTER 1

INTRODUCTION

The Employee Retirement Income Security Act of 1974 (ERISA) established an insurance program and other provisions to protect the benefits of participants in multiemployer defined benefit pension plans (hereafter referred to as multiemployer plans).[1] The Multiemployer Pension Plan Amendments Act of 1980 (MPPAA) made major changes to ERISA's insurance program and plan funding provisions when it was enacted on September 26, 1980. MPPAA requires us to study the effects of its provisions and, in conducting the study, consult with the ERISA congressional legislative committees.

Conducting the mandated study required that we collect a considerable amount of data on multiemployer plans. We used the data to issue a series of reports on the effect of MPPAA's provisions.[2] During our consultations with the committees' offices, we were asked to use the information collected to provide data on plan financial and other characteristics. This report presents the requested data.

MULTIEMPLOYER PLANS

Multiemployer plans are relatively few in number, but they cover many participants. According to the records of the Pension Benefit Guaranty Corporation (PBGC), the corporation established by ERISA to administer the insurance program, about 2,500 multiemployer plans reported about 8.7 million participants for plan year[3] 1982. The plans range in size from fewer than 100 to more than 500,000 participants.

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[1]Defined benefit pension plans generally provide definitely determinable benefits based on such factors as years of employment, retirement age, and compensation received. Multiemployer plans are generally those plans maintained pursuant to one or more collective bargaining agreements between one or more employee organizations and more than one employer.

[2]See appendix I for a list of our earlier reports on multiemployer pension plans.

[3]A plan year is the 12-month fiscal period for which plan records are kept. A specific plan year's designation is based on the calendar year in which the plan year begins. For example, plan years beginning on any day from January 1 to December 31, 1981, would be designated as plan year 1981.

Multiemployer plans are generally governed by trust fund agreements executed between a union(s) and certain employers operating within that union(s) geographical jurisdiction. Plans are managed by a board of trustees on which employers and employees generally have equal representation. The boards generally establish all rules and regulations for administering the plans. The rules and regulations normally apply to such things as (1) eligibility requirements for plan participation and benefits, (2) types of benefits, and (3) benefit amounts. Although the plans' day-to-day operations are usually handled by an administrator, the board may also rely on various paid consultants, such as attorneys, actuaries,[4] accountants, and investment advisors.

Pension plans are primarily financed by employers' contributions, based on the active workforce, to a trust fund. Employers' obligations to contribute to the plans, the methods used to determine contribution amounts, and the manner in which the contributions are to be made are established in collective bargaining agreements.

Multiemployer plans usually cover employees working in a craft or trade in a specified geographical area--city, county, state, multi-state, or nationwide. Plans are classified according to the industry predominantly represented by their contributing employers. The major industries include construction; manufacturing; transportation, communication, and utilities; and wholesale and retail trades. Because benefit eligibility under multiemployer plans is usually based on employment with any employer contributing to that plan, workers accumulate pension credits even though they might change employment from one contributing employer to another.

ERISA'S PROVISIONS AND MPPAA'S CHANGES

ERISA established minimum funding standards to help ensure that plan assets are sufficient to pay participants' benefits when they are due. The standards generally require that annual employer contributions be sufficient to pay the plan's current year's cost and to systematically pay off unfunded costs attributable to prior years.

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[4]Actuaries are experts in performing valuations of plan financing.

ERISA's multiemployer insurance program was established to guarantee, within certain limits, participants' vested benefits[5] not funded by plan assets at plan termination. Terminated plan asset insufficiencies were to be financed first by collections from the plan's contributing employers (employer liability). Such collections, however, were limited by law. The remaining asset insufficiencies were to be financed from insurance premiums paid by ongoing plans.

In a July 1978 report to the Congress, PBGC estimated that multiemployer plans covering 1.3 million participants could terminate over the next 10 years. If the plans terminated as estimated, the cost to PBGC under ERISA's insurance program provisions--after deduction of estimated employer liability--was estimated to be about $4.8 billion. To fund such a liability, PBGC reported that all multiemployer plans would have to pay an annual PBGC premium of about $80 per participant as compared to the 50 cents premium per participant then authorized.

PBGC believed that such enormous costs would threaten the financial soundness of the insurance program and place an undue burden on continuing plans through excessively high premiums needed to maintain the insurance fund's self-sufficiency. Accordingly, PBGC recommended changes to ERISA's provisions covering multiemployer plans.

In its recommendations, PBGC pointed out that plans with large amounts of unfunded benefits relative to contributions may not be able to avert cash-flow problems. Plan characteristics indicating financial trouble include a high number of retirees relative to working participants and a low cash flow (income relative to expenses). PBGC expressed particular concern about the adverse impact of contribution base declines resulting from changes in consumer demand, technological advances, or foreign competition. Regardless of the reason, the effect is the same--a smaller base of working employees and the contributions made by employers for these employees have to support an increasing number of retired workers. According to PBGC, plans facing this

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[5]ERISA requires that a plan provide that participants will, after meeting certain requirements, retain a right to the benefits they have earned, or some portion of them, even though their service with employers contributing to the plan terminates before retirement. A participant who has met such requirements is said to have a vested right. Vested benefits are the value of benefits at a point in time to which participants have a nonforfeitable right. The term "vested benefits" is synonymous with the term "vested liability" as defined in ERISA.

problem would have difficulty in increasing employer contributions to pay for unfunded benefits because large increases could pose an unreasonable hardship on employers and result in plan termination.

The Congress subsequently enacted MPPAA, which incorporated many of PBGC's recommendations. MPPAA's amendments included changes to ERISA's minimum funding standards requiring that changes in unfunded plan costs to be systematically paid faster than before and special provisions for identifying and improving the condition of financially distressed plans. Also, MPPAA generally increased employers' liability for unfunded vested benefits. In this regard, MPPAA required employers contributing to plans at termination to continue to fund vested benefits and made employers withdrawing from a plan liable for their share of unfunded benefits when they withdrew rather than at termination. Also, the act changed the insurable event from plan termination to plan insolvency and required that the insurance program provide financial assistance (repayable loans) to plans that did not have enough money to pay guaranteed benefits due.

MULTIEMPLOYER PLAN DATA

To meet plan administrative needs and ERISA requirements (e.g., financial audits and actuarial valuations of plan funding), substantial information is generated on multiemployer plans. The types of data include information on plan participants and their retirement status; employers contributing to the plans; and plan assets, liabilities, income, and expenses. Much of the data is reported to the government[6] for use in administering the insurance program and enforcing ERISA's provisions.

In addition to being used for ERISA enforcement and plan administration, plan data can be used to measure changes in the growth or decline of plans individually and collectively in terms of financial condition, participant coverage, and financial risk to the PBGC insurance program from and employers' liability for unfunded plan benefits. For example, we provide data on three ratios in this report--plan income to expenses, working to other participants, and assets to vested benefits--used to analyze the financial condition of plans. The following

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[6]Plan administrators are required to annually file premium payments (PBGC Form 1) with PBGC and an Annual Return/Report of Employee Benefit Plan (Form 5500) and Schedule B (Actuarial Information) to the Form 5500 with the Internal Revenue Service (IRS).

discusses what the three ratios indicate and what plan data are used to compute them.

The ratio of plan **income to expenses** indicates a plan's annual cash flow. Plan assets grow when income exceeds expenses (a ratio of more than one), and assets decline when expenses exceed income (a ratio of less than one). To compute this ratio, we used Form 5500 financial data on total annual plan income and expenses. Annual income includes contributions and return on investment of plan assets. Annual expenses include benefits paid and administrative costs.

Multiemployer plans generally rely on contributions based on the active (working) participants to fund not only their benefits, but the unfunded benefits of other participants (generally retirees). Therefore, the ratio of **active to other participants** (contribution ratio) indicates a plan's ability to generate contributions to fund the plan. A high ratio value, such as four active for every other participant, may indicate that the plan has the ability to pay for increased benefits. In contrast, a low ratio value, such as less than one active for every other participant, may indicate that a plan does not have the ability to generate adequate contributions to pay for unfunded benefits.

The ratio of plan **assets to vested benefits** (funded position) measures the extent to which assets cover the present value[7] of participants' vested benefits. This ratio provides an indication of the security of participants' benefits; shows whether there is a potential risk to the insurance program, which guarantees, within certain limits, unfunded vested benefits (vested benefits not covered by assets); and indicates whether there are unfunded benefits to be paid by employers through annual contributions or withdrawal liability payments. A plan's vested funded position may be computed in different ways. Two ways, discussed below, are based on assumptions of plan continuation and termination.

Plan continuation funded position

We computed the plan continuation funded position by using the values of plan assets and vested benefits determined by actuarial valuations of plan funding requirements. In this regard, ERISA set out general guidelines for valuations of plan assets, benefit liabilities, and employer contribution

[7]The current worth of an amount or series of amounts payable in the future. Present value is determined by discounting the future amount or amounts at a predetermined rate of interest.

requirements. Valuations of plan financial elements, such as vested benefits, generally include assumptions about future conditions affecting pension cost. These conditions include investment earnings (the interest rate used to determine the present value of vested benefits), mortality rates, compensation levels, and employee turnover.

Actuaries usually base their assumptions on past experience and future expectations and deemphasize temporary swings in conditions (interest rates and asset values) so as to minimize short-term fluctuations. Assumptions that are not borne out by actual experience are periodically adjusted.

Plan termination funded position

We computed the plan termination funded position by using the current value (generally market) of plan assets and the value of vested benefits[8] based on interest rates used by PBGC to value vested benefits for single-employer plans that terminate. PBGC's interest rates are based on current annuity purchase prices. As a result, both values are subject to short-term fluctuation.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our legislatively mandated study objective was to determine MPPAA's effects on parties associated with multiemployer plans. To conduct the overall study, we obtained plan financial and other characteristic data on a sample of 149 multiemployer plans and, as previously pointed out, have used the data to report our findings on various aspects of MPPAA.

During our consultations with the offices of the ERISA legislative committees--the Senate Committees on Finance and Labor and Human Resources and the House Committees on Education and Labor and Ways and Means--we were asked to use the information we obtained to provide data by industry and plan size on changes to the following multiemployer plans' financial and other characteristics:

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[8]The PBGC insurance program guarantees under ERISA are only applied, within certain limits, to nonforfeitable (vested) benefits other than those benefits becoming nonforfeitable solely on account of termination. In this report, the plan termination funded position is computed based on benefits vested as of termination.

--Contributing employers and plan participants, including actives (working) and other (generally retired) participants.

--Plan financial characteristics, including assets, liabilities, income, and expenses.

--Indicators of financial condition, using the above data elements; i.e., funded position, cash flow, and contribution ratio.

We asked PBGC and the Department of Labor to comment on the report. PBGC officials suggested some technical changes to the report which were made where appropriate. A Department of Labor official advised us that the Department had no comment on the report.

Plans covered by review

The 149 plans were selected, using stratified-random selection techniques, from the 1,276 plans listed on PBGC's July 1981 premium history file for plan year 1979 as having 100 or more participants and being administered in the District of Columbia and 14 states (GAO study area). The study area was chosen because it covered a diversity of plans by industry and geography and almost 75 percent of the 8.3 million participants reported by 1,924 multiemployer plans with 100 or more participants nationwide. We excluded plans with fewer than 100 participants (of which there were 374 nationwide) from our study because they accounted for an extremely small number (about 13,800) of multiemployer plan participants and, in all probability, a small number of contributing employers.

In plan year 1979, the 149 sample plans and their participants represented about 11.7 percent of the 1,276 multiemployer plans with 100 or more participants being administered in the geographic areas covered by our review and about 56 percent of the 6.2 million participants reported by the 1,276 plans.

The 149 plans included the 16 plans with the largest number of participants and another 30 plans randomly selected from the universe of study area plans that appeared to be experiencing financial trouble, based on our preliminary analysis. The tables in appendix II provide more information on the number of plans and participants by industry and size groups for the sample, study area, and universe.

Data used to estimate plan financial and other characteristics

To help conduct the mandated study, MPPAA gave us the right to examine any information in the possession or control of the plan administrator or sponsor that we believed pertinent to the study. MPPAA, however, prohibited us from publicly disclosing the identity of any individual in presenting the information obtained. Therefore, information is presented in this report in a manner designed to protect against disclosing any individual's identity.

We performed our fieldwork from March 1982 through February 1983. Primary data sources were the annual reports filed with the government, actuarial valuation reports on plan funding, and reports on financial statement audits. We obtained the data, as available, for 5 plan years--1977 through 1981--from sample plan officials, but did not verify the data's accuracy. However, where data items appeared inconsistent, we attempted to resolve the inconsistencies.

We computerized much of the data obtained and used computer techniques to analyze the data. We performed a 100-percent verification of the computerized data to ensure that we recorded them accurately. Since vested benefit values usually were not reported at PBGC interest rates, we created an additional set of data to use in determining the funded position of plans under the plan termination concept. We adjusted reported amounts to put them on a PBGC interest rate basis. PBGC uses its published rates in valuing liabilities of terminated plans.

The factors used to make the adjustments were obtained from a PBGC study. Different factors were used to adjust the vested benefits of retirees (immediate annuities) than were used for non-retired participants (deferred annuities). This adjustment technique and the factors used may not result in values of vested benefits as precise as actuarially determined amounts. However, we believe the adjustments reasonably approximate the effect of changing to PBGC interest rates.

How data were estimated

We estimated plan characteristics and financial indicators for the 1,276 study area plans overall and by selected industry and plan size groups as of the end of plan years 1978, 1979, and 1980. We did not make estimates for plan years 1977 and 1981 because sufficient, comparable data were not available at the time of our review. In this regard, all plans were not required to report actuarial data, such as estimates of vested benefits, with the government until plan year 1978 or later. Also, at the time of our review, we were able to obtain only financial and participant data for the end of plan year 1981, but not the comparable actuarial data. Where individual plan year 1978, 1979, and 1980 data elements were not available for certain sample plans, we imputed the missing data based on other available data.

We classified plans by industry groups using business codes reported by the plans. We made estimates for the major industry groups previously discussed and grouped the remaining plans into a group we call "other." These plans were so grouped because of the small number of plans in our sample in such industries as agriculture, mining, and services. We also made estimates for plans with 100 to 999; 1,000 to 9,999; 10,000 to 24,999; and 25,000 or more participants.

Our estimates of plan characteristics and financial indicator ratios were made using the data reported by the plans and the adjusted vested benefit values. To estimate plan data elements (e.g., plan assets), we used stratified expansion estimation techniques--the average value of the data element for each selection stratum (e.g., plan size or financial condition) was used to estimate the value for the universe of plans in the stratum. The estimates were then added to obtain a total for all strata combined. To estimate the financial indicators, which consist of a ratio of two data elements (e.g., plan income to expenses), we used stratified ratio estimation techniques. Basically, these techniques involve calculating expansion estimates for each data element and then calculating the ratio between the estimates. We performed a random-sample verification of the data entry and tested the calculations to ensure the reliability of our analyses.

The sampling errors are stated at the 95-percent confidence level. This means that, if data were collected for all multiemployer pension plans having 100 or more participants in the study area (according to PBGC's records for 1979), the chances are 19 out of 20 that the results obtained would not differ from the sample estimates by more than the sampling error shown for each estimate. Our plan data estimates for plan years 1978, 1979, and 1980 and their related sampling errors are presented in appendix VI. As applicable, we indicate where data estimates should be used with caution because of relatively large sampling errors. We performed our work in accordance with generally accepted government audit standards.

Further, many demographic and socioeconomic factors, such as those discussed on page 3, could play a part in the changes noted in this report. Also, the available data represented too limited a time span (1978-80) for trend analysis. Therefore, because of the complex and interrelated nature of the variables affecting, and the limited data available on, the trends in financial and participant data, we are not commenting on any expectations of future conditions of multiemployer pension plans. We believe, however, that the data presented in this report establish a baseline useful for future evaluations of changes to multiemployer plan financial and participant characteristics. Further, because we believe the data could be useful to the pension community in researching future legislative considerations, we are publishing the data for general distribution.

CHAPTER 2

ESTIMATED CHANGES IN

MULTIEMPLOYER PLAN FUNDED POSITION

MPPAA was enacted in September 1980 because of concern that underfunded plans could terminate, placing billions of dollars of claims against the insurance program. The pension plan assets to vested benefits ratio measures the percentage of vested benefits covered by assets at a point in time and indicates whether there is a contingent liability[1] against the insurance program. Our estimates of the ratio under different assumptions indicate that the overall funded position of the 1,276 multiemployer plans in our study area improved between plan years 1978 and 1980. The contingent liability against the program, however, remained substantial.

On the plan continuation basis (actuarial value of plan assets and vested benefits), the plans' total estimated 1978 vested benefits of about $39.2 billion were 56 percent funded by assets. Although the plans' estimated vested benefits increased to about $46.1 billion by 1980, they were 66 percent funded by assets ($15.6 billion net unfunded). On the plan termination basis (current values of assets and vested benefits), the improved overall funded position of the plans was even more evident.[2] Our estimates also indicate that the funded position of all industry and plan size groups improved, but the groups' funded positions varied.

Although the overall funded position of plans improved between 1978 and 1980, their unfunded benefits was a substantial contingent liability against the insurance program. Further, our analysis of the individual funded positions of the 149 sample plans covered by our review also indicated that the contingent liability against the program was in the billions of dollars. Under plan continuation assumptions, 29 percent of the 149 plans had enough assets to cover vested benefits. However, the 71 percent of the plans that were less than fully funded had unfunded benefits totaling $11.2 billion for plan year 1980. PBGC has noted that plan continuation assumptions may overstate

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[1]In this report, contingent liabilities are defined as potential obligations that, in the future, may develop into actual liabilities or may dissolve without leading to an insurance claim.

[2]The computation of plan funded position under plan continuation and termination assumptions is discussed on pages 5 and 6.

unfunded benefits because the actuarial assumptions tend to be conservative. We agree; nevertheless, unfunded benefits computed under less conservative termination interest rate assumptions for individual plans remained in the billions of dollars.

OVERALL FUNDED POSITION OF STUDY AREA PLANS IMPROVED

The estimated[3] overall funded position of the 1,276 plans under plan continuation assumptions (actuarial values of plan assets and vested benefits) increased from 56.3 percent in 1978 to 66.2 percent in 1980. As shown in chart 2.1, the funded position change was the result of the plans having a relatively greater percentage increase in the value of assets than vested benefits during the period. While assets grew from $22.1 billion in 1978 to $30.5 billion in 1980 (38 percent), vested benefits grew from $39.2 billion to $46.1 billion (about 18 percent).

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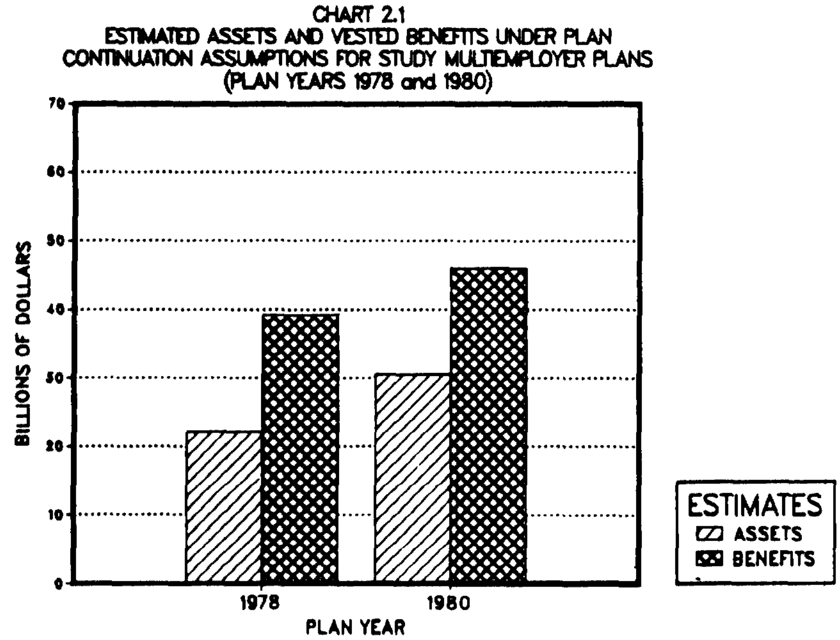
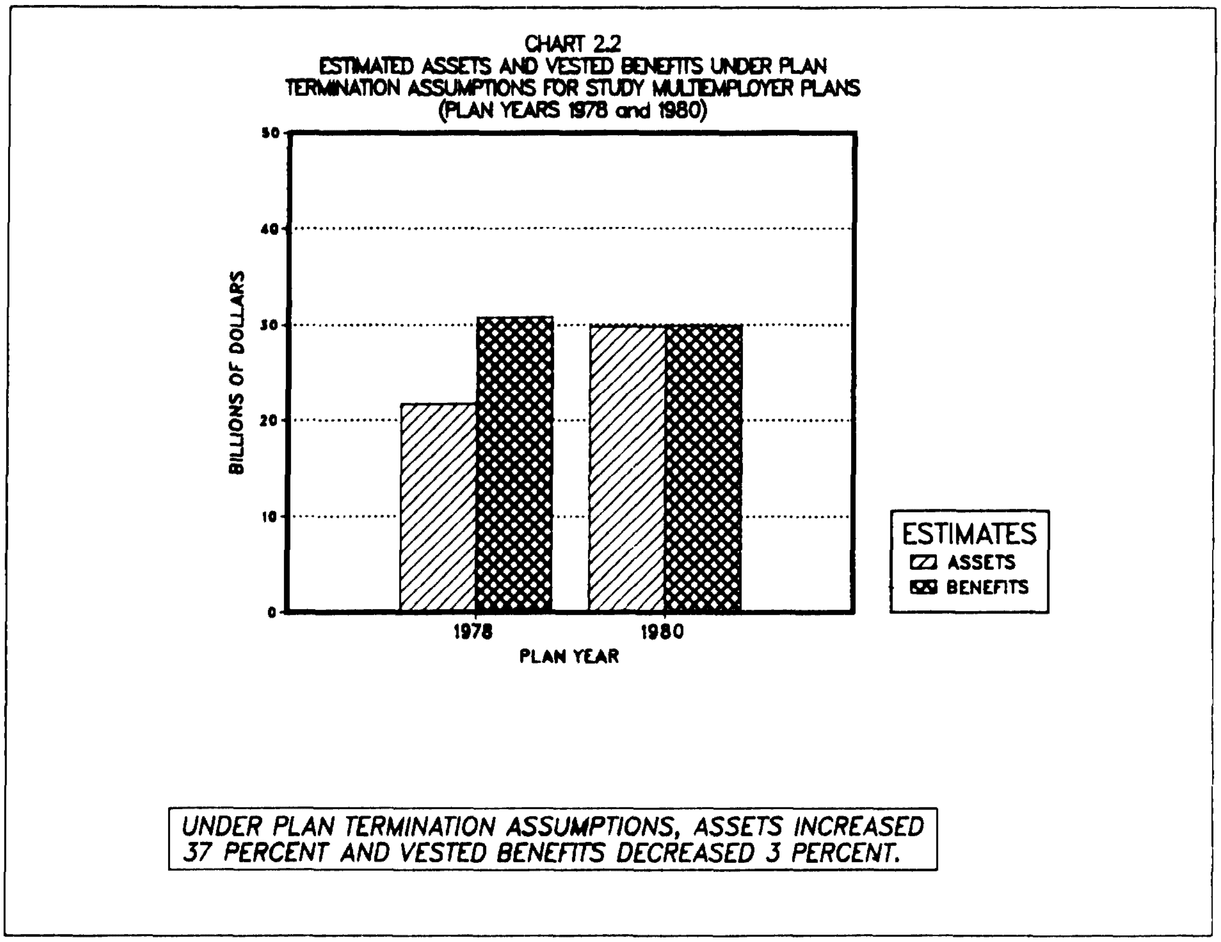
[3]Unless otherwise indicated, the estimated values presented in this chapter are also included with sampling errors in tables 16 through 21 of appendix VI.



UNDER PLAN CONTINUATION ASSUMPTIONS, ASSETS INCREASED 38 PERCENT AND VESTED BENEFITS GREW 18 PERCENT.

The overall funded position of the 1,276 plans under plan termination assumptions (current value of assets and vested benefits) increased from 70.4 percent in 1978 to 99.8 percent in 1980. As shown in chart 2.2, this improvement under termination assumptions was the result of assets increasing from $21.7 billion in 1978 to $29.8 billion in 1980 (about 37 percent), while the value of vested benefits decreased from $30.8 billion to $29.9 billion (about 3 percent).



As indicated, the overall funded position of plans (in terms of plan assets to vested benefits) under termination assumptions was higher than under plan continuation assumptions primarily because of the differences in the value of vested benefits rather than the value of assets in plan years 1978 and 1980. The reasons for the differences in the values of assets and vested benefits are discussed in more detail in the following section. Also, the estimated funded positions and value of all participants' benefits (both vested and nonvested) under plan continuation assumptions for plan years 1978 and 1980 are included in appendix III.

Reasons plan continuation and termination funded positions differed

As shown earlier, the overall funded position of the 1,276 study area plans differed substantially under plan continuation and termination assumptions. For example, the plans' overall ratio of assets to vested benefits for 1978 was about 56 percent under plan continuation assumptions and about 70 percent under plan termination assumptions. The primary reason for the difference was the value of vested benefits used to compute the ratio under the two sets of assumptions.

To estimate the plan continuation funded position, we generally used the value of vested benefits reported by the sample plans' actuaries. For plan years 1978 and 1980, the actuaries most often used a 6-percent rate to determine the present value of vested benefits.[4] To estimate the plan termination funded position, we adjusted the reported vested benefit values to put them on about the same interest rates used by PBGC to value vested benefits of terminated plans. The PBGC rates used to determine the values of retirees' vested benefits (immediate annuities) were 7.5 percent for 1978 and 10 percent for 1980. Somewhat lower rates were used to determine the value of other participants' vested benefits (deferred annuities). The higher the interest rates used to value vested benefits at a point in time, the lower the value. With the same amount of assets, the lower the value of vested benefits, the higher the percentage of vested benefits covered by plan assets.

As shown by table 1, the higher interest rates used to determine the value of vested benefits for computing the plan termination funded position resulted in that value being substantially smaller (about 35 percent for 1980) than the value used to compute the plan continuation funded position.

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[4]The end-of-year values used for plan years 1978 and 1980 were those reported for the beginning of plan years 1979 and 1981. The median and mode rates used by sample plan actuaries for both years were 6 percent.

Table 1

Comparison of Estimated Vested Benefit Values Based on Actuarial and PBGC Interest Rates for Plan Years 1978 and 1980

	Vested benefits at		Difference	
	Actuarial rates	PBGC rates	Amount	Percent
	---------(billions)---------			
1978	$39.2	$30.8	$ 8.4	21.4
1980	46.1	29.9	16.2	35.1
Percent change	+17.6	-2.9		

The actuarial value of plan assets was used to compute the plan continuation funded position and the current (generally market) value was used for the termination funded position. As shown by table 2, the percentage difference of the two values for the same plan years was small, with the actuarial value being the larger. Therefore, with the same value of vested benefits, the funding ratio would be somewhat higher using the actuarial value of assets.

Table 2

Comparison of Estimated Actuarial and Current Asset Values for Study Area Plans for Plan Years 1978 and 1980

	Asset value		Difference	
	Actuarial	Current	Amount	Percent
	---------(billions)----------			
1978	$22.1	$21.7	$0.4	1.8
1980	30.5	29.8	.7	2.3
Percent change	+38.0	+37.3		

Since the asset values used to compute the plan continuation and termination funded positions for the same years were similar, the differences primarily resulted from the differences in the values of vested benefits.

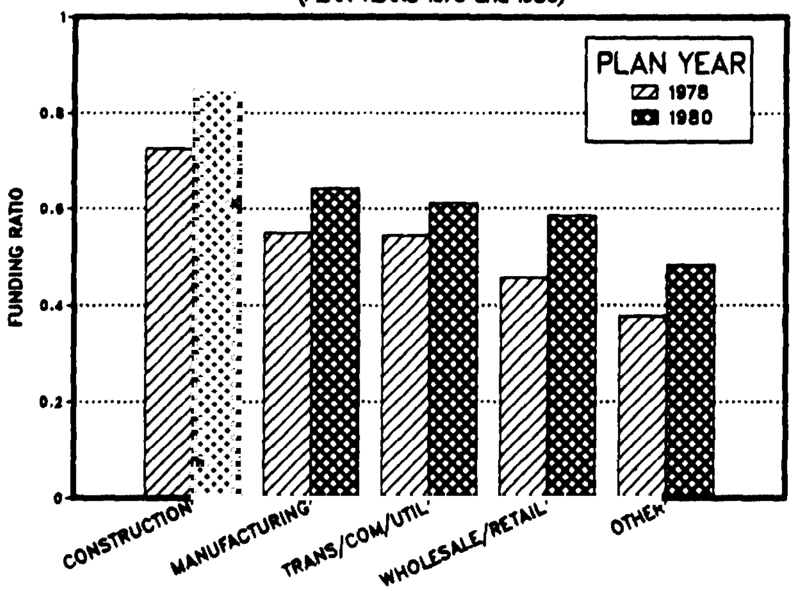
FUNDED POSITION OF INDUSTRY
GROUP PLANS IMPROVED

As discussed in the following sections and shown in the charts and tables, the funded position of all industry group plans improved between plan years 1978 and 1980 under both plan continuation and termination assumptions.

Plan continuation assumptions

As shown by chart 2.3, the funded position of all industry group plans improved between plan years 1978 and 1980 under plan continuation assumptions. Construction industry plans had the highest funding ratio of all industry groups during the period--vested benefits were 72.6 percent funded in 1978 and 84.9 percent funded in 1980. Plans we grouped into the "other" industry had the lowest funding ratio--37.8 percent in 1978 and 48.2 percent in 1980.

CHART 2.3
FUNDING RATIOS BY INDUSTRY GROUP
UNDER PLAN CONTINUATION ASSUMPTIONS
(PLAN YEARS 1978 and 1980)



THE FUNDING RATIOS INCREASED FOR ALL INDUSTRY GROUPS UNDER PLAN CONTINUATION ASSUMPTIONS.

The improvement was the result of plan assets growing faster than vested benefits, as shown in table 3. The increase in industry group plan assets during the period under plan continuation assumptions ranged from about 28 percent for the transportation, communication, and utilities industry plans to about 64 percent for the wholesale and retail industry plans. The increases in the value of vested benefits ranged from about 12 percent for manufacturing industry plans to about 23 percent for the "other" industry plans.

Table 3

Change by Industry in the Value of Assets and Vested Benefits Under Plan Continuation Assumptions for Plan Years 1978 and 1980

Industry	Assets			Vested benefits		
	1978	1980	Percent change[a]	1978	1980	Percent change[a]
	--(billions)--			--(billions)--		
Construction	$8.4	$11.7	+39.3	$11.6[b]	$13.8[b]	+19.0
Manufacturing	4.4	5.8	+31.8	8.1	9.1	+12.3
Transportation, communication, and utilities	5.3	6.8	+28.3	9.7	11.2	+15.5
Wholesale and retail	1.1	1.8	+63.6	2.5	3.0	+20.0
Other[c]	2.7[b]	4.3[b]	+59.3	7.3	9.0	+23.3

[a]Sampling errors were not calculated individually, but our test calculations show the errors to be relatively minor except for the values noted b.

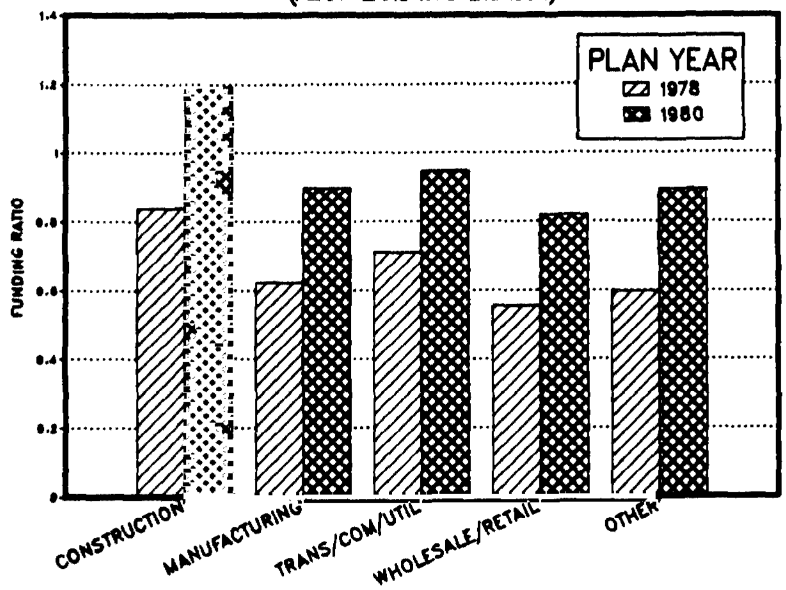
[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Plan termination assumptions

As shown by chart 2.4, the funded position of all industry groups under plan termination assumptions also indicated improvement. Again, construction industry plans had the highest funding ratio in both years--84 percent in 1978 and 119.4 percent in 1980. The wholesale and retail industry group had the lowest funding ratio--about 55.6 percent in 1978 and 82 percent in 1980.

CHART 2.4
FUNDING RATIOS BY INDUSTRY GROUP
UNDER PLAN TERMINATION ASSUMPTIONS
(PLAN YEARS 1978 and 1980)



THE FUNDING RATIOS INCREASED FOR ALL INDUSTRY GROUPS UNDER PLAN TERMINATION ASSUMPTIONS.

The improvement was generally the result of substantial increases in the value of each industry group's assets and a decrease in the value of vested benefits, as shown in table 4. The change in the value of assets for individual industry groups ranged from an increase of about 26 percent for the transportation, communication, and utilities industry group to about 56 percent for the "other" industry group. The change in the value of vested benefits for the groups ranged from a decrease of about 7 percent for the manufacturing group to an increase of about 4 percent for the other group.

Table 4

Change by Industry in Value of Assets and Vested Benefits Under Plan Termination Assumptions for Plan Years 1978 and 1980

Industry	Assets 1978	Assets 1980	Assets Percent change[a]	Vested benefits 1978	Vested benefits 1980	Vested benefits Percent change[a]
	—(billions)—			—(billions)—		
Construction	$8.2	$11.4	+39.0	$9.7[b]	$9.5[b]	-2.1
Manufacturing	4.3	5.7	+32.6	6.9	6.4	-7.2
Transportation, communication, and utilities	5.3	6.7	+26.4	7.4	7.1	-4.0
Wholesale and retail	1.2	1.8	+50.0	2.2	2.2	0.0
Other[c]	2.7[b]	4.2[b]	+55.6	4.5	4.7	+4.4

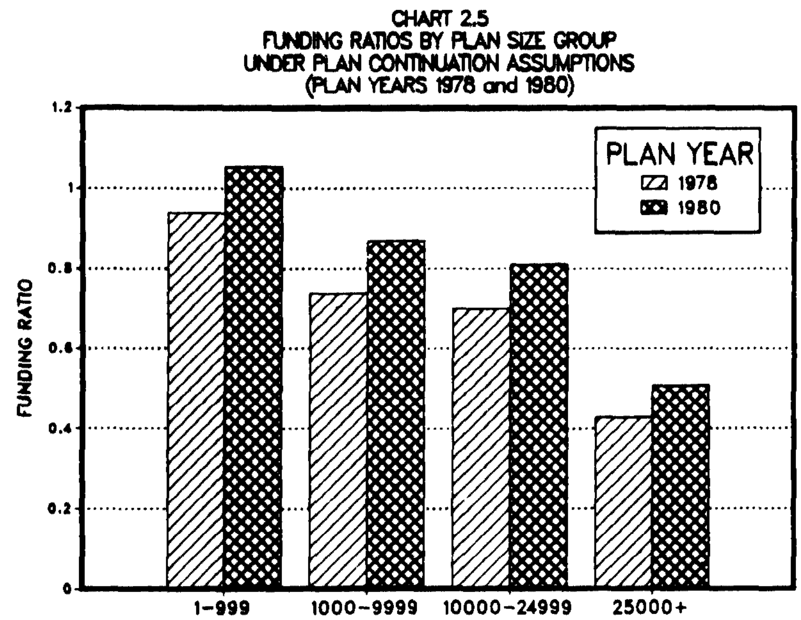
[a],[b],[c]See footnotes to table 3 on page 18.

FUNDED POSITION OF PLAN SIZE GROUPS IMPROVED

As discussed in the following sections and shown in the charts and tables, the funded position of all plan size groups improved between plan years 1978 and 1980 under both plan continuation and termination assumptions.

Plan continuation assumptions

As shown by chart 2.5, the funded position of all plan size groups improved under plan continuation assumptions during the plan year 1978 to 1980 period. Plans with fewer than 1,000 participants (the smallest size group) had the highest funding ratio of all plan size groups during the period--vested benefits were 93.8 percent funded in 1978 and 105.3 percent funded in 1980. Plans with 25,000 or more participants (the largest size group) had the lowest funding ratio--their funding ratio was 42.8 percent in 1978 and 50.7 percent in 1980.



THE FUNDING RATIOS INCREASED FOR ALL PLAN SIZE GROUPS UNDER PLAN CONTINUATION ASSUMPTIONS.

The improvement was the result of plan assets growing faster than vested benefits, as shown in table 5. The increase in plan size group assets during the period under plan continuation assumptions ranged from 31 percent for plans with 10,000 to 24,999 participants to about 43 percent for plans with 25,000 or more participants. The increases in the value of vested benefits ranged from 13 percent for plans with 1,000 to 9,999 participants to 25 percent for plans with fewer than 1,000 participants.

Table 5

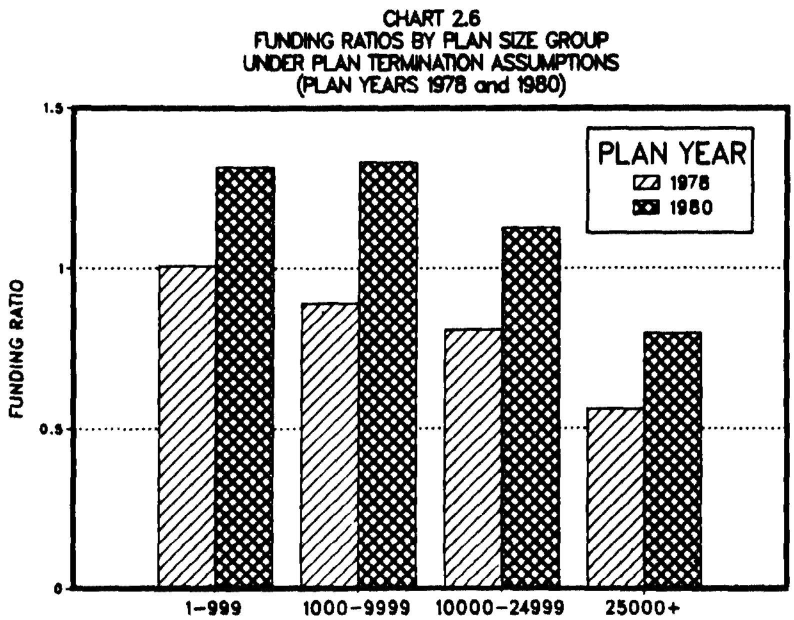
Change by Plan Size Group in the Value of Assets and Vested Benefits Under Plan Continuation Assumptions for Plan Years 1978 and 1980

Plan size	Assets			Vested benefits		
	1978	1980	Percent change[a]	1978	1980	Percent change[a]
	--(billions)--			--(billions)--		
100 to 999	$1.5	$ 2.1	+40.0	$ 1.6	$ 2.0	+25.0
1,000 to 9,999	6.8	9.3	+36.8	9.2	10.4	+13.0
10,000 to 24,999	4.2	5.5	+31.0	5.9	6.8	+15.3
25,000 and over	9.6	13.7	+42.7	22.4	27.0	+20.5

[a]Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor.

Plan termination assumptions

As shown by chart 2.6, estimates under plan termination assumptions indicated an improvement in the funded position of all plan size groups during the period. While plans with fewer than 1,000 participants had the highest funding ratio in 1978 (100.8 percent), plans with 1,000 to 9,999 participants had the highest ratio in 1980 (133.2 percent). Plans with 25,000 or more participants had the lowest funding ratios in both years--56.2 percent in 1978 and 79.6 percent in 1980.



THE FUNDING RATIOS INCREASED FOR ALL PLAN SIZE GROUPS UNDER PLAN TERMINATION ASSUMPTIONS.

As shown in table 6, the improvement was generally the result of substantial increases in the value of each plan size group's assets and a stable or decreasing value of vested benefits. The change in the value of assets for plan size groups ranged from an increase of about 29 percent for plans with fewer than 1,000 participants to an increase of 43 percent for plans with 25,000 or more participants. The change in the value of vested benefits for the groups ranged from a decrease of about 9 percent for plans with 1,000 to 9,999 participants to an increase of 1 percent for plans with 25,000 or more participants.

Table 6

Change by Plan Size Group in the Value of Assets and Vested Benefits Under Plan Termination Assumptions for Plan Years 1978 and 1980

Plan size	Assets 1978	Assets 1980	Assets Percent change[a]	Vested benefits 1978	Vested benefits 1980	Vested benefits Percent change[a]
	—(billions)—			—(billions)—		
100 to 999	$1.4	$ 1.8	+28.6	$ 1.4	$ 1.4	0.0
1,000 to 9,999	6.7	9.1	+35.8	7.5	6.8	-9.3
10,000 to 24,999	4.3	5.6	+30.2	5.3	5.0	-5.7
25,000 and over	9.3	13.3	+43.0	16.6	16.7	+0.6

[a]See note to table 5 on page 22.

UNFUNDED VESTED BENEFITS OF SAMPLE PLANS WERE SUBSTANTIAL

The multiemployer insurance program guarantees, within certain limits, the payment of participants' unfunded vested benefits. Until the unfunded guaranteed amounts are funded, they represent a contingent liability against the program. The billions of dollars of potential liability from estimated plan terminations was a major reason for MPPAA's revisions.

Our analysis of the 1980 funded position of the 149 sample plans covered by our review showed that, under plan continuation assumptions, the funded position of individual plans can vary widely and the unfunded benefits of some plans can represent a substantial liability against the insurance program. For example, although 43 of the 149 plans had enough assets to cover vested benefits, 106 of the plans had unfunded benefits totaling $11.2 billion. The funded position of the 106 plans ranged from less than 1 percent to 98 percent.

In commenting on a prior report, PBGC noted that using figures reported by plans may overstate unfunded benefits because the assumptions used (what we call plan continuation assumptions) for determining the amounts tend to err on the conservative side. We agreed with PBGC. As pointed out in this chapter, the interest rates used by actuaries to value vested benefits were lower than PBGC-published rates for valuing the vested benefits of terminating plans (plan termination assumption).

Based on plan termination assumptions, we found that 78 of the 149 plans were fully funded; but the unfunded vested benefits of the other 71 plans remained substantial--$6.4 billion.

CHAPTER 3

ESTIMATED CHANGES IN MULTIEMPLOYER

PLAN INCOME AND EXPENSES

As shown in chapter 2, the overall funded position of the 1,276 study area plans improved between plan years 1978 and 1980 because assets grew faster than vested benefits. The annual income to expenses (cash flow) ratio is another indicator of plan financial condition which indicates whether there is asset growth or decline. Our estimates of this ratio for the study area plans indicate that asset growth, overall, was strong in 1978 and increased in 1980--from $2.42 to $2.65 of income for every dollar of expense. While the estimated income of the plans increased from $5.8 billion in 1978 to $7.8 billion in 1980 (about 34 percent), expenses increased from $2.4 to $2.9 billion (21 percent).

Our estimates also indicate that the cash flow ratios increased for all but one of the industry groups and all but one of the plan size groups covered by our review. Although the ratio of income to expenses decreased for the wholesale and retail industry and the smallest plan size (plans with fewer than 1,000 participants) groups, the ratios remained strong in 1980 for all groups and ranged from 2.37 to 3.07 for the industry groups and from 2.37 to 3.24 for the size groups.

We found, however, that the ratios for individual plans in the study area varied from the study area plans' ratio. For example, the plan year 1980 ratios of the 149 sample plans covered by our review ranged from less than $1 (negative cash flow indicating asset depletion) to more than $6 for every expense dollar. Plans with a low ratio, especially those with a negative ratio, would be more likely to pose a risk to the PBGC insurance program. Under MPPAA's revisions, the insurance program is required to provide loan assistance to insolvent plans to help them pay guaranteed benefits. Plans that continue to deplete asset reserves because of negative cash flow have the highest probability of becoming insolvent. In this regard, 12 of the 149 sample plans covered by our review had negative or weak cash flows and unfunded vested benefits of about $839 million in plan year 1980.

Our estimates of the major components of plan income and expenses for plan years 1978 and 1980 are included in appendix IV. The components of plan income include contributions and investment income with plan expenses' components being benefit payments and administrative costs.

OVERALL CASH FLOW OF STUDY AREA PLANS GENERALLY IMPROVED

Between plan years 1978 and 1980, the estimated[1] cash flow ratios improved for study area plans overall and for most plan industry and size groups. For the plans overall, the ratio was strong[2] in 1978 and had increased by 1980. As shown by chart 3.1, the estimated $5.8 billion in income of the 1,276 study area plans for plan year 1978 was about 2.42 times the $2.4 billion in expenses for the year. The plans' overall cash flow ratio had increased to 2.65 (about 10 percent) in 1980 because the increase in income was greater than that of expenses. Whereas income totaled $7.8 million in 1980 (about a 34-percent increase over 1978), expenses totaled $2.9 billion (a 21-percent increase).

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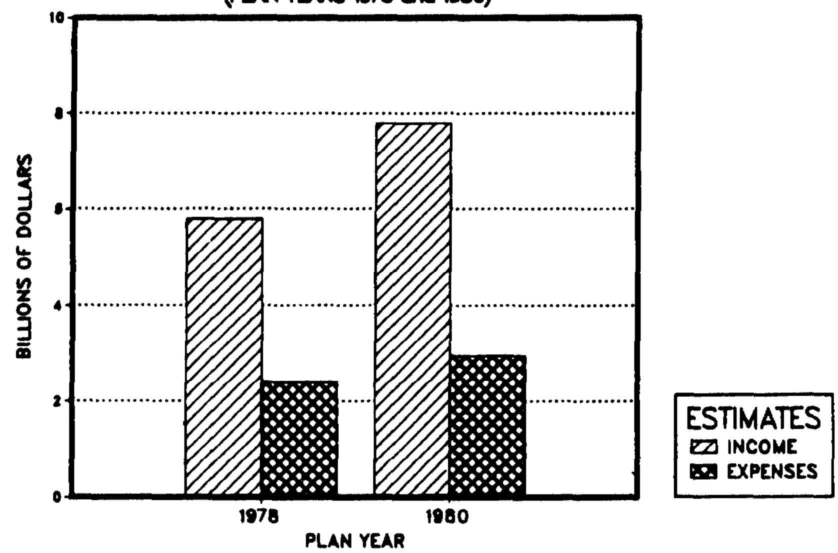
[1]Unless otherwise indicated, the estimated values presented in this chapter are also included with sampling errors in tables 8, 12, and 15 of appendix VI.

[2]In our report The 1980 Multiemployer Pension Plan Amendments Act: An Assessment of Funding Requirement Changes (GAO/HRD-85-1, Feb. 27, 1985), we reported on the financial condition of the 149 sample plans covered by our review. In assessing the plans' financial condition, we considered a cash flow of at least 1.75 as one of several indicators of adequate financial condition. As pointed out in the report, however, a lower ratio does not necessarily indicate inadequate cash flow.

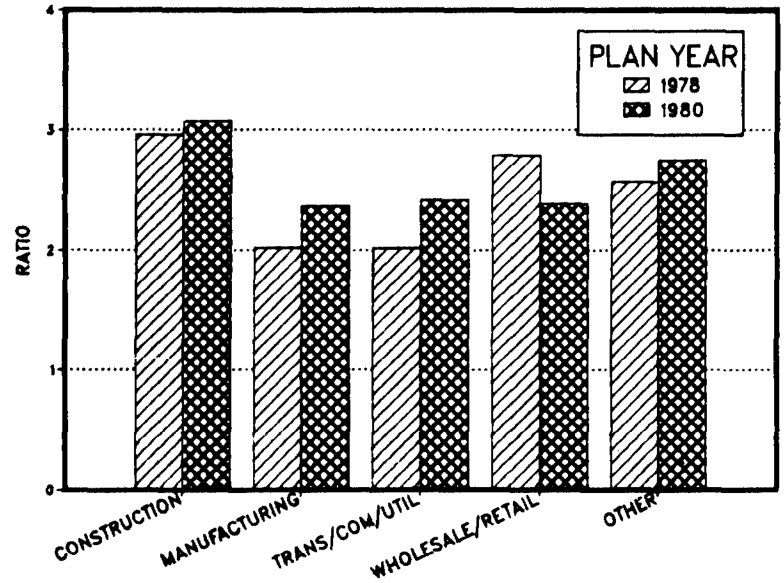
CHART 3.1
ESTIMATED INCOME AND EXPENSES FOR THE
1,276 STUDY AREA MULTIEMPLOYER PLANS
(PLAN YEARS 1978 and 1980)



FROM PLAN YEAR 1978 TO 1980, INCOME GREW 35 PERCENT AND EXPENSES INCREASED 23 PERCENT.

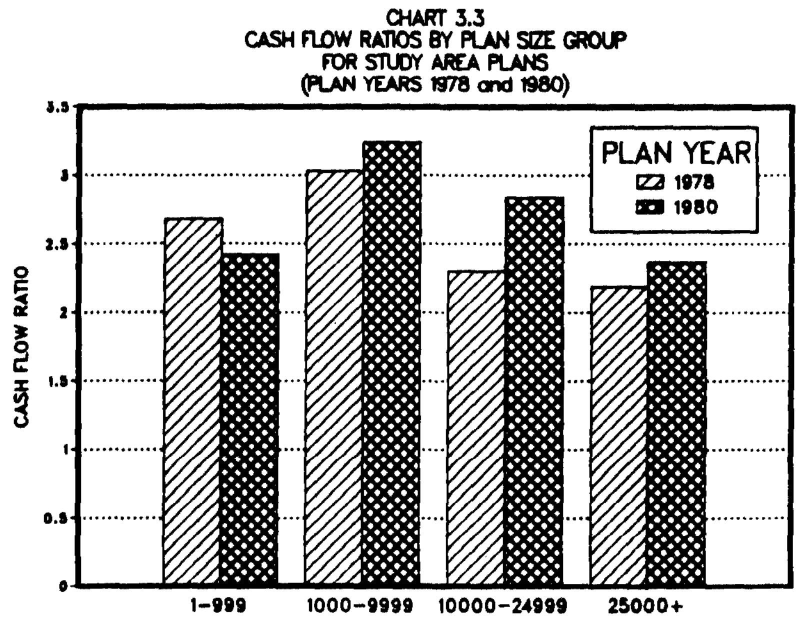
As shown by chart 3.2, the cash flow ratios were strong for all industry groups in 1980. Also, between 1978 and 1980, the ratios increased for all groups except for the wholesale and retail industry. For the groups with ratio increases, the 1978 ratios ranged from 2.02 for the manufacturing and the transportation, communication, and utilities plans to 2.96 for the construction plans. In 1980, the ratios ranged from 2.37 for the manufacturing industry plans to 3.07 for the construction plans. The percentage increases in the ratios from 1978 to 1980 ranged from about 4 percent for the construction industry plans to about 20 percent for the transportation, communication, and utilities plans. The ratio for the wholesale and retail industry plans decreased during the period from 2.79 to 2.39, or about 14 percent.

CHART 3.2
CASH FLOW RATIOS BY INDUSTRY GROUP
FOR STUDY AREA PLANS
(PLAN YEARS 1978 and 1980)



CASH FLOW RATIOS INCREASED FOR 80 PERCENT OF THE INDUSTRY GROUPS.

As shown by chart 3.3, the cash flow ratios for all plan size groups were strong in 1980. Also, between 1978 and 1980, the ratios increased for all groups except for the smallest group with fewer than 1,000 participants. The smallest group's ratio decreased from 2.68 to 2.42, or about 10 percent. For the other three size groups, the 1978 ratios ranged from 2.19 for the largest size group to 3.03 for the next to the smallest size group (plans with 1,000 to 9,999 participants). In 1980, the ratios ranged from 2.37 for the largest plan size group to 3.24 for the plans with 1,000 to 9,999 participants. The percentage increases in the ratios from 1978 to 1980 ranged from about 7 percent for the plans with 1,000 to 9,999 participants to about 24 percent for the plans with 10,000 to 24,999 participants.



SEVENTY-FIVE PERCENT OF THE PLAN SIZE GROUPS SHOWED A CASH FLOW RATIO INCREASE.

A comparison of charts 3.2 and 3.3 with table 7 shows that the cash flow ratios of industry or size groups increased between 1978 and 1980 because the percentage increase in combined income was greater than that for expenses. Conversely, the ratios decreased because the percentage increase in expenses was greater than that for income.

Table 7

Estimated Amount of and Percent Change in Income and Expenses by Industry and Plan Size Groups for Plan Years 1978 and 1980

Group	Total income 1978	Total income 1980	Total income Percent change[a]	Total expenses 1978	Total expenses 1980	Total expenses Percent change[a]
	-(millions)--			-(millions)--		
By industry:						
Construction	$1,870	$2,545	+36.1	$ 632[b]	$ 830[b]	+31.3
Manufacturing	1,126	1,602	+42.3	558	675	+21.0
Transportation, communication, and utilities	1,152	1,638	+42.2	571	678	+18.7
Wholesale and retail	332[b]	476[b]	+43.4	119	199[b]	+67.2
Other[c]	1,314	1,537	+17.0	511	558	+9.2
By plan size (based on number of participants):						
100 to 999	294	378	+28.6	110	156	+41.8
1,000 to 9,999	1,670	2,358	+41.2	551	727	+31.9
10,000 to 24,999	791	1,120	+41.6	344	394	+14.5
25,000 and over	3,039	3,942	+29.7	1,386	1,662	+19.9

[a]Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor except for the classifications noted b.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

CASH FLOW OF SAMPLE PLANS VARIED SUBSTANTIALLY

Prior to MPPAA, ERISA provided that the insurance program pay, within certain limits, participants' vested benefits not funded by plan assets at plan termination or paid by collecting employers' liability for unfunded benefits. This changed in 1980, when MPPAA revised the program provisions. MPPAA requires that the insurance program provide assistance (repayable loans) to plans that cannot pay guaranteed benefits when due (insolvent plans). Because the cash flow ratio indicates whether there is asset growth or depletion, it is another indicator of a plan's potential to remain solvent. Plans with negative cash flows (expenses exceed income) would be more likely to become insolvent and require assistance from the insurance program because asset reserves are being depleted. Plans with weak cash flows are also a potential risk because they have little margin for cash flow decline before asset depletion starts.

The cash flow ratios of the 149 sample plans covered by our review varied substantially in plan year 1980--from less than $1 to over $6 of income for every expense dollar. Further, some plans with unfunded vested benefits had a negative or weak cash flow. In this regard, 3 of the 149 plans had negative cash flows and another 9 had positive cash flows, but income of less than $1.25 for every expense dollar. We believe the nine plans with less than $1.25 of income for every expense dollar had little margin for cash flow decline before asset depletion. These 12 plans had unfunded benefits of $839.1 million in plan year 1980.

CHAPTER 4

ESTIMATED CHANGES IN

MULTIEMPLOYER PLAN PARTICIPANTS

Between plan years 1978 and 1980, the funded position improved for the 1,276 study area plans overall and for all plan industry and size groups. Also, the cash flow of the plans overall and for the different groups remained strong in 1980 (see chs. 2 and 3). Because multiemployer plans rely primarily on contributions based on the active (working) participants to fund both their benefits and the unfunded benefits of other participants (generally retirees), the ratio of active to other participants (contribution ratio) is an important indicator of a plan's ability to maintain a healthy cash flow.

Although our estimates indicate that the total number of participants in the 1,276 study area plans increased between plan years 1978 and 1980, the estimated overall ratio of active to other participants decreased from 3.25 to 2.96 (about 9 percent). This decline was the result of a relatively higher percentage increase in other participants (about 12 percent) than that for active participants (about 2 percent). Our estimates also indicate that the ratios decreased for all size groups and all but one of the industry groups. The plan year 1980 ratios for the industry groups ranged from 2.53 for manufacturing plans to 5.08 for wholesale and retail plans. The ratios for the size groups ranged from 2.78 for the largest size group to 4.29 for the smallest size group.

We believe that, even though the contribution ratios decreased, the plan year 1980 ratio remained adequate to strong for the 1,276 plans overall and for all industry and size groups. However, our analysis of the plan year 1980 contribution ratio for each of the 149 sample plans covered by our review raises questions about some plans' ability to generate sufficient contributions to pay for unfunded benefits and, thereby, avoid becoming a risk to the PBGC insurance program. In this regard, 10 sample plans had low contribution ratios--less than 1.0 active for every other participant. Nine of these 10 plans had unfunded vested benefits of about $2.1 billion.

OVERALL RATIO OF ACTIVE TO OTHER PLAN PARTICIPANTS GENERALLY DECREASED

Between plan years 1978 and 1980, the estimated[1] ratio of active to other participants decreased for the study area plans overall and for most plan industry groups and for all size groups. However, their contribution ratios remained adequate to strong[2] in plan year 1980. The estimated total number of participants in the 1,276 plans increased from about 6.1 million in plan year 1978 to 6.4 million in 1980 (about 5 percent). However, the overall ratio of active to other participants decreased from 3.25 to 2.96 actives for every other participant (about 9 percent) because, as shown in chart 4.1, the percentage increase in other participants was greater than that for active participants. While other participants totaled 1.6 million in 1980 (about a 12-percent increase over 1978), active participants totaled 4.8 million (about a 2-percent increase).

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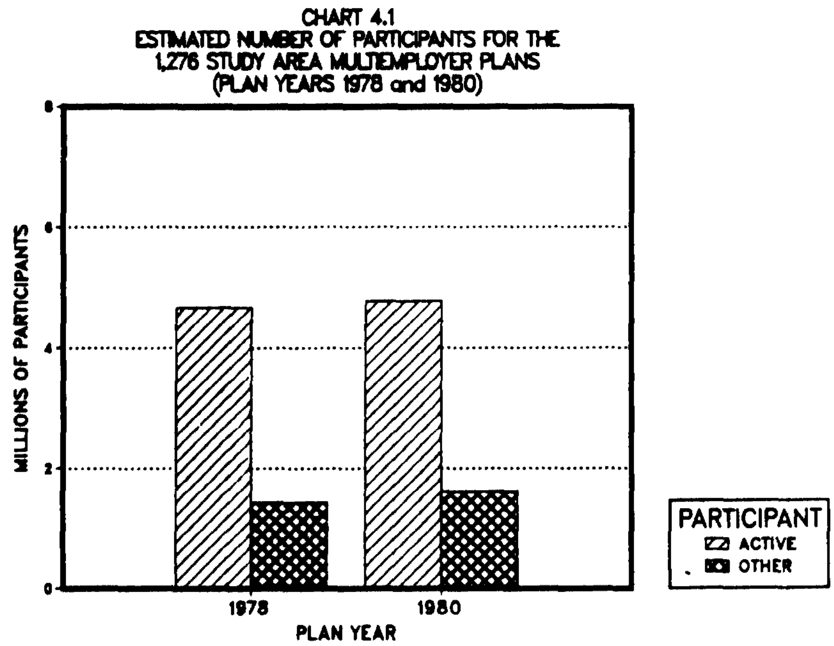
[1]Unless otherwise indicated, the estimated values presented in this chapter are also included with sampling errors in tables 1 through 4 of appendix VI.

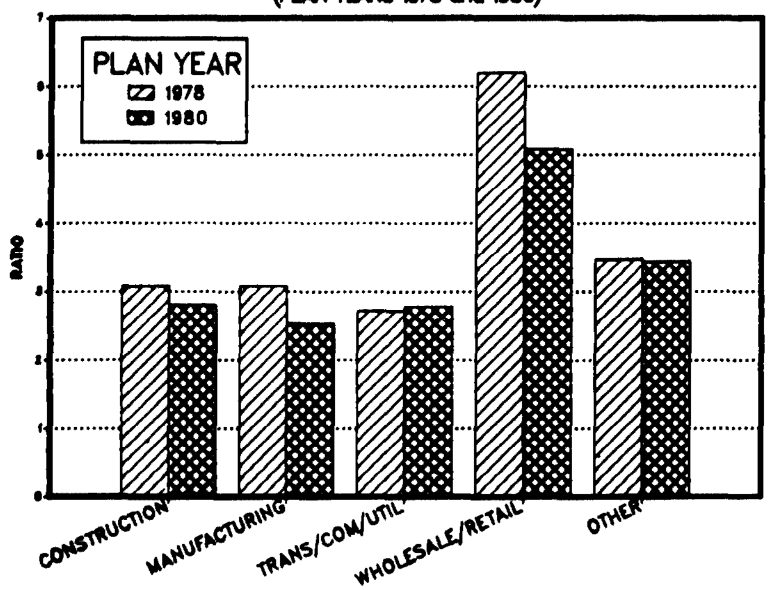
[2]In our report The 1980 Multiemployer Pension Plan Amendments Act: An Assessment of Funding Requirement Changes (GAO/HRD-85-1, Feb. 27, 1985), we reported on the financial condition of the 149 sample plans covered by our review. In assessing plan financial condition, we considered an active to other participants ratio of at least 2.00 to be one of several indicators of adequate financial condition. As pointed out in the report, however, a lower ratio does not necessarily indicate an inadequate contribution ratio.



FROM PLAN YEAR 1978 TO 1980, ACTIVE PARTICIPANTS GREW 2 PERCENT AND OTHER PARTICIPANTS INCREASED 12 PERCENT.

As shown by chart 4.2, the plan year 1978 ratios of active to other participants for the five industry groups covered by our review (based on the 1,276 study area plans) ranged from 2.72 to 6.20. By 1980, however, the ratios had decreased for all but the transportation, communication, and utilities plans, which had a ratio increase of about 2 percent. The percentage decrease in the ratio of the four groups varied from about 18 percent for the manufacturing and the wholesale and retail plans to about 1 percent for the "other" plan group. Even though the ratios decreased for four groups, we believe all industry groups had adequate to strong ratios in 1980--ranging from 2.53 for manufacturing plans to 5.08 for wholesale and retail plans.

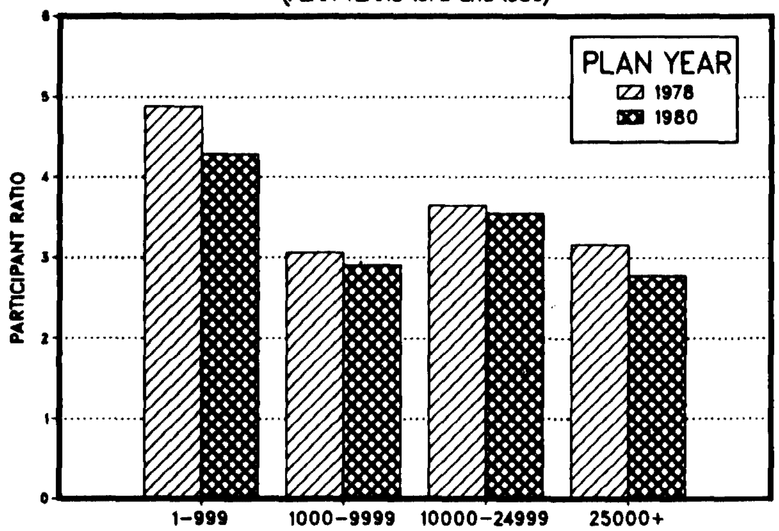
CHART 4.2
RATIO OF ACTIVE TO OTHER PARTICIPANTS
FOR STUDY AREA PLANS BY INDUSTRY GROUPS
(PLAN YEARS 1978 and 1980)



THE RATIO OF ACTIVE TO OTHER PARTICIPANTS DECREASED IN 4 OF THE 5 INDUSTRY GROUPS.

As shown by chart 4.3, the plan year 1978 ratios of active to other participants for the four plan size groups ranged from 3.07 to 4.88. By 1980, the ratios had decreased for all four groups with the percentage decrease varying from about 12 percent for both the smallest (plans with fewer than 1,000 participants) and largest (plans with 25,000 or more participants) size groups to about 3 percent for the next to the largest (plans with 10,000 to 24,999 participants) size group. Even though the ratios decreased for all size groups, we believe all had adequate to strong ratios in 1980--ranging from 2.78 for the largest plan size group to 4.29 for the smallest size group.

CHART 4.3
RATIO OF ACTIVE TO OTHER PARTICIPANTS FOR
STUDY AREA PLANS BY PLAN SIZE GROUPS
(PLAN YEARS 1978 and 1980)



THE RATIO OF ACTIVE TO OTHER PARTICIPANTS DECREASED FOR ALL PLAN SIZE GROUPS.

As shown by table 8, the reasons for the changes in the ratios were mixed. For the industries, the contribution ratios decreased in two groups because other participants increased by a higher percentage than active participants. In another two groups, the ratios decreased because the number of other participants increased while active participants decreased. The transportation, communication, and utilities group's contribution ratio increased because active participants increased by a higher percentage than other participants.

The contribution ratios of all plan size groups decreased. The ratios decreased for three groups because other participants increased by a higher percentage than active participants. The fourth group's ratio decreased because the number of other participants increased while active participants decreased.

The table also shows that all size groups and all industry groups except for the wholesale and retail group had an increase in estimated total participants between plan years 1978 and 1980. The percentage changes in total participants for the industry groups ranged from a decrease of about 2 percent for wholesale and retail plans to an increase of about 8 percent for construction and other industry plans. The percentage increases in total participants for the plan size groups ranged from about 2 percent for the largest size group to about 17 percent for the smallest size group.

Table 8

Estimated Number of and Percent Change in Study Area Plans Total, Active, and Other Plan Participants by Industry and Plan Size Groups For Plan Years 1978 and 1980

Group	Active 1978	Active 1980	Active Percent change[a]	Other 1978	Other 1980	Other Percent change[a]	Total 1978	Total 1980	Total Percent change[a]
	-(thousands)-			-(thousands)-			-(thousands)-		
By industry:									
Construction	1,155	1,222	+5.8	375[b]	434	+15.7	1,530	1,656	+8.2
Manufacturing	1,348	1,296	-3.9	437	513	+17.4	1,784	1,809	+1.4
Transportation, communication, and utilities	769	803	+4.4	283	288	+1.8	1,052	1,092	+3.8
Wholesale and retail	478	457	-4.4	77	90	+16.9	555	546	-1.6
Other[c]	917[b]	994[b]	+8.4	264	289	+9.5	1,182	1,283	+8.5
By plan size (based on number of participants):									
100 to 999	199	228	+14.6	41	53	+29.3	240	281	+17.1
1,000 to 9,999	1,157	1,237	+6.9	377	426	+13.0	1,534	1,663	+8.4
10,000 to 24,999	673	700	+4.0	184	197	+7.1	858	897	+4.5
25,000 and over	2,638	2,608	-1.1	834	939	+12.6	3,472	3,547	+2.2

[a]Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor except for the categories noted b.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Active and other may not add to total due to independent estimation.

SAMPLE PLANS' RATIOS OF ACTIVE TO OTHER PARTICIPANTS VARIED SUBSTANTIALLY

An adequate or strong ratio of active to other participants, at a point in time, indicates that a plan has the ability to generate sufficient income to pay for benefits and administrative costs. A low ratio, however, raises questions about that ability and, therefore, whether the plan may pose a risk to the PBGC insurance program.

The adequate to strong plan year 1980 ratios for study area plans overall and for all industry and size groups did not raise such questions, but our analysis of the ratios for the 149 sample plans covered by our review did. Although 20 of the 149 plans had 7.00 or more active to every other participant in 1980, 10 (6.7 percent) had less than 1.0 active to every other participant. For plan year 1980, 1 of these 10 plans was fully funded, while the unfunded vested benefits of the other 9 plans totaled $2.1 billion--a substantial plan year 1980 contingent liability against the PBGC insurance program.

CHAPTER 5

CONCLUDING OBSERVATIONS

MPPAA was enacted in September 1980 subsequent to a July 1978 PBGC report that indicated that the termination of underfunded multiemployer pension plans could place billions of dollars of claims against the insurance program. PBGC expressed particular concern about the financial condition of plans that had a low cash flow (indicated by the ratio of income to expenses) and a low number of working participants to generate sufficient contributions to pay for both their benefits and the unfunded benefits of a high number of retirees (indicated by the contribution ratio of active to other participants).

Our analyses indicate that the financial condition of the 1,276 plans in the geographical areas covered by our review generally improved while MPPAA's provisions were being considered--1978 to 1980. Based on plan actuarial data, the plans' vested benefits were about 56 percent funded by assets in 1978. By 1980, they were 66 percent funded. From 1978 to 1980, the estimated cash flow of the plans improved from $2.42 to $2.65 of income for every dollar of expense. Although there was about a 9-percent decrease in the plans' ratio of active to other plan participants, the estimated 1980 contribution ratio remained adequate--2.96 active for every other participant.

Our estimates also indicate that there were variations in the changes to the financial condition indicators during the period for the industry and plan size groups covered by the 1,276 plans. However, the funded position of all of the groups improved, and their cash flows and contribution ratios remained adequate to strong.

Although the question of inadequate financial condition was not directly raised by the ratios for the 1,276 plans overall or for the industry and size groups, it was raised by our analysis of the 1980 financial condition indicators of the 149 sample plans covered in detail by our review. Our analysis indicated that some of the plans posed a substantial contingent liability against the PBGC insurance program. Although 43 of the 149 plans were fully funded based on plan actuarial data, 106 had unfunded vested benefits totaling about $11.2 billion. Also, 12 of the plans had negative or weak cash flows and unfunded benefits of about $839 million, and 10 had extremely low contribution ratios with 9 of the 10 having unfunded benefits of $2.1 billion.

Many demographic and socioeconomic factors could play a part in the changes noted in this report. Also, the available data represented too limited a time span (1978-80) for trend analysis. Therefore, because of the complex and interrelated nature of the variables affecting and the limited data available on the trends in financial and participant data, we did not comment on any expectations of future conditions of multiemployer pension plans. We believe, however, that the data presented in this report establish a baseline useful for future evaluations of changes in multiemployer plan financial and participant characteristics.

OUR PREVIOUSLY ISSUED REPORTS

ON MULTIEMPLOYER PENSION PLANS

Multiemployer Pension Plan Data Are Inaccurate and Incomplete (GAO/HRD-83-7, Oct. 25, 1982)

Assessment of Special Rules Exempting Employers Withdrawing From Multiemployer Pension Plans From Withdrawal Liability (GAO/HRD-84-1, May 14, 1984)

Incomplete Participant Data Affect Reliability of Values Placed by Actuaries on Multiemployer Pension Plans (GAO/HRD-84-38, Sept. 6, 1984)

The 1980 Multiemployer Pension Plan Amendments Act: An Assessment of Funding Requirement Changes (GAO/HRD-85-1, Feb. 27, 1985)

Effects of Liabilities Assessed Employers Withdrawing From Multiemployer Pension Plans (GAO/HRD-85-16, Mar. 14, 1985)

Effects of the 1980 Multiemployer Pension Plan Amendments Act on Plan Participants' Benefits (GAO/HRD-85-58, June 14, 1985)

TABLES COMPARING, BY INDUSTRY AND PLAN PARTICIPANT SIZE, OUR MULTIEMPLOYER PLAN SAMPLE WITH TOTAL PLANS AND PLANS ADMINISTERED IN THE STUDY GEOGRAPHIC AREA COVERED BY THE SAMPLE

Table 1

Comparison by Plan Size of Our Multiemployer Pension Plan Sample to Total Plans and Plans Administered in the Study Geographic Area[a] Covered by the Sample with 100 or More Participants[b]

Plan size (based on number of participants)	Plans: Total	Plans: Study area	Plans: Sample	Percent of sample plans to: Total plans	Percent of sample plans to: Plans in study area
100 to 999[c]	1,048	665	41	3.9	6.2
1,000 to 9,999[c]	737	505	53	7.2	10.5
10,000 to 24,999	86	62	23	26.7	37.1
25,000 and over	53	44	32	60.4	72.7
Total	1,924	1,276	149	7.7	11.7

[a]The geographic area covered by the sample includes 14 states and the District of Columbia.

[b]Unless otherwise noted, information obtained from PBGC computer records of plans with 100 or more participants paying plan year 1979 insurance program premiums as of July 1981.

[c]One of the plans in this interval had not paid plan year 1979 premiums as of July 1981, but it was included in IRS' records as filing a plan year 1979 ERISA annual report (Form 5500).

Table 2

Comparison by Plan Size of Participants Covered by Our Multiemployer Pension Plan Sample to Total Plans and Plans Administered in the Study Geographic Area[a] Covered by the Sample with 100 or More Participants[b]

Plan size (based on number of participants)	Participants in Total plans	Participants in Study area plans	Participants in Sample plans	Ratio of sample participants to participants in Total plans	Ratio of sample participants to participants in Study area plans
	------(thousands)-----			---(percent)---	
100 to 999[c]	446	286	16	3.6	5.6
1,000 to 9,999[c]	2,249	1,590	196	8.7	12.3
10,000 to 24,999	1,331	991	387	29.1	39.1
25,000 and over	4,311	3,329	2,885	66.9	86.7
Total	8,337	6,196	3,484	41.8	56.2

[a]The geographic area covered by the sample includes 14 states and the District of Columbia.

[b]Unless otherwise noted, information obtained from PBGC computer records of plans with 100 or more participants paying plan year 1979 insurance program premiums as of July 1981.

[c]One of the plans in this interval had not paid plan year 1979 premiums as of July 1981, but it was included in IRS' records as filing a plan year 1979 ERISA annual report (Form 5500).

Table 3

Industry Comparison of Our Multiemployer Pension Plan Sample to Total Plans and Plans Administered in the Study Geographic Area[a] Covered by the Sample with 100 or More Participants[b]

Industry	Plans: Total	Plans: Study area	Plans: Sample	Percent of sample plans to: Total plans	Percent of sample plans to: Plans in study area
Construction[c]	1,001	599	54	5.4	9.0
Manufacturing	267	209	41	15.3	19.6
Transportation, communication, and utilities	132	104	19	14.4	18.3
Wholesale and retail trades	270	199	18	6.7	9.0
Other[d]	254	165	17	6.7	10.3
Total	1,924	1,276	149	7.7	11.7

[a]The geographic area covered by the sample includes 14 states and the District of Columbia.

[b]Unless otherwise noted, information obtained from PBGC computer records of plans with 100 or more participants paying plan year 1979 insurance program premiums as of July 1981.

[c]Two of the plans had not paid plan year 1979 premiums as of July 1981, but they were included in IRS' records as filing a plan year 1979 ERISA annual report (Form 5500).

[d]Includes plans that could not be classified specifically and plans in the services; agriculture, fishing, and forestry; finance and insurance; and mining industries. Plans that could not be classified more specifically include those for which (1) the employers contributing to the plan were not predominantly involved in one business activity or (2) adequate information was not available for determining specific industry classification.

Table 4

Industry Comparison of Participants Covered by Our Multi-employer Pension Plan Sample to Participants Covered by Total Plans and Plans Administered in the Study Geographic Area[a] Covered by the Sample with 100 or More Participants[b]

Industry	Participants in: Total plans	Participants in: Study area plans	Participants in: Sample plans	Ratio of sample participants to participants in: Total plans	Ratio of sample participants to participants in: Study area plans
	------(thousands)-----			---(percent)---	
Construction[c]	2,556	1,820	719	28.1	39.5
Manufacturing	1,674	1,539	1,137	67.9	73.9
Transportation, communication, and utilities	1,643	1,018	747	45.5	73.4
Wholesale and retail trades	1,309	923	269	20.6	29.1
Other[d]	1,155	896	612	53.0	68.3
Total	8,337	6,196	3,484	41.8	56.2

[a]The geographic area covered by the sample includes 14 states and the District of Columbia.

[b]Unless otherwise noted, information obtained from PBGC computer records of plans with 100 or more participants paying plan year 1979 insurance program premiums as of July 1981.

[c]Two of the plans had not paid plan year 1979 premiums as of July 1981, but they were included in IRS' records as filing a plan year 1979 ERISA annual report (Form 5500).

[d]Includes plans that could not be classified specifically and plans in the services; agriculture, fishing, and forestry; finance and insurance; and mining industries. Plans that could not be classified more specifically include those for which (1) the employers contributing to the plan were not predominantly involved in one business activity or (2) adequate information was not available for determining specific industry classification.

ESTIMATED FUNDED POSITION AND VALUE OF ALL PARTICIPANTS' BENEFITS (VESTED AND NONVESTED) FOR PLAN YEARS 1978 AND 1980

Table 1

Estimated Value of and Percent Change in Total of Vested and Nonvested Benefits by Industry and Plan Size Groups for Plan Years 1978 and 1980

Group	Value of benefits 1978	Value of benefits 1980	Percent change[a]
	-----(millions)-----		
All plans	**$40,665**	**$46,842**	**+15.2**
By industry:			
Construction[b]	12,755	15,110	+18.5
Manufacturing	8,973	10,045	+11.9
Transportation, communication, and utilities	9,895	10,726	+8.4
Wholesale and retail	2,928	3,601	+23.0
Other[c]	6,114	7,360	+20.4
By plan size (based on number of participants):			
100 to 999	1,842	2,267	+23.1
1,000 to 9,999	9,534	10,969	+15.0
10,000 to 24,999	6,761	7,679	+13.6
25,000 and over	22,529	25,926	+15.1

[a]Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor except for the groups noted b.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Notes: 1. Detail may not add to totals due to independent rounding.

2. The estimated values with sampling errors are presented in table 22 of appendix VI.

Table 2

Ratio of Actuarial Value of Assets to the Present Value of Vested and Nonvested Benefits for the 1,276 Study Area Plans by Industry and Plan Size Groups for Plan Years 1978 and 1980

Group	Ratio 1978	Ratio 1980	Percent change[a]
	------------	(percent)	----------
All plans	**54.3**	**65.2**	**+20.1**
By industry:			
Construction	66.2	77.6	+17.2
Manufacturing	49.4	58.2	+17.8
Transportation, communication, and utilities	53.6	63.8	+19.0
Wholesale and retail	39.2	49.5	+26.3
Other[b]	45.0	58.9	+30.9
By plan size (based on number of participants):			
100 to 999	82.5	90.8	+10.1
1,000 to 9,999	71.2	84.7	+19.0
10,000 to 24,999	61.4	71.3	+16.1
25,000 and over	42.7	52.8	+23.6

[a]Percent change represents the percentage point difference relative to the 1978 value. Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: The estimated ratios and their sampling errors are presented in table 23 of appendix VI.

ESTIMATED CHANGES IN MAJOR MULTIEMPLOYER PLAN INCOME AND EXPENSE COMPONENTS FOR PLAN YEARS 1978 AND 1980

Major multiemployer plan income and expense components include contributions, investment income,[1] benefit payments, and administrative costs. Our estimates[2] of each of these components for the 1,276 study area plans overall and by industry and size groups show that, except for the contribution component of one group, the amounts of the components increased between plan years 1978 and 1980. However, the increases varied by both the type of component and by group. For the 1,276 plans overall, our estimates indicate that between plan years 1978 and 1980:

--Contributions increased from $4.14 billion to $4.74 billion (about 14 percent) while investment income increased from $1.66 to $3.06 billion (about 84 percent).

--The higher increase in investment income resulted in contributions declining from 71 to 61 percent of total income.

--Benefit payments increased from $2.19 billion to $2.66 billion (21 percent) while administrative costs increased from $201 to $280 million (about 39 percent).

--Although administrative costs had a higher percentage increase than benefit payments, each component's percentage share of total expenses remained about the same--less than 10 percent for administrative costs and over 90 percent for benefit payments.

Estimates of major income components

As pointed out in chapter 3, estimated total income for the 1,276 study area plans increased from $5.8 billion for plan year 1978 to $7.8 billion for plan year 1980. Also, income increased for all plan industry and size groups, but the increases

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[1]Investment income includes interest, dividends, rents, royalties, and net realized gain or loss from the sale of assets.

[2]Unless otherwise indicated, the estimated values presented in this appendix are also included with sampling errors in tables 7, 9, 10, 11, 13, and 14 of appendix VI.

varied. Our estimates of the major income components--contributions and investment income--indicate that increases in both components between 1978 and 1980 contributed to the increase in total income for the plans overall and for all plan industry and size groups except for one industry group.

As shown by table 1, estimated contributions for the 1,276 plans increased from $4.14 billion for plan year 1978 to $4.74 billion for 1980 (about 14 percent), while investment income increased from $1.66 to $3.06 billion (about 84 percent). As shown by table 2, contributions declined from 71 to 61 percent of total income. This decline resulted from the increase in investment income being greater than that of contributions.

Table 1 also shows that the estimated values of both income components increased for all plan industry and size groups except for the contribution component of the "other" industry group, which decreased by about 2 percent. Table 2 shows that estimated contributions, as a percentage of total estimated income, declined for all groups.

The industry groups' contribution increases ranged from about 16 percent for both the construction and the manufacturing industry plans to about 32 percent for the transportation, communication, and utilities industry plans. The decreases in contributions as a percentage of total income ranged from about 18 percent for the manufacturing plans to about 7 percent for the transportation, communication, and utilities industry plans.

The plan size groups' contribution increases ranged from about 12 percent for plans with 25,000 or more participants to about 19 percent for plans with 1,000 to 9,999 participants. The decreases in contributions as a percentage of total income ranged from about 20 percent for plans with 10,000 to 24,999 participants to about 10 percent for plans with fewer than 1,000 participants.

The industry groups' investment income increases ranged from about 62 percent for the transportation, communication, and utilities industry plans to over 100 percent for the manufacturing, wholesale and retail, and "other" industry plans. The increases in investment income as a percentage of total income ranged from about 14 percent for the transportation, communication, and utilities plans to 78 percent for the "other" industry plans.

Table 1

Estimated Amount of and Percent Change in Contributions and Investment Income for the 1,276 Study Area Plans by Industry and Plan Size Groups for Plan Years 1978 and 1980

Group	Contributions 1978	Contributions 1980	Contributions Percent change[b]	Investment income[a] 1978	Investment income[a] 1980	Investment income[a] Percent change
	-(millions)--			-(millions)--		
All plans	**$4,138**	**$4,738**	**+14.5**	**$1,657**	**$3,060**	**+84.7**
By industry:						
Construction	1,263	1,472	+16.5	607	1,073	+76.8
Manufacturing	782	906	+15.9	344	696	+102.3
Transportation, communication, and utilities	750	988	+31.7	402	650	+61.7
Wholesale and retail	256[c]	308[c]	+20.3	76	168	+121.0
Other[d]	1,087	1,064	-2.1	227	473	+108.4
By plan size (based on number of participants):						
100 to 999	194	224	+15.5	100	154	+54.0
1,000 to 9,999	1,082	1,291	+19.3	588	1,067	+81.5
10,000 to 24,999	511	583	+14.1	280	537	+91.8
25,000 and over	2,350	2,640	+12.3	689	1,302	+89.0

[a]Investment income is the difference between estimated total income and contributions. Sampling errors were not calculated for these estimates.

[b]Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor except for the groups noted c.

[c]Estimates subject to a relatively large sampling error and should be used with caution.

[d]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 2

Estimated Total Contributions and Investment Income as Percentages of Total Income for the 1,276 Study Area Plans by Industry and Plan Size Groups for Plan Years 1978 and 1980

Group	Contributions			Investment Income[a]		
	1978	1980	Change[b]	1978	1980	Change
	(percent)					
All plans	71.4	60.8	-14.8	28.6	39.2	+37.1
By industry:						
Construction	67.5	57.9	-14.2	32.5	42.1	+29.5
Manufacturing	69.4	56.6	-18.4	30.6	43.4	+41.8
Transportation, communication, and utilities	65.1	60.3	- 7.4	34.9	39.7	+13.8
Wholesale and retail	77.3	64.7	-16.3	22.7	35.3	+55.5
Other[c]	82.7	69.2	-16.3	17.3	30.8	+78.0
By plan size (based on number of participants):						
100 to 999	66.2	59.3	-10.4	33.8	40.7	+20.4
1,000 to 9,999	64.8	54.8	-15.4	35.2	45.2	+28.4
10,000 to 24,999	64.6	52.0	-19.5	35.4	48.0	+35.6
25,000 and over	77.3	67.0	-13.3	22.7	33.0	+45.4

[a]Investment earning percentages are based on the differences between estimated contribution percentages and 100 percent. Sampling errors have not been calculated for these estimates.

[b]Change represents the percentage point difference relative to the 1978 value. Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

The plan size groups' investment income increases ranged from 54 percent for plans with fewer than 1,000 participants to about 92 percent for plans with 10,000 to 24,999 participants. The increases in investment income as a percentage of total income ranged from about 20 percent for plans with fewer than 1,000 participants to about 45 percent for plans with 25,000 or more participants.

Estimates of major expense components

As pointed out, total expenses for the 1,276 study area plans increased from $2.4 billion for plan year 1978 to $2.9 billion for plan year 1980. Also, expenses increased for all plan industry and size groups, but the increases varied. Our estimates of the major expense components--benefit payments and administrative costs--indicate that increases in both components between plan years 1978 and 1980 contributed to the increase in total expenses for the plans overall and for all industry and size groups.

As shown by table 3, estimated benefit payments for the 1,276 study area plans increased from $2.19 billion for plan year 1978 to $2.66 billion for 1980 (about 21 percent) while administrative costs increased from $201 to $280 million (about 39 percent). As shown by table 4, however, each component's percentage share of total expenses changed very little--benefit payments declined from about 92 to 90 percent of total expenses, while administrative costs increased from about 8 to 10 percent.

Table 3 also shows that the estimated values of both expense components increased for all plan industry and size groups. Table 4 shows that estimated benefit payments, as a percentage of total expenses, did not change substantially. The industry groups' benefit payment increases ranged from 8 percent for the other industry group plans to about 69 percent for the wholesale and retail industry plans. The changes in benefit payments as a percentage of total expenses ranged from a decrease of 2 percent for construction plans to an increase of about 2 percent for wholesale and retail industry plans.

The plan size groups' benefit payment increases ranged from 14 percent for plans with 10,000 to 24,999 participants to about 42 percent for plans with fewer than 1,000 participants. The changes in benefit payments as a percentage of total expenses ranged from a decrease of about 2 percent for plans with 25,000 or more participants to an increase of one-tenth of one percent for plans with 1,000 to 9,999 participants.

Table 3

Estimated Amount of and Percent Change in Benefits Paid and Administrative Costs for 1,276 Study Area Plans by Industry and Plan Size Groups for Plan Years 1978 and 1980

Group	Benefits paid 1978	Benefits paid 1980	Benefits paid Percent change[a]	Administrative costs 1978	Administrative costs 1980	Administrative costs Percent change[a]
	-(millions)-			-(millions)-		
All plans	$2,188	$2,656	+21.4	$201	$280	+39.3
By industry:						
Construction	556[b]	712[b]	+28.1	75	116	+54.7
Manufacturing	516	620	+20.2	41	54	+31.7
Transportation, communication, and utilities	531	625	+17.7	41	52	+26.8
Wholesale and retail	108	183[b]	+69.4	11[b]	15[b]	+36.4
Other[c]	477	515	+8.0	32	42[b]	+31.3
By plan size (based on number of participants):						
100 to 999	93	132	+41.9	17	24	+41.2
1,000 to 9,999	487	643	+32.0	63	83	+31.7
10,000 to 24,999	314	358	+14.0	30	36	+20.0
25,000 and over	1,294	1,523	+17.7	90	138	+53.3

[a]Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor except for the estimates noted b.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 4

Estimated Benefits Paid and Administrative Costs
As Percentages of Total Expenses for the 1,276 Study Area Plans
by Industry and Plan Size Groups for Plan Years 1978 and 1980

Group	Benefits paid 1978	Benefits paid 1980	Benefits paid Change[a]	Administrative costs 1978	Administrative costs 1980	Administrative costs Change[a]
	(percent)					
All plans	91.5	90.3	-1.3	8.4	9.5	+13.1
By industry:						
Construction	88.0	85.8	-2.5	11.9	14.0	+17.6
Manufacturing	92.4	91.9	- .5	7.4	8.0	+8.1
Transportation, communication, and utilities	93.0	92.2	- .9	7.1	7.7	+8.4
Wholesale and retail	90.5	92.3	+2.0	9.3	7.6	-18.3
Other[b]	93.5	92.2	-1.4	6.3	7.6	+20.6
By plan size (based on number of participants):						
100 to 999	84.9	84.2	- .8	15.5	15.4	- .6
1,000 to 9,999	88.4	88.5	+ .1	11.5	11.4	- .9
10,000 to 24,999	91.1	90.8	- .3	8.8	9.0	+2.3
25,000 and over	93.4	91.6	-1.9	6.5	8.3	+27.7

[a]Change represents the percentage point difference relative to the 1978 value. Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

The increases in the industry groups' administrative costs ranged from about 27 percent for transportation, communication, and utilities plans to about 55 percent for construction industry plans. The changes in administrative costs as a percentage of total expenses ranged from a decrease of about 18 percent for the wholesale and retail industry plans to an increase of about 21 percent for other industry plans.

The increase in the plan size groups' administrative costs ranged from 20 percent for plans with 10,000 to 24,999 participants to about 53 percent for plans with 25,000 or more participants. The changes in administrative costs as a percentage of total expenses ranged from a decrease of about 1 percent for both the smallest (plans with fewer than 1,000 participants) and next to smallest (plans with 1,000 to 9,999 participants) size groups to an increase of about 28 percent for plans with 25,000 or more participants.

ESTIMATED CHANGES IN THE NUMBER OF EMPLOYERS CONTRIBUTING TO MULTIEMPLOYER PLANS AND THE AVERAGE NUMBER OF PARTICIPANTS PER EMPLOYER FOR PLAN YEARS 1978 AND 1980

Our estimates, which are included in table 1, indicate that the total number of employers contributing to the 1,276 study area plans increased from 372,000 during plan year 1978 to 377,000 during plan year 1980 (by about 1 percent).[1] Between 1978 and 1980, all but one of the industry groups had decreases and all but one of the plan size groups had increases. The construction industry group was the only industry group that had an increase (about 8 percent). The industry groups' decreases ranged from about 13 percent for the wholesale and retail industry plans to about 3 percent for the manufacturing plans. For the plan size groups, only the largest group (those with 25,000 or more participants) had a decrease (about 4 percent). The plan size groups' increases ranged from about 1 percent for the next to smallest group (those with 1,000 to 9,999 participants) to about 7 percent for the smallest group (those with fewer than 1,000 participants).

Our estimates of the average number of plan participants per contributing employer, which are presented in table 2, indicate that the average increased from 16.4 participants per employer in plan year 1978 to 16.9 in plan year 1980 (by 3.0 percent) for the 1,276 study area plans overall. The average increased for all industry and plan size groups except for the construction industry group and the next to the largest plan size group (those with 10,000 to 24,999 participants), which had no change in their averages. The increases for the industry groups ranged from about 5 percent for the manufacturing industry plans to about 15 percent for the wholesale and retail industry plans. For the plan size groups, increases ranged from about 7 percent for both the next to the smallest group (those with 1,000 to 9,999 participants) and the largest size group (those with 25,000 or more participants) to 10 percent for the smallest plans (those with fewer than 1,000 participants).

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[1]Because some employers contribute to more than one plan, the estimated number probably overstates the number of individual employers contributing to the study area plans.

Table 1

Estimated Number of and Percent Change in Total Contributing Employers by Industry and Plan Size Groups for Plan Years 1978 and 1980

Group	Number of employers 1978	1980	Percent change[a]
	----(thousands)----		
All plans	**372**	**377**	**+1.3**
By industry:			
Construction	199	216	+8.5
Manufacturing	34	33	-2.9
Transportation, communication, and utilities[b]	78	72	-7.7
Wholesale and retail	15[b]	13	-13.3
Other[c]	45	43	-4.4
By plan size (based on number of participants):			
100 to 999[b]	120	128	+6.7
1,000 to 9,999	71	72	+1.4
10,000 to 24,999[b]	46	48	+4.3
25,000 and over	136	130	-4.4

[a]Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor except for the groups noted b.

[b]Estimates subject to a relatively large sampling error and and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Notes: 1. Detail may not add to totals due to independent rounding.

2. The estimated values with sampling errors are presented in table 5 of appendix VI.

Table 2

Estimated Average Number of and Percent Change in Participants Per Contributing Employer by Industry and Plan Size Groups for Plan Years 1978 and 1980

Group	Average number 1978	Average number 1980	Percent change[a]
All plans	**16.4**	**16.9**	**+3.0**
By industry:			
Construction	7.7	7.7	0.0
Manufacturing	52.1	54.8	+5.2
Transportation, communication, and utilities[b]	13.4	15.2	+13.4
Wholesale and retail	36.4	41.8	+14.8
Other[c]	26.3	29.9	+13.7
By plan size (based on number of participants):			
100 to 999[b]	2.0	2.2	+10.0
1,000 to 9,999	21.7	23.2	+6.9
10,000 to 24,999[b]	18.8	18.8	0.0
25,000 and over	25.5	27.3	+7.0

[a]Although sampling errors have not been calculated individually, our test calculations show the errors to be relatively minor except for the groups noted b.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, finance, insurance, real estate, and services plans.

Note: The estimated values with sampling errors are presented in table 6 of appendix VI.

ALL ESTIMATED VALUES AND THEIR SAMPLING ERRORS

FOR PLAN YEARS 1978, 1979, AND 1980

Table 1

Number of Total Participants and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978		1979		1980	
	No. of total participants	Sampling error[a]	No. of total participants	Sampling error[a]	No. of total participants	Sampling error[a]
	(thousands)					
All plans	**6,104**	**457**	**6,392**	**536**	**6,387**	**542**
By industry:						
Construction	1,530	478	1,634	507	1,656	511
Manufacturing	1,784	427	1,844	432	1,809	434
Transportation, communication, and utilities	1,052	208	1,083	223	1,092	223
Wholesale and retail	555	239	548	234	546	235
Other[b]	1,182	514	1,282	620	1,283	635
By plan size (based on number of participants):						
100 to 999	240	64	264	59	281	66
1,000 to 9,999	1,534	380	1,646	467	1,663	472
10,000 to 24,999	858	228	898	248	897	250
25,000 and over	3,472	422	3,584	434	3,547	438

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 2

Number of Active Participants and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 No. of active participants	1978 Sampling error[a]	1979 No. of active participants	1979 Sampling error[a]	1980 No. of active participants	1980 Sampling error[a]
	--------	--------	-------- (thousands) --------	--------	--------	--------
All plans	**4,668**	**374**	**4,863**	**480**	**4,773**	**482**
By industry:						
Construction	1,155	291	1,226	310	1,222	307
Manufacturing	1,348	304	1,368	307	1,296	306
Transportation, communication, and utilities	769	157	804	171	803	175
Wholesale and retail	478	208	463	201	457	202
Other[b,c]	917	463	1,002	574	994	581
By plan size (based on number of participants):						
100 to 999	199	54	217	54	228	60
1,000 to 9,999	1,157	325	1,243	437	1,237	440
10,000 to 24,999	673	185	701	203	700	204
25,000 and over	2,638	301	2,702	308	2,608	310

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 3

Number of Other Participants and Related Sampling Errors
for All Plans and by Industry and Plan Size
Group: 1978, 1979, and 1980

Group	1978		1979		1980	
	No. of other participants	Sampling error[a]	No. of other participants	Sampling error[a]	No. of other participants	Sampling error[a]
	(thousands)					
All plans	**1,436**	**204**	**1,529**	**206**	**1,614**	**206**
By industry:						
Construction	375[b]	198[b]	408[b]	206[b]	434	212
Manufacturing	437	142	477	146	513	150
Transportation, communication, and utilities	283	61	279	65	288	62
Wholesale and retail	77	35	85	38	90	39
Other[c]	264	81	281	82	289	84
By plan size (based on number of participants):						
100 to 999	41	15	47	16	53	19
1,000 to 9,999	377	164	403	164	426	162
10,000 to 24,999	184	61	197	65	197	63
25,000 and over	834	147	882	154	939	157

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 4

Ratio of Active Participants to Other Participants and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Ratio	1978 Sampling error[a]	1979 Ratio	1979 Sampling error[a]	1980 Ratio	1980 Sampling error[a]
All plans	**3.25**	**0.49**	**3.18**	**0.51**	**2.96**	**0.46**
By industry:						
Construction	3.08	.98	3.00	.86	2.81	.76
Manufacturing	3.08	.60	2.87	.54	2.53	.45
Transportation, communication, and utilities	2.72	.37	2.88	.49	2.78	.47
Wholesale and retail	6.20	1.65	5.44	1.42	5.08	1.29
Other[b]	3.47	1.44	3.57	1.76	3.44	1.62
By plan size (based on number of participants):						
100 to 999	4.88	1.57	4.66	1.75	4.29	1.70
1,000 to 9,999[c]	3.07	1.51	3.08	1.66	2.91	1.50
10,000 to 24,999	3.65	.96	3.55	.99	3.55	.91
25,000 and over	3.16	.38	3.06	.36	2.78	.32

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

[c]Estimates subject to a relatively large sampling error and should be used with caution.

Source: Values for active participants and other participants are presented in tables 2 and 3.

Table 5

Number of Contributing Employers and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978		1979		1980	
	Number of employers	Sampling error[a]	Number of employers	Sampling error[a]	Number of employers	Sampling error[a]
	(thousands)					
All plans	**372**	**97**	**364**	**91**	**377**	**101**
By industry:						
Construction	199	77	198	75	216	92
Manufacturing	34	13	34	13	33	14
Transportation, communication, and utilities[b]	78	72	73	65	72	59
Wholesale and retail	15[b]	9[b]	15[b]	8[b]	13	6
Other[c]	45	13	44	14	43	15
By plan size (based on number of participants):						
100 to 999[b]	120	86	116	80	128	90
1,000 to 9,999	71	26	70	26	72	28
10,000 to 24,999[b]	46	32	46	32	48	33
25,000 and over	136	28	131	27	130	26

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 6

Average Number of Total Participants Per Contributing Employer and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Average number	1978 Sampling error[a]	1979 Average number	1979 Sampling error[a]	1980 Average number	1980 Sampling error[a]
All plans	**16.39**	**4.31**	**17.58**	**4.53**	**16.93**	**4.62**
By industry:						
Construction	7.67	2.59	8.25	2.73	7.66	2.86
Manufacturing	52.07	15.48	54.89	16.64	54.76	16.54
Transportation, communication, and utilities[b]	13.40	11.70	14.85	12.66	15.20	11.98
Wholesale and retail	36.40	8.92	37.51	9.93	41.76	8.00
Other[c]	26.32	9.68	28.94	12.61	29.90	12.92
By plan size (based on number of participants):						
100 to 999[b]	2.00	1.36	2.28	1.44	2.19	1.33
1,000 to 9,999	21.70	9.58	23.40	11.12	23.20	11.52
10,000 to 24,999[b]	18.78	12.67	19.44	12.76	18.82	12.26
25,000 and over	25.54	3.52	27.29	3.61	27.33	3.32

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Source: Values for total participants and contributing employers are presented in tables 1 and 5.

Table 7

Total Contributions and Related Sampling Errors
for All Plans and by Industry and Plan Size
Group: 1978, 1979, and 1980

Group	1978 Contributions	1978 Sampling error[a]	1979 Contributions	1979 Sampling error[a]	1980 Contributions	1980 Sampling error[a]
	(millions)					
All plans	**$4,138**	**$620**	**$4,688**	**$695**	**$4,738**	**$694**
By industry:						
Construction	1,263	593	1,449	660	1,472	646
Manufacturing	782	204	863	239	906	261
Transportation, communication, and utilities	750	182	951	204	988	198
Wholesale and retail[b]	256	152	289	167	308	168
Other[c]	1,087	414	1,137	468	1,064	489
By plan size (based on number of participants):						
100 to 999	194	58	222	58	224	56
1,000 to 9,999	1,082	388	1,243	440	1,291	475
10,000 to 24,999	511	177	576	202	583	202
25,000 and over	2,350	535	2,646	594	2,640	567

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to total due to independent rounding.

Table 8

Total Income and Related Sampling Errors
for All Plans and by Industry and Plan Size
Group: 1978, 1979, and 1980

Group	1978 Income	1978 Sampling error[a]	1979 Income	1979 Sampling error[a]	1980 Income	1980 Sampling error[a]
	(millions)					
All plans	**$5,795**	**$833**	**$6,843**	**$ 977**	**$7,798**	**$1,130**
By industry:						
Construction	1,870	867	2,246	1,006	2,545	1,089
Manufacturing	1,126	368	1,247	392	1,602	654
Transportation, communication, and utilities	1,152	297	1,486	353	1,638	378
Wholesale and retail[b]	332	173	399	206	476	224
Other[c]	1,314	528	1,465	637	1,537	732
By plan size (based on number of participants):						
100 to 999	294	90	350	97	378	96
1,000 to 9,999	1,670	569	1,926	633	2,358	833
10,000 to 24,999	791	290	972	358	1,120	420
25,000 and over	3,039	687	3,594	832	3,942	862

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 9

Ratio of Total Contributions to Total Income and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Ratio	1978 Sampling error[a]	1979 Ratio	1979 Sampling error[a]	1980 Ratio	1980 Sampling error[a]
	(percent)					
All plans	**71.40**	**3.77**	**68.52**	**2.60**	**60.76**	**3.88**
By industry:						
Construction	67.50	8.52	64.50	5.85	57.86	5.32
Manufacturing	69.39	9.32	69.21	5.95	56.59	14.37
Transportation, communication, and utilities	65.06	2.45	64.02	2.37	60.29	2.70
Wholesale and retail	77.32	6.18	72.40	5.39	64.72	5.94
Other[b]	82.74	2.49	77.59	2.39	69.20	1.89
By plan size (based on number of participants):						
100 to 999	66.16	6.22	63.46	6.54	59.27	9.45
1,000 to 9,999	64.77	11.81	64.51	8.48	54.76	11.49
10,000 to 24,999	64.63	3.18	59.31	3.09	52.05	4.08
25,000 and over	77.31	.74	73.65	.84	66.97	.69

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Source: Values for total contributions and total income are presented in tables 7 and 8.

Table 10

Total Benefits Paid and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Benefits paid	1978 Sampling error[a]	1979 Benefits paid	1979 Sampling error[a]	1980 Benefits paid	1980 Sampling error[a]
	(millions)					
All plans	**$2,188**	**$358**	**$2,393**	**$403**	**$2,656**	**$429**
By industry:						
Construction[b]	556	381	624	432	712	455
Manufacturing	516	149	570	164	620	176
Transportation, communication, and utilities	531	162	567	165	625	174
Wholesale and retail	108	40	128	59	183[b]	140[b]
Other[c]	477	79	504	94	515	104
By plan size (based on number of participants):						
100 to 999	93	34	98	34	132	55
1,000 to 9,999	487	220	560	253	643	276
10,000 to 24,999	314	145	325	147	358	156
25,000 and over	1,294	306	1,410	344	1,523	358

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 11

Total Administrative Costs and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Administrative costs	1978 Sampling error[a]	1979 Administrative costs	1979 Sampling error[a]	1980 Administrative costs	1980 Sampling error[a]
	(millions)					
All plans	**$201**	**$24**	**$238**	**$28**	**$280**	**$33**
By industry:						
Construction	75	28	95	32	116	37
Manufacturing	41	11	46	13	54	15
Transportation, communication, and utilities	41	14	45	14	52	16
Wholesale and retail[b]	11	6	13	8	15	9
Other[c]	32	15	39[b]	21[b]	42[b]	23[b]
By plan size (based on number of participants):						
100 to 999	17	6	22	7	24	9
1,000 to 9,999	63	18	74	21	83	24
10,000 to 24,999	30	12	31	12	36	13
25,000 and over	90	16	112	19	138	23

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 12

Total Expenses and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Expenses	1978 Sampling error[a]	1979 Expenses	1979 Sampling error[a]	1980 Expenses	1980 Sampling error[a]
	(millions)					
All plans	**$2,391**	**$375**	**$2,658**	**$424**	**$2,940**	**$452**
By industry:						
Construction[b]	632	407	720	462	830	490
Manufacturing	558	158	617	174	675	187
Transportation, communication, and utilities	571	174	636	209	678	184
Wholesale and retail	119	46	141	66	199[b]	149[b]
Other[c]	511	88	544	107	558	118
By plan size (based on number of participants):						
100 to 999	110	38	120	38	156	55
1,000 to 9,999	551	232	634	265	727	289
10,000 to 24,999	344	156	381	190	394	165
25,000 and over	1,386	321	1,523	362	1,662	382

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 13

Ratio of Total Benefits Paid to Total Expenses and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Ratio	1978 Sampling error[a]	1979 Ratio	1979 Sampling error[a]	1980 Ratio	1980 Sampling error[a]
	(percent)					
All plans	**91.52**	**0.88**	**90.03**	**1.70**	**90.33**	**1.08**
By industry:						
Construction	88.02	3.97	86.69	4.72	85.78	4.42
Manufacturing	92.42	1.37	92.40	1.43	91.92	1.56
Transportation, communication, and utilities	92.95	1.25	89.21	4.73	92.21	1.79
Wholesale and retail	90.46	2.12	90.46	1.44	92.26	1.78
Other[b]	93.51	2.43	92.60	3.05	92.23	3.36
By plan size (based on number of participants):						
100 to 999	84.86	3.60	81.93	3.71	84.25	7.62
1,000 to 9,999	88.41	3.63	88.33	3.96	88.46	3.95
10,000 to 24,999	91.13	2.02	85.33	6.37	90.83	2.62
25,000 and over	93.38	.53	92.54	.70	91.61	.59

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Source: Values for benefits paid and total expenses are presented in tables 10 and 12.

Table 14

Ratio of Total Administrative Costs to Total Expenses and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Ratio	1978 Sampling error[a]	1979 Ratio	1979 Sampling error[a]	1980 Ratio	1980 Sampling error[a]
	(percent)					
All plans	**8.40**	**0.86**	**8.98**	**1.03**	**9.54**	**1.06**
By industry:						
Construction	11.91	3.92	13.25	4.68	14.01	4.40
Manufacturing	7.42	1.33	7.43	1.41	8.01	1.54
Transportation, communication, and utilities	7.14	1.25	7.10	1.53	7.72	1.74
Wholesale and retail	9.32	2.18	9.08	1.56	7.64	1.72
Other[b]	6.34	2.41	7.24	3.04	7.62	3.36
By plan size (based on number of participants):						
100 to 999	15.53	4.04	18.68	4.20	15.42	7.11
1,000 to 9,999	11.51	3.59	11.59	3.93	11.45	3.92
10,000 to 24,999	8.82	1.92	8.17	2.65	9.01	2.57
25,000 and over	6.51	.49	7.33	.65	8.28	.61

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance real estate, and services plans.

Source: Values for administrative costs and total expenses are presented in tables 11 and 12.

Table 15

Ratio of Total Income to Total Expenses and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Ratio	1978 Sampling error[a]	1979 Ratio	1979 Sampling error[a]	1980 Ratio	1980 Sampling error[a]
All plans	**2.42**	**0.24**	**2.57**	**0.29**	**2.65**	**0.29**
By industry:						
Construction	2.96	.58	3.12	.69	3.07	.57
Manufacturing	2.02	.26	2.02	.32	2.37	.45
Transportation, communication, and utilities	2.02	.31	2.34	.48	2.42	.35
Wholesale and retail	2.79	.53	2.83	.26	2.39	.78
Other[b]	2.57	.88	2.69	.96	2.75	1.06
By plan size (based on number of participants):						
100 to 999	2.68	.51	2.92	.48	2.42	.59
1,000 to 9,999	3.03	1.08	3.04	1.17	3.24	1.18
10,000 to 24,999	2.30	.69	2.56	.97	2.84	.82
25,000 and over	2.19	.09	2.36	.10	2.37	.10

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Source: Values for total income and total expenses are presented in tables 8 and 12.

Table 16

Actuarial Value of Assets and Related Sampling Errors
for All Plans and by Industry and Plan Size
Group: 1978, 1979, and 1980

Group	1978		1979		1980	
	Amount of assets	Sampling error[a]	Amount of assets	Sampling error[a]	Amount of assets	Sampling error[a]
	(millions)					
All plans	**$22,068**	**$3,601**	**$25,957**	**$4,071**	**$30,521**	**$4,688**
By industry:						
Construction	8,436	4,015	9,906	4,495	11,719	5,083
Manufacturing	4,430	1,711	5,017	1,908	5,842	2,170
Transportation, communication, and utilities	5,307	1,712	6,028	1,877	6,842	2,050
Wholesale and retail	1,146	422	1,478	560	1,783	671
Other[b,c]	2,749	1,461	3,528	1,978	4,334	2,535
By plan size (based on number of participants):						
100 to 999	1,520	595	1,761	645	2,058	713
1,000 to 9,999	6,785	2,677	7,983	2,911	9,294	3,311
10,000 to 24,999	4,152	1,691	4,779	1,946	5,478	2,216
25,000 and over	9,611	2,650	11,434	3,146	13,691	3,681

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 17

Present Value of Vested Benefits at Actuarial Rates and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Amount of benefits	1978 Sampling error[a]	1979 Amount of benefits	1979 Sampling error[a]	1980 Amount of benefits	1980 Sampling error[a]
	-----	-----	-----	(millions)	-----	-----
All plans	**$39,179**	**$6,155**	**$42,451**	**$6,516**	**$46,079**	**$6,477**
By industry:						
Construction[b]	11,612	6,756	12,480	7,148	13,799	7,217
Manufacturing	8,060	2,235	8,597	2,373	9,064	2,479
Transportation, communication, and utilities	9,730	2,543	10,588	2,730	11,183	2,702
Wholesale and retail	2,507	1,123	2,751	1,325	3,042	1,365
Other[c]	7,268	1,502	8,036	1,694	8,991	1,967
By plan size (based on number of participants):						
100 to 999	1,620	569	1,691	574	1,954	654
1,000 to 9,999	9,185	3,391	9,940	3,714	10,369	3,780
10,000 to 24,999	5,928	2,233	6,383	2,409	6,756	2,467
25,000 and over	22,446	5,586	24,437	5,889	27,001	5,889

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 18

Ratio of Actuarial Value of Assets to the Present Value of Vested Benefits at Actuarial Rates and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978		1979		1980	
	Ratio	Sampling error[a]	Ratio	Sampling error[a]	Ratio	Sampling error[a]
	(percent)					
All plans	**56.3**	**4.0**	**61.2**	**4.5**	**66.2**	**5.1**
By industry:						
Construction	72.6	13.4	79.4	13.2	84.9	10.5
Manufacturing	55.0	8.2	58.4	7.9	64.4	9.6
Transportation, communication, and utilities	54.5	5.8	56.9	7.0	61.2	7.1
Wholesale and retail	45.7	6.6	53.7	8.2	58.6	7.0
Other[b]	37.8	15.2	43.9	19.5	48.2	23.4
By plan size (based on number of participants):						
100 to 999	93.8	17.6	104.1	20.0	105.3	19.6
1,000 to 9,999	73.9	12.9	80.3	17.0	89.6	21.8
10,000 to 24,999	70.0	9.3	74.9	12.5	81.1	11.5
25,000 and over	42.8	2.6	46.8	2.6	50.7	3.4

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Source: Values for assets and vested benefits are presented in tables 16 and 17.

Table 19

Current Value of Assets and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Amount of assets	1978 Sampling error[a]	1979 Amount of assets	1979 Sampling error[a]	1980 Amount of assets	1980 Sampling error[a]
	(millions)					
All plans	**$21,723**	**$3,457**	**$25,417**	**$3,901**	**$29,859**	**$4,421**
By industry:						
Construction	8,180	3,826	9,677	4,281	11,393	4,740
Manufacturing	4,316	1,643	4,907	1,825	5,706	2,094
Transportation, communication, and utilities	5,275	1,731	5,945	1,865	6,741	2,026
Wholesale and retail	1,235	427	1,472	568	1,812	692
Other[b,c]	2,718	1,436	3,416	1,903	4,207	2,447
By plan size (based on number of participants):						
100 to 999	1,406	513	1,593	540	1,812	573
1,000 to 9,999	6,657	2,564	7,765	2,771	9,108	3,164
10,000 to 24,999	4,313	1,783	4,949	2,056	5,639	2,343
25,000 and over	9,346	2,515	11,109	2,964	13,301	3,342

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 20

Present Value of Vested Benefits at PBGC Termination Rates and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978		1979		1980	
	Amount of benefits	Sampling error[a]	Amount of benefits	Sampling error[a]	Amount of benefits	Sampling error[a]
	(millions)					
All plans	**$30,843**	**$5,227**	**$30,076**	**$5,030**	**$29,929**	**$4,560**
By industry:						
Construction[b]	9,744	5,658	9,434	5,425	9,540	4,989
Manufacturing	6,914	1,798	6,594	1,699	6,365	1,616
Transportation, communication, and utilities	7,415	2,274	7,289	2,222	7,111	2,027
Wholesale and retail	2,221	998	2,211	1,052	2,208	972
Other[c]	4,548	1,131	4,547	1,180	4,705	1,213
By plan size (based on number of participants):						
100 to 999	1,395	486	1,318	439	1,376	456
1,000 to 9,999	7,466	2,638	7,184	2,579	6,840	2,374
10,000 to 24,999	5,340	2,008	5,235	1,982	5,009	1,820
25,000 and over	16,643	4,829	16,338	4,656	16,704	4,256

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 21

Ratio of Current Value of Assets to the Present Value of Vested Benefits at PBGC Termination Rates and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Ratio	1978 Sampling error[a]	1979 Ratio	1979 Sampling error[a]	1980 Ratio	1980 Sampling error[a]
	(percent)					
All plans	**70.4**	**5.6**	**84.5**	**6.9**	**99.8**	**8.2**
By industry:						
Construction	84.0	17.3	102.6	20.3	119.4	19.5
Manufacturing	62.4	9.5	74.4	10.4	89.6	13.5
Transportation, communication, and utilities	71.1	6.2	81.6	9.6	94.8	10.4
Wholesale and retail	55.6	9.0	66.6	10.3	82.0	9.8
Other[b]	59.8	22.3	75.1	31.8	89.4	41.8
By plan size (based on number of participants):						
100 to 999	100.8	16.8	120.8	19.9	131.6	24.3
1,000 to 9,999	89.2	15.5	108.1	22.6	133.2	31.5
10,000 to 24,999	80.8	11.4	94.5	17.8	112.6	19.1
25,000 and over	56.2	3.4	68.0	3.6	79.6	3.8

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Source: Values for assets and vested benefits are presented in tables 19 and 20.

Table 22

Present Value of Vested and Nonvested Benefits at Actuarial Rates and Related Sampling Errors for All Plans by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Amount of benefits	1978 Sampling error[a]	1979 Amount of benefits	1979 Sampling error[a]	1980 Amount of benefits	1980 Sampling error[a]
	(millions)					
All plans	**$40,665**	**$6,687**	**$43,609**	**$7,082**	**$46,842**	**$7,064**
By industry:						
Construction[b]	12,755	7,258	13,753	7,673	15,110	7,742
Manufacturing	8,973	2,260	9,588	2,428	10,045	2,573
Transportation, communication, and utilities	9,895	2,940	10,473	3,093	10,726	3,039
Wholesale and retail	2,928	1,276	3,133	1,493	3,601	1,776
Other[c]	6,114	1,461	6,663	1,674	7,360	1,900
By plan size (based on number of participants):						
100 to 999	1,842	612	1,931	624	2,267	712
1,000 to 9,999	9,534	3,312	10,398	3,626	10,969	3,760
10,000 to 24,999	6,761	2,555	7,218	2,715	7,679	2,791
25,000 and over	22,529	6,234	24,061	6,581	25,926	6,568

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Estimates subject to a relatively large sampling error and should be used with caution.

[c]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Note: Detail may not add to totals due to independent rounding.

Table 23

Ratio of Actuarial Value of Assets to the Present Value of Vested and Nonvested Benefits at Actuarial Rates and Related Sampling Errors for All Plans and by Industry and Plan Size Group: 1978, 1979, and 1980

Group	1978 Ratio	1978 Sampling error[a]	1979 Ratio	1979 Sampling error[a]	1980 Ratio	1980 Sampling error[a]
	(percent)					
All plans	**54.3**	**4.2**	**59.5**	**4.7**	**65.2**	**5.2**
By industry:						
Construction	66.2	13.0	72.0	12.4	77.6	10.2
Manufacturing	49.4	8.0	52.3	7.6	58.2	8.6
Transportation, communication, and utilities	53.6	5.3	57.6	6.9	63.8	6.8
Wholesale and retail	39.2	4.9	47.2	6.6	49.5	8.0
Other[b]	45.0	17.3	53.0	22.8	58.9	27.8
By plan size (based on number of participants):						
100 to 999	82.5	14.7	91.1	16.4	90.8	15.6
1,000 to 9,999	71.2	12.7	76.8	15.9	84.7	20.7
10,000 to 24,999	61.4	8.1	66.2	11.2	71.3	10.2
25,000 and over	42.7	2.5	47.5	2.3	52.8	2.5

[a]Sampling errors are stated at the 95-percent confidence level.

[b]Includes agriculture, forestry, fishing, mining, finance, insurance, real estate, and services plans.

Source: Values for assets and vested and nonvested benefits are presented in tables 16 and 22.

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