# Single-Employer Defined Benefit Pension Plans: Funding Relief and Modifications to Funding Rules 

Updated May 18, 2023

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To protect the interests of participants and beneficiaries in pension plans, Congress enacted the Employee Retirement Income Security Act of 1974 (ERISA; P.L. 93-406). ERISA specified funding rules for single-employer defined benefit (DB) pension plans, among other provisions. Single-employer DB pension plans are sponsored by one employer for the benefit of its employees. In DB pension plans, participants typically receive regular monthly benefit payments in retirement (which some refer to as a "traditional" pension). ERISA also authorized the creation of the Pension Benefit Guaranty Corporation (PBGC), which is a government corporation that insures private-sector pension benefits up to a specified maximum in the case of plan termination.

Single-employer DB funding rules generally require several steps: calculating the value of benefits that a plan will pay in the future; determining how much a plan has set aside to pay those benefits; and determining how much, and the time period over which, an employer must contribute to the plan each year.

Since ERISA, Congress has periodically modified funding rules for pension plans. The Pension Protection Act of 2006 (PPA; P.L. 109-280) outlined new pension funding standards for single-employer DB plans, among other requirements. PPA required that plans become $100 \%$ funded over time and outlined assumptions that pension plans must use to become fully funded. PPA also provided special rules for DB plans sponsored by certain employers, such as some airlines and defense contractors.

Since PPA was enacted, legislation has further modified funding rules for single-employer DB plans for various reasons. At times, legislation has applied broadly to most private-sector DB plans; at other times, changes to funding rules have targeted plans sponsored by specific industries or types of employers.

At times, legislation has provided funding relief, which are measures that lower employer contributions. In general, funding relief measures allow plans more time to make required payments by (1) modifying assumptions that affect the calculated value of pension benefits or (2) extending the time period to make up for plan losses.

The adoption of a funding corridor for interest rates in the Moving Ahead for Progress in the $21^{\text {st }}$ Century Act (MAP-21; P.L. 112-141) marked a significant change to single-employer DB funding rules. DB plans calculate the present value of future benefits that will be owed using certain specified interest rates for discounting. In response to a period of low interest rates, MAP-21 established a process for determining minimum and maximum interest rates for discounting based on 25-year averages of historical corporate bond yields. As originally established, the funding corridor was scheduled to widen eventually, which, when applied to the specified interest rates, would have resulted in the use of lower interest rates to calculate DB pension obligations. Subsequent legislation delayed the date when the funding corridor is to begin widening. Under current law, the widening of the funding corridor is scheduled to begin in 2031.

Funding relief measures do not directly affect participants' benefits. However, they can result in pension plans having lower funding levels than they otherwise would at a point in time. Thus, funding relief can negatively affect PBGC's finances because it could take over a plan that has fewer assets than the plan otherwise would in the absence of funding relief. Funding relief can also affect PBGC's ability to pay non-guaranteed benefits, such as benefit increases implemented within five years prior to plan termination. On the other hand, funding relief can positively affect PBGC finances because greater DB plan underfunding results in higher variable-rate premiums (premiums based on the amount of plan underfunding) paid to PBGC by employers.

This report provides (1) background on single-employer DB pension funding, (2) a discussion of funding rules under PPA, and (3) provisions since PPA that have provided funding relief or otherwise modified single-employer DB pension funding rules.

## Contents

Introduction ..... 1
Basics of Single-Employer Defined Benefit Pension Plan Funding ..... 2
Typical Defined Benefit Plan Balance Sheet ..... 2
Plan Assets ..... 3
Plan Liabilities ..... 3
Defined Benefit Plan Funding Ratio ..... 5
Annual Employer Contributions to Defined Benefit Plans ..... 6
Target Normal Cost ..... 6
Amortization Charges ..... 7
Private-Sector Single-Employer Defined Benefit Pension Plan Data ..... 7
The Pension Protection Act of 2006 ..... 9
Pension Protection Act Interest Rates ..... 9
Pension Protection Act Amortization Periods ..... 9
Pension Protection Act Special Rules for Certain Plans ..... 10
Special Rules for Certain Commercial Airline Industry Plans ..... 10
Special Rules for Certain Government Contractor Plans ..... 10
Special Rules for Certain Pension Benefit Guaranty Corporation Settlement Plans ..... 10
Funding Relief and Other Modifications for Single-Employer Plans ..... 10
Funding Relief and Other Modifications Since the Pension Protection Act ..... 11
Special Rules for Certain Plans in the Commercial Airline Industry ..... 11
Delay of Certain Pension Protection Act Rules ..... 11
Extended Amortization Periods ..... 11
Interest Rate Corridors ..... 12
Special Rules for Certain Cooperative and Charity Pension Plans ..... 17
Special Rules for Community Newspaper Plans ..... 18
Delayed Due Date for 2020 Plan Contributions ..... 18
Policy Considerations ..... 18

## Figures

Figure 1. Typical Balance Sheet of a Defined Benefit Pension Plan ..... 3
Figure 2. Present Value Formula ..... 4
Figure 3. Simplified Pension Benefit Calculation ..... 4
Figure 4. Funding Percentage of the 100 Largest Corporate Defined Benefit Pension Plans ..... 8
Figure 5. Hypothetical Application of Segment Rate Stabilization Provision, as Found in MAP-21, HTF, BBA, ARPA, and IIJA ..... 16

## Tables

Table 1. Single-Employer Defined Benefit Pension Plan Data ..... 7
Table 2. Applicable Minimum and Maximum Interest Rate Percentages Applied to 25- Year Averages of Segment Corporate Bond Yields, as Specified in MAP-21, HTF, BBA, ARPA, and IIJA ..... 13

# Table A-1. Cooperative and Small Employer Charity (CSEC) Pension Plan Data <br> 22 

## Appendixes

Appendix. Recent Data on CSEC Plans ..... 21

## Contacts

$\qquad$Author Information.24

## Introduction

A pension is a voluntary benefit offered by employers to assist employees in preparing for retirement. Pension plans can be classified along several dimensions, such as whether the plan is a defined benefit (DB) plan or a defined contribution (DC) plan, whether the plan sponsor is a private-sector or public-sector employer, and whether the plan is sponsored by one employer or more than one employer. While many of the general concepts discussed in this report apply to all pension plans, or DB plans in particular, most of this report focuses on pension funding as it relates to private-sector, single-employer DB plans.

DB and DC plans. In DB plans, participants typically receive regular monthly benefit payments in retirement (which some refer to as a "traditional" pension). ${ }^{1}$ In DC plans, of which the 401(k) plan is the most common, participants have individual accounts that can provide a source of income in retirement. This report focuses on DB plans.

Instead of a traditional DB plan, some companies have established "hybrid" cash balance plans. Cash balance plans are DB plans that include some features of DC plans: Participants' benefits are calculated using a formula, but the benefit is expressed as an account balance that is paid as an annuity (or lump sum, if offered by the plan). In 2020, about half of DB plans in the private sector were cash balance plans and $31 \%$ of DB plan participants were in cash balance plans. ${ }^{2}$
Private-sector and public-sector plan sponsors. Both private- and public-sector employers offer pension plans to their employees. Private-sector plans include those sponsored by privatesector employers (which includes nonprofit organizations). Public-sector plans include those sponsored by federal, state, and local governments. Some provisions of the Internal Revenue Code (IRC, Title 26 of the U.S. Code) apply to both private- and public-sector plans, while some apply to one or the other. For example, taxes on most distributions are deferred until the funds are received-this provision applies to both private- and public-sector plans. Public-sector employers are more likely to offer DB plans, while private-sector employers are more likely to offer DC plans. This report focuses on plans sponsored by private-sector employers.
Single and multiple plan sponsors. Pension plans are also classified by whether they are sponsored by one employer (single-employer plans) or by more than one employer (multiemployer and multiple-employer plans). Multiemployer pension plans are sponsored by more than one employer (often, though not required to be, in the same industry) and maintained as part of a collective bargaining agreement. Multiple-employer plans are sponsored by more than one employer but are not maintained as part of collective bargaining agreements. ${ }^{3}$ Multipleemployer plans follow the same funding rules as single-employer plans and are generally not reported separately. This report focuses on single-employer plans. Except where noted, references to single-employer plans in this report include multiple-employer plans.

[^0]To protect the interests of pension plan participants and beneficiaries, Congress enacted the Employee Retirement Income Security Act of 1974 (ERISA; P.L. 93-406). The law is codified in the IRC and in the Labor Code (Title 29 of the U.S. Code). ERISA sets standards that privatesector pension plans must follow with regard to plan participation (who must be covered); minimum vesting requirements (how long a person must work for an employer to be covered); fiduciary duties (how individuals who oversee the plan must behave); and plan funding (how much employers must set aside to pay for future benefits). In addition, ERISA established the Pension Benefit Guaranty Corporation (PBGC), which is a government corporation that insures DB pension plans covered by ERISA in the case of plan termination. ERISA covers only privatesector pension plans and plans established by nonprofit organizations. It exempts pension plans established by the federal, state, and local governments and by churches. The funding relief provisions discussed in this report generally apply only to plans covered by ERISA.

## Basics of Single-Employer Defined Benefit Pension Plan Funding

Pension funding consists of several elements. These include the value of plan benefits that participants will receive in the current and in future years; the amount a plan has set aside to pay for these benefits; and the employer contributions required each year to ensure the plan has sufficient funds to pay benefits when participants retire.
The amount of a participant's benefit in a single-employer DB plan is based on a formula that typically uses a combination of length of service, accrual rate, and average of final years' salary. For example, a plan might specify that retirees receive an amount equal to $1.5 \%$ of their pay for each year of service, where the pay is the average of a worker's salary during his or her highestpaid five years. ${ }^{4}$
Participants' benefits in cash balance plans are calculated differently than those in traditional DB plans. In a cash balance plan, each participant has a hypothetical account. (Individual accounts do not exist; assets are pooled together like in a traditional DB plan.) Each year, employer contributions are determined based on a hypothetical pay credit and a hypothetical interest crediting rate made on behalf of each eligible employee. The pay credit is defined as a fixed dollar amount, a percentage of the employee's salary, or a combination of these two measures. The interest crediting rate is the interest rate that the plan guarantees on the accumulated contributions made to an employee's hypothetical account.
In general, ERISA requires DB plans to have enough assets set aside to pay the benefits owed to participants. For various reasons, plans may have less or more than this amount. Employers that sponsor DB plans are required to make annual contributions to their plans to ensure they ultimately reach that $100 \%$ funding goal. ${ }^{5}$

## Typical Defined Benefit Plan Balance Sheet

Figure 1 depicts a typical DB pension plan's balance sheet. It consists of (1) plan assets, which are the value of the investments made with accrued employer (and employee, if any)

[^1]contributions to the plan, and (2) plan liabilities, which are the value of participants' benefits earned under the terms of the plan. ${ }^{6}$ Plan assets are invested in equities (such as publicly-traded stock), debt (such as the U.S. Treasury and corporate bonds), private equity, hedge funds, and real estate.

Figure I.Typical Balance Sheet of a Defined Benefit Pension Plan

| Assets | Liabilities |
| :---: | :---: |
| Investments | Discounted Value of Future <br> Benefit Payments |
| (from contributions by plan sponsors) |  |

Source: Congressional Research Service (CRS).
Note: The process by which future benefit payments are converted into present value dollar amounts is called discounting.

## Plan Assets

Pension plans are required to report the value of plan assets using two methods: (1) market values (the value at which assets can be sold on a particular date) and (2) smoothed, or actuarial, values (the average of the past, and sometimes expected future, market values of each asset). Actuarial values are used to determine the $100 \%$ funding goal and any additional employer contributions necessary to achieve that goal. The smoothing of asset values prevents large swings in asset values and creates a more predictable funding environment for plan sponsors.
Some advocates of reporting market values note that smoothed values are often higher than market values (particularly during periods of market declines), which could overstate the financial health of some pension plans. Some advocates of smoothing argue that market values are useful only if a plan needs to know its liquidated value (e.g., if the plan had to pay all of its benefit obligations at one point in time), which is unlikely to be the case as most employers sponsoring pension plans are unlikely to enter bankruptcy.

## Plan Liabilities

A pension plan's benefits are a plan liability spread out over many years in the future. ${ }^{7}$ These future benefits are calculated and reported as present values (also called current values). Using a formula, benefits that are expected to be paid in a particular year in the future are calculated so they can be expressed as a present value. This process is called discounting, and it is the reverse of the process of compounding, which projects how much a current dollar amount will be worth at a point in the future. The formula by which future values are calculated as present values is shown in Figure 2. ${ }^{8}$

[^2]Figure 2. Present Value Formula

## Dollar Value of Future Benefit

## Present Value =

(1 + Interest Rate) ${ }^{\text {Number of Years in the Future }}$

Source: Congressional Research Service (CRS).
Figure 3 shows a simplified example of a DB pension benefit calculation. In this example, it is assumed that at the beginning of year 1 , the worker has already earned a benefit of $\$ 100$ per year in retirement, which is expected to begin in year 5 . Retirement is expected to last four years. Each of the payments is made at the beginning of the year and is discounted using the present value formula in Figure 2 and assuming an interest rate of 10\%. In this example, the first benefit is received at the beginning of year 5 , so that benefit payment is discounted over four years. The benefits for the following three years are also discounted to beginning of year 1 dollar amounts and are then summed, resulting in a benefit value of $\$ 238.16$ at the beginning of year 1 .

Figure 3. Simplified Pension Benefit Calculation


Source: Congressional Research Service (CRS).
Notes: This example assumes four yearly benefits of $\$ 100$ per year, beginning in year 5 and discounted at an interest rate of $10 \%$.

The calculated present value of the benefit payments depends on the year in which the benefit is calculated. For example, as a worker moves closer to the expected date of retirement and recalculates the present value of the benefit, the calculated value of the obligation increases. For example, when calculated at the beginning of year 2, the simplified pension benefit has a present value of $\$ 261.97$ in year 2 dollars. When calculated at the beginning of year 3, the benefit has a present value of \$288.17 in year 3 dollars. ${ }^{9}$

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\({ }^{9} \$ 261.97=\$ 100 /(1.1)^{3}+\$ 100 /(1.1)^{4}+\$ 100 /(1.1)^{5}+\$ 100 /(1.1)^{6}\) and \(\$ 288.17=\$ 100 /(1.1)^{2}+\)
\(\$ 100 /(1.1)^{3}+\$ 100 /(1.1)^{4}+\$ 100 /(1.1)^{5}\).
```


## Defined Benefit Plan Funding Ratio

The DB plan funding ratio compares the value of a plan's assets with the present value of a plan's liabilities and is often used as an indicator of the financial health of a plan. The DB plan funding ratio is calculated as

## Value of Plan Assets

## Present Value of Plan Liabilities

A funding ratio of $100 \%$ indicates that the DB plan has set aside enough funds to pay the present value of the plan's future benefit obligations. Funding ratios that are less than $100 \%$ indicate that the DB plan has not set aside enough to meet the calculated value of its future benefit obligations. ${ }^{10}$ Because benefit obligations are typically paid out over a period of 20 to 30 years, participants in even an underfunded plan will likely receive their promised benefits in the near term. However, if the underfunding persists without additional contributions or higher investment returns, plan participants in an underfunded plan might not receive $100 \%$ of their promised benefits in the future.

Returning to the example above, setting aside $\$ 238.16$ at the beginning of year 1 would fund the year 1 value of the benefit. At the beginning of year 2 , the benefit has a recalculated value of $\$ 261.97$ in year 2 dollars. ${ }^{11}$ Because $\$ 238.16$ was set aside at the beginning of year 1 -and assuming no investment gains or losses and no additional pension benefits-an additional contribution of $\$ 23.81(\$ 261.97-\$ 238.16)$ is needed to fund the value of the benefit as calculated at the beginning of year 2 .
Likewise, at the beginning of year 3, the benefit has a recalculated value of $\$ 288.17$ in year 3 dollars. Because $\$ 238.16$ was set aside at the beginning of year 1 , and $\$ 23.81$ more was contributed at the beginning of year 2-and assuming no investment gains or losses and no additional pension benefits-an additional contribution of \$26.20 (\$288.17-\$261.97) is needed to fund the value of the benefit as calculated at the beginning of year $3 .{ }^{12}$ This discussion of the example in Figure 3 has reviewed the funding ratio and required payments for only the first three years displayed. In practice, the DB plan funding ratio would continue to be recalculated and payments necessary to satisfy any DB plan funding ratio shortfalls would continue to be required each year to ensure the DB plan funding obligation is fully satisfied.

The present value of a dollar amount is inversely related to the assumed interest rate. As the interest rate increases, present value decreases; as the interest rate decreases, present value increases. In the above example, if the interest rate is $15 \%$, then the pension benefit has a value of

[^3]$\$ 187.72$ calculated at the beginning of year $1, \$ 215.88$ calculated at the beginning of year 2 , and $\$ 248.26$ calculated at the beginning of year $3 .{ }^{13}$
In this modification of the simplified example, with the only difference being a $15 \%$ interest rate, the pension benefit would be funded-and assuming no investment gains or losses and no additional pension benefits-with contributions of \$187.72 at the beginning of year 1; \$215.88$\$ 187.72=\$ 28.16$ at the beginning of year 2 ; and $\$ 248.26-\$ 215.88=\$ 32.38$ at the beginning of year 3. ${ }^{14}$ This example shows payments for the first three years; in practice, contributions would continue until the obligation is fully satisfied.
Note that the amounts of the yearly payments differ depending on the interest rate used. Compared with the payments in the $10 \%$ interest rate example, the initial payment in the $15 \%$ example is lower ( $\$ 187.72$ versus $\$ 238.16$ ) but subsequent payments are higher (e.g., year 2 payments are $\$ 28.16$ using the $15 \%$ interest rate and $\$ 23.81$ using the $10 \%$ interest rate). Over time, the required payments in both cases-assuming no investment gains or losses and no additional pension benefits-sum to the total benefits received in retirement. The interest rate used by single-employer DB plans is discussed later in this report.

## Annual Employer Contributions to Defined Benefit Plans

ERISA sets out requirements for the minimum required contribution, which is the amount of money that must be contributed each year to a DB pension plan. ${ }^{15}$ In general, the minimum required contribution is the sum of (1) the value of benefits earned by participants in the plan year (the target normal cost), (2) installment payments resulting from plan underfunding in previous years (the shortfall amortization charge), and (3) installment payments resulting from Internal Revenue Service- (IRS-) approved waived required contributions in previous years (the waiver amortization charge).

## Target Normal Cost

The target normal cost represents the value of pension benefits that are earned or accrued by employees in a plan year and the cost to administer these benefits (minus any mandatory employee contributions).

[^4]${ }^{15} 26$ U.S.C. §430.

## Amortization Charges

A DB plan's funding can change in a given year as a result of changes to participants' benefits, employer contributions, and circumstances or events outside the plan's control. Plan underfunding could increase from events such as a decrease in plan assets due to declines in the stock market or an increase in plan liabilities due to decreases in interest rates. In order for a plan to remain fully funded, employers must increase their plan contributions to make up for losses that are outside the plan's control. Employers are not required to make up for the losses all at once. Rather, they may make installment payments to make up for plan losses over a number of years. ${ }^{16}$

Plan underfunding is paid off in installment payments via amortization. The amortization period is the length of time over which a plan can spread the installment payments.

## Shortfall Amortization Charge

A plan's funding target is the present value of all benefits earned by participants as of the beginning of the year. A plan's funding shortfall is the amount by which the funding target is greater than the value of plan assets. Various factors can cause funding shortfalls, such as investment losses and decreases in interest rates. In general, PPA required plan underfunding resulting from funding shortfalls to be amortized over a period of seven years. ${ }^{17}$

## Waiver Amortization Charge

Employers that face a temporary substantial business hardship can apply to the IRS for a funding waiver. ${ }^{18}$ Missed minimum required contributions as a result of receiving an IRS funding waiver must be amortized over five years. The waiver amortization charge is the amount of a plan's installment payment that amortizes the missed contributions. ${ }^{19}$

## Private-Sector Single-Employer Defined Benefit Pension Plan Data

Table 1 provides data on private-sector, single-employer DB pension plans. In 2021, there were nearly 24,000 of such plans with 22.7 million participants. ${ }^{20}$

Table I. Single-Employer Defined Benefit Pension Plan Data

| Number of Pension Plans (202I) | 23,908 |
| :--- | ---: |
| Number of Participants (202I) | 22.7 million |
| Total Assets (2019) | $\$ 2.3$ trillion |
| Total Benefit Obligations (2019) | $\$ 2.8$ trillion |
| Total Underfunding (Assets - Benefit Obligations) (2019) | $\$ 0.5$ trillion |
| Unfunded Vested Benefits (based on PBGC Premium Filings) (2020) | $\$ 206.1$ billion |

[^5]Source: Pension Benefit Guaranty Corporation (PBGC), 2020 Pension Insurance Data Tables, at https://www.pbgc.gov/sites/default/files/documents/2020-pension-data-tables.pdf.
Notes: Single-employer plan data include multiple-employer plans. A benefit is vested when a participant has a legal right to the benefit. The Employee Retirement Income Security Act of 1974 (P.L. 93-406) requires that benefits become vested within a specified number of years. Plan participants can lose non-vested benefits (e.g., by leaving the employer that sponsors a plan).

According to PBGC, $80.1 \%$ of plans (containing $89.4 \%$ of plan participants) were underfunded in 2019. ${ }^{21}$ The total amount of underfunding in these plans was $\$ 492.3$ billion. In addition, $19.9 \%$ of plans (containing $10.6 \%$ of participants) were overfunded in 2019. The total amount of overfunding in these plans was $\$ 28.0$ billion.

Figure 4 shows the funding percentage of the 100 largest corporate DB pension plans from 2018 to February 2023, adapted from Milliman. The most recent data show that as of January 31, 2023, these plans had $\$ 1.5$ trillion in assets and $\$ 1.4$ trillion in projected benefit obligations. ${ }^{22}$ The funding percentage (assets as a percentage of benefit obligations) was 109.3\%. Milliman indicated that the funded status improvement from February 2022 to January 2023 was a result of decreases in plan liabilities due to discount rate increases (rather than increases in plan assets; between February 2022 and January 2023, cumulative asset return was $-7.43 \%$ ).

Figure 4. Funding Percentage of the $\mathbf{I} 00$ Largest Corporate Defined Benefit Pension Plans
2018-2023


Source: Adapted from Milliman, "Milliman 100 Pension Funding Index," February 2023, at https://www.milliman.com/en/insight/Pension-Funding-Index-February-2023.

[^6]
## The Pension Protection Act of 2006

The Pension Protection Act of 2006 (PPA; P.L. 109-280) was the most recent major legislation to affect pension plan funding. ${ }^{23}$ Among other provisions, PPA established new funding rules for single- and multiple-employer plans and required that plans become $100 \%$ funded over a certain time period. PPA specified interest rates and other actuarial assumptions that plans must use to calculate their funding targets and target normal costs. PPA gave plans three years to transition to the new funding requirements. PPA also created special rules for certain types of plans, including those sponsored by certain government contractors, commercial airlines, and rural cooperatives.

## Pension Protection Act Interest Rates

PPA specified that pension plans discount their future benefit obligations using three different interest rates. ${ }^{24}$ The rates, called segment rates, used in the calculation depend on the date on which benefit obligations are expected to be paid and the corresponding rates on the corporate bond yield curve. ${ }^{25}$ The segment rates are calculated as the average of the corporate bond yields within the segment for the preceding 24 months. ${ }^{26}$ The IRS publishes the segment rates on a monthly basis. ${ }^{27}$
The first segment is for benefits payable within five years. The first segment rate is calculated as the average of short-term bond yields (with a maturity less than five years) for the preceding 24 months. Likewise, the second and third segments are for benefits payable after 5 years to 20 years and after 20 years, respectively. The second and third segment rates are calculated similarly to the first segment rates, using bonds of appropriate maturities.

## Pension Protection Act Amortization Periods

PPA required that shortfall amortization charges (funding shortfalls as a result of, for example, investment losses) be amortized over seven years and waiver amortization charges (from missed required minimum contributions) be amortized over five years. Amortization payments include interest.

[^7]
## Pension Protection Act Special Rules for Certain Plans

PPA outlined special rules for certain pension plans. Some of the rules have expired; others have been extended or expanded by subsequent legislation.

## Special Rules for Certain Commercial Airline Industry Plans

PPA provided special funding rules for certain eligible plans maintained by (1) a commercial passenger airline or (2) an employer whose principal business is providing catering services to a commercial passenger airline. ${ }^{28}$ Eligible plans that met certain benefit accrual and benefit increase restrictions could (1) use a 17-year amortization period, instead of the seven years required by PPA, beginning in 2006 or 2007 and (2) use an $8.85 \%$ interest rate, instead of the required segment rates, for the purposes of valuing benefit obligations. Eligible plans that did not meet certain benefit accrual and benefit increase restrictions could choose to use a 10-year amortization period for the first taxable year, beginning in 2008.

## Special Rules for Certain Government Contractor Plans

PPA delayed the date for certain government contractor plans to adopt the new funding rules to the 2011 plan year. ${ }^{29}$ Eligible plans were defense industry contractors whose primary source of revenue was derived from business performed under government contracts that exceeded $\$ 5$ billion in the prior fiscal year. ${ }^{30}$

## Special Rules for Certain Pension Benefit Guaranty Corporation Settlement Plans

PPA delayed the date for certain PBGC settlement plans to adopt the new funding rules to the 2014 plan year. Eligible plans were those in existence as of July 26, 2005, and (1) sponsored by an employer in bankruptcy proceedings giving rise to a claim of $\$ 150$ million or less, and the sponsorship of which was assumed by another employer, or (2) that, by agreement with PBGC, were spun off from plans that were subsequently terminated by PBGC in involuntary terminations.

## Funding Relief and Other Modifications for SingleEmployer Plans

Since PPA's enactment in 2006, Congress has modified funding rules for pension plans several times. Funding relief provisions have delayed the implementation dates of some PPA provisions, extended amortization periods, or changed interest rates. Some funding relief has been directed toward all single-employer DB plans; other modifications of funding rules have been targeted to

[^8]specific types of pension plans, such as plans for certain cooperative and charitable organizations and for community newspapers.
An extension of amortization periods allows plans a greater amount of time to pay off unfunded liabilities, meaning that plans can contribute less money per year over a greater number of years.

Changes in interest rates modify the timing of required employer contributions. As previously mentioned, a higher interest rate decreases the present value of plan liabilities, which means employers can contribute less today to fund a future benefit. The dollar amount of the benefit that a participant will receive in the future remains unchanged. Relative to a lower interest rate, a higher interest rate allows plans to contribute relatively smaller amounts in the near term but will have to be made up with higher contributions in the longer term. A lower interest rate does the opposite-it increases the present value of plan liabilities, requiring more employer contributions in the near term (and fewer in the long term).

## Funding Relief and Other Modifications Since the Pension Protection Act

The following sections describe funding relief provisions and other funding rule modifications in chronological order, where feasible, since PPA.

## Special Rules for Certain Plans in the Commercial Airline Industry

The U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (P.L. 110-28) provided funding relief for plans operated by certain commercial airlines and airline catering companies. As described above, PPA had extended the amortization period to either 10 or 17 years for these plans. P.L. 110-28 specified that eligible plans that had chosen the 10 -year amortization period could use an interest rate of $8.25 \%$ for purposes of calculating the funding target for each of those 10 years.

## Delay of Certain Pension Protection Act Rules

The Worker, Retiree, and Employer Recovery Act of 2008 (WRERA; P.L. 110-458) delayed the implementation of the PPA transition rules, giving plans additional time to become fully funded (given the decline in asset values due to the 2007-2009 economic downturn). ${ }^{31}$

## Extended Amortization Periods

The Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010 (P.L. 111-192) allowed plans to amortize underfunding resulting from the 2007-2009 market downturn using one of two alternative amortization schedules. ${ }^{32}$ Pension plan sponsors could amortize their funding shortfalls over either (1) 9 years, with the first 2 years of payments consisting of interest only on the amortization charge and the next 7 years consisting of interest

[^9]and principal, or (2) 15 years. Plan sponsors that chose one of these amortization schedules were required to make additional contributions to the plan if the plan sponsors paid excess compensation or declared extraordinary dividends, as defined in P.L. 111-192.

## Interest Rate Corridors

The Moving Ahead for Progress in the $21^{\text {st }}$ Century Act (MAP-21; P.L. 112-141) established a funding corridor to provide minimum and maximum interest rates used in calculating plan liabilities. The minimum and maximum rates were initially calculated as $90 \%$ and $110 \%$, respectively, of the average of corporate bond yields for the segment over the prior 25-year period. The American Rescue Plan Act of 2021 (ARPA; P.L. 117-2) set a floor of 5\% for the 25year average of corporate bond yields.
If the 24-month segment interest rate as calculated under PPA is below the minimum percentage of the funding corridor, the interest rate is adjusted upward to the minimum. If the 24-month segment interest rate is higher than the maximum, it is adjusted downward to the maximum.

MAP-21 adjusted the minimum and maximum percentages surrounding the baseline rate over time to become $70 \%$ and $130 \%$, respectively, by 2016 (essentially widening the corridor). When interest rates increase (which occurs when the 24-month rate is adjusted upward to the minimum rate), the present value of future benefit obligations decreases, and required plan contributions decrease. When companies contribute less to their pension plan, lower plan contributions increase companies' taxable income, which results in increased Treasury revenue.
Since MAP-21, provisions in enacted legislation have delayed the beginning of the widening of the funding corridor four times. First, the Highway and Transportation Funding Act of 2014 (HTF; P.L. 113-159) delayed the beginning of widening of the funding corridor until 2018. Next, the Bipartisan Budget Act of 2015 (BBA; P.L. 114-74) delayed it until 2021. Later, ARPA (P.L. 117-2) delayed it until 2026. Most recently, the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58) delayed it until 2031. Table 2 shows the applicable minimum and maximum percentages under MAP-21, HTF, BBA, ARPA, and IIJA.

Table 2.Applicable Minimum and Maximum Interest Rate Percentages Applied to 25-Year Averages of Segment Corporate Bond Yields, as Specified in MAP-2I, HTF, BBA, ARPA, and IIJA

| Calendar Year | MAP-2I |  | HTF |  | BBA |  | ARPA |  | IIJA |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Applicable Minimum Percentage | Applicable Maximum Percentage | Applicable Minimum Percentage | Applicable Minimum Percentage | Applicable Minimum Percentage | Applicable Maximum Percentage | Applicable Minimum Percentage | Applicable Maximum Percentage | Applicable Minimum Percentage | Applicable Maximum Percentage |
| 2012 | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% |
| 2013 | 85\% | 115\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% |
| 2014 | 80\% | 120\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% |
| 2015 | 75\% | 125\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% |
| 2016 | 70\% | 130\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% |
| 2017 | 70\% | 130\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% |
| 2018 | 70\% | 130\% | 85\% | 115\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% |
| 2019 | 70\% | 130\% | 80\% | 120\% | 90\% | 110\% | 90\% | 110\% | 90\% | 110\% |
| 2020 | 70\% | 130\% | 75\% | 125\% | 90\% | 110\% | 95\% | 105\% | 95\% | 105\% |
| 2021 | 70\% | 130\% | 70\% | 130\% | 85\% | 115\% | 95\% | 105\% | 95\% | 105\% |
| 2022 | 70\% | 130\% | 70\% | 130\% | 80\% | 120\% | 95\% | 105\% | 95\% | 105\% |
| 2023 | 70\% | 130\% | 70\% | 130\% | 75\% | 125\% | 95\% | 105\% | 95\% | 105\% |
| 2024 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 95\% | 105\% | 95\% | 105\% |
| 2025 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 95\% | 105\% | 95\% | 105\% |
| 2026 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 90\% | 110\% | 95\% | 105\% |
| 2027 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 85\% | 105\% | 95\% | 105\% |
| 2028 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 80\% | 120\% | 95\% | 105\% |
| 2029 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 75\% | 125\% | 95\% | 105\% |
| 2030 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 95\% | 105\% |
| 2031 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 90\% | 110\% |


|  | MAP-2I |  | HTF |  | BBA |  | ARPA |  | IIJA |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Calendar Year | Applicable Minimum Percentage | Applicable Maximum Percentage | Applicable Minimum Percentage | Applicable Minimum Percentage | Applicable Minimum Percentage | Applicable Maximum Percentage | Applicable Minimum Percentage | Applicable Maximum Percentage | Applicable Minimum Percentage | Applicable Maximum Percentage |
| 2032 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 85\% | 115\% |
| 2033 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 80\% | 120\% |
| 2034 | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 75\% | 125\% |
| After $2034$ | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% | 70\% | 130\% |

Source: Congressional Research Service (CRS).
Notes: MAP-2I = Moving Ahead for Progress in the 21st Century Act (MAP-2I; P.L. II2-14I); HTF = Highway and Transportation Funding Act of 2014 (HTF; P.L. II3159); BBA = Bipartisan Budget Agreement of 2015 (BBA, P.L. II4-74); ARPA = American Rescue Plan Act of 202I (P.L. II7-2); IIJA = Infrastructure Investment and Jobs Act (P.L. II7-58). Bold, italicized text indicates the year at which the funding corridor was set to begin widening under each law.

Figure 5 shows a hypothetical example of how segment rates are determined using the funding corridors.

- The orange line shows the average of a segment's interest rates for the prior 25 years (with a statutory minimum of $5 \%$ ).
- The gold lines indicate the minimum and maximum rates around the 25 -year average under the MAP-21 provisions.
- The green lines indicate the widening of the corridors around the 25 -year average under the HTF provisions (starting in 2018).
- The blue lines are the minimum and maximum rates around the 25 -year averages under the BBA provisions (widening starting in 2021).
- The red lines are the minimum and maximum rates around the 25 -year average under the ARPA provisions (widening starting in 2026).
- The teal lines are the minimum and maximum rates around the 25 -year average under current law, as passed in the IIJA (widening starting in 2031).

Under current law, in 2023, the minimum and maximum corridors are $95 \%$ and $105 \%$, respectively.
The following example demonstrates how segment rates are adjusted.

- If Treasury determines that the segment rate is above the maximum segment rate - point (1) in Figure 5-then Treasury adjusts the segment rate downward until it equals the proposed maximum segment rate.
- If Treasury determines that the segment rate is at or below the maximum segment rate and at or above the minimum segment rate-point (2) in Figure 5-Treasury does not adjust the segment rates.
- If Treasury determines that the segment rate is below the minimum segment rate-point (3) in Figure 5-then Treasury adjusts the interest rate upward until it equals the proposed minimum segment rate.

For example, in April 2023, the first segment rate before adjustment was $2.68 \%$. Adjusted for the 25 -year average bond yields, the first segment rate was $4.75 \% .{ }^{33}$

[^10]Figure 5. Hypothetical Application of Segment Rate Stabilization Provision, as Found in MAP-2I, HTF, BBA,ARPA, and IIJA


## Source: CRS.

Notes: MAP-2I = Moving Ahead for Progress in the 21st Century Act (MAP-21; P.L. II2-14I); HTF = Highway and Transportation Funding Act of 2014 (HTF; P.L. II3159); BBA = Bipartisan Budget Agreement of 2015 (BBA, P.L. II4-74); ARPA = American Rescue Plan Act of 202I (P.L. II7-2); IIJA = Infrastructure Investment and Jobs Act (P.L. II7-58). The segment rates are calculated as the average of the corporate bond yields within the segment for the preceding 24 months. The first segment rate is calculated as the average of short-term bond yields (with a maturity less than five years) for the preceding 24 months. Likewise, the second and third segments are for benefits payable after 5 years to 20 years and after 20 years, respectively. The second and third segment rates are calculated similarly to the first segment rates, using bonds of appropriate maturities.

## Special Rules for Certain Cooperative and Charity Pension Plans

Congress has authorized special funding rules for plans sponsored by specific types of employers, such as rural cooperatives and certain charities. PPA delayed the implementation of funding rules for certain cooperatives. Subsequent legislation expanded this delayed effective date to certain charities. Later legislation modified funding rules for these plans, referred to as Cooperative and Small Employer Charity (CSEC) pension plans. With two exceptions, CSEC plans are multipleemployer pension plans established by eligible cooperatives and certain charitable organizations to provide retirement benefits for their employees. ${ }^{34}$

## Delay of PPA Funding Rules

PPA provided a delayed effective date of January 1, 2017, for certain multiple-employer cooperative plans-such as pension plans for agriculture, electric, and telephone cooperatives-to adopt the new funding rules. ${ }^{35}$
The Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010 (P.L. 111-192) extended PPA's delayed effective date to apply to certain charitable organizations' pension plans-multiple-employer plans whose employers are charitable organizations described in 26 U.S.C. §501(c)(3).

## Establishment of CSEC Funding Rules

The Cooperative and Small Employer Charity Pension Flexibility Act of 2013 (P.L. 113-97) established funding rules for and provided a definition of CSEC pension plans. Among other provisions, this act permanently exempted these plans from PPA's funding rules and outlined minimum funding standards for CSEC plans. Plans must indicate if they use the CSEC-specific funding rules in their required annual reporting to the Department of Labor (DOL). ${ }^{36}$ Table A-1 provides a list of CSEC plans and funded status in the 2020 and 2021 Form 5500 data (the most recent data available).

## Expanded Definition of CSEC Plans in 2015

Section 3 of Division P of the Consolidated and Further Continuing Appropriations Act, 2015 (P.L. 113-235) expanded the definition of CSEC plans to include plans maintained by an employer that meet several criteria. It appears that the Boy Scouts of America Master Pension Trust is the only plan that meets these expanded criteria.

[^11]
## Expanded Definition of CSEC Plans in 2020

Section 3609 of the Coronavirus Aid, Relief, and Economic Security Act (CARES Act; P.L. 116136) applies CSEC funding rules to plans sponsored by certain charitable employers "whose primary exempt purpose is providing services with respect to mothers and children," among other criteria. It appears that the pension plan sponsored by March of Dimes is the only plan that meets these expanded criteria. ${ }^{37}$

## Special Rules for Community Newspaper Plans

Section 115 of the Setting Every Community up for Retirement Enhancement Act of 2019 (SECURE Act, enacted as Division O of the Further Consolidated Appropriations Act of 2020; P.L. 116-94) provided special funding rules for pension plans operated by certain community newspapers that had no benefit increases for participants after December 31, 2017. Community newspaper plans are those maintained by certain private community newspaper organizations that are family-controlled and have been in existence for 30 or more years. ${ }^{38}$
For these plans, the SECURE Act

- increased the interest rate to $8 \%$, and
- extended the amortization period from 7 to 30 years.


## Delayed Due Date for 2020 Plan Contributions

Section 3608 of the CARES Act (P.L. 116-136) allowed contributions that were due in calendar year 2020 to be made, with interest, on January 1, 2021. Section 3608 also allowed plans to use the funding percentage for the 2019 plan year, rather than the 2020 plan year (which would likely be lower), in determining whether plans must impose benefit restrictions. ${ }^{39}$

## Policy Considerations

Policymakers and stakeholders might consider some of the policy implications of singleemployer DB pension plan funding relief. The considerations include the rationale for providing relief, the effects of lower levels of plan assets on participant benefits and PBGC, and the effect on the federal budget.

Funding relief results in lower employer contributions to DB plans in the near term. Among the rationales for funding relief is that it allows employers the flexibility to use funds for other priorities (such as retaining or hiring employees). ${ }^{40}$ For example, one article noted that the

[^12]funding relief provided in ARPA (P.L. 117-2) would "provide many employers with flexibility to smooth out funding obligations over longer time periods, which may help employers avoid disruptive cost-cutting measures and, for some, ensure the survival of both the employer and the pension plan." On the other hand, some policymakers oppose funding relief to specific industries or companies because they provide "a special-interest bailout" and set both "bad policy and bad precedent. ${ }^{341}$

Some stakeholders have expressed concern that employers adopting funding relief measures might use the funds saved via reduced contributions for non-core business activities. For example, the Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010 (P.L. 111-192) limited the ability of employers that adopted funding relief measures to provide excess employee compensation or extraordinary dividends.
Although employer contributions and plan assets are lower following funding relief, participants' benefits are not necessarily at risk-although they may be under certain circumstances.
Participants in DB plans that receive funding relief remain entitled to their benefits; funding relief does not reduce these benefits. For employers that do not become bankrupt, modifying the timing of contributions generally would not be problematic-over time, the employer would need to make all required contributions for participants to receive their full benefits.
However, in the case of employer bankruptcy, the timing of contributions may negatively affect both participants' benefits and PBGC. ${ }^{42}$ Participants with benefits greater than the PBGC maximum guarantee or with non-guaranteed benefits might see reduced benefits when PBGC becomes trustee of their plan. ${ }^{43}$ Following funding relief, there are fewer plan assets available from which to pay non-guaranteed benefits because funding relief lowers employer contributions to DB plans in the short term. In addition, PBGC receives fewer assets from the plans that it trustees, which harms its financial position.

[^13]ERISA requires PBGC to be self-supporting-it receives no appropriations from general revenue. ERISA states that the "United States is not liable for any obligation or liability incurred by the corporation. ${ }^{" 44}$ In recent years, PBGC's single-employer program has operated with a surplus (reaching $\$ 36.6$ billion in FY2022). ${ }^{45}$ In April 2023, PBGC's insurance programs were removed from the U.S. Government Accountability Office's High-Risk List. ${ }^{46}$
Funding relief can result in short-term revenue for Treasury and PBGC. Because employer contributions to pension plans are generally tax deductible, decreasing a plan's required contributions for a year (either through increasing the interest rate or extending the amortization period) increases the plan's taxable income. Some stakeholders point out that because funding relief provides revenue to Treasury, it has been used for budgetary offsets without regard to the policy justifications. ${ }^{47}$ Funding relief can positively affect PBGC finances because greater DB plan underfunding results in higher variable-rate premiums (premiums based on the amount of plan underfunding) paid by employers to PBGC.

[^14]
## Appendix. Recent Data on CSEC Plans

Table A-1 provides data on Cooperative and Small Employer Charity (CSEC) plans in the 2020 or 2021 Form 5500 data. (The most recent year for which complete Form 5500 datasets are available is 2020 . However, most CSEC plans had already submitted 2021 Form 5500 filings.) In total, CSEC plans had about 235,000 participants, $\$ 24.1$ billion in assets, and a total funding target of $\$ 25.3$ billion in 2021. The largest plan by number of participants in 2021 was the Retirement Security Plan, which had assets of $\$ 10.1$ billion and a total funding target of $\$ 11.2$ billion in that year.

Most private-sector pension plans are required to submit annual forms to the Internal Revenue Service (IRS), DOL, and the Pension Benefit Guaranty Corporation (PBGC). These forms generally include information about the plan, such as the number of participants, financial information, and the companies that provide services to the plan. In addition to Form 5500, pension plans are generally required to file information in specific schedules. For example, most single-employer and multiple-employer plans are required to file Schedule SB, which contains information specific to these plans. Each pension plan's Form 5500 and required schedules are available by search on DOL's website. Because data are self-reported, Table A-1 may not capture all plans that used CSEC funding rules or may include non-CSEC plans that erroneously identified as CSEC plans.
To determine which plans use CSEC funding rules, CRS analyzed four years of public-use Form 5500 data from DOL. Some plans do not consistently indicate using CSEC funding rules from year to year. CRS examined Form 5500 filings ranging from 2018 to 2021 to capture plans that used CSEC funding rules in any of those filings. All but two plans in Table A-1 had submitted a 2021 Form 5500 filing as of the date of this report. Two plans' most recent filing is in the 2020 Form 5500 data.
Table A-1 provides data on private-sector defined benefit (DB) pension plans that indicated using CSEC funding rules on their 2018, 2019, 2020, or 2021 Schedule SB filings. Twenty-eight plans indicated using CSEC funding rules in their 2020 or 2021 Schedule SB filings and also in an earlier year (2018 or 2019). ${ }^{48}$ Table A-1 provides the total number of participants, actuarial value of assets, total funding target, and funding target attainment percentage for the 28 plans.

[^15]
## Table A-I. Cooperative and Small Employer Charity (CSEC) Pension Plan Data

Based on 2021 Form 5500 Data Unless Otherwise Noted; in Descending Order Based on the Number of Total Participants

| Plan Name | Total Participants | Actuarial Value of Assets | Total Funding Target | Funding <br> Target Attainment Percentage |
| :---: | :---: | :---: | :---: | :---: |
| Retirement Security Plan | 71,604 | \$10,106,337,319 | \$11,188,900,441 | 90.3\% |
| Co-op Retirement Plan | 36,698 | \$3,423,909,472 | \$2,898,229,850 | 118.1\% |
| Johns Hopkins Health System Corporation Pension Plan ${ }^{\text {a }}$ | 20,861 | \$2,163,436,164 | \$1,836,219,347 | 117.8\% |
| Retirement \& Security Program for Employees of NTCA and its Members | 16,62 \| | \$2,295,628,322 | \$2,500,668,554 | 91.8\% |
| Boy Scouts of America Master Pension Trust - Boy Scouts of America Retirement Plan for Employees ${ }^{\text {b }}$ | 14,05 I | \$1,399,342,153 | \$1,626,136,300 | 86.1\% |
| Retirement Plan for Employees of United Jewish Appeal-Federation of NY and Affiliated Agencies and Institutionsc ${ }^{c}$ | 13,380 | \$473,614,495 | \$627,857,610 | 75.4\% |
| Young Women's Christian Association Retirement Fund, Inc. | 11,195 | \$380,053,807 | \$273,611,236 | 138.9\% |
| Christian School Pension Plan and Trust Fundc | 11,106 | \$734,487, 148 | \$1,331,094,825 | 55.2\% |
| National Girl Scout Council Retirement Plan | 7,330 | \$476,462,852 | \$521,964, 154 | 91.3\% |
| Cooperative Pension Plan ${ }^{\text {a }}$ | 6,413 | \$248,601,670 | \$274,258,706 | 74.8\% |
| Group Retirement Income Plan No. 16 | 6,216 | \$88I,711,609 | \$649,589,00I | III.0\% |
| Retirement Plan for Employees of Southern States | 3,434 | \$237,477,668 | \$226,600,293 | 104.8\% |
| MFA Incorporated Retirement Plan | 2,855 | \$212,758,393 | \$205,005,654 | 103.8\% |
| MFA Employees Retirement Plan | 1,995 | \$139,865,976 | \$144,906,025 | 96.5\% |
| Sunkist Retirement Plan - A | 1,712 | \$192,485,635 | \$215,756,557 | 89.2\% |
| Pension Plan for Employees of the Member Co-ops of CHS Inc. ${ }^{\text {a }}$ | I,58। | \$103,940,237 | \$67,512,427 | 154.0\% |
| Federation Employees' <br> Retirement Income Plan | 1,428 | \$100,118,591 | \$114,545,682 | 87.4\% |
| Lincoln Center Pension Plan ${ }^{\text {a }}$ | I,133 | \$97,405,429 | \$125,974,904 | 77.3\% |


| Plan Name | Total Participants | Actuarial Value of Assets | Total Funding Target | Funding <br> Target Attainment Percentage |
| :---: | :---: | :---: | :---: | :---: |
| United Way of Central Iowa Retirement Plan | I,108 | \$74,835,971 | \$56,949,870 | 92.5\% |
| The Defined Benefit Pension Plan of United Way of Greater Toledo and Affiliated Agencies | 1,091 | \$38,858,102 | \$38,804,327 | 100.1\% |
| Retirement Plan for National Office and Field Staff Employees of the March of Dimes Foundation ${ }^{\text {b }}$ | 904 | \$117,443,039 | \$147,301,370 | 79.7\% |
| The Defined Benefit Pension Plan of United Way of Greater Richmond \& Petersburg and Affiliated Agencies | 902 | \$32,803,63I | \$33,842,760 | 86.8\% |
| Hawkeye Pension Plan ${ }^{\text {a }}$ | 879 | \$111,579,234 | \$145,534,040 | 76.7\% |
| Pension Plan for Employees of United Way of Greater Cincinnati, Inc. and Affiliated Agencies ${ }^{\text {b }}$ | 367 | \$30,954,087 | \$24,122,047 | 128.3\% |
| Sunkist Retirement Plan - N | 243 | \$10,839,550 | \$12,196,004 | 88.9\% |
| Sunsweet Hourly Pension Plan ${ }^{\text {b }}$ | 202 | \$8,522,852 | \$7,398,740 | 105.3\% |
| Senior Resource Connection Pension Plan (formerly the Employee Benefit Plan of the United Way of the Greater Dayton Area and Affiliated Agencies) | 100 | \$2,079,909 | \$3,569,40I | 58.3\% |
| Defined Benefit Plan of Greater Miami Jewish Federation, Inc. ${ }^{\text {a }}$ | 32 | \$1,846,899 | \$1,685,671 | 109.6\% |
| TOTAL | 235,44 I | \$24.1 billion | \$25.3 billion | 95.2\% |

Source: CRS analysis of Form 5500 datasets available from Department of Labor, Employee Benefits Security Administration (EBSA), "Form 5500 Datasets," at https://www.dol.gov/agencies/ebsa/about-ebsa/our-activities/ public-disclosure/foia/form-5500-datasets.
Notes: Actuarial value of assets is the value of plan investments averaged over several years to remove shortterm fluctuations in value. Total funding target is the present value of all benefits under the plan that have been accrued or earned. The funding target attainment percentage is the ratio (expressed as a percentage) of a plan's actuarial value of assets to the total funding target, which is a general measure of a plan's current ability to pay benefits owed.
Some plans do not consistently indicate using CSEC funding rules from year to year; CRS examined plan years ranging from 2018 to 2021 to determine which plans might use CSEC funding rules and confirmed plans' statuses by examining plan sponsors to confirm whether the sponsoring employer was a charity or cooperative. Five plans indicated using CSEC funding rules in the 202I Form 5500 data but were determined not to be CSEC plans. Form 5500 datasets used in this analysis were last modified April 6, 2023. Datasets are periodically updated to reflect new filings.
a. For these plans, 2021 Form 5500 data was collected from individual filings posted on https://www.efast.dol.gov/5500Search/. As of the date of this report, filings were not yet included in the Form 5500 datasets.
b. These plans appear to be the only single-employer plans that indicated using CSEC funding rules.
c. Data from the 2020 Form 5500 dataset. These plans do not appear to have filed their 2021 Form 5500 filings yet.

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[^0]:    ${ }^{1}$ In some defined benefit (DB) plans, participants have the option to receive an actuarially equivalent lump-sum payment at retirement in lieu of the annuity (i.e., a one-time payment that is the present value of all future monthly payments that would occur with an annuity). Typically, an annuity is a monthly payment for life.
    ${ }^{2}$ The remainder were in traditional DB pension plans in which the benefit is expressed as a monthly payment in retirement. See DOL, Private Pension Plan Bulletin, Table A1, https://www.dol.gov/sites/dolgov/files/EBSA/ researchers/statistics/retirement-bulletins/private-pension-plan-bulletins-abstract-2020.pdf.
    ${ }^{3}$ Multiple-employer pension plans are not common. The Government Accountability Office (GAO) indicated that about $0.7 \%$ of private-sector pension plans were multiple-employer pension plans. See GAO, Federal Agencies Should Collect Data and Coordinate Oversight of Multiple-employer Plans, GAO-12-665, September 13, 2012, p. 10, at http://www.gao.gov/assets/650/648285.pdf.

[^1]:    ${ }^{4}$ A worker with 20 years of service covered by a DB plan that has an accrual rate of $1.5 \%$ with highest five years of salary averaging $\$ 50,000$ would receive a monthly pension benefit of $\$ 1,250(\$ 50,000 / 12 \times 20 \times .015=\$ 1,250)$.
    ${ }^{5}$ For information on single-employer DB funding rules, see Joint Committee on Taxation, Present Law and Background Relating to Qualified Defined Benefit Plans, JCX-99-14, September 15, 2014, at https://www.jct.gov/ publications.html?func=showdown\&id=4666.

[^2]:    ${ }^{6}$ DB pension plans in the private sector are generally funded entirely by employer contributions. U.S. Department of Labor (DOL) data in 2011 (the most recent year for which this data point is available) indicated that among privatesector workers who participated in DB plans, $4 \%$ were required to make an employee contribution to their plans. See DOL, Bureau of Labor Statistics (BLS), "National Compensation Survey: Employee Benefits in the United States, March 2011," at https://www.bls.gov/news.release/archives/ebs2_07262011.pdf.
    ${ }^{7}$ Generally, under 26 U.S.C. $\S 430(\mathrm{~h})(3)$, DB plans estimate participants' life expectancies using Internal Revenue Service (IRS) mortality tables. See IRS, "Updated Mortality Improvement Rates and Static Mortality Tables for Defined Benefit Pension Plans for 2020," at https://www.irs.gov/pub/irs-drop/n-19-26.pdf.
    ${ }^{8}$ The interest rate is also referred to as the discount rate. The U.S. Code uses the term interest rate.

[^3]:    ${ }^{10}$ A plan will be able to pay its future obligations if plan assets increase through a combination of employer contributions and investment returns equal to the discount rate or higher.
    ${ }^{11}$ While the calculated present value of future benefits changes depending on the year of calculation, the value of assets (how much is set aside to fund future benefits) is not a present value calculation and does not change without additional contributions or investment gains or losses. This example assumes no inflation.
    ${ }^{12}$ Investment gains could lower required future employer contributions, and additional pension benefits would increase required future employer contributions. In addition, the interest rate plans use changes throughout the year. In practice, pension benefits are a series of future payments that can be summed into a single present value by discounting. A number of factors affect the present value of pension benefits and an employer's funding obligations. This example assumes no investment returns; in practice, the value of plan assets are affected by investment gains and losses. Also, pension plan actuaries project participants' longevity, which is an estimate of the number of years that participants receive their benefits.

[^4]:    ${ }^{13}$ For example, the benefit calculated at the beginning of year 1 , assuming a $15 \%$ discount rate, is $\$ 187.72=$ $\$ 100 /(1.15)^{4}+\$ 100 /(1.15)^{5}+\$ 100 /(1.15)^{6}+\$ 100 /(1.15)^{7} ;$ at the beginning of year 2 is $\$ 215.88=$ $\$ 100 /(1.15)^{3}+\$ 100 /(1.15)^{4}+\$ 100 /(1.15)^{5}+\$ 100 /(1.15)^{6}$; and at the beginning of year 3 is $\$ 248.26=$ $\$ 100 /(1.15)^{2}+\$ 100 /(1.15)^{3}+\$ 100 /(1.15)^{4}+\$ 100 /(1.15)^{5}$.
    ${ }^{14}$ Pension policy experts have several viewpoints on the appropriate discount rate pension plans should use to value plan liabilities. Broadly speaking, some actuaries recommend that pension plans discount future benefits using the expected rate of return on plan investments (the current practice for private-sector multiemployer DB pension plans and those sponsored by state and local governments). Some financial economists, by contrast, recommend that plans discount the liabilities using a discount rate reflecting the likelihood that the benefit obligation will be paid. This would suggest pension plans use close to a risk-free rate because (1) the Employee Retirement Income Security Act of 1974 (ERISA; P.L. 93-406) prevents vested pension benefits from being reduced and (2) the Pension Benefit Guaranty Corporation (PBGC) guarantees participants’ benefits (up to a statutory maximum). Most financial economists feel that interest rates based on expected returns on investment are an incorrect measure of the riskiness of the benefit obligations.

[^5]:    ${ }^{16}$ The make-up contributions must include interest.
    ${ }^{17}$ See 26 U.S.C. $\S 430(\mathrm{c})(2)$.
    ${ }^{18}$ See 26 U.S.C. §412.
    ${ }^{19}$ The waiver amortization installment payments include interest. Interest rates are based on segment rates.
    See 26 U.S.C. §430(e).
    ${ }^{20}$ PBGC, 2020 Pension Insurance Data Tables, at https://www.pbgc.gov/sites/default/files/documents/2020-pension-data-tables.pdf.

[^6]:    ${ }^{21}$ For the data in this paragraph, see PBGC, 2020 Pension Insurance Data Tables, Table S-48, at https://www.pbgc.gov/sites/default/files/documents/2020-pension-data-tables.pdf.
    ${ }^{22}$ See Milliman, Pension Funding Index February 2023, at https://www.milliman.com/en/insight/Pension-Funding-Index-February-2023.

[^7]:    ${ }^{23}$ For a detailed explanation of Pension Protection Act of 2006 (PPA; P.L. 109-280) provisions, see Joint Committee on Taxation, Technical explanation of H.R. 4, the "Pension Protection Act of 2006," as passed by the House on July 28, 2006, and as considered by the Senate on August 3, 2006, JCX-38-06, August 6, 2006, at http://www.jct.gov/x-3806.pdf.
    ${ }^{24}$ Prior to PPA, interest rates were generally based on interest rates on 30 -year Treasury securities. See 26 U.S.C. §412, as of January 2, 2006, at https://uscode.house.gov/view.xhtml?hl=false\&edition=2005\&req=granuleid:USC-prelim-title26-section412\&f=treesort\&num=0.
    ${ }^{25}$ See 26 U.S.C. $\S 430(\mathrm{~h})(2)(\mathrm{C})$ and 26 C.F.R. §1.430(h)(2)-1.
    ${ }^{26}$ The corporate bond yield curve is the collection of rates of return on corporate bonds for varying maturities. The U.S. Treasury publishes these rates for pension plans to use when valuing plan liabilities. See James A. Girola, The Corporate Bond Yield for the Pension Protection Act, Treasury, October 11, 2007, at https://home.treasury.gov/system/ files/226/hqm_pres.pdf. For purposes of determining minimum required contributions, plans may instead use interest rates on a yield curve based on investment grade corporate bonds without regard to averaging. See 26 U.S.C. $\S 430(\mathrm{~h})(2)(\mathrm{D})(\mathrm{ii})$. These rates are available at IRS, "Monthly Yield Curve Tables," at https://www.irs.gov/retirement-plans/monthly-yield-curve-tables.
    ${ }^{27}$ See IRS, "Funding Yield Curve Segment Rates," at https://www.irs.gov/retirement-plans/funding-yield-curve-segment-rates.

[^8]:    ${ }^{28}$ Supporters of the legislation claim the provisions were necessary because of financial difficulties in the airline industry following the attacks on September 11, 2001. See U.S. Congress, House Committee on Education and the Workforce, Pension Protection Act of 2005, report to accompany H.R. 2830, 109 ${ }^{\text {th }}$ Cong., $1^{\text {st }}$ sess., H.Rept. 109-232 (Washington, DC: GPO, 2005), at https://www.congress.gov/congressional-report/109th-congress/house-report/232/1. ${ }^{29}$ PPA funding rules were delayed for certain defense contractors in order to allow time for their industry-specific accounting standards to adjust.
    ${ }^{30}$ For more information, see GAO, Pension Costs on DoD Contracts: Additional Guidance Needed to Ensure Costs Are Consistent and Reasonable, GAO-13-158, January 22, 2013, at https://www.gao.gov/assets/660/651387.pdf.

[^9]:    ${ }^{31}$ The Worker, Retiree, and Employer Recovery Act of 2008 (WRERA; P.L. 110-458) delayed for one year PPA's transition rule that plans did not have to establish a shortfall amortization base for plan years beginning after 2007 if they were at least $92 \%$ funded in 2008, $94 \%$ funded in 2009 , and $96 \%$ funded in 2010. For a detailed explanation of WRERA, see Joint Committee on Taxation, Technical Explanation Of H.R. 7327, The "Worker, Retiree, And Employer Recovery Act Of 2008," As Passed By The House On December 10, 2008, JCX-85-08, December 11, 2008, at https://www.jct.gov/publications.html?func=startdown\&id=1252.
    ${ }^{32}$ Generally, plans could elect to use one of the two alternative amortization schedules for either one or two plan years from 2008 to 2011.

[^10]:    ${ }^{33}$ See IRS, Funding Yield Curve Segment Rates, Funding Table 3A for 2023, at https://www.irs.gov/retirement-plans/ funding-yield-curve-segment-rates.

[^11]:    ${ }^{34}$ Two single employer plans are classified as Cooperative and Small Employer Charity (CSEC) plans. P.L. 113-235 included the Boy Scouts of America Master Pension Trust, and P.L. 116-136 included the pension plan sponsored by March of Dimes.
    ${ }^{35}$ Supporters for the delay said the provisions recognized the "special, unique nature of multiple employer plans sponsored by rural cooperatives." See U.S. Congress, Senate Committee on Health, Education, Labor, and Pensions, The Power Of Pensions: Building A Strong Middle Class And Strong Economy, $112^{\text {th }}$ Cong., ${ }^{\text {st }}$ sess., July 12, 2011, S.Hrg. 112-812 (Washington, DC: GPO, 2012), p. 20.
    ${ }^{36}$ Nearly all private-sector pension plans are required to file Form 5500 with the IRS, DOL, and PBGC. Unless specifically exempted (such as special funding rules for CSEC plans), pension plans sponsored by nonprofit employers are generally subject to the requirements in ERISA, including filing Form 5500. Form 5500 information includes breakdowns on the number of plan participants, financial information about the plan, and details of companies providing services to the plan.

[^12]:    ${ }^{37}$ See Senator Mark R. Warner, "Senators Purdue, Kaine Lead Senate Effort To Protect Health Services for Mothers \& Babies," press release, November 21, 2019, at https://www.warner.senate.gov/public/index.cfm/2019/11/senators-perdue-kaine-lead-senate-effort-to-protect-health-services-for-mothers-babies.
    ${ }^{38}$ Supporters argue that the provisions provide time for certain struggling newspapers to work through the business transition period occurring in the media sector. The Congressional Budget Office and Joint Committee on Taxation estimated that about 20 newspapers would be eligible to adopt the provisions of a similar bill from the $115^{\text {th }}$ Congress. See U.S. Congress, House Committee on Ways and Means, Save Community Newspaper Act of 2018, committee print, $115^{\text {th }}$ Cong., $2^{\text {nd }}$ sess., November 8, 2018, Rept. 115-1011, at https://www.congress.gov/115/crpt/hrpt1011/CRPT115hrpt1011.pdf.
    ${ }^{39}$ Plans with funding levels below specified levels must restrict certain benefits under 26 U.S.C. §436. For example, if a plan is less than $60 \%$ funded, it may not provide benefits that have been promised in the event of a plant closing, referred to as shutdown benefits.
    ${ }^{40}$ See, for example, U.S. Congress, House Committee on Ways and Means, Economic Recovery And Job Creation (continued...)

[^13]:    Through Investment In America, 110 ${ }^{\text {th }}$ Cong., $2^{\text {nd }}$ sess., October 29, 2008, Serial Number 110-101 (Washington, DC: GPO, 2010), pp. 190-191, at https://www.govinfo.gov/content/pkg/CHRG-110hhrg49881/pdf/CHRG-
    110hhrg49881.pdf.
    ${ }^{41}$ See Senator Mike Lee, "Preventing Another Pension Bailout," November 8, 2019, at https://www.lee.senate.gov/public/index.cfm/issue-in-focus?ID=B18A1CF4-ADD6-4034-8E33-BE26283505AA. ${ }^{42}$ When an underfunded single-employer DB plan terminates, PBGC becomes the trustee of the plan, takes control of any plan assets, and assumes responsibility for liabilities in the plan. PBGC calculates participants' benefits in a twostep process. First, PBGC calculates each participant's guaranteed benefits (such as benefits due to participants at a plan's normal retirement age-typically age 65 -or most early retirement benefits). Guaranteed benefits up to the statutory maximum are paid regardless of the amount of money in the plan when PBGC becomes trustee. Second, participants' benefits are classified based on six priority categories. If the amount of funds in a trusteed plan (including funds PBGC recovers in bankruptcy proceedings) is more than the amount of guaranteed benefits, PBGC pays additional benefits in the order in which they fall into the priority categories.
    ${ }^{43}$ An individual's guaranteed benefit that is greater than the statutory maximum is reduced to the PBGC maximum benefit. The maximum guaranteed benefit is $\$ 81,000$ per year for a participant who receives a straight-life annuity beginning at age 65 in a plan that PBGC takes over in 2023. The maximum benefit is adjusted if the participant begins receiving the benefit before or after age 65 or in a form other than a straight-life annuity. For more information, see PBGC, "Maximum Monthly Guarantee Tables," at https://www.pbgc.gov/wr/benefits/guaranteed-benefits/maximumguarantee. In a 2019 study, PBGC estimated that $84 \%$ of participants received $100 \%$ of their vested benefits (based on a historical sample of 500 plans trusteed by PBGC). See PBGC, PBGC's Single-Employer Guarantee Outcomes, May 2019, at https://www.pbgc.gov/sites/default/files/2016-single-employer-guaranty-study.pdf. Because funding relief lowers the amount of plan assets, it could affect PBGC's ability to pay participants' non-guaranteed benefits (though it is uncertain to what extent, as PBGC indicated that typically there are not enough funds in a plan to pay significant benefits beyond the guaranteed benefits). See PBGC, "Priority Categories," at https://www.pbgc.gov/wr/other/pg/ priority-categories; and PBGC, "Priority Categories Allocation," at https://www.pbgc.gov/documents/PCA-bucketchart.pdf.

[^14]:    ${ }^{44}$ See ERISA 4002 §1302(g)(2) and 29 U.S.C. $1302 \S(\mathrm{~g})(2)$.
    ${ }^{45}$ See PBGC, PBGC Annual Report 2022, at https://www.pbgc.gov/sites/default/files/documents/pbgc-annual-report2022.pdf.
    ${ }^{46}$ GAO, High-Risk Series: Efforts Made to Achieve Progress Need to Be Maintained and Expanded to Fully Address All Areas, GAO-23-106203, April 20, 2023, https://www.gao.gov/assets/gao-23-106203.pdf.
    ${ }^{47}$ See Alan Cole, "The Highway Bill 'Pension Gimmick:' A Primer," Tax Foundation, July 15, 2014, at https://taxfoundation.org/highway-bill-pension-gimmick-primer/https://taxfoundation.org/highway-bill-pension-gimmick-primer/.

[^15]:    ${ }^{48}$ Five plans indicated using CSEC funding rules in the 2021 Schedule SB data but in no other year. CRS examined these plans and their plan sponsors and determined that these plans were not CSEC plans. Another plan - the Employee Benefit Plan of the United Way of the Greater Dayton Area and Affiliated Agencies-indicated using CSEC funding rules in the 2018 Schedule SB data but did not have more recent Form 5500 filings. CRS examined this plan's filings and found that it had spun off into another CSEC plan and changed its name to the Senior Resource Connection Plan (which is included in Table A-1).

