

Public Retirement Systems Need Policies for Navigating Volatile Financial Markets

According to data from 2021, are North Carolina's policies sustainable?

North Carolina Metrics

Over the past decade, policy reforms and increased financial contributions have dramatically improved the cash flow situation of some of the nation's most troubled state pension plans. Thanks to these changes, no state was at risk of pension insolvency as of fiscal year 2021. Yet for some states, these improvements won't be enough to provide their pension systems—and the public employees and retirees who rely on them—with long-term stability.



In 2021, once-in-a-generation investment returns raised state pension funding to levels not seen in more than a decade, but recent investment shortfalls have erased most of those gains. Whereas successful states—those with long track records of stable costs and full funding of their pension obligations—have policies in place to weather financial market volatility, states that still face significant underfunding or uncertain costs have more work to do to deliver true sustainability.

To help policymakers navigate the uncertainty inherent in pension management and evaluate their plans' resiliency, The Pew Charitable Trusts has developed a 50-state matrix of fiscal sustainability metrics. The data in this matrix covers key indicators highlighting whether pension policy is sufficient to avoid insolvency, stabilize or pay down pension debt, and manage risk.



95% Funded ratio



-4% Change in funded ratio, 2008-21



-2.1% Operating cash flow ratio, 2021



10% of payroll Historical contribution volatility, 2008-21



Does stress testing? Yes



Positive net amortization



14% of payroll Employer contribution rate, 2021

Note: For the operating cash flow ratio, a green circle with a check mark means that a state has a cash flow ratio that indicates no risk of insolvency under current policies, while a red circle with an X indicates that the cash flow ratio is less than -5%, indicating potential risk of insolvency. For net amortization, a green circle with a plus sign shows positive amortization; a red circle with a minus sign represents negative amortization; and the remaining states have stable amortization, symbolized by a yellow circle with an equal sign. For stress testing, a green circle with a check mark indicates that the state uses risk reporting to measure what investment risk might mean to pension balance sheets and employer costs, while a red circle with an X is for states that do not use this tool as part of regular pension disclosures.



Additionally, Pew has produced individual fact sheets to supplement its fiscal sustainability matrix. The data points in these fact sheets include historical outcomes from policy choices, measures of cash flow that determine long-term solvency, and indicators of risk and uncertainty. A subset of the indicators from the matrix and Pew's research is presented here.

Why do the metrics above matter, and what do they mean?

- Historical actuarial metrics are the foundation of any fiscal assessment and show how past policies contributed to plans' current financial position, but they provide little information with which to assess future investment or contribution risks. The latest reported funded ratio—the share of pension liabilities that are matched by assets—and the change in funded ratio from 2008 to 2021 are representative of this category.
- Current financial metrics, based on historical cash flows and funding patterns, provide information necessary to assess whether a plan is adhering to funding policies that target debt reduction and whether a plan faces potential insolvency or other forms of financial distress from current policies. The operating cash flow ratio offers an early warning sign of insolvency risk for states where the amount by which benefit payments exceed contributions is more than 5% of pension assets. No state's cash flow ratio exceeded that threshold in 2021. Net amortization measures whether contributions are sufficient to keep pension debt from growing; 29 states reported positive or stable amortization, while the remaining 21 could expect an expanding funding gap based on their policies.
- Budgetary risk metrics provide essential information that policymakers need when planning for uncertainty or volatile costs and can prompt reforms to ensure that pension costs do not crowd out other important public investments. The use of stress testing indicates whether a state follows practices that would allow the measurement of investment and other risk, while historical contribution volatility—the gap between the highest and lowest employer contribution rates over a period of time—shows how much pension risk and uncertainty have added stress to the budget situation facing each state.
- This fact sheet also includes the 2021 employer contribution as a percentage of payroll to show the relative impact on public payrolls and public budgets of pension costs in each state.

To learn more about other states' pension situations and developments in state retirement policy, please explore pewtrusts.org/pensions.

For more information, please visit: pewtrusts.org

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