Written Questions for the South Dakota Retirement System and the Investment Council
Submitted by Senator Jeffrey D. Partridge
1/5/2017
Response from SDRS and SDIC – 1/10/2017

Define a Fully Funded Pension Plan.

Your question is fundamental in evaluating the financial condition of a retirement system. To be fully funded the plan's assets must meet or exceed the plan's accrued liabilities. Since the liabilities represent benefits paid not only today but for decades in the future, we need to calculate a present value of that stream of estimated payments in order to make the comparison. This is where actuarial science comes into play.

The actuarial accrued liability is calculated using a set of assumptions adopted by the Board of Trustees based on the recommendations of the actuary. In short, it is the sum of all estimated future benefit payments earned to date in today's dollars. The assumptions include the inflation rate, salary growth, retirement age, likelihood of disability, life expectancy, and most importantly, the investment return expected to be earned on plan assets.

The current plan assets (which may be based on fair value or a smoothed value) are then divided by the calculated liabilities, resulting in a funded ratio. A value of 100% or more indicates full funding.

Note that from year to year, the return on investment will cause the most volatility in this measure.

My definition is that a fully funded plan is one that has sufficient assets to cover ALL accrued benefits?

Your definition is correct. But as noted above, the volatility in the markets and the assumptions and methods of the actuarial calculations will influence the results significantly.

For example, actuarial standards provide for the use of the fair value of assets and/or an actuarial or smoothed value of assets in this calculation. SDRS focuses on the fair value of assets as the more relevant measure. The July 1, 2016 SDRS fair value funded ratio is 97%, but the SDRS actuarial (smoothed) basis funded ratio is 100%. Investment returns in FY 2016, which were below our long-term expectation, lowered our fair value funded ratio from 104% (fully funded) to 97% (just below fully funded).

The SDRS investment return and life expectancy assumptions are among the most conservative for similar plans, which makes the SDRS projected liability higher than if less conservative assumptions were used.

By my definition, is SDRS fully funded?

As stated above, we focus on fair value funded ratio. SDRS is slightly below full funding as of the last actuarial valuation as of July 1, 2016. However, the Board of Trustees has approved changes in the assumptions effective July 1, 2017 to reflect lower inflation and investment return expectations. This will result in a lower funded ratio without the benefit changes the board is proposing. With those changes, SDRS will be fully funded under most conditions.

Note that public pension plans have been widely criticized by financial economists who contend that projected benefits must be discounted using a "risk-free" rate, rather than the expected rate of return of the fund. Their argument relies on the theory that projected benefits are guaranteed by the state, and thereby the discount rate used to value the future payments must reflect the rate paid on a guaranteed investment such as government bonds. Their reports and press releases often include an estimated funded ratio, based on a risk-free rate, which is drastically lower than the reported funded ratio.

SDRS benefit payments vary based on the System's funded ratio. SDCL 3-12-122 also requires recommendations for benefit reductions if statutory funding thresholds are crossed. SDRS adamantly disagrees with the conclusions of organizations who have issued alternative funding calculations based on risk-free rates. SDRS has published financial information that adheres to actuarial and accounting standards and reflect our most realistic estimate of future investment returns and the fact that SDRS benefits are adjusted to be affordable within the fixed, statutory member and employer contributions.

Is it stable?

SDRS is very stable. The plan has been fully funded on a fair value basis 21of the last 26 years. Over the years, certain features have been added to the plan to vary some of the benefits with economic conditions and to eliminate or reduce subsidies. These changes have helped maintain a more stable funded status.

During this session, the Board of Trustees will be proposing legislation to make additional changes that will add more benefit variability and address subsidies. This will enhance the long-term sustainability based on the plan's fixed resources, that is, the fixed, statutory contribution rates. It will also result in a fair value funded ratio of 100% or more in most years because the SDRS Cost of Living Adjustment (COLA) will be adjusted to what the plan can afford.

How do you determine stability?

The Board of Trustees had adopted a detailed funding policy with specific objectives. We consider meeting those objectives as achieving stability. Those objectives include a fair value funded ratio that meets or exceeds 100% and fixed, statutory contributions that meet or exceed the actuarial costs and expenses of the plan. As indicated above, only 5 times in the last 26 years

has the funded ratio been below 100%. The fixed, statutory contributions have only been below the actuarial costs and expenses one time since the plan was consolidated in 1974. The board recommended benefit changes to address that issue.

Is there any debt in the plan?

The debt of a pension plan has been a hot topic in recent years. Until recently, rating agencies and others in the financial industry did not consider pension unfunded liabilities as debt.

The actuary's traditional measure of unfunded actuarial accrued liability (UAAL) is certainly considered debt today. This UAAL is a funding measure and has normally been calculated based on actuarial (smoothed) assets. It results from a plan not being fully funded.

The Governmental Accounting Standards Board has recently changed the accounting standards for public pension plans. As part of the new required financial reporting a Net Pension Liability (Asset) is calculated. While similar to the actuary's UAAL, the Net Pension Liability is based on the fair value of assets and therefore slightly different. Either of these measures may be considered debt.

The UAAL for SDRS has been zero since 2013. In the first two years of the new GASB standards in 2014 and 2015, SDRS had a Net Pension Asset (no debt). In 2016, SDRS has a Net Pension Liability of $338 million (97% funded), but because of GASB smoothing requirements, there is no net balance sheet liability.

When would it be appropriate to take on debt in a pension plan?

Since the retirement plan obligation is very long-term, there are circumstances when a plan would have or maintain some debt. If debt exists, the ability to pay that debt over a reasonable time period and at a reasonable cost is the important issue. Most public pension plans have significant debt currently. The SDRS Board of Trustees' objective is to not have debt in any form.

Is it fair to say that SDRS is currently giving out more money than it is taking in?

For a mature pension plans like SDRS, it is normal to have negative cash flow if investment income is excluded from the calculation. SDRS takes in approximately $235 million in contributions, pays out slightly more than $525 million in benefits, and anticipates receiving more than $700 million in annual investment income.

Considering only contributions and benefits, the plan's negative cash flow is less than 3% of assets currently. As a rule of thumb, a healthy, mature pension plan can have a negative cash flow, excluding investment returns, of up to approximately 7% of assets, depending on the plan's funded ratio and other factors.

At what point would negative returns have a significant impact on financial health of the pension plan?

At the time that SDRS was established, the Legislature added SDCL 3-12-122 which provides criteria for when negative results would need to be addressed.

> 3-12-122. System funding review--Report required for specified conditions--Recommended changes. The board shall review the funding of the system and shall make a report to the Governor and the Retirement Laws Committee if any of the following conditions exist as of the latest annual actuarial valuation of the system:
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> (1) The contributions do not equal the actuarial requirement for funding;
> (2) The funded ratio is less than eighty percent, or a ratio based on the fair value of assets is less than eighty percent; or
> (3) The fair value of assets is less than ninety percent of the actuarial value of assets.
>
> The report shall include an analysis of the conditions and recommendations for the circumstances and timing for any benefit changes, contribution changes, or any other corrective action, or any combination of actions, to improve the conditions. Based on this report and the recommendations of the board, the Legislature may adopt benefit changes, contribution changes, or any other corrective action, or any combination of actions, to improve the conditions set out in this section.
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> If any of the conditions set out in this section exist for a period of three consecutive annual actuarial valuations, the board shall recommend benefit changes, contribution changes, or any other corrective action, or any combination of actions, for approval by the Legislature and the Governor, effective as soon as possible, to improve the conditions set out in this section.
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> Eligibility for benefits, the amount of any benefit, and the rate of member contributions established in this chapter are not the contractual rights of any member and are subject to change by the Legislature for purposes of corrective action to improve the conditions established in this section.

While this section of the law has been amended, it is still the guide the Board of Trustees uses to determine if corrective action should be recommended to the Legislature. However, the board proposes changes any time the conditions are met and does not wait for them to exist for three years. The board is proposing changes to this section of law this year with the new proposed variable COLA structure to require recommendations for changes when the fair value funded ratio is less than 100%.

Is there an instance when the plan would not be able to meet its obligations?

With the SDRS variable plan design, the flexibility of corrective action in SDCL 3-12-122, and nearly a fully funded system under conservative actuarial assumptions, SDRS should be able to meet its obligation for the foreseeable future. However, because we cannot anticipate every possible future scenario, we cannot rule out the need for future legislation to adapt SDRS to changing market conditions. As noted above, the board is fully committed to recommending changes when needed to meet our funding goals.

What financial risks does the plan assume?

The most significant financial risk is a prolonged market downturn that does not allow the system to earn the expected return of 6.5% over the long-term.

The new COLA structure proposed as part of the 2017 legislation helps mitigate market and other risks by automatic adjustment to the COLA to maintain 100% funding. If a downturn were severe enough to exhaust the mitigation capacity of the COLA, any funded ratio below 100% must be reported to Legislature and Governor along with recommendations to get back to 100%.

The benchmark and assumed long-term average exposure to stocks including any embedded stock type exposures is 70%. The remaining 30% benchmark weight is bonds and a small amount of cash. Actual exposures at any specific time are a function of valuations. Equity exposure can range from 50% to 85%. The bond exposure can vary from 15% to 50% and any residual is cash.

Liquidity risk is monitored to minimize risk of forced liquidations in a crisis as happened to others in the last crisis.

What is the Beta of your overall investments comparing it to the S&P 500?

The Investment Council uses the term equity like risk for the exposure of the overall portfolio to stock market fluctuation. The benchmark equity like risk is 70% which means the overall benchmark return would be expected to reflect roughly 70% of a change in the stock market.

The volatilities of various asset categories relative to the volatility of the stock market and the correlations of each to the stock market are the building blocks to assess the equity like risk. These factors can vary significantly over time and often behave differently in a crisis. The Council derives risk measures from behavior during severe market environments. This aids risk measure efficacy in periods of distress but can overstate risk during calm times.

The current portfolio equity like risk is 56.6% compared to the benchmark level of 70%. The lowered exposure is due to expensive valuations. Prior to mid-December the equity like risk was roughly 63.3%.

What impact will the rise of interest rates have on your long-term strategy?

An increase in interest rates would cause up front market value declines in current bond holdings but would allow higher returns to be earned from that point. The investment grade fixed income portfolio duration is just over 5 years with an average maturity of just over 7 years. A sustained increase in rates would allow matured bonds to be reinvested at higher rates improving prospects for earning the estimated long-term return.

Investment grade bond holdings are 13% of the total portfolio which is the policy minimum. Additional embedded bond exposure is provided by high yield/distressed corporate and real

estate debt. High yield/distressed debt is considered to be a blend of stock market and bond market exposure. Counting embedded exposures, the overall bond exposure is roughly 20% as compared to the benchmark bond exposure of 28%.

A 100 basis point increase in rates for a 5-year duration bond means a 5% decline in value. Multiplied by the 20% exposure, an increase in rates of 100 basis points would result in a 1% decline in total portfolio value, all else the same.

Thank you for all of your hard work on SDRS. What would you like legislators to tell their communities about the plan, its people and the long-term viability?

Thank you for your support of SDRS and your thoughtful questions.

SDRS is a very well-funded, successful, and sustainable retirement system that has enjoyed excellent long-term investment returns based on the management of the South Dakota Investment Council and has been responsibly managed within its fixed resources by the SDRS Board of Trustees. The system provides benefits designed to meet the needs of our members that represent an excellent return on their investment and does so with lower than average member and employer contributions and administrative expenses. The success of SDRS is due to excellent support from the Legislature, Governor, and our members.