South Dakota Retirement System

MANAGING SDRS DURING PERIODS OF LOW INFLATION & LOW INVESTMENT RETURN EXPECTATIONS

BOARD OF TRUSTEES
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INTRODUCTION

SDRS is well positioned, considering past Board of Trustee initiatives that have resulted in:

- Meeting all the Board's funding goals at June 30, 2015, including:
    - A Fair Value Funded Ratio (FVFR) of 104%
    - A balance sheet asset due to SDRS for participating employers
- Managing SDRS within fixed employer contributions that are not adjusted based on experience, through careful plan design and recommending Corrective Actions when required
- Adding risk mitigation features to protect the System against adverse experience as well as adopting conservative actuarial assumptions
- Providing benefits that are competitive and meet the Board's goals for adequacy
- Developing a new benefit structure for Generational Members

Unlike most public employee defined benefit plans, SDRS is managed within fixed contributions and does not subject its employers to the risk of higher future contributions. This is the key objective of the Board. It has been accomplished through active management of the Plan's benefits to match the available fixed resources and the outstanding long-term investment results of the South Dakota Investment Council. The continuing support of, and confidence in, SDRS is dependent upon SDRS achieving its key objective through Board actions and policies.

However, SDRS faces a number of challenges in the future:

- The investment return in FY 2015 and 2016 was less than the assumed long-term return
- The FVFR is less than 100% at June 30, 2016
- Investment professionals are forecasting investment returns and inflation significantly less than the current SDRS assumptions, particularly over the next 10 years
- The State Investment Officer views the current common stock market prices to be significantly above fair value
- The upcoming experience analysis will raise the possibility that more conservative actuarial assumptions should be considered
- The SDRS COLA design did not anticipate continuing low inflation and is providing a benefit in excess of the Board's goals, resulting in an expensive subsidy to retirees and terminated vested members

The possibility exists that future investment and other System experience and/or changes in actuarial assumptions will again require the Board to recommend Corrective Actions to meet the requirements of § 3-12-122 of South Dakota Codified Law.

The requirements of § 3-12-122 and the Actuarial Value of Assets methodology resulted in the Board's recommendation for Corrective Actions in 2009 that:

- Came only after a very substantial drop in the markets
- Brought the System to only a minimally acceptable funded status
- Exposed SDRS to additional Corrective Actions if the markets had declined further
- Relied on a very significant and rapid market recovery
- Required approval of the recommended Corrective Actions by the Legislature and Governor

A preferable long-term plan that would reinforce the successful management of SDRS within the fixed SDRS contributions would:

- Automatically adjust certain SDRS benefits incrementally based on benefits that are affordable long-term based on the fair value of assets
- Maintain a SDRS FVFR at or very near 100% under most conditions by automatically adjusting benefits
- Avoid the need for Legislative and Executive branch approval for these automatic adjustments
- Lessen the likelihood and magnitude of additional future § 3-12-122 changes, except in extreme circumstances

This report is intended to begin the process of considering changes that might logically be recommended in the event that § 3-12-122 conditions exist – and even before – to achieve these additional outcomes that are in support of the SDRS key objective.

OPTIONS FOR MANAGING SDRS BENEFITS

A number of SDRS benefit practices for Foundation Members have previously been identified as providing subsidies and were eliminated in the design for Generational Members. Any of these identified practices could be addressed in the future. However, for the reasons outlined below the SDRS COLA is the most logical benefit feature to consider first.

Other changes would typically require a reduction in accrued retirement benefits or extending the eligibility requirements for current members' benefits and the consideration of complicated transition or "grandfathering" rules. Any reduction in the COLA has the advantage of producing a smaller increase in future benefits rather than reducing any benefit earned to date. In addition, the SDRS COLA eventually affects the future benefits for all SDRS members.

COLA CONSIDERATIONS

OBJECTIVES

The objective of the SDRS COLA is to partially protect retirees from a loss of purchasing power and a reduction in their standard of living due to inflation after retirement. For example, the current SDRS Board benefit goal for the COLA is to "provide limited inflation protection based on the SDRS funded status and annual cost of living adjustments." The loss of purchasing power of fixed retirement benefits (those with no COLA) is significant over a retiree's lifetime.

The COLA is a key element of the SDRS total benefit structure and an essential part of the SDRS benefit goals that together outline the Board of Trustees' objectives for adequate lifetime benefits from SDRS.

Ideally, the SDRS COLA would provide adjustments to retiree benefits each year that exactly matched the rate of inflation, like Social Security. However, the potential cost of such an unlimited obligation makes it impractical and unadvisable.

SDRS INITIAL COLA AND HISTORY

SDRS has provided a COLA (defined as the Improvement Factor in SDRS law, but more often referred to as a COLA) from its inception. Its importance was noted in the A. S. Hansen planning report dated September 26, 1973, as follows:

- "A final-average earnings formula will protect employees against inflation up to retirement, but not afterwards. If purchasing power is to be maintained after retirement, additional measures are required."
- "Index-linked adjustments or fixed percentage adjustments offer the most direct method of protecting the employees against inflation. However, employers are usually unwilling to underwrite the full risk of inflation and therefore such provisions limit the annual amount of increase."
- "A simple, easily understood method with a cost limitation is to grant an automatic, fixed increase of 2% or 3% per year . . . on a compounded or simple basis."

The original SDRS COLA was a fixed 2% simple increase. Inflation at that time was very high—9% in 1973 and continued at a very high rate for the next 10 years. A fixed simple COLA means the initial benefit is increased each year by the same dollar amount regardless of the rate of inflation. A compound COLA increases the previously improved benefit also and is, over-time, much more generous. An indexed COLA is tied to the rate of inflation.

Several improvements to the SDRS COLA have been made since 1974, reflecting both its importance and the then high rate of inflation. The first improvement was made in 1978, which was the first time SDRS benefits were improved after consolidation. The fixed COLA was changed to one indexed with inflation, with a maximum annual amount.

The history of changes to the SDRS COLA and their effective dates are shown below.

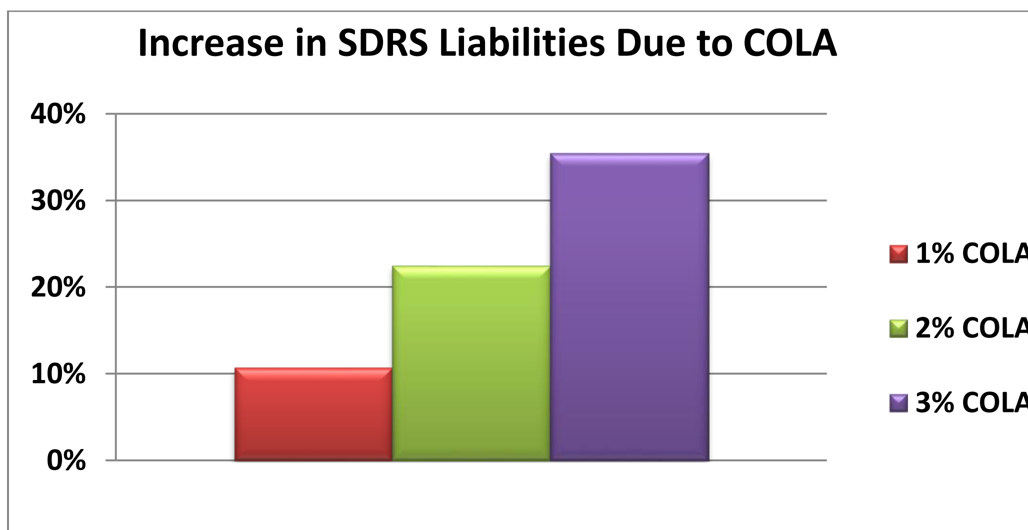
- 1974: Fixed 2% per year simple COLA
- 1978: Indexed to 50% of CPI, compound COLA, 2% per year maximum
- 1982: Indexed to 50% of CPI, compound COLA, 3% per year maximum
- 1988: Fixed 3% per year, compound COLA
- 1993: Fixed 3.1% per year, compound COLA
- 1998: Initial prorated COLA added for partial years
- 2010: Based on SDRS funded status and partially indexed to full CPI, minimum of 2.1% and maximum of 2.1% to 3.1% depending on funded status, compound COLA
- 2017: Generational Members—Indexed to full CPI with minimum of 1% and maximum of 2.1% to 3.1% depending on funded status, compound COLA

Note that the COLA for Foundation Members has progressed from a fixed COLA, to an indexed COLA (at 50% of CPI), back to a fixed COLA, and currently a combination fixed and indexed COLA. The 2010 changes were a key part of the Corrective Actions and provided a lesser COLA when SDRS was not fully funded. A maximum increase has always applied. However, no minimum increase was provided from 1978-1988.

The COLA changes have been applicable prospectively to current as well as future retirees, except for the 2017 change for Generational Members only. In addition, significant benefit improvements have also been made for retirees as discussed below.

COST OF SDRS COLA

While a COLA is essential to meeting the SDRS benefit adequacy goals, it is also very costly. For example, a compound COLA adds the following additional costs to the Foundation benefit structure:

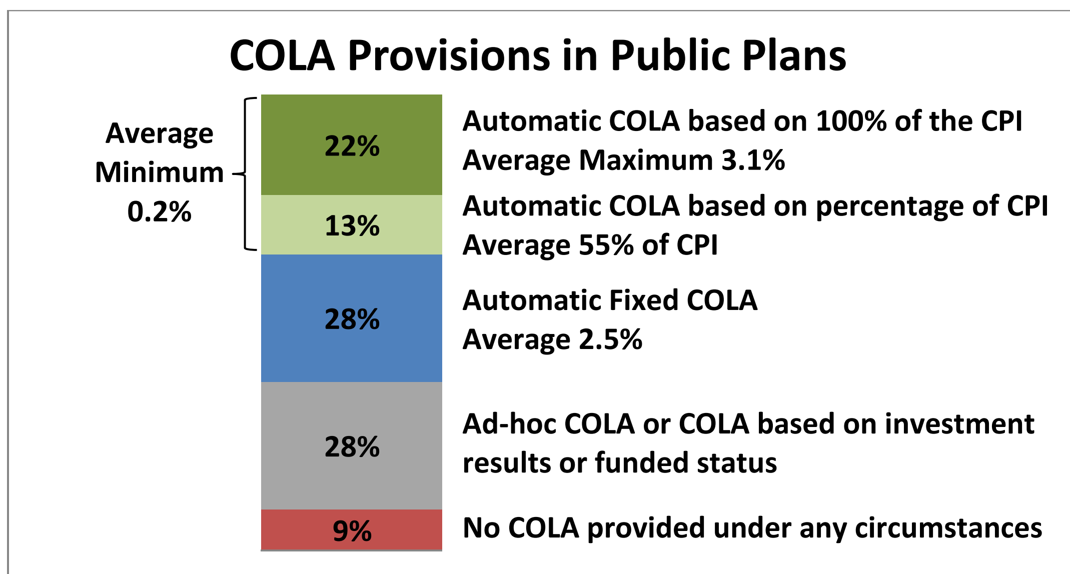


Note that the above estimates of increased total cost due to a COLA are highly dependent on plan provisions and actuarial assumptions.

COMPARISON OF SDRS COLA WITH SIMILAR PLANS

Typical COLA practices in large public employee retirement systems are included in a comprehensive study of retirement plan practices published by the Wisconsin Legislative Council. A total of 87 plans were included in the survey.

The latest Wisconsin survey was published in 2013 and indicated the following:



Sixty-three percent of the plans provide an automatic COLA each year, either CPI-based or a fixed amount regardless of inflation. Twenty-eight percent of the plans have no automatic COLA, but may periodically provide an ad hoc COLA or one based on positive investment results or the funded status of the system. However, 9% of all plans in the survey provide no COLA under any circumstances.

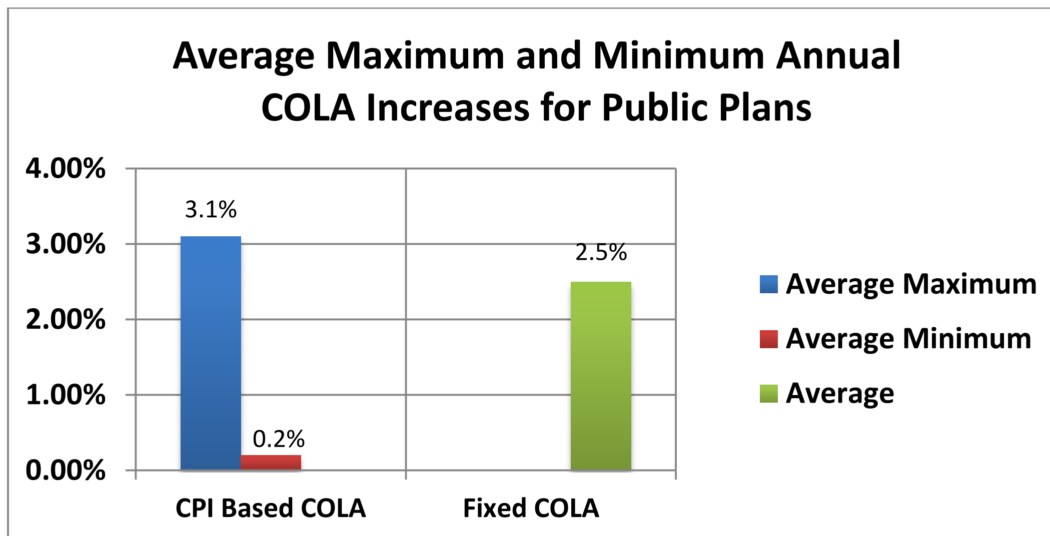
The automatic CPI-based COLAs include:

- 63% based on 100% of CPI change
- 37% based on a percentage of the CPI change (55% of CPI on average)

If inflation were 2.25%, the average automatic CPI-based COLAs would be less than inflation because 37% of these plans base the COLA on less than 100% of the CPI change. The average CPI-based COLA in this case would be 1.88%.

The average maximum and minimum annual increase for CPI-based COLAs is 3.1% and .2%. Note the average maximum increase is shown only for the COLAs based on 100% of the CPI change and the average minimum increase considers the very few plans that provide a minimum increase.

The average annual COLA for plans that provide fixed increases only (e.g., 2% per year, regardless of inflation) is 2.5%.



The SDRS COLA is far superior to the average COLA since almost 40% of the plans provide no automatic COLA. Given the current funded status of public plans and expected volatile investment returns, it is unlikely that many of the plans currently without automatic COLAs will have the resources to provide meaningful ad hoc or excess investment return based COLAs.

The SDRS Foundation COLA is a mixture of a fixed and an indexed COLA. During periods of low inflation, it is higher than the average CPI-based COLA. This is because both the SDRS 2.1% minimum COLA and the 3.1% fixed COLA when SDRS is 100% funded apply regardless of the rate of inflation. During periods of inflation of 3% or more the SDRS Foundation COLA is comparable to the average CPI-based COLA. The SDRS COLA is also better than the average fixed COLA, assuming SDRS continues to achieve a 100% funded status most of the time.

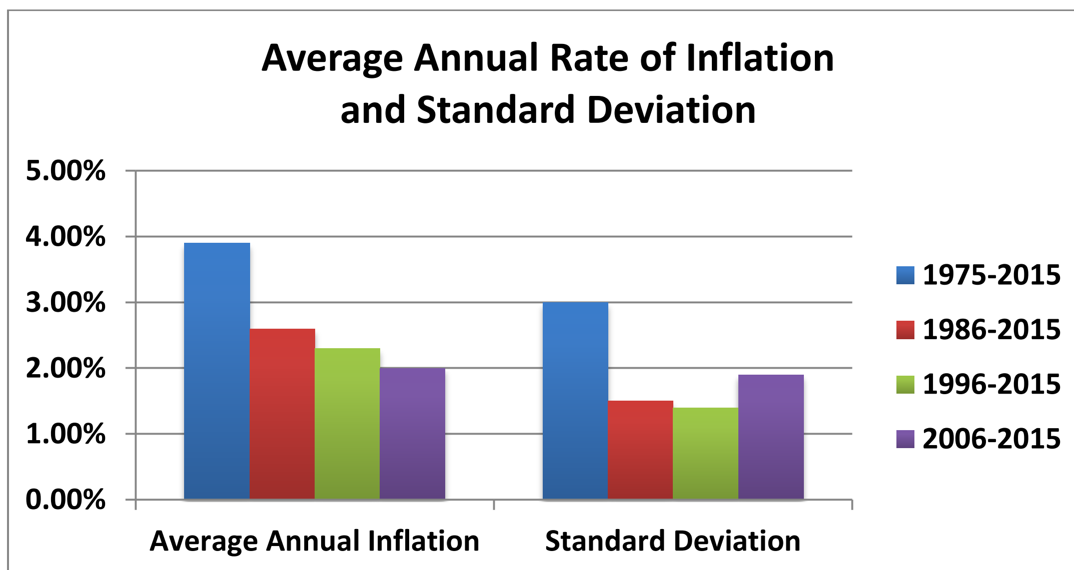
The SDRS Generational COLA is very comparable to the average CPI-based COLA because it is tied to inflation, but the minimum SDRS 1% COLA is still much higher than average. The SDRS Generational COLA is less than the average fixed COLA during periods of low inflation.

INFLATION HISTORY

Both SDRS and Social Security base their respective COLA on a measure of the rate of inflation considering the changes in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). Some feel that the CPI-W overstates the rate of inflation by about .3% per year because it doesn't consider potential changes in spending patterns due to price changes. Others criticize the CPI-W as not indicative of costs incurred by retirees and feel it understates retiree costs. However, a cost of living index created for those age 62 and older (CPI-E) shows only a modest .2% per year higher average annual rate than the CPI-W over a 30-year period. In spite of those concerns, the CPI-W remains the most common measure of inflation and the one most often used in COLA adjustments.

The rate of inflation has averaged almost 4% per year over the lifetime of SDRS. The ten years after the start of SDRS, 1975-1984, produced very high inflation—an average of 7.7% per year. However, the average annual rate of inflation has been dramatically lower since.

The rate of inflation has also been very volatile both long and short-term. Standard deviation (a volatility measure) has been between 1% and 3% for the different time periods.



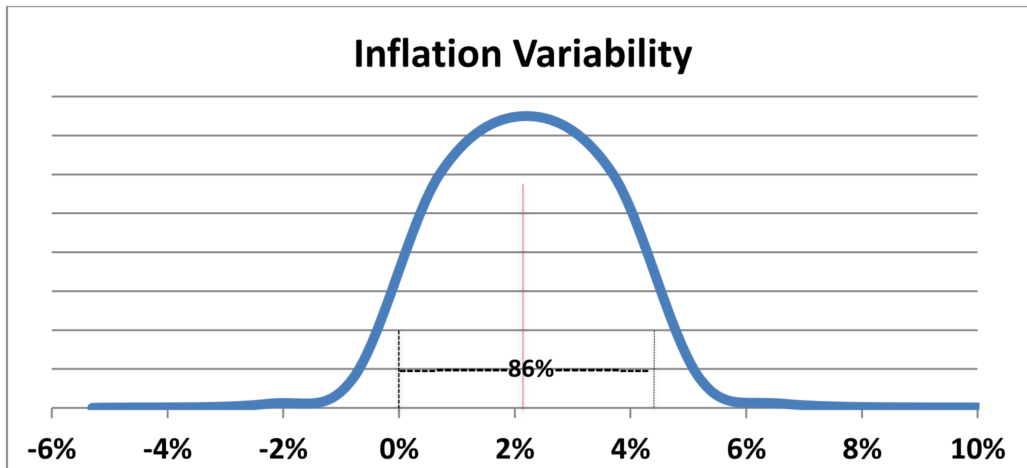
CURRENT INFLATION PROJECTIONS

Most current economic projections consider an average annual inflation rate of no more than 2% to 2.5% for the foreseeable future, similar to the rate over the last 10 and 20 years, but less than the 40-year average. The Fed considers 2% annual inflation to be an ideal rate.

The current annual rate of inflation is less than 1% and the first quarter CPI-W for 2016 is only 1.4% higher than the same period in 2013. Over the last five years inflation has averaged 1.6% per year.

Based on a long-term expected 2.25% annual inflation with a standard deviation of 1.5%, inflation in any one year is expected to vary as follows:

Annual Inflation	Likelihood
2.25% (Expected)	50% chance of less and 50% chance of more
Between 1.25% and 3.25%	50% chance—25% chance lower and 25% chance higher
Between .75% and 3.75%	68% chance—16% chance lower and 16% chance higher
Between 0% and 4.5%	86% chance—7% chance lower and 7% chance higher

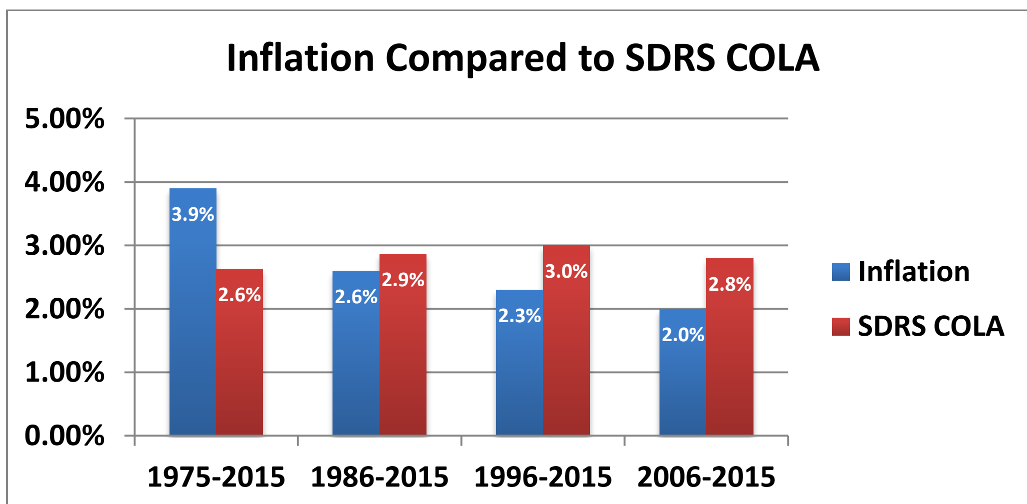


Inflation will be between 0% and 4.5% 86% of the time under the above assumptions. The Foundation 2.1% minimum COLA will be higher than inflation about 55% of the time and the Generational 1% minimum COLA will be higher than inflation about every fifth year.

However, at the current even lower rate of inflation, the minimum SDRS COLAs are likely to be greater than inflation even more often. The Social Security Administration is projecting a very small .2% increase in the Social Security COLA in 2017 after no increase in 2016. Inflation has been practically non-existent over the last two years.

COMPARISON OF SDRS COLA TO INFLATION

The actual average annual SDRS COLA compared to the average annual rate of inflation for each time period shows how well the System has protected retirees against inflation to date.

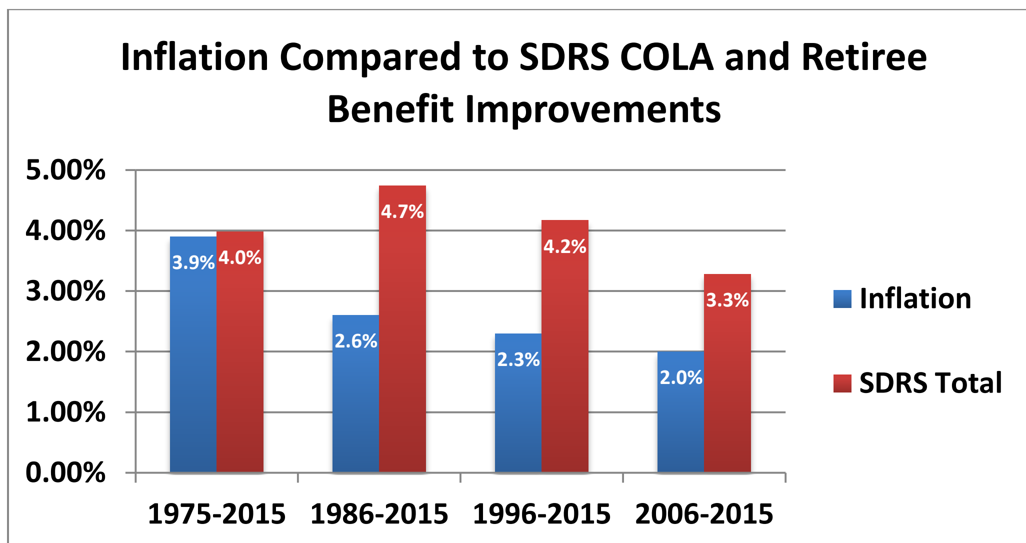


The SDRS COLA has provided greater benefit improvements than the rate of inflation for all periods except for the initial years of SDRS when inflation was very high. Over the last 20 years, the average SDRS COLA has exceeded inflation by almost 30%, and by 40% over the last 10 years. Over the last five years, the SDRS COLA has averaged 2.9% compared to average inflation

of 1.6%, over 80% higher. While a SDRS COLA that exceeds inflation by a relatively small amount may seem insignificant, continuing to provide a COLA that exceeds inflation by .8% per year will add 10% to SDRS total liabilities.

Providing a COLA that exceeds inflation inflates the income replacement provided by SDRS. For example, a total initial income replacement of 80% of Final Average Compensation at retirement from SDRS and Social Security for a career member would effectively increase to 87% after 20 years if the SDRS COLA continues to outpace inflation at the same rate as for the last 20 years. When inflation is very low (or doesn't exist), the results are greatly magnified. In 2016 alone, the SDRS COLA of 3.1% combined with negative inflation resulted in an increase in the income replacement of 2%.

When benefit formula improvements applicable to retirees are considered, the comparison is even more dramatic. SDRS retirees have received benefit increases and COLA payments that together significantly exceed the rate of inflation. For example, over the last 20 years retirees have received total annual increases that average almost twice the rate of inflation.



It could be argued that the benefit improvements were necessary to accomplish the initial income replacement objectives of SDRS and should not be included in comparing the SDRS benefit increases with the rate of inflation. Nevertheless, SDRS retirees have achieved significant increases in their benefits over the history of SDRS due to the combination of the COLA and benefit improvements after they retired. In addition, the benefits for most current retirees are based on a higher effective multiplier than is applicable for active members.

SUMMARY OF SDRS COLA CURRENT AND FUTURE ISSUES

In summary, the SDRS COLA for Foundation Members results in a benefit in excess of Board goals and inflation.

The SDRS COLA has evolved over the years and is currently competitive with, or better than, typical practices. Past changes have tied the annual increase to the funded status of SDRS and partially to the rate of inflation for Foundation Members, but with a significant minimum COLA

regardless of the SDRS funded status or the rate of inflation. Over the last 30 years, SDRS has provided a COLA that is in excess of inflation and the margin of excess has steadily increased over the last 20 years and 10 years.

Going forward, the SDRS COLA in its present form for Foundation Retirees is likely to:

- Be adequate during periods of moderate inflation around 3% per year
- Be inadequate during periods of higher inflation exceeding 3% per year
- Be more than adequate during periods of low inflation less than 3% per year
- Only marginally respond to affordability measures

The Generational COLA limits the annual increase to the rate of inflation and thus avoids the higher payments during periods of lower inflation (when inflation is 1% or more).

Because of the current outlook for moderate to low inflation long-term of 2% to 2.5% per year and the resulting projection of lower investment returns, SDRS resources are likely to be limited in the foreseeable future. Continuing to increase benefits for retirees in excess of inflation represents an expensive subsidy, and the cost will increase as the number of retirees continues to increase. Not varying the COLA directly with more precise affordability measures may mask the long-term costs. These policies will likely place a strain on the SDRS funded status in the future.

Changes in the SDRS COLA should be a priority when considering Corrective Actions in the future or in making changes necessary to accomplish the Board's objectives. It represents the most significant subsidy in the Foundation benefit structure and the single SDRS benefit feature that is substantially in excess of the Board's benefit goals.

POTENTIAL COLA CHANGES

RECOMMENDED COLA TERMS

For the purpose of the illustrations in the remainder of this paper:

- The long-term assumed rate of inflation is 2.25% per year
- The Baseline COLA is equal to CPI, subject to a 0.5% minimum and 3.5% maximum
- The Restricted COLA is equal to CPI, subject to a 0.5% minimum and a reduced maximum as described below
- If accrued liabilities assuming the Baseline COLA are less than the fair value of assets (FVA), the Baseline COLA will be paid the following year
- If accrued liabilities assuming the Baseline COLA are greater than the FVA, the Restricted COLA will be paid the following year
- The maximum applicable to the Restricted COLA will be calculated as the assumed COLA that, if unchanged for future periods, will result in the accrued liabilities equaling the FVA

- If the Baseline COLA is in effect for the following year, actuarial reporting will assume future COLAs equal to the long-term assumed rate of inflation
- If the Restricted COLA is in effect for the following year, actuarial reporting will assume future COLAs equal to the maximum Restricted COLA

Defining affordability as achieving a FVFR with the Baseline COLA of 100% or more is logical because it:

- Includes the expected long-term cost of an adequate and appropriate COLA
- Has been the SDRS standard for funded status and its most typical actual funded status
- Reflects the Board's funding goal
- Considers the SDRS funded status based on fair value of assets, not a smoothed value
- Is appropriate for a mature retirement system with Normal Costs that are over 85% of fixed contributions
- Minimizes the immediate COLA impact to a retiree since an experience loss in any year that results in less than a 100% FVFR with the Baseline COLA is spread over the value of future lifetime benefits

Increasing the maximum COLA to 3.5% provides higher benefits during higher inflation periods when SDRS is fully funded.

While a minimum annual COLA when inflation doesn't exist will continue to add costs, arguments for continuing a minimum COLA include:

- It provides an added benefit to offset the cap when inflation is high
- It could be interpreted as a requirement under the Circuit Court decision on the lawsuit with regard to COLA changes made in 2010 (see discussion below)

If a minimum COLA is provided, consideration should be given to making it lower than the current 1% under the Generational COLA.

In summary, these changes would result in:

- An SDRS COLA that matches inflation within the minimum and maximum limits following any year the FVFR with the Baseline COLA is 100% or more. SDRS has achieved a FVFR of 100% or more in 80% of the actuarial valuations since 1986
- The possibility of a COLA that is less than inflation following any year in which the FVFR with the Baseline COLA is less than 100%, based on the maximum COLA affordable long-term at that time

The recommended COLA described above would be determined each year based on the actuarial valuation results. Since the precise COLA increase affordable would depend upon the actuarial assumptions and membership characteristics each year, the methodology for the adjustment described above and not the precise COLA increase should be established in law. The current COLA increase based on the SDRS funded status and the CPI is established in law.

These changes should be applied to both Foundation and Generational Retirees.

Note that any Restricted COLA could be short term if there is a rapid market recovery as illustrated in the examples below.

COLA EXAMPLES UNDER RECOMMENDED TERMS

Example 1: Actual inflation for the prior year is between the minimum and maximum Baseline COLA limits.

The FVFR with the Baseline COLA is 100% or more

- The SDRS COLA for the next year is the rate of inflation
- The FVFR is based on the **Baseline COLA** and is 100% or more, based on an assumed long-term annual inflation of 2.25% and a long-term COLA that will average 2.25% per year

Example 2: Actual inflation is 2.7% for the prior year.

The FVFR with the Baseline COLA is 96%

- Accrued liabilities will equal the fair value of assets if a Restricted COLA of 1.8% is assumed
- The FVFR with the **Restricted COLA** is 100% using a long-term annual COLA assumption of 1.8%
- The SDRS COLA for the next year is the maximum **Restricted COLA** of 1.8%, less than inflation
- The FVFR is based on the maximum **Restricted COLA** and is 100%, based on a long-term COLA assumption of 1.8% per year

Example 3: Actual inflation is 1.5% for the prior year.

The FVFR with the Baseline COLA FVFR is 96%

- Accrued liabilities will equal the fair value of assets if a Restricted COLA of 1.8% is assumed
- The FVFR with the **Restricted COLA** is 100% using a long-term annual COLA assumption of 1.8%
- The SDRS COLA for the next year is 1.5% since that is the rate of inflation and is affordable (less than the maximum **Restricted COLA** of 1.8%)
- The FVFR is based on the maximum **Restricted COLA** and is 100%, based on a long-term COLA assumption of 1.8% per year

If the following year, markets recover and the FVFR with the Baseline COLA is more than 100%

- The SDRS COLA for the next year is the rate of inflation subject to the 3.5% maximum and .5% minimum

If the following year markets decline further and the FVFR with the Baseline COLA drops to 93%

- The SDRS COLA for the next year is limited to maximum **Restricted COLA** that produces a FVFR of 100% (approximately 1.5% in this example)

SHORT TERM FINANCIAL IMPACT OF COLA CHANGES

The changes in the SDRS COLA outlined above would have a very significant impact on the SDRS funded status, even over a short time period. For example, if these provisions had been in place since the 2010 Corrective Actions:

- The estimated SDRS FVFR as of June 30, 2016, would be about 5% higher, or roughly 102% compared to a projected 97%
- Benefit payments during the period would have been $82M lower – resulting in about $96M higher fair value of assets when investment return is included
- SDRS retirees would have received a COLA each year equal to the rate of inflation but not less than .5% or more than 3.5% (the minimum would have applied in 2010, 2011, and 2016 and the maximum would have applied in 2012 when inflation was 3.6%)
- SDRS retirees would have received an average COLA slightly more than inflation, instead of an average COLA that was twice the rate of inflation

If the SDRS COLA had exactly matched inflation for this period, the SDRS FVFR at June 30, 2016, would have been an even higher 103%.

The long-term financial impact of providing a COLA in excess of inflation is potentially even more significant.

ADEQUACY OF COLA CHANGES FOR RETIREES

SDRS retirees would receive a COLA each year equal to the rate of inflation (subject to the minimum and maximum limits) when the FVFR with the Baseline COLA is 100% or more under these revised terms. As noted above, since 1986 the SDRS FVFR has equaled 100% or more 80% of the time.

When the FVFR with the Baseline COLA is 100% or more, SDRS retirees could receive a COLA that is more or less than actual inflation due to the minimum and maximum limits. However, based on a long-term expected inflation of about 2.25% the likelihoods are roughly equal that the COLA would be more or less than inflation.

If the FVFR with the Baseline COLA is less than 100%, the Restricted COLA may be less than actual inflation, but may be only marginally less, actual inflation may be less than the Restricted COLA, and the Restricted COLA may apply for only a short time period.

In summary, the changes in the COLA would be expected to result in SDRS retirees receiving COLAs that are essentially equal to the rate of inflation over their lifetime and therefore also equal to the Board’s objective.

CIRCUIT COURT OPINION

SDRS has generally proposed significant benefit reductions only when § 3-12-122 applied, or when both benefit improvements and reductions are proposed at the same time.

Changes to the SDRS COLA were proposed in 2010 after the significant market loss and the application of all conditions of § 3-12-122.

Currently, none of the § 3-12-122 conditions exist and SDRS is actuarially sound, even though the actuarial value of assets exceeds the fair value at June 30, 2016.

The Circuit Court decision relating to the lawsuit (Tice v. State of South Dakota, et. al.) due to the reduction in the SDRS COLA concluded:

- Since all conditions of § 3-12-122 had been reached, the System was no longer actuarially sound
- § 3-12-122 is a notice and recommendation statute only
- No retiree was entitled to a "forever COLA" at the rate of 3.1% per year
- The Legislature reserved unto itself the right to lower the COLA to maintain the fiscal integrity of SDRS
- § 3-12-88 states there shall be an increase in the COLA every fiscal year, but the amount could be minimal

In short, the Circuit Court held that the actions reducing the SDRS COLA were appropriate and should not be reversed. Accordingly, recommending COLA changes after a § 3-12-122 event is consistent with the Circuit Court Opinion and the 2010 actions by the Board.

The possibility and advisability of recommending COLA changes without a § 3-12-122 event is discussed below. While a Circuit Court decision is not binding in South Dakota, it does provide some insight and raises additional questions about the timing of such changes absent a § 3-12-122 event as follows:

- Is a § 3-12-122 condition required for recommended Corrective Actions, or could Corrective Actions be recommended by the Board if advisable due to sound fiscal and policy reasons, necessary to improve the sustainability of SDRS?
- Does a § 3-12-122 event resulting from the adoption of more conservative actuarial assumptions result in any different permissible actions?
- Does the opinion reflect that the sole purpose of a COLA is to protect retirees against inflation subject to affordability and the history of the SDRS COLA? Specifically, does a COLA that is based on the CPI require a minimum COLA each year even when no inflation exists, or is the opportunity for a COLA if inflation exists in any year sufficient?

  Note that SDRS provided an indexed COLA with no minimum from 1978-1988.
- Would the changes as proposed above that provide a possibility of a higher COLA (3.5%) than the current maximum COLA of 3.1% increase the acceptability of the recommendation—even absent a § 3-12-122 event?

TIMING FOR REVISED COLA

Recommended changes in the COLA as outlined above should be a priority as a Corrective Action following a § 3-12-122 event due to unfavorable experience, and would follow the precedent set in 2010.

Alternatively, a change of this nature could logically be tied to changes in actuarial assumptions. The Board has authorized an experience analysis after the June 30, 2016 actuarial valuation, and will likely be faced with considering the advisability of assumption changes after that review. Given the low current inflation rates and the relatively low investment return projections by investment experts, it is likely that both a lower investment return and inflation assumption will be recommended. The adoption of more conservative assumptions could cause one or more of the conditions of § 3-12-122 to come into play, particularly if investment results in the near term are less than the assumptions and the SDRS FVFR remains below 100%. That would also lead to Corrective Action recommendations by the Board either coincident with the change in assumptions or immediately following. A COLA change as outlined should be a priority over other changes.

A third alternative would be to act on this recommendation prior to a § 3-12-122 event if it is deemed to represent sound policy. This is consistent with the forward-looking planning of the Board and the conservative management of SDRS. For a number of fiscal and political reasons, Board action that recommends incremental changes in benefits based on affordability before a § 3-12-122 event may be preferable to waiting for such an event to occur. The arguments in favor of these changes to maintain the fiscal integrity of SDRS and meet its primary sustainability objectives as outlined above are strong ones and there is no evidence of any public policy need or intent to provide a COLA in excess of inflation to SDRS retirees.

ACTUARIAL AND OTHER ISSUES

Under the approach outlined in this paper, the annual SDRS actuarial valuation would be based on a COLA assumption equal to the expected long-term rate of inflation unless that produces a FVFR less than 100%. If so, the maximum COLA paid the next year and the long-term COLA assumption for that actuarial valuation would both be lowered to the amount that results in a 100% FVFR. The SDRS funded status that year would be reported based on the FVFR assuming the maximum Restricted COLA as the long-term COLA assumption.

This approach considers the fair value of assets only and would eliminate the need to determine an actuarial value of assets or report a funded status based on a smoothed asset value. The actuarial value of assets has historically provided a basis to report a stable funding requirement by considering the expected value of assets, since benefits were largely fixed. A stable funding requirement is achieved under the approach outlined above by varying the COLA based on its affordability considering the fair value of assets.

In addition, the current SDRS method for determining the actuarial value of assets ignores any investment gain or loss unless the 80% to 120% corridors are breached or the actuarial value of assets exceeds the fair value for five consecutive years. This approach is not ideal in a falling

market since recognition of any investment losses is deferred until a very significant loss occurs (roughly 20% of assets from a 100% FVFR starting point). In addition, in a rising market this approach may require an awkward encumbrance approach, which presumes future benefit improvements before they are recommended. The use of the fair value of assets recognizes actual investment performance currently and avoids the deferred or non-recognition of investment losses under the current method of determining the actuarial value of assets and other common methods.

The outcome of the changes outlined in this report would be:

- A benefit structure that varies directly and automatically with experience and affordability
- One reported funded status, based on fair value of assets that is approximately equal to 100% or exceeds 100% except in the most extreme down markets
- Alignment with the GASB funded status reporting using fair value
- Less confusion and more uniform reporting
- A COLA that would equal inflation most of the time and would potentially be less than inflation only when not currently affordable

With regard to the second bullet above, when the FVFR with the Baseline COLA is 100%, this approach would provide a mechanism to automatically reduce subsequent years' liabilities of SDRS up to about 15% by lowering the maximum COLA as required to match a similar reduction in expected assets due to down markets. The actuarially required contribution would continue to be met within that limitation. When the FVFR with the Baseline COLA is more than 100%, an even greater down market could be matched with the COLA adjustments.

Implementing these changes would also require refinements to many of the SDRS goals and objectives as well as § 3-12-122.

Because the SDRS COLA could be less than inflation during periods of market declines under this approach, future benefit improvements should consider any past loss of purchasing power for retirees when prioritizing benefit increases.

CONCLUSION

The primary objective of the Board is to manage SDRS benefits within the fixed statutory contributions, which, if successful, limits the future funding commitments to SDRS and liability by its employers to the identical funding commitments and liability of a defined contribution plan. The membership, Board, Legislature, Executive Branch, and the South Dakota Investment Council have all been responsible for always achieving that objective during the history of SDRS. However, the current SDRS methodologies and the provisions of § 3-12-122 ignore any underfunding until it reaches approximately 20% of the Actuarial Accrued Liability, or until such underfunding exists for five consecutive years. SDRS Board recommendations when the conditions of § 3-12-122 apply require Legislative and Executive Branch approval, may require very significant actions because of the delayed recognition, and will raise questions of SDRS sustainability and the ability to meet the Board's primary objective.

Limiting the SDRS COLA to inflation and annually adjusting the SDRS COLA based on market returns would remove a current significant subsidy and automatically manage the liabilities more effectively and in accordance with current market conditions. This would also avoid the reporting of any accounting liabilities because of SDRS except in extreme circumstances, as well as confusing reporting based on fair value of assets and actuarial value of assets. The current conditions of § 3-12-122 would also be avoided except in very extreme circumstances.

These changes would substantially enhance the ability of SDRS to meet its primary objective.