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## Postemployment Cost-of-Living Adjustments: Concepts and Recent Trends

By Paul Zorn, Mark Randall, and Joe Newton

*The following article is based on a study done by GRS for the Wyoming Retirement System (WRS). Our thanks go to Thomas Williams, Executive Director of WRS, for his permission to use the study as the basis for our article. Our thanks also go to David Stella, Secretary of the Wisconsin Department of Employee Trust Funds, for his help in describing Wisconsin's postemployment benefit adjustment.*

The sharp investment decline that occurred in 2008-2009 and the resulting financial pressures on state and local governments have led government officials to search for ways of controlling pension costs and stabilizing required contributions. As a result, many pension plans and plan sponsors are reviewing their plan designs, including reviewing the costs associated with postemployment cost-of-living adjustments (COLAs). This article discusses the purpose of COLAs, how they are provided, and the advantages and disadvantages of different types of COLAs. It also discusses recent changes in public-sector COLAs and the relative costs of COLA designs.

### The Purpose of COLAs

To protect retiree benefits from inflation, many public retirement systems provide COLAs. Inflation is typically measured through one of two indexes, both produced by the U.S. Bureau of Labor Statistics. The first is the Consumer Price Index for All Urban Consumers (CPI-U) and the other is the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).<sup>1</sup> Over the past 30 years, both measures have shown similar patterns of inflation. Chart 1 on the next page shows inflation based on the CPI-U.

As measured by the CPI-U, inflation averaged 3.3% over the past 30 years and ranged from 13.5% in 1980 to -0.4% in 2009. Over the past 10 years,

<sup>1</sup>The CPI measures average changes over time in the prices of goods and services, including food, clothing, shelter, fuels, transportation, medical services, and other items people buy for day-to-day living. The CPI-U measures the average change in prices for approximately 87% of the U.S. population, and is collected from 87 urban areas across the country. The CPI-W is a narrower measure than the CPI-U, in that it only covers wage earners and clerical workers, who make up about 32% of the U.S. population.

### In This Issue

The sharp investment declines in 2008-2009 and the resulting economic and financial pressures have led state and local governments to search for ways of controlling pension costs and stabilizing contributions.

This search includes reviewing the costs associated with postemployment cost-of-living adjustments (COLAs). While COLAs are an important component of pension plan design, different types of COLAs have different advantages and disadvantages.

Recent changes to COLA designs may be seen as working to find some middle ground between ad hoc and automatic COLAs. In some cases, the COLA remains automatic but is also contingent on the plan's funded ratio or on amounts accumulated in a reserve account. In other cases, the COLA remains ad hoc but is provided on an actuarial basis.

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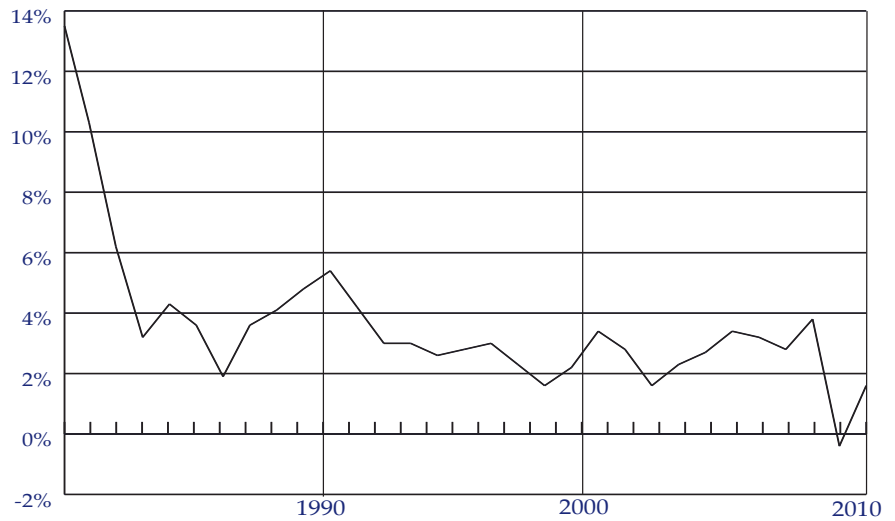
inflation averaged 2.4% and ranged from 3.8% in 2008 to -0.4% in 2009. For people receiving retirement benefits that are not adjusted for inflation, even relatively small rates of inflation can significantly reduce their purchasing power when applied over extended periods of time.

As shown below in Chart 2, annual inflation of 3% would cause the purchasing power of a \$50,000 initial benefit to fall to \$27,700 after 20 years (a 45% reduction) and \$20,600 after 30 years (a 59% reduction). Similarly, annual inflation of 4% reduces purchasing power by 54% over 20 years and 69% over 30 years. Even a relatively low inflation rate of 2% reduces purchasing power by 33% after 20 years and 45% after 30 years.

### COLAs Provided by Public Plans

Most public pension plans have provided postemployment COLAs either on an ad hoc basis or on an automatic basis. A key feature of ad hoc COLAs is that they require the approval of the plan sponsor's governing body (or in some cases the plan's board). In contrast, automatic COLAs do not require the governing body's approval and are often based either on a fixed annual rate (e.g., 3%) or on the CPI - often with an upper limit (e.g., CPI up to 3%).

**Chart 1: Changes in the CPI for All Urban Consumers (1980-2010)**



Changes in the CPI-U averaged 2.4% over the last 10 years and 3.3% over the last 30 years.

Several public pension plans base COLAs on investment earnings that are above some benchmark rate of return for the year (e.g., the assumed long-term rate of return). COLAs based on investment returns were introduced in the 1990s due, in part, to the relatively high investment returns earned in that decade. More recently, some plans have implemented a combined approach, including a relatively low fixed COLA (e.g., 2%) in combination with a COLA based on investment earnings that exceed long-term expected returns.

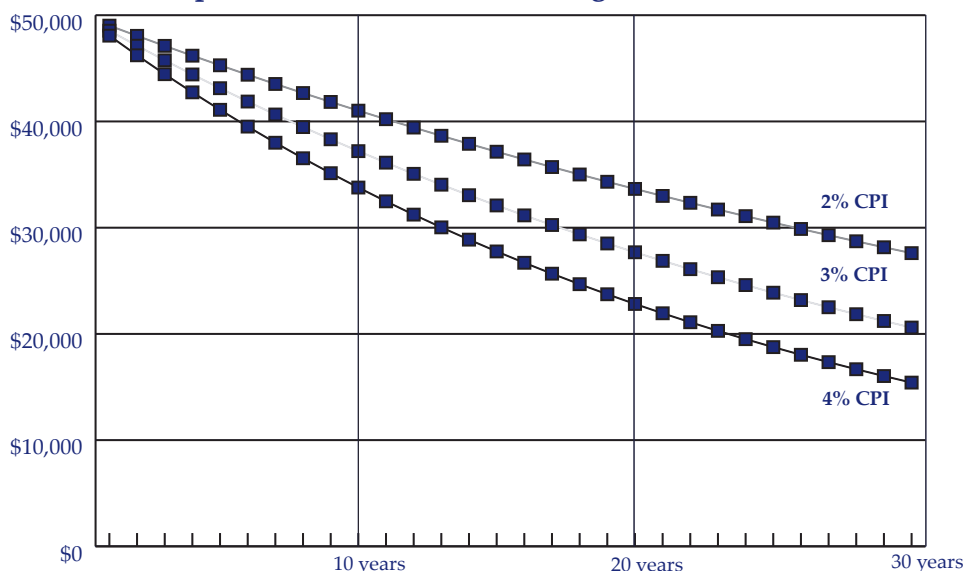
On the next page, Chart 3 summarizes the general COLA approaches used by over 100 large public plans included in the Public Fund Survey conducted by the

National Association of State Retirement Administrators (NASRA) and the National Council on Teacher Retirement (NCTR).

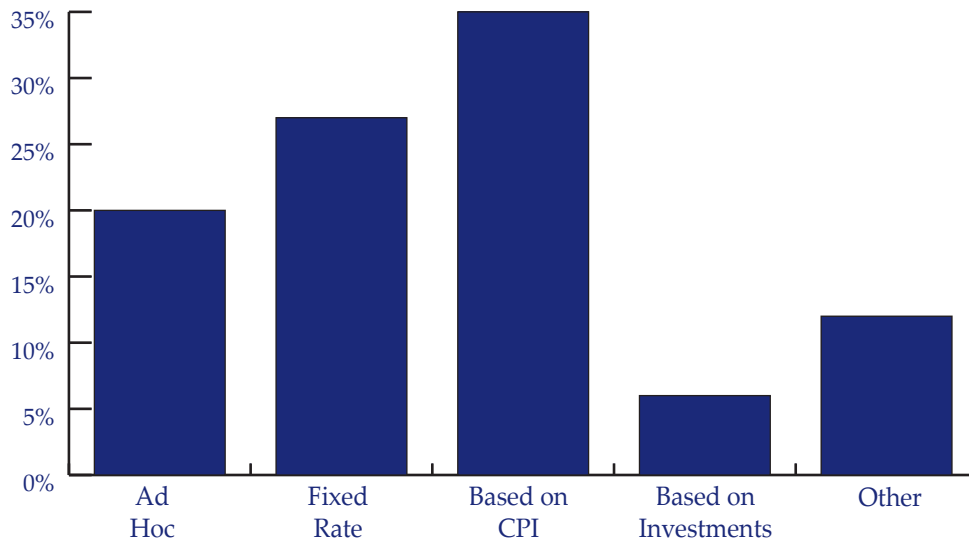
About 20% of the plans use ad hoc COLAs, 27% use a fixed rate (often 3%), and 35% base their COLAs on the CPI (often capped at 3%). Only about 6% base their COLAs solely on investment returns. However, of the 12% that provide COLAs through other approaches, about half include COLAs based partly on investment returns.

These other approaches include COLAs that are based on amounts

**Chart 2: Impact of Inflation on Purchasing Power of Initial Benefit**



**Chart 3: COLA Approaches Used by Large Public Pension Plans**



Source: Authors' calculations based on NASRA/NCTR Public Fund Survey

that accumulate in reserve accounts and ad hoc COLAs that are provided when plan resources are judged sufficient to fund the COLA on an actuarial basis (e.g., "Break-Even" COLAs). Further discussion of "Break-Even" COLAs and COLAs based on a reserve account is provided later in this article (on page 4).

The advantages and disadvantages of different COLA designs are discussed in Table 1, below.

**Table 1: Advantages and Disadvantages of COLA Designs**

Type of COLA	Key Feature	Advantages	Disadvantages
<b>Ad Hoc</b>	COLA is provided at the discretion of the sponsoring employer's governing body (or the plan's board)	<ul style="list-style-type: none"> <li>COLA is provided when judged affordable by the sponsoring entity</li> </ul>	<ul style="list-style-type: none"> <li>COLA may be infrequent and not sufficient to protect retirees' purchasing power</li> <li>COLA may not be included in actuarially determined contributions and so not prefunded</li> </ul>
<b>Fixed Rate</b>	COLA is provided automatically at a fixed rate (e.g., 3%) each year	<ul style="list-style-type: none"> <li>COLA can be relied on to protect some portion of retirees' purchasing power</li> <li>COLA is included in actuarially determined contributions and so is likely to be prefunded</li> </ul>	<ul style="list-style-type: none"> <li>COLA may be higher than necessary to protect against inflation in some years and lower than necessary in other years</li> </ul>
<b>Based on CPI</b>	COLA is provided automatically as some proportion of the CPI increase (e.g., 100% of the CPI up to 3%) each year	<ul style="list-style-type: none"> <li>COLA can be relied on to protect some portion of retirees' purchasing power</li> <li>COLA is included in actuarially determined contributions and so is more likely to be funded</li> <li>COLA is not higher than necessary to protect against inflation</li> </ul>	<ul style="list-style-type: none"> <li>COLA may be lower than necessary to protect against inflation in some years, if limited to a set percentage</li> <li>In periods of high inflation, the COLA may sharply increase contributions, unless capped</li> </ul>
<b>Based on Investment Earnings</b>	COLA is provided when annual investment earnings exceed some benchmark (e.g., exceed the actuarially assumed long-term rate of return)	<ul style="list-style-type: none"> <li>COLA is provided from investment returns rather than current contributions</li> </ul>	<ul style="list-style-type: none"> <li>COLAs may be infrequent and not sufficient to protect retirees' purchasing power</li> <li>Using investment returns to pay the COLA lowers the effective investment returns and so may increase future contributions or lead to a lower funded status</li> </ul>
<b>Based on Break-Even Contributions</b>	COLA is provided to the extent the Annual Required Contribution (including the COLA) does not exceed the current contribution policy (e.g., the statutorily required contributions)	<ul style="list-style-type: none"> <li>COLA is provided when judged affordable by the sponsoring entity</li> <li>COLA is included in actuarially determined contributions and so is more likely to be funded</li> </ul>	<ul style="list-style-type: none"> <li>COLA may be infrequent and not sufficient to protect retirees' purchasing power</li> <li>When given routinely, a Break-Even COLA may reduce plan surpluses that protect against future investment market downturns</li> </ul>
<b>Based on Reserve Account</b>	COLA is provided to the extent funds held in a separate reserve account are sufficient to pay the COLA	<ul style="list-style-type: none"> <li>COLA can be funded by plan investments or by an external source</li> <li>COLA is provided when judged affordable by the sponsoring entity</li> <li>COLA is provided (partly or fully) to the extent funds have been set aside</li> </ul>	<ul style="list-style-type: none"> <li>COLA may be infrequent and not sufficient to protect retirees' purchasing power</li> <li>Using investment returns to pay the COLA lowers the effective investment return and so may increase future contributions or lead to a lower funded status</li> </ul>

## Recent Changes to Public Pension COLAs

As a result of the recent investment declines and resulting economic pressures, a significant number of public plan sponsors and retirement systems have redesigned their COLAs in order to control their overall plan costs. According to the *Pensions and Retirement Plan Enactments* reports by Ron Snell at the National Conference of State Legislatures (NCSL), these changes include:<sup>2</sup>

- **Lowering the COLA.** In 2008, the Board of Trustees of the Georgia Employees Retirement System lowered its ad hoc COLA from 3% to 2% and expressed caution about providing future COLAs until additional funding becomes available or its funded ratio improves.
- **Capping the COLA.** In 2010, the State of Rhode Island changed its COLA to only apply cost-of-living increases to the first \$35,000 of the annual retirement benefit.
- **Extending the date the retiree becomes eligible to receive the COLA.** In 2010, Illinois passed legislation providing that the COLA will become available one year after the beneficiary begins receiving benefits or age 67, whichever is later. In Rhode Island, in addition to the \$35,000 cap, the State is also delaying payment of the first COLA to the later of age 65 or the member's third anniversary of retirement.
- **Lowering the amount of the CPI provided by the COLA.** In 2010, the Illinois legislature lowered its COLA from a fixed 3% rate to the lesser of 3% or one-half of the CPI, but not less than zero.
- **Making the COLA contingent on the plan's funded ratio.** In 2010, South Dakota passed legislation linking the COLA to the system's funded ratio based on the market value of assets. The COLA is 2.1% if the funded ratio is below 80%; 2.4% if the ratio is between 80% and 89%; 2.8% if the ratio is between 90% and 99%, and 3.1% if the ratio is 100% or more.
- **Allowing a member to self-fund a fixed-rate COLA through a reduction in the member's initial retirement benefit.** In 2009, Louisiana passed legislation allowing members to self-fund a guaranteed 2.5% annual COLA through an actuarial reduction in benefits.

<sup>2</sup> These reports provide an excellent summary of the changes enacted by state legislatures related to public pensions and other retirement benefits. The studies are available at: [www.ncsl.org/?tabid=13399](http://www.ncsl.org/?tabid=13399)

- **Establishing a reserve account to fund the COLA.** The Teachers' Retirement System of Louisiana maintains a reserve account (referred to as an Experience Account) funded by one-half of investment earnings in excess of 8.25%. COLAs are payable only if there are sufficient funds in the account and the COLA is approved by the state legislature. In 2009, the Louisiana legislature tightened the rules for determining the COLAs paid from the account.

It should also be noted that in several states, changes in automatic COLAs are being legally challenged by retirees on the grounds that reductions in vested pension benefits violate contract protections included in the U.S. Constitution and many state constitutions.

## COLA Case Studies - Wyoming and Wisconsin

Wyoming and Wisconsin have innovative COLA designs. Generally, the Wyoming Retirement System uses an ad hoc postemployment COLA.<sup>3</sup> For seven of the Wyoming funds, an ad hoc "Break-Even" COLA is determined each year by the System's Board of Trustees in consultation with the System's actuary. In essence, these are actuarially based ad hoc COLAs.

Under the Break-Even COLA, the maximum COLA allowable each year is limited to an increase in benefits that the actuary determines to be actuarially sound (but not more than the lesser of 3% or the Wyoming Cost of Living Index). The maximum COLA is determined by taking the difference between the statutorily required contribution and the annually required contribution (ARC)<sup>4</sup> and calculating a COLA that could be provided to current and future retirees in perpetuity.

For example, assume that the statutorily required contribution is 14% of payroll and the ARC is 12%. The Break-Even COLA is the actuarially determined COLA that the 2% difference could provide to current and future retirees over their retired lifetimes.

After the COLA is given, it remains in effect over the retirees' lifetimes. However, any future COLAs (over and above those already provided) must be approved by the Trustees. Due to the investment decline in 2008,

<sup>3</sup>Currently, only the Wyoming Paid Firemen's Retirement Plan A has a guaranteed COLA.

<sup>4</sup>The annually required contribution (ARC) is determined in accordance with the Governmental Accounting Standards Board's Statements Nos. 25 and 27.

the Board of Trustees has not granted a COLA for the past three years. Moreover, state legislation has put a hold on future COLAs, at least until June 2012.<sup>5</sup>

The Wisconsin Retirement System's postemployment benefit adjustment also has an interesting design. If investment returns produce a surplus in the retired life reserve account (the account used to pay monthly pension benefits), the pension benefits may be increased (i.e., paid as a "dividend" in their terms). The dividend is structured so that investment earnings have to be higher than 5% for a dividend to occur. Investment returns are smoothed over a five-year period to dampen dividend volatility.

The dividends are not guaranteed and may be reduced. In fact, dividends may actually be negative if the reserve account falls below the value of the pension liabilities. For example, the 2008 investment downturn caused assets in the reserve account to fall below the liabilities. As a result, a "negative dividend" of -2.1% was applied to all annuities that had received positive dividends in prior years. The dividend is designed so that an individual's pension benefit does not fall below the amount of the original benefit.

This structure helps to allocate plan funding risks over employers and retirees. It dampens the growth of plan liabilities when investment returns are low and provides additional benefits when returns are high. Also, while

<sup>5</sup> However, as required under state law, the System has paid the 3% COLA to the Wyoming Paid Firemen's Retirement Fund Plan A.

the COLA is automatic, it is also variable. The COLAs have averaged 4.7% over the past 28 years and 1.3% over the past 10 years. However, dividends have been negative over the past three years as a result of the 2008 investment declines.

## Relative Costs of Different COLA Designs

Exhibit 1 below shows the relative estimated cost impact of several different COLA designs. The first line of Exhibit 1 shows a cost factor of 1.0 for a retirement plan with no cost-of-living adjustments (our baseline). The following COLA alternatives then show the relative cost impact of the alternative COLA designs in relation to the baseline cost factor of 1.0. For example, a 3% compound COLA with a cost factor of 1.26 is 26% more expensive than the baseline of no COLA.

## Conclusions

As discussed in this article, there are a variety of ways that COLAs can be designed and funded. They can be provided on an ad hoc basis, which helps ensure that the COLA is only provided when judged affordable. However, this may also result in the COLA being offered infrequently, and the cost not being prefunded in the actuarially determined contributions.

Alternatively, COLAs can be provided automatically, which helps ensure that the cost-of-living adjustments are provided on a regular basis. However, this may also

Exhibit 1 COLAs and Their Relative Cost Impact (Assumes Cost-of-Living Increases at 3% Annually, Unless Otherwise Noted)			
COLA Scenario	Notes	Cost Factor	Cost Factor Bar Chart
No COLA		1.00	
1% COLA	Compound	1.07	
2% COLA	Compound	1.16	
3% COLA	Compound	1.26	
3% Simple COLA	3% of original benefit with fixed-dollar increases	1.21	
Full Consumer Price Index (CPI)	Assumes 3% compound increase	1.26	
50% of CPI	Assumes 1.5% compound increase	1.11	
CPI capped at 3%	Assumes 2.5% per year to approximate cap	1.21	
CPI deferred to age 65	Assumes later of 2 year deferral or age 65	1.17	
CPI deferred for 3 years	Deferred 3 years instead of 2 years	1.23	
CPI only on first \$12,000	Maximum annual COLA = \$360	1.12	
CPI only on first \$12,000 - indexed	Index \$12,000 cap at 3% assumed COLA	1.15	
CPI only on first \$24,000	Maximum annual COLA = \$720	1.17	
CPI only on first \$24,000 - indexed	Index \$24,000 cap at 3% assumed COLA	1.20	
CPI prorated on service less than 30 years	Maximum 3% COLA with 30 years of service	1.16	
CPI capped at 50% of original benefit	Maximum benefit = 150% of original benefit	1.19	

put additional strain on the plan if inflation spikes or sudden investment downturns result in increased funding pressures.

Recent changes to COLA designs may be seen as working to find some middle ground. In some cases, the COLA remains automatic but is also contingent on the plan's funded ratio or on amounts accumulated in a reserve account. In other cases, the COLA remains ad hoc but is provided on an actuarial basis. Combinations of approaches are also possible.

Finally, in evaluating the advantages and disadvantages of various COLA designs, it is important to consider how COLAs might be affected by proposed future changes in pension accounting standards currently being discussed by the Governmental Accounting Standards Board. As tentatively decided by the Board, changes in benefits related to inactive or retired plan members would be recognized immediately in the plan sponsor's pension expense. If this tentative decision is included in the final rules, it would mean that changes in postemployment COLAs would no longer be amortized over time, but rather immediately recognized in the pension expense.

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