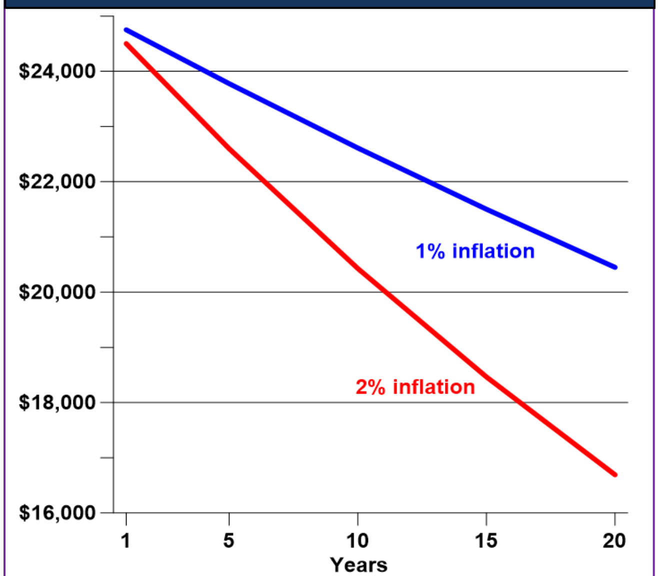
NASRA Issue Brief:
Cost-of-Living Adjustments

November 2019

Periodic cost-of-living adjustments (COLAs) in some form are provided on most state and local government pensions. The purpose of a COLA is to wholly or partly offset the effect of inflation on retirement income. Considerable variation exists in the way COLAs are designed, and in many cases they are determined or affected by other factors, such as the actual rate of inflation or the financial condition of the plan. COLAs add both value and cost to a pension benefit. Public pension COLAs have received increased attention in recent years as many states look to make adjustments to the cost of benefits amid challenging fiscal conditions and the current low-inflationary environment. This brief presents a discussion about the purpose of COLAs, the different types of COLAs provided by government pension plans, and an overview of recent state changes to COLA provisions.

Figure 1: Impact of 20 years of inflation on purchasing power of $25,000



COLA Purpose

A COLA is provided to offset or reduce the effects of inflation, which, as illustrated in Figure 1, erodes the purchasing power[1] of retirement income. Using two hypothetical inflation rates, after 20 years, the real (inflation-adjusted) pension benefit in this example of $25,000 falls to $20,488 (82 percent of its original value) or $16,690 (67 percent of its original value), depending upon the actual rate of inflation.

Such depreciation can affect the sufficiency of retirement benefits, particularly for those who are unable to supplement their income due to disability or advanced age. As Social Security beneficiaries receive an annual COLA to maintain recipients' purchasing power, tied to a measure of inflation,[2] many state and local governments also provide an adjustment to their retirees' pension benefit that is intended to offset the effects of inflation. This adjustment is particularly important for those public employees – including nearly half of public school teachers and most public safety workers – who do not participate in Social Security. Unlike Social Security, however, state and local retirement systems typically pre-fund the cost of a COLA over the working life of an employee, to be distributed annually over the course of his or her retired lifetime.

Common COLA Types and Features

The way in which public pension COLAs are calculated and approved varies considerably. Appendix A presents a listing of COLA provisions for many state retirement plans, illustrating the variety that exists in COLA plan designs. In general, COLA types and features are differentiated in the following ways:

Automatic vs. Ad hoc

An overarching distinction among COLAs is whether they are provided automatically or on an ad hoc basis. An ad hoc COLA requires a governing body to actively approve a postretirement benefit increase. By contrast, an automatic COLA

---

[1] Purchasing power refers to the effect of inflation on the value of currency over time, calculated for the purpose of determining the amount of goods or services a unit of currency can buy at different points in time

[2] Social Security Administration, Latest Cost-of-Living Adjustment, https://www.ssa.gov/OACT/COLA/latestCOLA.html

occurs without action, and is typically predetermined by a set rate or formula. In some cases, ad hoc COLAs are contingent on other factors, such as a maximum unfunded liability amortization period.

Simple vs. Compound

Another distinction between COLA types is whether the increase is applied in a simple or compound manner. Under a simple COLA arrangement, each year's benefit increase is calculated based upon the employee's original benefit at the time of his or her retirement. Under a compound COLA arrangement, the annual benefit increase is calculated based upon the original benefit as well as any prior benefit increases. Some COLAs contain both features, i.e., they may be "simple" until the retiree reaches a certain age or year retired, at which point COLA benefits are calculated using a compound method.

Inflation-based

Many state and local governments provide a post-retirement COLA based on a consumer price index (CPI), which is a measure of inflation. Most provisions like this restrict the size of the adjustment, such as by "one-half of the CPI" and/or "not to exceed three percent." The most recognized CPI measures are calculated and published by the U.S. Bureau of Labor Statistics (BLS), and the CPI measures used by most public pension plans are either the CPI-U (based on all urban consumers) or the CPI-W (urban wage earners and clerical workers). Some states use state- or region-specific inflation measures to determine the amount of the COLA.

Table 1: Select public plans by COLA type

	Linked to inflation	Linked to investment or funding condition	Fixed percentage or other factor	Total
Automatic	47	10	15	72
Ad-hoc	5	0	23	27
Total	52	10	38	99

Note: COLAs for some employees of local governments who participate in statewide systems are discretionary based on the decision of individual local government. See Appendix A for more details.

Performance-based

Some public pension plans tie their COLA to the plan's funding level or investment performance. In one statewide system, for example, the COLA falls within a range and is tied to CPI, based on the funding level of the plan. Annuitants with another state system receive a permanent benefit increase tied to their length of service, when the fund's actuarial investment return exceeds the assumed rate of investment return.

Delayed-onset or Minimum Age

Another characteristic contained in some automatic COLAs is to delay its onset, either by a given number of years or until attainment of a designated age. A COLA with this feature may also take on any of the characteristics stated above and will become available to a retiree once he or she meets the designated waiting period or age requirement.

Limited Benefit Basis

Some retirement systems award a COLA calculated on a portion of a retiree's annual benefit, rather than the entire amount. For example, one system provides a COLA of up to three percent applied to only the first $13,000 of benefit. In such cases, the COLA can also be tied to an external indicator, such as CPI, and other factors, such as delayed onset, may also be in place.

Self-funded Annuity Option

Some state retirement plans offer post-retirement benefit increases through an elective process known as a self-funded annuity account. Under this design, a member effectively self-funds his or her COLA by choosing to receive a lower monthly benefit in exchange for a fixed rate COLA to be paid annually upon retirement.

Reserve Account

Other public retirement systems pay COLAs from a pre-funded reserve account. This is a variation on the COLA tied to investment performance since the reserve account is funded with excess investment earnings. Under this scenario, a COLA is provided from the funds set aside in the reserve account. Sometimes a stipulation is attached that the fund itself must reach a certain size for any COLA to be granted in a given year.

COLA Costs

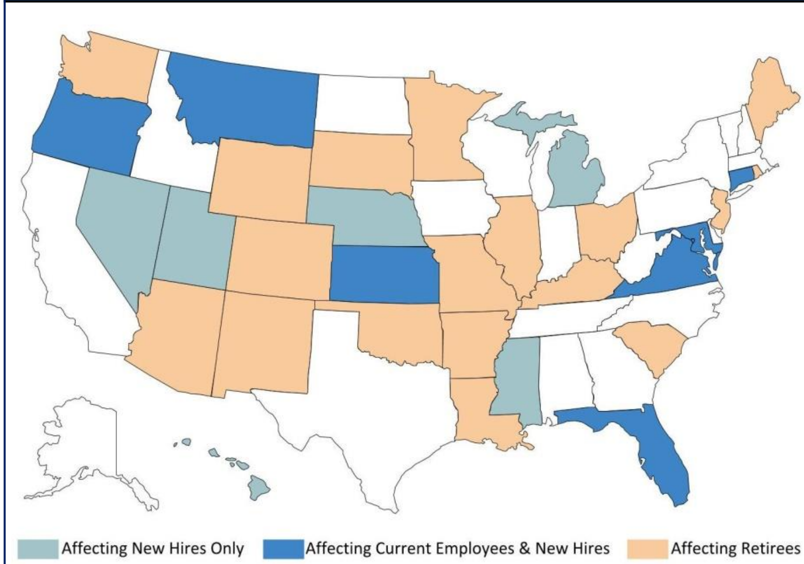
The cost of a COLA predictably depends on the characteristics of the COLA benefit. Such factors as its size; the portion of the benefit to which the COLA applies; whether or not the COLA is paid annually or irregularly; whether the adjustment is simple or compounded, and other features, all affect its cost. It has been estimated that an automatic COLA of one-half of an assumed CPI of three percent, compounded, will add 11 percent to the cost of the retirement benefit. An automatic COLA of three percent, compounded, is estimated to add 26 percent to the cost of the benefit.[3]

The Governmental Accounting Standards Board (GASB) requires public pension plans to disclose assumptions regarding COLAs, including whether the COLA is automatic or ad hoc, and to include the cost of COLAs in projections of pension benefit payments. GASB considers an ad hoc COLA to be "substantively automatic" when a historical pattern exists of granting ad hoc COLAs or when there is consistency in the amount of changes to a benefit relative to an inflation index.[4]

Recent Changes to COLAs

As part of efforts to contain costs and to ensure the sustainability of public pension plans, and in response to the recent period of historically low inflation, many states have made changes to COLA provisions by adjusting one or more of the elements mentioned above[5] (see Figure 2). As described in Appendix A, since 2009, 18 states have changed COLAs affecting current retirees, seven states have addressed current employees' benefits, and six states have changed the COLA structure only for future employees. The legality of these modifications in several states has been challenged in court, as noted in Appendix A.

Figure 2: State retirement systems undergoing COLA legislative changes, 2009-2018



In most cases, changes to COLA provisions require an act of the legislature and approval of the governor. However, in some cases retirement boards have been vested with the authority to enact COLA reforms; this authority that has been exercised in three states – Maine, Missouri, and Ohio – since 2016. As noted above, most COLA changes affecting retirees were subjected to legal challenge. Legal rulings issued in recent years upheld COLA reductions passed in New Jersey, and several other states, and fully or partially rejected COLA reductions passed in Illinois, Montana, and Oregon. A 2015 legal settlement pronounced material changes to COLA provisions for public employees in Rhode Island.

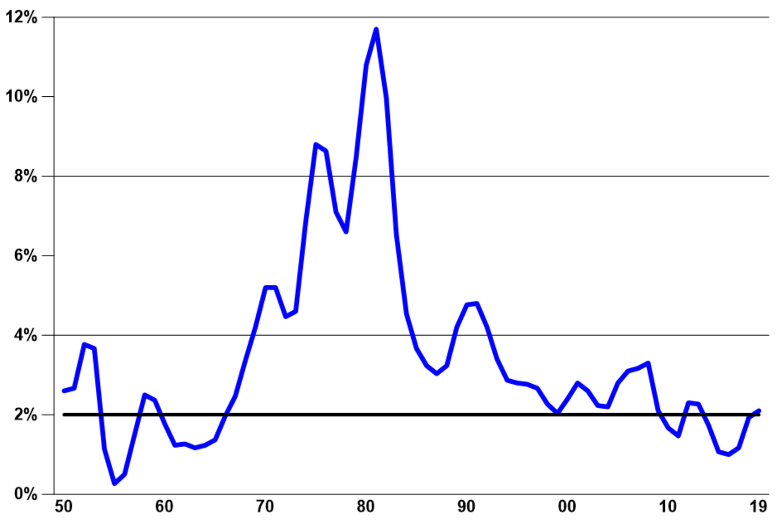
Impact of Inflation on COLA Changes

The impact of changes to COLA provisions for retirees and pension plans is largely determined by actual measured levels of price inflation. Since 2012, the average of the prior three years' increase in CPI-U has been at or below 2 percent. This represents a significant decline from prior periods of inflation (see Figure 3). At present levels, inflation remains lower than the automatic COLA caps for most public pension plans that have a cap, even in cases where the cap was recently lowered. If inflation remains low, retirees will not be seriously impacted by these changes. However, if inflation rises to levels observed in prior years, some retirees will experience a decline in the purchasing power of their retirement benefit.

[3] Gabriel, Roeder, Smith & Company, "Postemployment Cost-of-Living Adjustments: Concepts and Recent Trends," April 2011
[4] Governmental Accounting Standards Board Statement No. 67, Financial Reporting for Pension Plans
[5] National Conference of State Legislatures

Actuaries typically make assumptions about COLA increases, based on the plan's COLA provisions. Such assumptions include a rate of inflation, if inflation is a factor in the plan's determination of COLA increases. All else equal, a reduction in a plan's COLA assumption will cause the plan's liabilities and cost, to decline.

Figure 3: Three-year rolling average change in CPI-U, 1950-2019



Note: 2019 inflation based on an estimate calculated by the Minneapolis Federal Reserve based on the change in the CPI from Q2 2018 to Q2 2019.

Conclusion

The effects of a COLA can be consequential both in protecting purchasing power and in adding costs to a plan. As states consider measures to ensure the sustainability of their pension plans, for those currently retired, for those still employed, and for future generations of workers, policymakers are reexamining all aspects of benefit design and financing, including the way COLAs are determined and funded. Just as high periods of inflation in the past placed pressure on states to add or adjust COLAs upward, the recent low rates of inflation, combined with rising pension plan costs, have spurred action to reconsider COLA levels. Some states have included provisions that would enable COLAs to increase should inflation grow or should funding status or fiscal conditions improve.

See also

1. Gary Findlay, "Addressing Inflation in the Design of Defined Benefit Pension Plans"
2. Gabriel, Roeder, Smith & Company, "Postemployment Cost-of-Living Adjustments: Concepts and Recent Trends," April 2011
3. Cost-of-Living Adjustments @NASRA.org

Contact

Keith Brainard, Research Director, keith@nasra.org I Alex Brown, Research Manager, alex@nasra.org
National Association of State Retirement Administrators, www.nasra.org

Appendix A: COLA Provisions by State-Level Plan and Recent Changes

Plan	COLA Provision	2009-2019 Changes
Alaska PERS	Automatic, lesser of 75% of CPI or 9%, simple, for those age 65 and above; lesser of 50% of CPI or 6% for those age 60 or having received benefits for at least 5 years; An additional in-state COLA is provided to beneficiaries who reside in Alaska. Members are eligible if they entered the PERS before 7/1/86 or entered after 6/30/86 and have attained at least age 65. The Alaska COLA is equal to the greater of 10% of their base benefits or $50.	
Alaska Teachers	Automatic, lesser of 75% of CPI or 9%, simple, for those age 65 and above; lesser of 50% of CPI or 6% for those age 60 or having received benefits for at least 5 years; An additional in-state COLA is provided to beneficiaries who reside in Alaska. Members are eligible if they entered the TRS before 7/1/86 or entered after 6/30/86 and have attained at least age 65. The Alaska COLA is equal to the greater of 10% of their base benefits or $50.	
Alabama ERS	Ad hoc as approved by the legislature.	
Alabama Teachers	Ad hoc as approved by the legislature.	
Arkansas PERS	Automatic 3% compounded.	
Arkansas State Highway Employees	Automatic, lesser of 3% or CPI, compounded.	Prior to legislation approved in2017, an annual automatic COLA of 3% was granted.
Arkansas Teachers	Automatic 3%; compounded on an ad hoc basis as determined by the Board.	2017 legislation gives the TRS board the authority to reverse a compound COLA granted in 2009 if necessary to maintain the actuarial soundness of the system.
Arizona Public Safety Personnel	Automatic, based on CPI for the Phoenix region, up to 2.0%. For new hires on or after 7/1/17, the cap is lowered to 1.5% if the system falls below 90% funded; 1.0% if below 80% funded; and the COLA is eliminated if below 70% funded.	Legislation approved in February 2016 replaces the Permanent Benefit Increase (PBI) with a traditional COLA for current and future retirees that is tied to CPI. For new hires on or after 7/1/17, the COLA is restricted or eliminated when the plan falls below 90% funded. The changes were affirmed by an amendment to the Arizona Constitution via voter referendum in May 2016.
Arizona SRS	For participants hired before 9/13/13, up to 4.0% annually, contingent on earnings associated with an actuarial investment return above 8%. For those hired thereafter, ad hoc as approved by the legislature.	2013 legislation eliminated the permanent benefit increase for members hired on or after 9/13/13.
California PERS	Automatic after two calendar years of receiving benefits and the lesser of CPI for the prior year or the employer elected COLA. Typically State retirees receive a 2% provision, while Public Agencies and Schools may have 2%, 3%, 4% or 5% COLA provisions.	

Plan	COLA Provision	2009-2019 Changes
California Teachers	Automatic 2% simple, plus adjustments designed to maintain retirees' purchasing power up to 85% of their original benefit, made through a "supplemental benefits maintenance account" financed with a state contribution of about 2.5% of total creditable compensation.	Members who performed creditable service on or after 1/1/14 will have their existing improvement factor guaranteed in exchange for contribution increases. The improvement factor cannot be reduced for these members. For members who retired prior to 1/1/14, the Legislature will continue to reserve the right to reduce the improvement factor, a right that has never been exercised.
University of California	Automatic, equal to the full increase in CPI up to 2%, plus 75% of the increase in CPI over 4%. The maximum COLA provided is 6%.	
Colorado Affiliated Local	Based on election of individual participating employers.	
Colorado Fire & Police Statewide	Ad hoc as approved by board.	
Colorado Local Government, School, and State	Retiree COLA for 2018 and 2019 is equal to 0.0%. For active employees and retirees who did not receive a COLA as of 5/01/18, COLAs are paid after three years of retirement. The COLA cap, currently 1.50%, may be changed through the provisions of an auto-adjust mechanism which is triggered dependent upon the ratio of total contributions made to the determination of total required contributions (based on a layered, 30-year amortization approach). If this ratio falls below 98% or above 120%, the COLA cap may be reduced or increased by up to 0.25% in any one year, but cannot fall below 0.50% or exceed 2.0%. COLA provisions vary by date of hire; Those hired before 1/1/07, have an automatic increase equal to the COLA cap. Those hired on or after 1/1/07, are awarded the lesser of the effective COLA Cap and the average of the monthly CPI-W amounts for the prior calendar year; provided the cost of the COLA does not exceed 10% of each division's annual increase reserve.	2018 legislation suspended the COLA for two years, increased the waiting period for new hires to receive a COLA from one year to three, and thereafter reduced the automatic COLA cap from 2.0% to 1.5%, and tied payment of future COLAs to the length of the plan's amortization period. 2010 legislation reduced the COLA from automatic 3.5%. The law was challenged, and upheld by the CO Supreme Court in 2014.
Connecticut SERS	Minimum of 2.0% up to a maximum 7.5% calculated based on the following formula: 60% of the annual increase in the CPI-W up to 6.0% and 75% of the annual increase in the CPI-W over 6.0%. For employees who retire after 6/30/22, the minimum COLA is reduced to the actual change in CPI-W, if the change is <2.0%. The previous formula applies if the change in CPI-W is >2.0%.	A 2011 agreement between the state and public-sector unions reduced the minimum COLA for employees who retire after 10/1/11. A 2017 agreement made further changes for employees who retire after 6/30/22.
Connecticut Teachers	For members hired on or after 7/1/07, COLA equal to Social Security COLA, with a maximum of 1.0% if investment return is <8.5%; a maximum of 3.0% if return is between 8.5%-11.5%; and limited to 5.0% if return is >11.5%. For members who retired before 9/92, automatic, based on CPI, with 3% minimum and 5% max, compounded; for those who retired after 9/92, COLA is equal to the Social Security COLA, with a maximum of 1.5% if	

Plan	COLA Provision	2009-2019 Changes
	investment return is <8.5% and a maximum of 6.0% if returns are at least 8.5%.	
DC Police & Fire	Automatic based on CPI, up to 3%, compounded, for members hired on or after 11/10/96. Automatic, based on CPI, compounded (uncapped) for members hired before 11/10/96.	
DC Teachers	Automatic based on CPI, up to 3%, compounded, for members hired on or after 11/1/96. Automatic, based on CPI, compounded (uncapped) for members hired before 11/1/96.	
Delaware State Employees	Ad hoc as approved by the general assembly.	
Florida RS	Automatic 3%, compounded.	2011 legislation terminated the automatic 3% compounded COLA for all service credits earned after 7/1/11.
Georgia ERS	Ad hoc as approved by the ERS board.	
Georgia Teachers	Automatic 1.5% every 6 months as long as CPI increases, compounded.	
Hawaii ERS	Automatic, 1.5% simple, for those hired on or after 7/1/12; 2.5% simple for those hired before 7/1/12.	The automatic COLA was reduced from 2.5% to 1.5%, simple, for those who become members of the system after 6/30/2012.
Iowa Municipal Fire & Police	Automatic, 1.5% compounded. An additional fixed COLA is provided based on length of retirement. For members retired fewer than 5 years, an additional $15 is applied. For members retired 5-10 years, $20. For members retired 10-15 years, $25. For members retired 15-20 years, $30. For members retired more than 20 years, $35. No COLA is provided to members who terminate prior to becoming eligible for retirement.	
Iowa PERS	No COLA-type payments for members retiring after 6/30/90. Those who retired prior to 7/1/90 are eligible for "thirteenth check" that may be adjusted annually by the lesser of CPI or 3%.	
Idaho PERS	Automatic 1% compounded (as long as CPI rises at least 1%), plus discretionary COLA if the CPI is greater than 1%. Total COLA (mandatory plus discretionary) cannot exceed 6%. The Board also has the discretion to award a retroactive COLA to make up for prior years when the full CPI was not awarded.	
Illinois Municipal	Automatic 3%, simple, for those hired before 1/1/11; for those hired after 12/31/10, lesser of 3% or half of CPI, simple, upon attainment of the later of age 67 or one year after retirement.	2010 legislation reduced the COLA for new hires on or after 1/1/11 from automatic 3%, simple.
Illinois State Employees, Teachers, and State Universities	Those hired before 1/1/11 receive an automatic COLA of 3%, compounded, upon attainment of the latter of age 61 or one year after retirement. Those hired after 12/31/10 receive a COLA of the lesser of 3% or one-half of the CPI, not compounded, upon attainment of the later of age 67 or one year after retirement.	2018 legislation directs the system to offer, from 1/1/19 until 6/30/21, a COLA buyout for retiring members hired before 1/1/11. These members may elect to forfeit their rights to the current 3% annual compound

Plan	COLA Provision	2009-2019 Changes
		COLA in exchange for a 1.5% simple COLA and a lump sum payment equal to 70% of the difference between the estimated present value of the 3% COLA and the estimated present value of the 1.5% COLA. 2010 legislation reduced the COLA for new hires from automatic, 3% compounded. 2013 legislation reduced the COLA formula for current workers and new hires. The law was challenged and rejected by the IL Supreme Court in 2015.
Indiana PERF	Ad hoc as approved by the legislature.	
Indiana Teachers	Ad hoc as approved by the legislature.	
Kansas PERS	Ad hoc as approved by the legislature; the new cash balance for employees hired after 12/31/14 provides for an optional self-funded COLA as an annuity payment option at retirement.	2012 legislation removed automatic 2% COLA originally provided for those hired after 6/30/09; also created optional self-funded COLA in cash balance plan for new hires after 12/31/14.[4]
Kentucky County	Automatic, tied to CPI, not to exceed 1.5% after 12 months of retirement, compounded. Because of legislation described in the right-hand column, payment of COLA is unlikely in the foreseeable future.	2011 legislation suspended retiree COLAs for 2012 and 2013; 2013 legislation mandates that a COLA be granted only if the system is over 100% funded or if the legislature prefunds the COLA. A challenge to the 2013 law was dismissed in 2014.
Kentucky ERS	Automatic, tied to CPI, not to exceed 1.5% after 12 months of retirement, compounded. Because of legislation described in the right-hand column, payment of COLA is unlikely in the foreseeable future.	2011 legislation suspended retiree COLAs for 2012 and 2013; 2013 legislation mandates that a COLA be granted only if the system is over 100% funded or if the legislature prefunds the COLA. A challenge to the 2013 law was dismissed in 2014.
Kentucky Teachers	Automatic 1.5% compounded.	
Louisiana SERS	Subject to approval by the legislature and contingent upon funding available in COLA account consisting of excess investment returns; COLA amount is based on plan funded percentage and investment returns; COLA amount ranges from the lesser of 1.5% or CPI-U (55% funded) to the lesser of 3.0% or CPI-U (80% funded), if certain actuarial rates of return are met; COLA applies only to first $60,000 of benefit, indexed to CPI; minimum COLA eligibility at age 60, if retired at least one year; COLAs may be granted only every other year until system is at least 85% funded; participants may elect retirement option providing an actuarially reduced benefit with auto annual 2.5% COLA beginning at age 55.	2014 legislation tied the amount of future COLAs to the plan's funded status, limited COLAs to every other year if funds are available, and capped deposits into the accounts from which COLAs are funded.

[4] Legislation creating Kansas PERS Tier 3 passed in 2012 eliminated the Tier 2 COLA. The only employees eligible to receive the Tier 2 COLA are those who were retired and returned to work on or after 6/30/09 and who will retire before 7/1/12.

Plan	COLA Provision	2009-2019 Changes
Louisiana Teachers	Subject to approval by the legislature and contingent upon funding available in COLA account consisting of excess investment returns; COLA amount is based on plan funded percentage and investment returns; COLA amount ranges from the lesser of 1.5% or CPI-U (55% funded) to the lesser of 3.0% or CPI-U (80% funded), if certain actuarial rates of return are met; COLA applies only to first $60,000 of benefit, indexed to CPI; minimum COLA eligibility at age 60, if retired at least one year; COLAs may only be granted every other year until system is at least 85% funded; participants may elect retirement option providing an actuarially reduced benefit with auto annual 2.5% COLA beginning at age 55.	2014 legislation tied the amount of future COLAs to the plan's funded status, limited COLAs to every other year if funds are available, and capped deposits into the accounts from which COLAs are funded.
Massachusetts SERS	Ad hoc, typically based on CPI up to 3% applied to first $13,000 of benefit, subject to legislative approval and enactment. Must be retired one full fiscal year before being eligible for COLA.	Effective 2011, increased benefit to which COLA applies from first $12,000 of benefit to $13,000.
Massachusetts Teachers	Ad hoc, typically based on CPI up to 3% applied to first $13,000 of benefit, subject to legislative approval and enactment. Must be retired one full fiscal year before being eligible for COLA.	Effective 2011, increased benefit to which COLA applies from first $12,000 of benefit to $13,000.
Maryland PERS and Teachers	For service earned after 6/30/2011, automatic based on CPI, capped at 2.5% or the increase in CPI if the recent calendar year market value rate of return was greater than or equal to the assumed actuarial investment return of 7.40%. If that threshold is not met, COLA is the lesser of 1.0% or the increase in CPI. COLA on service prior to 7/1/2011 is automatic based on CPI, capped at 3.0%.	For service earned after 6/30/2011, COLA was lowered from CPI up to 3%, compounded, to CPI capped at 2.5%, or 1%, depending on investment return.
Maine Local	Based on individual employer election. If provided, based on CPI up to 2.5%. Those who retire on or after 9/1/2019 qualify for a COLA after 24 months of retirement, and may have their COLA reduced or frozen if the plan's costs exceed established member and employer contribution rate caps of 9.0% and 12.5%, respectively.	In 2018 the board approved a reduction to the maximum COLA from 3.0% to 2.5% for current retirees, and extended the COLA waiting period from 12 to 24 months, and provided for the possible reduction or freezing of future COLA if the plan's cost exceed established member and employer contribution rate caps. Effective 7/1/2014, the COLA of CPI up to 4% compounded, was reduced to up to 3%. Members who retire on or after 9/1/2015 qualify for a COLA after twelve months of retirement rather than 6 months, as previously in effect.
Maine State and Teacher	COLA is based on the CPI up to 3% applicable to the first $20,000 of benefit, indexed for inflation beginning in 2011.	Effective 7/1/2011, the COLA of CPI up to 4% compounded, was suspended for three years, after which the cap and portion of the benefit to which the COLA applies was reduced. A legal challenge to the law was dismissed in 2014. 2015 legislation provided a minimum COLA of 2.55% for FY 16 and FY 17. Beginning in FY 18 the CPI-based COLA was reinstated.

Plan	COLA Provision	2009-2019 Changes
Michigan Municipal	Employers may elect to provide a COLA, on a one-time basis or as an automatic adjustment.	
Michigan Public Schools	Automatic 3% simple; those hired after 6/30/10 are not eligible for a COLA.	Employees hired after 6/30/10 participate in a hybrid plan that does not provide a COLA.
Michigan SERS	Automatic 3% simple up to $300 annually.	
Minnesota PERF	Automatic, compounded, equal to 50% of inflation with a floor of at least 1.0% if inflation is 2.0% or lower, and a cap of 1.5% if inflation is higher than 3.0%.	2018 legislation replaced the previous COLA, which was tied to the plan's funding level, with an inflation-based COLA. 2010 legislation reduced auto-COLA from 2.5%. The law was challenged, and upheld in a final ruling issued in 2011.
Minnesota State Employees	Automatic, 1.0% compounded, increasing to 1.5% on 1/1/24.	2018 legislation replaced the previous COLA, which was tied to the plan's funding level, with a fixed percentage COLA. 2010 legislation reduced auto-COLA from 2.5%. The law was challenged, and upheld in a final ruling issued in 2011.
Minnesota Teachers	Automatic, 1.0% compounded from FY 19-23, increasing by 0.1% from FY 24-28 to 1.5%.	2018 legislation replaced the previous COLA, which was tied to the plan's funding level, with a fixed percentage COLA. 2010 legislation reduced auto-COLA from 2.5%. The law was challenged, and upheld in a final ruling issued in 2011.
Missouri DOT and Highway Patrol	80% of CPI up to 5% compounded; those hired before 8/28/97 receive a min. of 4% and a max. of 5% compounded, up to 65% of original benefit, and then 80% of CPI up to 5% thereafter.	
Missouri Local	Contingent upon investment return, with a max of the lower of 4% or cumulative CPI since retirement.	
Missouri Teachers and PEERS	When the Consumer Price Index for Urban Consumers (CPI-U) for the previous fiscal year is between 0% and 2%, no COLA is provided when the CPI-U is cumulatively below 2%. A 2% COLA is provided when the cumulative CPI-U reaches 2% or more. The cumulative calculation resets after a COLA is provided. A COLA of 2% is paid when the change in CPI-U is between 2% and 5%; and a COLA of 5% is paid when the CPI is 5% or greater, subject to a lifetime cap of 80%.	In 2016 the Board changed the auto, compounded COLA from compounded at 2% if CPI-U is between 0% and 5%; 5% if CPI-U is 5% or higher, and no COLA is given if CPI-U is less than 0%; subject to a lifetime cap. In 2017 the Board again changed the COLA policy to add a cumulative calculation to the formula.
Missouri State Employees	80% of CPI up to 5% compounded; those hired before 8/28/97 receive a min. of 4% and a max of 5% compounded, up to 65% of original benefit, and then 80% of CPI up to 5% thereafter.	Per 2017 legislation, the COLA for members hired on or after 1/1/11 who terminate employment before becoming eligible for retirement is delayed until the second anniversary of the member's annuity start date.

Plan	COLA Provision	2009-2019 Changes
Mississippi PERS	Automatic, 3% simple, until age 60, then compounded thereafter, for those hired on or after 7/1/11; Automatic, 3% simple, until age 55, then compounded thereafter, for those hired before 7/1/11.	2011 legislation increased the age at which COLA compounding begins from 55 to 60.
Montana PERS	Automatic, ranging from 0 to 1.5% compounded, depending on the plan's funded status, beginning 12 months after onset of annuity, for those hired on or after 7/1/13; 1.5% for those hired between 7/1/07 and 6/30/13; 3.0% compounded for those hired before 7/1/07.	2011 legislation reduced the automatic guaranteed annual benefit adjustment (GABA) for retired, active and newly hired members from 1.5% compounded and tied its provision to PERS' funding ratio. The law was challenged in court, and a 2015 ruling reversed the changes for retired and active members and upheld for new hires.
Montana Teachers	Automatic, ranging from 0.5% to a maximum of 1.5%, compounded, depending on the plan's funded status, beginning 36 months after onset of annuity, for those hired on or after 7/1/13; 1.5% for those hired before 7/1/13. Automatic 1.5% compounded beginning 3 years after onset of annuity.	2011 legislation reduced the automatic guaranteed annual benefit adjustment (GABA) for retired, active and newly hired members from 1.5% compounded and tied its provision to TRS' funding ratio. The law was challenged in court, and a 2015 ruling reversed the changes for retired and active members and upheld for new hires.
North Carolina Local Government	Ad hoc as approved by the Board, with certain limitations. The Board may grant COLAs up to a maximum of 4%, provided that the COLA does not exceed the year-over-year increase in the CPI and that the cost of the increase is paid for with investment gains. COLAs in excess of these provisions must be approved by the legislature.	
North Carolina Teachers and State Employees	Ad hoc as approved by the legislature.	
North Dakota PERS	Ad hoc as approved by the legislature.	
North Dakota Teachers	Ad hoc as approved by the legislature.	
Nebraska Schools	Based on CPI, up to 1% compounded for employees hired on or after 7/1/13; Based on CPI, up to 2.5%, compounded for other members.	2013 legislation created a new tier for those hired on or after 7/1/13. This tier features a reduced maximum COLA.
Nebraska State and County Cash Balance	Participants may elect at retirement to convert their cash balance account to a monthly annuity with a built-in annual COLA of 2.5%.	
New Hampshire Retirement System	Ad hoc as approved by the legislature.	

Plan	COLA Provision	2009-2019 Changes
New Jersey PERS, Police & Fire, and Teachers	COLA suspended until the plan funding level reaches 80%, after which a panel will assess the prudence of paying a COLA.	2011 legislation suspended the automatic COLA that was based on 60% of CPI. The law was challenged, and upheld in a final ruling issued in 2016.
New Mexico PERA	Automatic 2.0% compounded. Retirees earning $20,000 or less receive a COLA of 2.5%.	2013 legislation reduced the automatic COLA from 3% compounded.
New Mexico Teachers	COLA is based on the change in CPI. If the change in CPI is less than 2.0%, the COLA is equal to the change in CPI. If the change in CPI is greater than 2.0%, the COLA is equal to one-half of the change in CPI, but not less than 2.0% nor more than 4.0%. In 2013, COLAs for all current and future retirees were reduced until ERB is 100% funded. When the funded ratio is 90% of less, the COLA for retirees whose annuity is at or below the median retirement benefit and who have 25 or more years of service credit at retirement will be reduced by 10%. For all other retirees, the reduction is 20%. When the funded ratio exceeds 90% and is less than 100%, the COLA for retirees who have 25 or more years of service credit at retirement and whose annuity is at or below the median retirement benefit will be reduced by 5%. For all other retirees, the reduction is 10%.	2013 legislation reduced the COLA depending on retiree length of service and size of benefit. All COLA reductions cease upon ERB's attainment of a 100% funding level. The law was challenged, and upheld by the NM Supreme Court in 2013.
Nevada Police Officer and Firefighter and Regular Employees	After 3 years of receiving benefits, automatic COLA of 2% annually, rising gradually to 5% annually, compounded, after 14 years of benefits; the compounded COLA is capped by the lifetime CPI for the period of retirement, i.e., it may not exceed inflation.	2015 legislation reduced the COLA for employees hired on or after 7/1/15. Newly hired workers will receive a COLA of 2% after 3 years of receiving benefits, 2.5% after 6 years, and the lesser of 3% or the preceding year's increase in CPI after 9 years and thereafter.
New York State Teachers	Automatic, based on one-half of the increase in the annual CPI, applied to first $18,000 of annual pension, compounded; must be 62 and retired for 5 years, or 55 and retired for 10 years, to receive COLA; COLA is a minimum of 1% and a maximum of 3%.	
New York State & Local ERS and Police & Fire	Automatic, based on one-half of the increase in the annual CPI, applied to first $18,000 of annual pension, compounded: must be 62 and retired for 5 years, or 55 and retired for 10 years, to receive COLA; COLA is a minimum of 1% and a maximum of 3%.	
Ohio PERS	For those who retired on or before 1/1/13, automatic, 3%, simple. Retirees receive a COLA beginning 12 months after their effective date of retirement. Beginning in 2019, the COLA for those who retired on or after 2/1/13 is based on CPI with a cap of 3.0%, simple. The first COLA is paid 12 months after their effective date of retirement.	2012 legislation tied COLA to CPI, up to 3% for all active members. Legislation includes a five-year transition period. Members retiring within the first five years after 1/7/13 are eligible for a simple 3% COLA until 12/31/18. In 2017, the PERS Board approved a proposal that would change future COLAs for current and future retirees. Beginning in 2019, COLAs would be based on CPI, with a cap of 2.25%, simple, with the first COLA

Plan	COLA Provision	2009-2019 Changes
		paid to future retirees delayed until their second pension anniversary. The proposal includes a two-year delay for those who retired beginning in 2010 and ending on 1/1/13. If PERS' amortization period increases to more than 30 years, COLA is frozen for the following calendar year. If inflation exceeds 3% and the system is fully funded, the Board may increase the COLA to 3%. The 2017 changes are subject to approval by the Ohio Legislature. The proposal will be revisited in the 2019-2020 legislative session.
Ohio Police & Fire	Lesser of 3% or the CPI, automatic, simple; COLA delayed until age 55 for all members except survivors and those receiving permanent disability benefits.	Per 2012 legislation, COLA reduced and tied to CPI; onset delayed for nearly all members.
Ohio School Employees	As of 1/1/18, COLA no longer statutorily guaranteed, but is discretionary, based on board approval. If the board chooses to provide a COLA, the COLA is tied to the change in CPI-W and is capped at 2.5%, though the board may approve a COLA above 2.5% if the board's actuary is in agreement. Board may also lower COLA below CPI-W upon actuary's recommendation. As a result of this new authority, the board took action to suspend COLAs for three years (until 1/1/21), and delay COLA onset for new benefit recipients an additional three years (until 4th benefit anniversary).	Per legislation effective September 2017, the automatic, 3% simple retiree COLA was replaced with a discretionary COLA tied to CPI-W. Per March 2018 legislation, board determines COLA onset for new benefit recipients.
Ohio Teachers	The COLA is currently 0%. By a vote of the STRS Ohio board in April 2017 in order to preserve the fiscal integrity of the pension fund, a reduction from 2% to 0% went into effect 7/1/17. Pursuant to that board vote, not later than the next quinquennial actuarial experience review, the board will evaluate whether an upward adjustment to the COLA is payable without materially impacting the fiscal integrity of the retirement system.	Per 2012 legislation, members who retire on or after 8/1/13 qualify for a 2% simple COLA beginning on the fifth anniversary of their retirement. In 2017, the STRS board voted to reduce the COLA to 0% to keep the system's funding period to no more than 30 years and maintain the fiscal integrity of the system.
Oklahoma PERS	Ad hoc as approved by the legislature; subject to required funding.	The Legislature approved a provision in 2011 requiring future COLAs to be funded. Prior to this legislative action, a 2% COLA had regularly been approved.
Oklahoma Teachers	Ad hoc as approved by the legislature; subject to required funding.	The Legislature approved a provision in 2011 requiring future COLAs to be funded. Prior to this legislative action, a 2% COLA had regularly been approved.
Oregon PERS	Automatic, based on CPI, up to 2.0%, compounded, for benefits earned as of 10/1/13 or earlier. Automatic, based on CPI up to 1.25% on the first $60,000 in benefits and 0.15% on amounts above $60,000 for benefits earned after 10/1/13.	2013 legislation lowered the maximum COLA applied to future benefit accruals for retired members as well as current employees and new hires from 2% to 1.25% on the first

Plan	COLA Provision	2009-2019 Changes
		$60,000 in benefits, and 0.15% on amounts above $60,000. The law also provided for supplementary COLA payments depending on benefit levels over six years The law was challenged and partially rejected as an unconstitutional adjustment to COLA as it pertains to benefits earned prior to the law's effective date. The court also invalidated the supplementary payments.
Pennsylvania School Employees	Ad hoc as approved by the general assembly.	
Pennsylvania State ERS	Ad hoc as approved by the general assembly.	
Rhode Island ERS	Effective 7/1/15, annual COLA is comprised of the sum of two elements; 1) 50% of the 5-year average investment return of the retirement system, less 5.5%, with a floor of 0% and a cap of 4%., and 2) the lesser of 3% or the increase in CPI for the previous year. The COLA produced by the sum of these elements is subject to a floor of 0% and a cap of 3.5% and is applied to the first $25,855 of retirement benefit; such amount is indexed annually in the same percentage as determined above. The COLA commences upon the later of the third anniversary of the date of retirement or the date on which the retiree reaches his or her Social Security retirement age, whichever is later. A COLA is granted annually if the plan is at least 80% funded. If the plan funding is below 80%, the COLA is granted every four years until 80% funding is reached.	For members not eligible to retire as of 9/30/09, the law changed the COLA for all members from 3% compounded annually to the COLA provided under a 2005 reform, applicable to non-vested members, which is the lower of either the CPI or 3% and requires a full 3-year anniversary from the date of retirement for receipt of the COLA. The Rhode Island Legislature again in 2011 revised the COLA provisions, effective 7/1/12. A challenge to the law was settled in mediation in 2015.
Rhode Island Municipal	Effective 7/1/15, annual COLA is comprised of the sum of two elements; 1) 50% of the 5-year average investment return of the retirement system, less 5.5%, with a floor of 0% and a cap of 4%., and 2) the lesser of 3% or the increase in CPI for the previous year. The COLA produced by the sum of these elements is subject to a floor of 0% and a cap of 3.5%, and is applied to the first $25,855 of retirement benefit, with such amount indexed annually in the same percentage as determined above. The COLA commences upon the third anniversary of the date of retirement or the date on which the retiree reaches his or her Social Security retirement age, whichever is later. A COLA is granted annually as long as the plan is at least 80% funded. If the plan funding is below 80% the COLA is granted every four years until 80% funding is reached.	The Rhode Island Legislature in 2011 revised COLA provisions from automatic 3% non-compounded, effective 7/1/12. A challenge to the law was settled in mediation in 2015.
South Carolina Police	Automatic, based on CPI up to 1% annually, subject to an annual cap of $500.	Per 2012 legislation, COLA is subject to an annual cap.
South Carolina RS	Automatic, 1% annually, subject to an annual cap of $500.	Per 2012 legislation, COLA is subject to an annual cap.

Plan	COLA Provision	2009-2019 Changes
South Dakota RS	Effective 7/1/18, if the system is fully funded or greater, COLA is equal to CPI-W with a minimum of 0.5% and a maximum of 3.5%. If the system is less than fully funded, COLA is equal to CPI-W with a minimum of 0.5% and a maximum equal to a "restricted COLA maximum" which is to be calculated at a level necessary to restore the system to full funding.	2017 legislation modified the COLA formula, effective 7/1/18, to equal CPI-W with a minimum of 0.5%, and a maximum depending on the system's funded status.
TN Political Subdivisions	Participating employers may choose from 1 of 2 options: a) no COLA; b) automatic based on CPI, up to 3%, compounded.	
TN State and Teachers	Automatic based on CPI, up to 3% compounded.	2013 legislation provides for the potential reduction or suspension of the COLA if employer cost or unfunded liability thresholds are exceeded.
Texas County & District	Ad hoc, approved by individual employers. Employers can choose no COLA, a flat % COLA (limited based on CPI), or a CPI-based COLA (10% - 100% of CPI), compounded.	
Texas ERS and LECOS	Ad hoc as approved by the legislature; per state law, plan's amortization period must be less than 31 years for legislature to approve a COLA.	
Texas Municipal	Based on individual employer election; employers may choose no COLA or one based on 30%, 50%, or 70% of CPI, compounded.	
Texas Teachers	Ad hoc, as approved by the legislature; per state law, plan's amortization period must be less than 31 years for legislature to approve a COLA.	
Utah Noncontributory	For those hired before 7/1/11, automatic based on CPI up to 4.0%, simple; for those hired after 6/30/11, based on CPI up to 2.5%, simple.	Legislature reduced maximum COLA for those hired after 6/30/11 from 4% to 2.5%.
Virginia Retirement System	Automatic based on CPI for the first 3%, and one-half of the next 4% of CPI, with an annual cap of 5%, compounded; effective 1/1/13, COLAs for non-vested active members are based on the first 2% of CPI and one-half of the next 1%, with an annual cap of 3%, compounded.	Effective 1/1/2013, COLAs for non-vested members are capped at 3% rather than 5%; for early retirees, COLA onset is delayed until July 1 one year following retirement.
Vermont State Employees	Automatic based on CPI, up to 5%, compounded.	
Vermont Teachers	Automatic based on one-half of CPI, up to 5%, compounded.	
Washington LEOFF Plan 1	Automatic, full CPI, compounded.	
Washington LEOFF Plan 2	Automatic based on CPI, up to 3% compounded.	
Washington PERS and Teachers Plan 1	None.	2011 legislation eliminated automatic COLA which provided a postretirement benefit increase based on a $/years of service

Plan	COLA Provision	2009-2019 Changes
		calculation. The law was challenged and upheld by the WA Supreme Court in 2014.
Washington PERS, School Employees, and Teachers Plan 2/3	Automatic, based on CPI, up to 3%, compounded.	
Wisconsin Retirement System	Dividend adjustment provided based on investment returns, and can increase or decrease, but not below base benefit.	
West Virginia PERS	Ad hoc as approved by the legislature.	
West Virginia Teachers	Ad hoc as approved by the legislature.	
Wyoming Public Employees	Effective 7/1/12, the COLA is removed until the actuarial funded ratio reaches 100 percent "plus the additional percentage the retirement board determines is reasonably necessary to withstand market fluctuations."	Prior to 7/1/12, COLAs were ad hoc and linked to perceived affordability.

COLA provisions listed above are in effect as of November 2019.