

Ohio Retirement Study Council

ISSUE BRIEF

Brief 3, November 2017

Cost of Living Adjustments

Cost-of-Living Adjustments (COLAs) are any type of post-retirement benefit increase beyond the base retirement benefit. The exclusive purpose of a COLA is to reduce the effect of inflation on a retirement benefit.

Inflation, Fixed Benefits, and Cost-of-Living Adjustments

According to the “1978 ORSC Principles Governing Pensions,” post-retirement benefits in Ohio should be “adequately maintained” and have a plan for prefunding that benefit.¹ The method to “adequately maintain” post-retirement benefits in Ohio is a prefunded COLA.

Inflation and Fixed Benefits

When a member of a state retirement system retires, the member receives a benefit based on years of service and final average salary. Because that benefit is fixed at the time of retirement, inflation erodes the amount of goods and services that can be purchased during retirement, effectively depreciating the benefit over time. This is measured by the changing *purchasing power* of that benefit. This loss of purchasing power can reduce the sufficiency of benefits during retirement.

The amount of this loss depends on the rate of inflation and the amount of time that the benefit has been fixed. The higher the inflation, the more loss of purchasing power. Similarly, the greater amount of time the benefit has been fixed, the more loss of purchasing power. The table below demonstrates varying losses of purchasing power (in dollars and percent loss) of \$31,000² across 30 years:

Inflation rate	Purchasing power at 5 years	Purchasing power at 10 years	Purchasing power at 20 years	Purchasing power at 30 years
2%	\$28,077 (-9%)	\$25,430 (-18%)	\$20,862 (-33%)	\$17,114 (-45%)
3%	\$26,740 (-14%)	\$23,066 (-26%)	\$17,163 (-45%)	\$12,771 (-59%)
4%	\$25,479 (-18%)	\$20,942 (-32%)	\$14,148 (-54%)	\$9,557 (-69%)

While modest to begin, given enough time, inflation can severely undercut a fixed benefit. Because the deleterious effects of inflation are well understood, COLAs remain quite common in most pension designs.

Availability of COLAs in Public and Private Sectors

Within the public sector, COLAs continue to be provided by most, but not all, public defined benefit retirement systems.³ In the broader economy, Social Security⁴ provides a COLA based on CPI-W; because of this tie to CPI-W, since 1980 Social Security has provided COLAs as low as 0% and as high as 11.2% (in 1981).⁵ It is important to note that Social Security provides only 40%⁶ of the average workers' post-retirement income, meaning that Social Security's COLA, by design, maintains the purchasing power of only a portion of the retiree's post-retirement income.

Complete information on private retirement plans is not available, but with only 18% of private workforce covered under a defined benefit plan in 2011, it is fair to say that a typical private sector employee receives a COLA only by means of Social Security.⁷ Still, with the vast majority of U.S. workers participating in Social Security, most receive a COLA on some portion of their retirement benefit.

Because Ohio is a non-Social Security state, Ohio public employees will not receive COLA increases through Social Security. Purchasing power is instead supported either through their own savings or by means of a COLA provided under a state retirement system.

“COLAs continue to be provided by most, but not all, public defined benefit retirement systems”

COLA Designs

While COLAs are quite common, their design can vary significantly. This is likely because there is no perfect balance to the three challenges that arise in any COLA design: 1) Ensuring the COLA is prefunded; 2) Ensuring that the COLA treats all members fairly; and 3) Ensuring, as its primary purpose, that the purchasing power of retirees is adequately maintained. A COLA that is too generous will deplete a plan's funds; a COLA with little flexibility can result in retirees being treated unfairly across time; and a COLA not tied to external markers in the economy may not achieve its purchasing power goals. Prioritizing these three challenges is a policy decision.

“Designing a COLA is extraordinarily difficult”

The following tables illustrate how, and the extent to which, some of the most common types of COLAs increase a retiree's benefit.⁸ They also demonstrate the imperfect nature of COLAs, either from a funding, fairness, or purchasing power standpoint. Designing a COLA is extraordinarily difficult because we are not prescient; the retirement systems make assumptions that are more or less accurate across time. However, as seen below, some COLA designs are worse than others and have inherent problems that can become unbalanced over time. In these situations an automatic control may be necessary.

Ad Hoc Increases

An ad hoc benefit increase is one that occurs irregularly. It could be either in the form of an increase in the base benefit, increasing all future annual COLAs, or it could be in the form of a single payment, such as the “13th Check” provided by STRS in the 1980s and 1990s.

In Ohio, ad hoc increases to the base benefit were quite common in the late 60s and 70s and could be quite substantial.⁹ The following table demonstrates how a theoretical ad hoc increase would affect a retirement benefit over a five-year period. Notice that, with ad hoc increases, the random year in which a retiree retires could result in significant discrepancies between retiree’s benefit depending on the regularity of the ad hoc increases. In the following theoretical example, a person retiring in year 4 (with a \$1,000 ad hoc increase) rather than year 5 (with a \$250 ad hoc increase) would have a different benefit, possibly without any underlying economic reason.

Ad hoc increases that are irregular and not based on some external metric treat retirees unequally; however, they may be better at addressing specific depreciations that occur over time, such as a temporary period of extreme inflation. Because they are irregular and unplanned, they cannot be reasonably pre-funded, as directed by the 1978 ORSC Principles Governing Pensions. They would also leave retirees at the mercy of unpredictable changes to their purchasing power and would make retirees’ financial planning more challenging.

Year	Benefit increase	Total benefit
1	\$500	\$31,500
2	\$250	\$31,750
3	\$0	\$31,750
4	\$1,000	\$32,750
5	\$250	\$33,000

Fixed Increases, Non-Compounding or Compounding

A fixed increase benefit is one that occurs at regular intervals, typically annually. It can be set as either a dollar amount or as a set percentage of the benefit. A percentage increase can be set either as a compounding or non-compounding benefit. A compounding benefit will increase exponentially, as all future increases are used in calculating the new benefit. This accelerates the benefit increase but more accurately tracks inflation (which is itself a compounding process). Non-compounding benefits have linear growth, increasing by the same amount each year. Ohio provided a fixed (non-compounding) 3% COLA for roughly 10 years, from 2001-2011. Prior to that, the retirement systems provided a COLA at a lesser rate but included a complicated “COLA bank” that permitted COLA increases of up to 3% for certain retirees. Ohio has never provided a compounding COLA.

Fixed increases have the advantage of treating all members equally, but during periods of high or low inflation they may not accurately reflect changes in purchasing power. For instance, the following table assumes 3% inflation. If inflation were 4% the COLA may be too generous, and at 1% inflation the COLA may not protect purchasing power. The table below shows a non-compounding and compounding fixed benefit with the same base benefit of \$31,000 as used above.

Year	Percent Increase	Non-Compounded	Compounded
1	3%	\$31,930	\$31,930
5	3%	\$35,650	\$35,937
10	3%	\$40,300	\$41,661
15	3%	\$44,950	\$48,297
20	3%	\$49,600	\$55,989
Total increase		\$18,600	\$24,989

CPI-Indexed Increases

A CPI-index increases the benefit based on some external marker of inflation, typically using CPI-U or CPI-W.¹⁰ These figures are developed by the U.S. Department of Labor and measure changes in the costs of certain goods and services in the wider economy. CPI-U and CPI-W net similar rates across time. These increases are typically capped and not negative. An increase based on CPI has the benefit of

“CPI-based increases have the benefit of treating all retirees equally by closely tracking purchasing power”

tracking the experience of an economy, roughly stabilizing a retiree’s income relative to that economy rather than an artificial figure. CPI-indexed increases could also be compounding or non-compounding. To simplify the following chart, the actual CPI-W beginning in 1996 inflation was averaged for year 5 (1-5), 10 (6-10), 15 (11-15), and 20 (16-20). Ohio is moving towards a CPI-based COLA, while maintaining the previous policy of having that benefit non-compounding and also capped at a certain level.

CPI-based increases have the benefit of treating all retirees equally by closely tracking purchasing power, but without a cap could potentially jeopardize the funding status of the retirement plan should inflation reach levels achieved in the 70s and 80s. However, a cap would prevent the benefit from protecting purchasing power of some retirees. Because inflation is a compounding process, a non-compounding CPI would also gradually result in decreased purchasing power, even if it were set at CPI. In the below chart, the compounded COLA has maintained 100% purchasing power; the non-compounded COLA maintained 90% of purchasing power.

Year	Percent increase	Non-compounded	Compounded
1 (1996)	2.9%	\$31,899	\$31,899
5 (2001)	2.4%	\$34,720	\$35,915
10 (2006)	2.6%	\$38,750	\$40,833
15 (2011)	2.5%	\$42,625	\$46,198
20 (2016)	1.2%	\$44,485	\$49,037
Total increase		\$13,485	\$18,037

Summary of COLA Designs

Regardless of the COLA design selected, there are certain commonalities. All COLAs increase the cost of a benefit to a retirement system. On the flip side, all COLAs, with varying success, add value to the retirees benefit by supporting purchasing power. In each of the designs there is a tension between the three objectives of COLAs. Resolving those tensions is a policy decision. As a necessity, Ohio's recent policy has prioritized the funding status of the systems by switching from a fixed 3% to a CPI-based COLA.

Effective January 1, 2018, Ohio's five retirement systems provide the following COLAs. Ohio law provides that COLAs are granted annually. The trend in Ohio is to provide a COLA based on CPI, however both STRS and SERS have suspended COLAs to support funding goals.

Trends in COLA

Changes to Ohio's COLA design are well in line with recent changes across the country.

COLA benefits were broadly reduced in state retirement plans after the financial crisis. This was done in a variety of ways, including suspending, reducing, or cancelling COLAs. Since 2009, 30 states have modified their COLA calculations.¹¹ The variety of COLA legislation was immense, with the only clear trend being that COLAs were reduced or constrained in some way. Some states did, however, include provisions that would enable COLAs to increase should inflation grow or funding improve.

"The trend in Ohio is to provide a COLA based on CPI"

System	COLA Benefit
PERS	<p>Until January 2019, 3%.</p> <p>Thereafter, for recipients of benefits beginning not later than January 7, 2013, 3%. For recipients of benefits beginning after January 7, 2013, any increase in the CPI, not to exceed 3%.</p> <p>R.C. 145.323</p>
STRS	<p>Effective July 1, 2017, 0%.</p> <p>For those receiving an allowance or benefit on or after August 1, 2013, five years must pass before the first COLA is applied to an allowance or benefit, unless retirement is immediately preceded by a disability benefit.</p> <p>STRS Board may adjust the COLA (an ad hoc increase or suspension) if the Board's actuary determines that an adjustment does not materially impair the fiscal integrity of the retirement system or is necessary to preserve the fiscal integrity of the system.</p> <p>R.C. 3307.67</p>
SERS	<p>Board is authorized, but not required, to provide an annual COLA of any increase in the Consumer Price Index, not to exceed 2.5%. 2018, 2019, and 2020 COLA is set to 0%.</p> <p>SERS Board may adjust the COLA (an ad hoc increase or suspension) if the Board's actuary determines that an adjustment does not materially impair the fiscal integrity of the retirement system or is necessary to preserve the fiscal integrity of the system.</p> <p>R.C. 3309.374</p>
OP&F	<p>(1) Annual COLA of 3% for those who have at least 15 years of service credit on or before July 1, 2013.</p> <p>(2) Annual COLA of the lesser of 3% or the increase in the CPI, if any, for all others.</p> <p>COLA is provided only to recipients who have attained age 55 and have received the pension or benefit for one year, except that disability recipients who are permanently and totally disabled do not have to have attained age 55.</p> <p>R.C. 742.3716</p>
SHPRS	<p>Authorizes the Board to grant a COLA of no more than 3%, except that the Board is to grant a COLA of 3% to a recipient age 65 whose benefit is less than 185% of the federal poverty limit for a family of two. (2018 COLA is 1.25%)</p> <p>A recipient of a retirement, disability, or survivor pension whose pension effective date is on or after January 7, 2013, will not be eligible for a COLA until age 60.</p> <p>R.C. 5505.174</p>

Financial Effect of Ohio's COLAs

A fundamental question for Ohio's COLAs is: have they succeeded in their primary objective, as set by the 1978 ORSC Governing Principles, to "adequately maintain" retirement income; that is, have they successfully offset or reduced the effect of inflation on a retirement benefit?¹² To some extent, answering that question depends on the meaning of "adequately maintain." But, generally speaking the answer is both yes and no. The following chart provides the purchasing power of today's retirees based on year of retirement.

Change in Purchasing power of retiree benefit based on selected year of retirement¹³

System	1980	1985	1990	1995	2000	2005	2010	2015	2016
PERS	-20%	-12%	-3%	2%	6%	9%	8%	3%	1%
OP&F	-39%	-34% ¹⁴	-4%	0%	4%	5%	2%	0%	N/A
STRS	-3%	-11%	-5%	-1%	3%	4%	4%	-1%	0%
SERS	-21%	-10%	-4%	1%	6%	7%	7%	2%	0%

Ohio COLA design has simultaneously maintained purchasing power, overshot purchasing power, and undershot purchasing power, providing a useful perspective of evaluating what has and has not worked with Ohio's COLA design.

Depreciated 1980s Benefits: The first half of the 1980s experienced consistently elevated inflation. Because COLA benefits were strictly controlled, generally providing 3% only when CPI *exceeded* 3%, the COLA could not maintain purchasing power, even with frequent ad hoc increases. These individuals have seen a noticeable decline in purchasing power. The exception to this is STRS, presumably because this period includes the granting of the so-called "13th check," essentially an ad hoc payment every year from 1980-2000.

Maintained Benefits of the 1990s: In the late 1980s and 1990s, the combination of CPI COLA and moderate inflation maintained purchasing power quite well.

Elevated Benefits in the 2000s: Conversely, in the 2000s, providing a fixed 3% COLA when inflation was below 3%, resulted in an *increase* in the base benefit, an effect that is clearly not intended. With the gradual removal of all fixed COLAs and instituting of a capped COLA based on CPI, *as long as inflation remains moderate*, Ohio's COLA design should achieve the success it had in the 1990s.¹⁵ However, should we experience sustained inflation, the purchasing power of Ohio retirees will decline. Additionally, to the extent STRS and SERS continue to use its authority to suspend COLAs, those retirees will also experience a decline in purchasing power.

COLAs have a financial effect both on retirees and on the paying retirement system.

Cost of COLA to Retirement Systems

COLAs are expensive.

Collectively, COLAs constitute roughly 1/5 of *all the liabilities* of the retirement systems; put differently, 20% of the retirement system's liabilities are a reflection of *increases* beyond the base value of the retirement benefit, as seen in the following chart. "Present value cost of 2016 COLA" reflects the lifetime cost to the system of a single year increase in a COLA (i.e., the cost of increasing a benefit in one year-2016-plus the cost of maintaining that increased benefit in future years).

System	Total liability	Present value Cost of 2016 COLA	Liability of all granted and future COLA increases	Percent of all liability attributed to COLAs
PERS	\$100.17 Billion	\$1.16 Billion	\$26.53 Billion	26.5%
OP&F	\$19.1 Billion	\$158 Million	\$5 Billion	26.2%
STRS	\$105.9 Billion	\$1.27 Billion ¹⁶	\$23 Billion	21.7%
SERS	\$19.8 Billion	\$229 Million ¹⁷	\$3.5 Billion	17.7%

Another way to express the cost of the COLAs is to consider the unfunded portion of the liabilities (UAL). According to recent unfunded liability levels, if the liability of all granted and future COLAs were removed, PERS would eliminate all UAL and have \$13 Billion over and above what was actuarially needed to provide age and service benefits. OP&F would eliminate all but \$500 million of UAL. SERS would eliminate all but \$2.4 Billion in UAL; STRS \$7.3 Billion.

Summary and Reasonable Expectations for COLAs

Considering the above, staff would make the following observations:

- 1) **COLAs are an essential benefit to Ohio retirees.** Because Ohio state retirement system retirees do not participate in Social Security, they will receive a COLA only through their retirement benefit. Without any type of COLA, they would experience significant degradation of their purchasing power the longer their period of retirement.
- 2) **Even though COLAs are essential, funding must come first.** COLAs are extraordinarily expensive for the retirement systems, comprising up to a quarter of all liabilities. If they are not prefunded, they cannot be provided. While there is a tension between the three challenges of COLA (funding, fairness, and purchasing power), fairness and purchasing power will inevitably suffer if the funding is not available for COLAs. As STRS and SERS are currently experiencing, funding must be prioritized.

"COLAs are expensive."

- 3) **A capped CPI will address many of the COLA tensions, but has a potential flaw.** The new capped CPI formula to be used in Ohio should balance funding, fairness, and purchasing power objectives, but must be monitored. Should we experience significant inflation, and should funding allow, an ad hoc increase may be necessary to conform to the 1978 Principles Governing Pensions, depending on the exact intent of the ORSC's goal to "adequately maintain" purchasing power.
- 4) **Stabilize and educate Ohio retirees.** Because COLAs are so essential, the shock to retirees of a reduction or loss of that benefit can be severe. This is partly a problem of expectations. During the first 10 years of the 2000s the fixed 3% COLA with low inflation created an environment of unreasonable expectations. It is important that retirees understand that a COLA is meant to *assist* in maintaining purchasing power, not as either a post-retirement raise or a guaranteed maintenance of purchasing power. It would also seem reasonable to make retirees aware that their personal savings will be responsible for some of the maintenance of their purchasing power. To assist in this, the COLA should be clear and stable enough so that retirees can reasonably be assured of what to expect and can plan accordingly.

¹The ORSC's 1978 Principles Governing Pensions also states that the increase should follow some valid economic indicator and should avoid increases based on factors which offset the effects of age, service, and salary.

²\$31,000 is selected as it is the arithmetic mean benefit in 2015 for the five public retirement systems.

³"NASRA Issue Brief: Cost-of-Living Adjustments" (October 2016, available online at <http://www.nasra.org/files/Issue%20Briefs/NASRACOLA%20Brief.pdf>)

⁴Ohio public employees are not eligible for Social Security based on their public employment in Ohio.

⁵Generally, inflation is measured in the broad economy by using one of two indexes: the Consumer Price Index-Urban Wage Earners and Clerical Workers (CPI-W) or the Consumer Price Index-All Urban Consumers (CPI-U). CPI-W is a more specialized index that more heavily weighs changes in food, apparel, transportation, and other goods and services while providing a slightly lower weight to housing, medical care, and recreation. As with Social Security, the state retirement systems use CPI-W for their calculations. <https://www.bls.gov/newsroom/faqs.htm#QuesT13> and "NASRA Issue Brief: Cost-of-Living Adjustments" (October 2016, available online at <http://www.nasra.org/files/Issue%20Briefs/NASRACOLA%20Brief.pdf>).

⁶Social Security Publication No 05-10024 (March 2016); available online at: <https://www.ssa.gov/pubs/EN-05-10024.pdf>

⁷Wiatrowski, William J. "The Last Private Industry Pension Plans: A Visual Essay" (Bureau of Labor Statistics, *Monthly Labor Review*, December 2012), available online at: <https://www.bls.gov/opub/mlr/2012/12/art1full.pdf>

⁸This issue brief only addresses very broad styles of COLA design. There can be any number of nuances, including Performance based (based on plan level funding; i.e., only at 100% funded or other figure); Delayed-onset (provided only after a period of time, such as five years); or limited benefit (the percent increase is only applied to a portion of the benefit (i.e., the first \$10,000)).

⁹In 1974, H.B. 1476 provided a base benefit increase of up to 33% to retirees of PERS, STRS, and SERS.

¹⁰It is well understood that CPI does not represent the true cost-of-living changes for retirees. But whether it over or understates inflation is a matter of debate. Burdick, Clark and Lynn Fisher "Social Security Cost-of-Living Adjustments and the Consumer Price Index (Social Security Bulletin, Vol. 67, No. 3, 2007), available online at: <https://www.ssa.gov/policy/docs/ssb/v67n3/v67n3p73.html>

¹¹National Association of State Retirement Administrators, "NASRA Issue Brief: Cost-of-Living Adjustments" (October 2016), available online at: <http://www.nasra.org/files/Issue%20Briefs/NASRACOLA%20Brief.pdf>

Some states that did not modify their COLAs, such as Wisconsin, have such a different benefit structure that they are less comparable to the defined benefit programs of other states (Wisconsin's is a Hybrid model providing COLAs based on investment return, with some years previous year's COLA being removed, much like a defined contribution system would function).

¹²ORSC 1978 Principles Governing Pensions.

¹³SHPRS is excluded from this analysis due to its size and potential costs involved.

¹⁴Annual increases for those retiring before 7/24/1986 were a fixed dollar amount (rather than a percent of benefit). Comparing the 1980 and 1985 OP&F percentages to the other systems is therefore problematic.

¹⁵It will moderate more slowly for PERS and OP&F, which included a fairly extensive phase-in of the CPI COLA.

¹⁶Because STRS has suspended COLAs for 2018, the present value of the 2018 COLA is \$0.

¹⁷Because SERS has suspended COLAs for 2018, the present value of the 2018 COLA is \$0.

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