



BENEFIT INFLATION CONTROL

The following Contribution Based Benefit Cap (CBBC) scenarios were developed to demonstrate how the CBBC prevents excessive spiking in a manner that provides a measure of equity. The CBBC benefit calculation does not replicate the Formula Benefit calculation (2.2% of FAS x Years of Service Credit); instead, it uses the following three components to determine the CBBC benefit:

- Accumulated contributions (the amount members paid into the system plus interest);
- Annuity factor: (age-based number that converts the accumulated contributions to an annuity payable over the retiree’s expected remaining life); and
- CBBC factor (a figure that reflects the size of the gap between the Formula Benefit and the annuity payable based on the accumulated contributions).

In these scenarios, the CBBC benefit is reflected at a CBBC factor of 5 and 6. Based on the data reviewed, most SERS members have contribution histories that result in a CBBC factor that is less than 4.

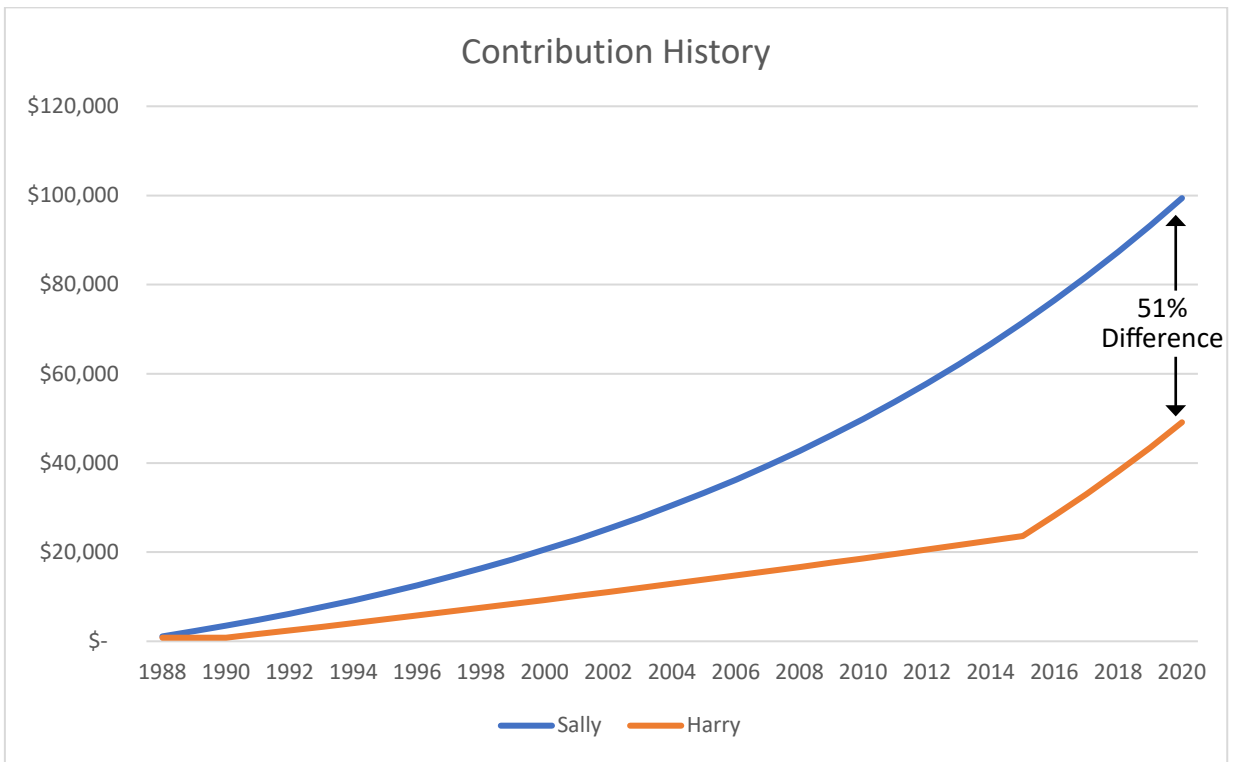
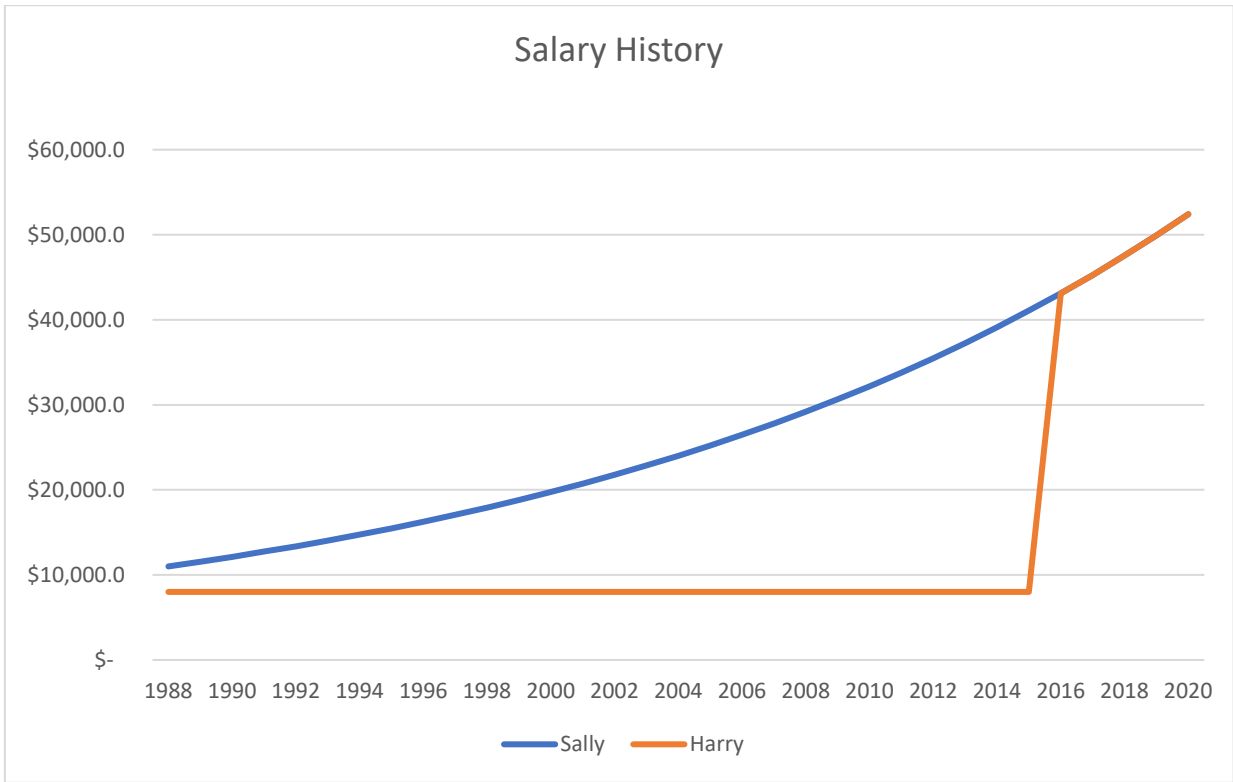
However, as demonstrated below, some members contribute in such a way that their CBBC factor is greater than 5 (i.e., their Formula Benefit is at least 5 times greater than their contribution-based annuity). With a high annuitized contribution to Formula Benefit ratio, it is the system that subsidizes the Formula Benefits for these members since contributions and investment returns may not adequately fund their benefit. The higher a member’s CBBC factor, the greater the likelihood and extent of subsidization by SERS. The CBBC serves as a limit on how much the System will tolerate as to an individual Formula Benefit.

Of great importance is the CBBC factor the Board decides to use – a CBBC factor that is too low may capture too many members, while a CBBC that is too high may unfairly reward members whose contributions have not adequately funded their Formula Benefit. The Board will need to decide where the equity line should be drawn.

CBBC Scenarios

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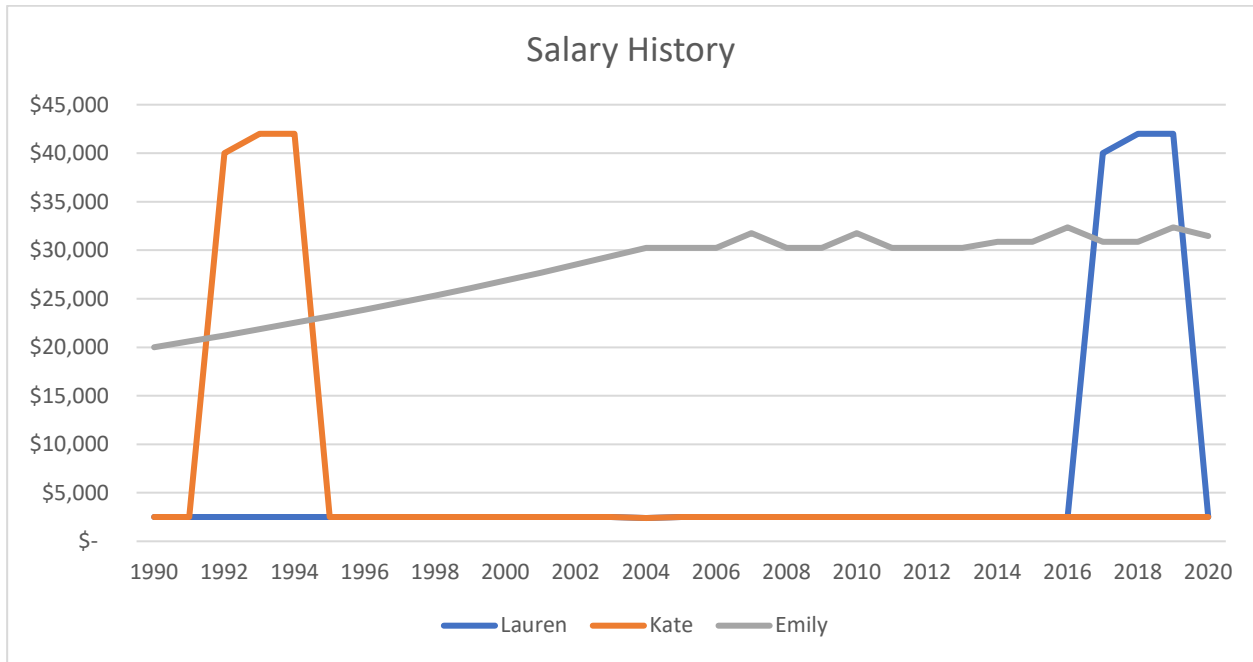
Scenario A



	Sally	Harry
Scenario	5% annual increase	No annual increase plus 35K five years prior to retirement
Age	62	62
Years of Service Credit	32	32
3-Yr FAS	\$ 49,958	\$ 49,958
Accumulated Contributions	\$ 99,399	\$ 49,121
Formula Benefit	\$ 35,170	\$ 35,170
CBBC Cap - 5	\$ 44,833	\$ 22,156
CBBC Cap - 6	\$ 53,800	\$ 26,587

This scenario reflects two members who are the same age, the same years of service, the same final average salary, and the same formula benefit. However, the earnings history results in Sally having 51% more accumulated contributions.

Scenario B

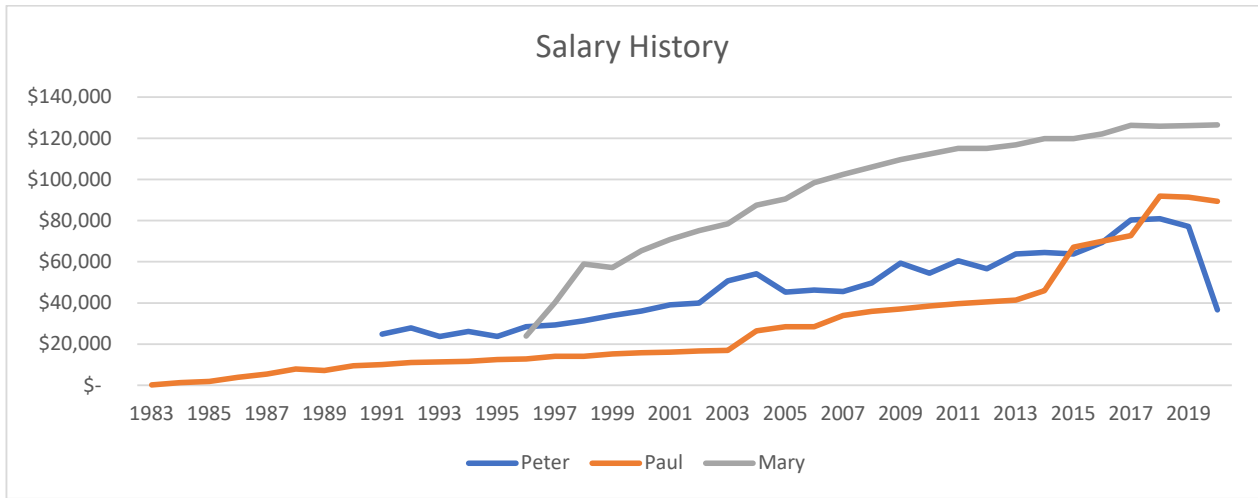


	Lauren	Kate	Emily
Age	65	65	65
Years of Service Credit	30	30	30
3-Yr FAS	\$ 41,333	\$ 41,333	\$ 32,063
Accumulated Contributions	\$ 20,907	\$ 24,263	\$ 99,929
Formula Benefit	\$ 27,280	\$ 27,280	\$ 21,161
CBBC Cap - 5	\$ 10,093	\$ 11,713	\$ 48,242
CBBC Cap - 6	\$ 12,112	\$ 14,056	\$ 57,890

In this scenario, we have three members of the same age and same length of service. Lauren and Kate have the same Final Average Salary based on their earnings history. However, Kate's highest years of service occur early in her career versus Lauren's which occur in the last years of service. Because Kate's highest contribution years are earlier, her total accumulated contributions are higher as more interest accumulates on those contributions. As a reminder, accumulated contributions are a component in the calculation of an annuity for purposes of the CBBC.

Emily's career reflects steady increases of 3% for the first half of her career. The second half of her career reflects years of no increase with occasional lump sum payments in lieu of an annual increase.

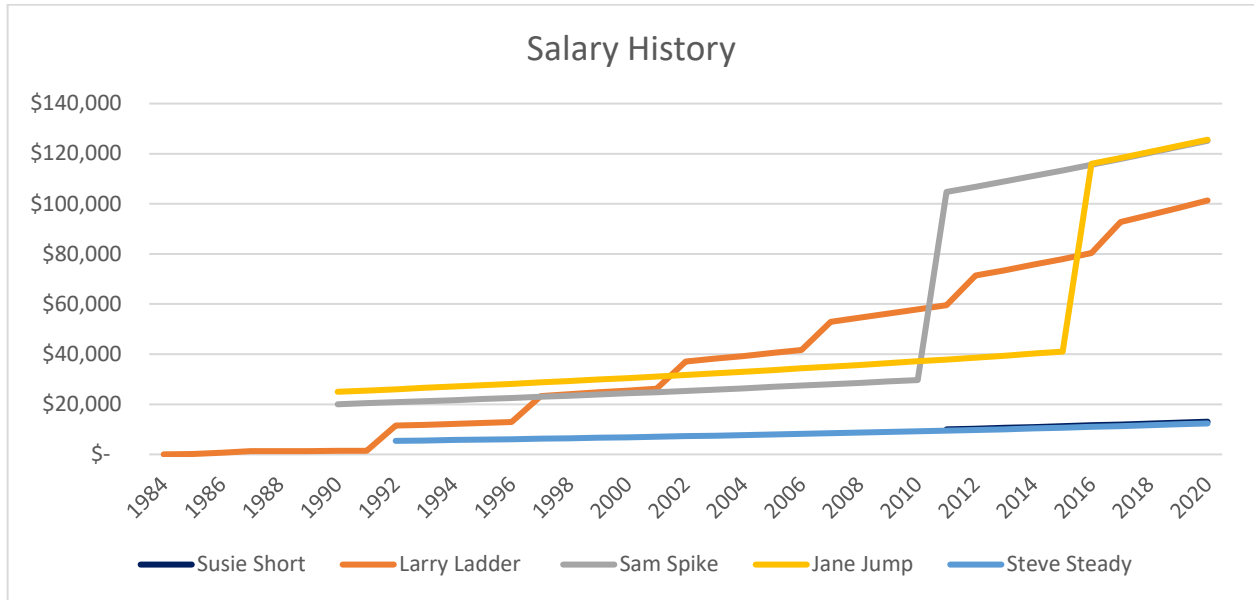
Scenario C



	Peter	Paul	Mary
Age	60	60	60
Years of Service Credit	30	30	25
3-Yr FAS	\$ 79,451	\$ 90,848	\$ 126,180
Accumulated Contributions	\$ 160,549	\$ 120,732	\$ 264,446
Formula Benefit	\$ 52,438	\$ 59,960	\$ 69,399
CBBC Cap - 5	\$ 70,168	\$ 53,131	\$ 116,513
CBBC Cap - 6	\$ 84,202	\$ 63,757	\$ 139,815

In this scenario, we have three members of the same age with various years of service. Peter's salary history reflects a 30-year career with varying changes in salary including periods of steady increases, no increases, various bonuses, and above market salary increases. Paul's salary history reflects a 38-year career with part-time service in the early part of his career, transition to full-time years of service and larger salary increases in the last part of his career. Mary's career, while shorter, reflects steady salary increases.

Scenario D



	Susie Short	Larry Ladder	Sam Spike	Jane Jump	Steve Steady
Scenario	3% annual increase	3% annual increase plus 10K every five years	2% annual increase plus 75K increase 10 years prior to retirement	2% annual increase plus 75K five years prior to retirement	3% annual increase
Age	67	67	67	67	67
Years of Service Credit	10	31	30	30	28
3-Yr FAS	\$ 12,671	\$ 98,413	\$ 122,711	\$ 123,132	\$ 11,998
Accumulated Contributions	\$ 11,976	\$ 158,175	\$ 182,379	\$ 160,987	\$ 27,603
Formula Benefit	\$ 2,788	\$ 67,117	\$ 80,189	\$ 81,267	\$ 7,391
CBBC Cap - 5	\$ 5,992	\$ 79,146	\$ 91,257	\$ 80,544	\$ 13,812
CBBC Cap - 6	\$ 7,191	\$ 94,976	\$ 109,509	\$ 96,652	\$ 16,574

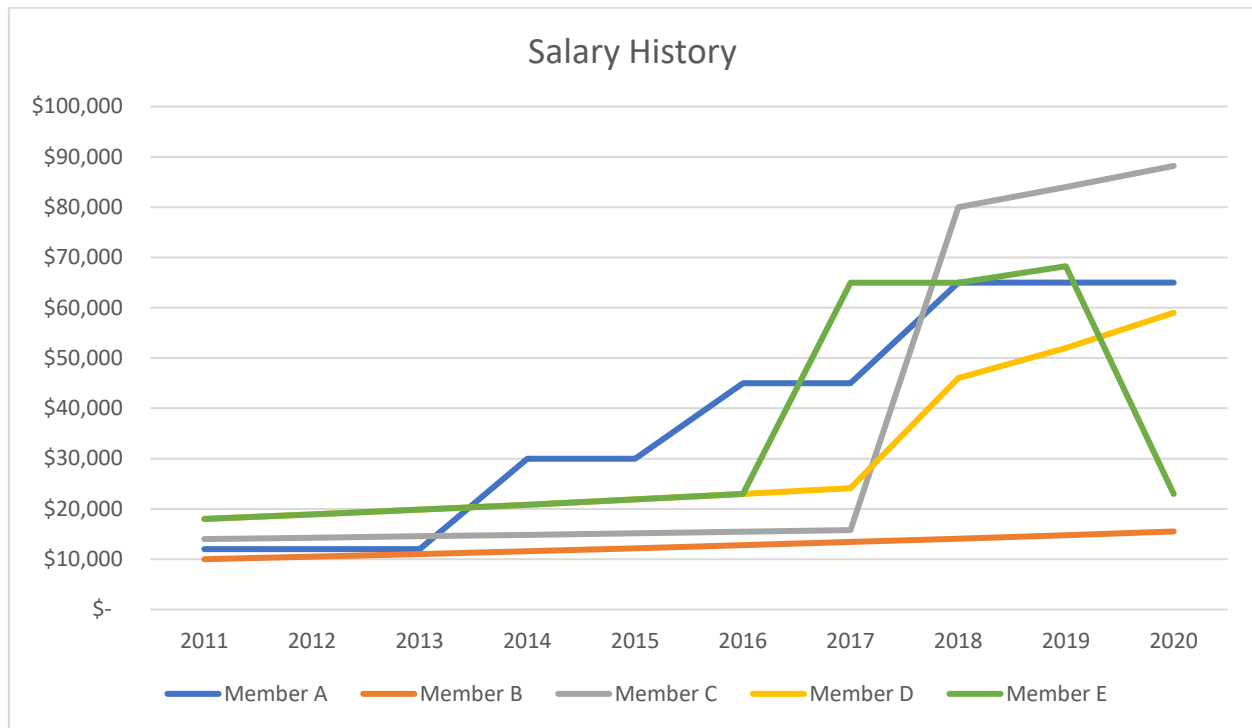
Scenario E



	Max
Age	65
Years of Service Credit	20
3-Yr FAS	\$255,000
Accumulated Contributions	\$ 119,684
Formula Benefit	\$ 112,200
CBBC Cap - 5	\$ 57,779
CBBC Cap - 6	\$ 69,335

Max contributes on a salary in the low to mid-20's his first seventeen years of service, but Max's salary increases drastically during his last three years of service to over a quarter-million dollars. This results in a Formula Benefit for Max that nearly exceeds his accumulated contributions in one year. The CBBC ensures Max's benefit is more consistent with his earnings history.

Scenario F



	Member A	Member B	Member C	Member D	Member E
Scenario	Above market increase every 2-3 years	5% annual increase	2% annual increase with \$65K jump 3 years prior to retirement	5% annual increase with \$22K increase 3 years prior to retirement	5% annual increase with \$43K increase in 2nd half of career
Age	65	65	65	65	65
Years of Service Credit	10	10	10	10	10
3-Yr FAS	\$ 65,000	\$ 14,786	\$ 84,067	\$ 52,333	\$ 66,083
Accumulated Contributions	\$ 39,630	\$ 13,227	\$ 36,856	\$ 31,669	\$ 35,566
Formula Benefit	\$ 14,300	\$ 3,253	\$ 18,495	\$ 11,513	\$ 14,538
CBBC Cap - 5	\$ 19,132	\$ 6,385	\$ 17,793	\$ 15,288	\$ 17,170
CBBC Cap - 6	\$ 22,958	\$ 7,663	\$ 21,351	\$ 18,346	\$ 20,604