

V. Appendix

A. Analysis of the UAAL

i. Methodology

In most years, the actuarial valuations for SERS and TRS include data on the Unfunded Actuarial Accrued Liability (UAAL), the change in the UAAL, and some information on the factors that led to the change. These factors include: 1) investment returns relative to the assumed return; 2) contributions; 3) deviations from actuarial assumptions (e.g. workers living longer than expected); 4) benefit changes; and 5) assumption changes (e.g. long-run investment returns). As an example, Tables A1 and A2, copied from the Connecticut SERS 2014 valuation, report both the overall change in the UAAL for fiscal years 2013 and 2014 and detail the individual factors that led to that change. In Table A1, the expected UAAL for 2013 (item 5) is equal to the 2012 UAAL and interest on the UAAL, plus the normal cost and interest on the normal cost, minus contributions and interest on the contributions. The expected UAAL for 2014 follows the same methodology. If contributions (and interest) do not cover the interest on the UAAL plus normal cost (and interest), the unfunded liability will grow. The unfunded liability will also grow or decline as a result of a host of other factors listed in Table A2.

Table A1. *Change in the UAAL for Connecticut from 2012-2014, in Millions*

(1) UAAL as of June 30, 2012	\$13,273.8
(2) Total normal cost from 2012 valuation	315.5
(3) Actual employer and employee contributions	(1,228.0)
(4) Interest accrual: $[(1) + (2)] \times .08 - [(3) \times .0392]$	1,039.0
(5) Expected UAAL as of June 30, 2013: $(1) + (2) - (3) + (4)$	13,400.3
(6) Total normal cost for 2013 fiscal year	323.5
(7) Actual employer and employee contributions	(1,419.9)
(8) Interest accrual: $[(5) + (6)] \times .08 - [(7) \times .0392]$	1,042.2
(9) Expected UAAL as of June 30, 2014: $(5) + (6) - (7) + (8)$	13,346.1
(10) Plan changes	193.4
(11) Expected UAAL as of June 30, 2014: $(9) + (10)$	13,539.5
(12) Actual UAAL as of June 30, 2014	14,920.8
(13) Gain/(loss): $(11) - (12)$ (See Schedule H)	(1,381.3)

Source: Connecticut SERS 2014 actuarial valuation.

Table A2. *Details on the Actuarial Gain/(Loss) for Unfunded Liability*

Schedule H: Analysis of Financial Experience
Gains & Losses in Accrued Liabilities Resulting from Difference
Between Assumed Experience & Actual Experience, in Millions of Dollars

Type of activity	Gain/loss for two-year period ending 6/30/2014
Age & service retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$(286.9)
Disability retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(31.2)
Death-in service benefits. If survivor claims are less than assumed, there is a gain. If more claims, a loss.	(17.3)
Withdrawal from employment. If more liabilities are released by withdrawals than assumed, there is a gain. If fewer liabilities are released, a loss.	(29.3)
Pay increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	(231.3)
New members. Additional unfunded accrued liability will produce a loss.	(310.2)
Net change on Tier III-Hybrid transfers. Includes \$205.0 million in liabilities offset by \$154.9 million in asset transfers.	(50.1)
Investment income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(333.3)
Death after retirement. If retirees live longer than assumed, there is a loss. If not as long, a gain.	(65.3)
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	(26.4)
Gain (or loss) during year from financial experience.	(1,381.3)
Non-recurring items. Adjustments for plan amendments, assumption changes, or method changes.	(193.4)
Composite gain (or loss) during year.	(1,574.7)

Source: 2014 Connecticut SERS Actuarial Valuation.

The challenge is to take the factors listed in these tables for each year, categorize them in a useful fashion, and combine the annual data over time to highlight the factors that have played a role in the development of the current UAAL. Tables A3 and A4 show the results of this process for SERS and TRS, respectively. For 2013 and 2014, the majority of items listed in the Schedule H were classified as actuarial experience. The two exceptions were: “investment income” and “non-recurring items.” These were classified as: “investment returns” and “benefit changes,” respectively.

ii. Analysis of SERS' Unfunded Liability

Table A.3. Annual Change in the UAAL for Connecticut SERS by Source, 1985-2014, in Millions of Dollars

Year	Starting UAAL	Contributions vs. ARC	ARC vs. UAAL growth	Investment returns	Early retirement program	Benefit changes	Changes to assumptions and methods	Actuarial experience	Other	Unknown	Ending UAAL
	\$2,392	\$25	\$9	\$64	\$0	\$0	\$0	\$0	\$0	\$175	\$2,665
1986	2,665	14	16	-72	0	0	0	0	0	20	2,643
1987	2,643	15	20	-85	0	0	0	0	0	306	2,900
1988	2,900	0	46	-720	0	0	0	0	0	814	3,039
1989	3,039	0	9	-19	0	0	-678	0	0	109	2,460 ^a
1990	2,460	55	69	-15	0	0	0	15	67	0	2,652 ^b
1991	2,652	134	-30	32	12	0	0	-8	-17	0	2,775
1992	2,775	181	-17	41	74	0	0	152	37	0	3,243 ^c
1993	3,243	153	21	-11	12	0	-233	308	0	0	3,494 ^{d,*}
1994	3,494	164	7	41	0	0	0	-321	0	0	3,385 ^d
1995	3,385	245	-29	3	0	0	0	26	0	0	3,629 ^{e,d}
1996	3,629	166	2	-92	0	0	0	26	0	0	3,731 ^d
1997	3,731	199	-11	-257	322	0	0	0	0	-282	3,702 ^e
1998	3,702	215	-36	-291	0	0	0	331	0	0	3,923 ^{e,f}
1999 ⁱ	3,923	212	-2	-508	0	0	0	0	0	495	4,119
2000	4,119	51	260	-230	0	0	470	352	0	-705	4,316 [*]
2001	4,316	54	132	-36	0	0	0	1	0	0	4,467
2002	4,467	64	144	201	0	-2	0	38	1	0	4,912
2003	4,912	72	161	267	492	0	0	-230	0	492	6,165 ^b
2004	6,165	74	208	140	0	0	116	186	0	0	6,890 [*]
2005	6,890	72	253	93	0	0	0	162	0	0	7,470
2006	7,470	78	208	40	0	0	0	69	13	0	7,879
2007	7,879	82	214	-114	0	0	0	242	0	0	8,303

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Table A4. Annual Change in the UAAL for Connecticut SERS by Source, 1985-2014, in Millions (cont'd)

Year	Starting UAAL	Contributions vs. ARC	ARC vs. UAAL growth	Investment returns ^l	Early retirement program	Benefit changes	Changes to assumptions and methods	Actuarial experience	Other	Unknown	Ending UAAL
2008	\$8,303	\$91	\$213	\$165	\$0	\$0	\$212	\$262	\$7	\$0	\$9,253 ^{g,*}
2009 ^j	9,253	144	184	1,714	554	0	0	0	0	0	9,581 ^b
2010	11,295	278	-67	-211	0	0	0	-146	0	0	11,295
2011	11,705	224	187	-447	0	-644	0	-20	0	0	11,705
2012	11,004	114	55	773	0	0	1,213	115	0	0	11,004 ^{h,*}
2013 ^k	13,274	2	125	463	0	0	0	0	0	0	13,274
2014	13,863	0	-54	-129	0	193	0	1,048	0	0	14,921
Total		3,179	2,296	800	1,466	-452	1,099	2,608	108	1,424	

^a Shift from EAN to PUC.

^b 1989 Early Retirement Program.

^c February 1992 SEBAC Agreement II: Re-amortized 1989 Early Retirement Program and 1992 Early Retirement Incentive Program (ERIP) over 40 years, to begin in 1994-1995 fiscal year. Reduced state's contribution to fund past service liability by \$215 million for the 1991-92 fiscal year.

^d June 1992 SEBAC Agreement III: Set statutory contributions towards the UAAL for fiscal year 1992-93 at \$92.7 million; 1993-94 at \$121.3 million; 1994-95 at \$130.5 million; and 1995-96 at \$138.4 million.

^e May 1995 SEBAC Agreement IV: Set statutory contributions towards the UAAL for fiscal year 1996-97 at \$152 million; and 1997-98 at \$164.15 million.

^f February 1997 SEBAC Agreement V: Decreased Tier II vesting from 10 years to 5 years.

^g Reduced discount rate from 8.5 to 8.25.

^h Reduced discount rate from 8.25 to 8.00.

ⁱ No Actuarial Valuation was performed for 1999. Change in the UAAL is estimated.

^j No detailed data on the change in the UAAL are available for 2009. Data is estimated.

^k No detailed data on the change in the UAAL are available for 2013. Data is estimated.

^l Includes both the actuarial smoothing and the corridor method that limits the actuarial assets to +/- 20% of market assets.

* Experience study.

Source: CRR calculations based on various actuarial valuations for Connecticut SERS.

iii. Analysis of TRS' Unfunded Liability

Table A5. Annual Change in the UAAL for Connecticut TRS from 1983-2014, by Source, in Millions

Year	Beginning UAAL	Contributions vs. ARC	ARC vs. UAAL growth	Investment returns	POB	Benefit changes	Assumptions and methods	Actuarial experience	COLA	Miscellaneous	Unknown	Ending UAAL
	\$2,284	\$139	\$-40	\$0	\$0	\$28	\$0	\$0	\$0	\$0	\$0	\$2,411
1984	2,411	149	-60	-33	0	0	762	0	0	0	33	3,261
1985	3,261	136	87	-42	0	0	0	59	-11	10	0	3,500
1986	3,500	85	138	-159	0	0	0	0	0	0	255	3,819
1987	3,819	77	158	-155	0	2	0	0	0	0	713	4,612
1988	4,612	68	210	-103	0	0	0	0	0	0	1	4,788
1989	4,788	60	192	-134	0	0	-1,202	0	0	0	639	4,343 a
1990	4,343	71	98	-132	0	0	0	0	0	0	-420	3,961 b
1991	3,961	173	136	-65	0	0	0	0	0	0	-745	3,461
1992	3,461	177	108	-53	0	0	0	0	-1,384	0	122	2,430 c
1993	2,430	182	-48	-86	0	0	0	0	0	0	36	2,514 d
1994	2,514	16	113	-25	0	0	0	0	0	0	2	2,621
1995	2,621	15	123	-243	0	0	-161	0	0	0	617	2,971 e
1996	2,971	19	141	-162	0	0	0	0	0	0	411	3,380 f
1997	3,380	26	164	-326	0	0	0	0	0	0	229	3,473
1998	3,473	24	140	-588	0	0	0	0	0	0	200	3,249
1999	3,249	25	113	-596	0	0	0	0	0	0	-27	2,765
2000	2,765	27	62	-633	0	0	0	0	0	0	-31	2,192
2001	2,192	21	12	-84	0	0	0	0	0	0	278	2,419
2002	2,419	-6	76	559	0	0	0	0	0	0	245	3,293 g
2004	3,293	120	222	1,753	0	0	0	-166	0	0	2	5,224
2006	5,224	91	332	458	0	0	0	818	0	0	0	6,922 h
2008	6,922	9	50	-494	-2,000	1,151	0	188	705	0	0	6,530
2009	6,530	-25	119	1,054	0	0	0	81	-46	163	4	7,881 i

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Table A.5. Annual Change in the UAAL for Connecticut TRS from 1983-2014, by Source, in Millions (cont'd)

Year	Beginning UAAL	Contributions vs. ARC	ARC vs. UAAL growth	Investment returns	POB	Benefit changes	Assumptions and methods	Actuarial experience	COLA	Miscellaneous	Unknown	Ending UAAL
2010	\$7,881	\$-25	\$273	\$1,069	\$0	\$0	\$0	\$50	\$-190	\$0	\$7	\$9,066
2011	9,066	-26	358	1,000	0	0	-89	-307	-183	0	0	9,819 ^j
2012	9,819	-33	240	888	0	0	0	26	180	0	7	11,127
2013	11,127	-34	327	-175	0	0	0	106	-28	0	7	11,331
2014	11,331	-41	162	-373	0	0	0	-217	-66	0	6	10,803
Total		1,523	4,006	2,121	-2,000	1,180	-691	637	-1,023	173	2,592	

^a Impact of changed discount rate from 8 to 8.5 percent on liability.

^b Impact of changed discount rate from 8 to 8.5 percent on normal cost.

^c Impact of COLA Amendment PA.92.205 on reported liability.

^d Impact of COLA Amendment PA.92.205 on normal cost.

^e Shift to 5-year smoothing of actuarial assets in 1996, recalculates 1995 assets under 5-year smoothing.

^f Change in Assumptions from 89-94 Experience Study. Shifted to 5-year smoothing of actuarial assets.

^g Change in Assumptions from 1996-2001 Experience Study.

^h Change in Assumptions from 2001-2005 Experience Study.

ⁱ There was an increase in the UAAL of \$163.4 million due to the transition from the prior actuarial firm. This is primarily due to a difference in the allocation of liabilities between normal cost and accrued liability.

^j Change in Assumptions from 2005-2010 Experience Study. Shift to 5-year smoothing of actuarial assets.

Source: CRR calculations based on various actuarial valuations for Connecticut TRS.

B. Projections of Plan Funded Ratios and State Contributions

Table A6. *SERS Funded Ratio under the Current Agreement and Alternative Funding Methods*

Year	8% return			6.5% return			5.5% return		
	Current agreement	Level-dollar	Level-dollar, 15-yr open	Current agreement	Level-dollar	Level-dollar, 15-yr open	Current agreement	Level-dollar	Level-dollar, 15-yr open
2014	41.5%	41.5%	41.5%	41.5%	41.5%	41.5%	41.5%	41.5%	41.5%
2015	41.5	41.5	41.5	41.4	41.4	41.4	41.3	41.3	41.3
2016	41.1	41.1	41.1	40.8	40.8	40.8	40.6	40.6	40.6
2017	41.3	41.3	41.3	40.6	40.6	40.6	40.2	40.2	40.2
2018	44.2	45.2	45.2	43.0	44.1	44.1	42.3	43.4	43.4
2019	47.2	49.4	49.1	45.5	47.7	47.5	44.4	46.6	46.4
2020	50.3	53.5	52.7	48.1	51.3	50.5	46.6	49.8	49.0
2021	53.6	57.6	56.0	50.8	54.8	53.1	49.0	53.0	51.3
2022	57.1	61.6	59.0	53.7	58.2	55.5	51.6	56.1	53.4
2023	60.7	65.7	61.7	56.8	61.7	57.6	54.4	59.3	55.1
2024	64.6	69.7	64.2	60.2	65.3	59.5	57.5	62.6	56.7
2025	68.8	73.9	66.5	63.9	69.0	61.2	61.0	66.0	58.0
2026	73.2	78.0	68.7	68.0	72.7	62.7	64.9	69.6	59.2
2027	78.0	82.3	70.7	72.5	76.7	64.1	69.3	73.4	60.2
2028	83.1	86.6	72.5	77.5	81.0	65.3	74.3	77.7	61.1
2029	88.5	91.1	74.2	83.2	85.6	66.4	80.1	82.5	61.9
2030	94.3	95.6	75.8	89.7	90.8	67.4	87.0	88.1	62.6
2031	100.4	100.2	77.3	97.3	96.9	68.3	95.5	95.1	63.2
2032	106.7	104.8	78.7	107.2	105.1	69.2	107.5	105.3	63.8
2033	106.9	105.0	80.1	109.4	107.4	70.0	111.1	109.0	64.4
2034	105.8	104.0	81.3	106.8	104.9	70.8	107.5	105.5	64.9
2035	104.7	103.0	82.5	103.6	101.8	71.5	103.1	101.1	65.4
2036	103.7	102.1	83.7	100.8	99.1	72.2	99.1	97.2	66.0
2037	102.9	101.4	84.7	98.5	97.0	72.9	95.7	94.1	66.5
2038	102.3	100.9	85.8	96.6	95.3	73.6	93.0	91.5	67.0
2039	101.7	100.6	86.7	95.0	93.8	74.2	90.5	89.3	67.5
2040	101.3	100.3	87.7	93.5	92.6	74.8	88.4	87.5	68.1
2041	100.9	100.1	88.5	92.2	91.6	75.5	86.6	86.0	68.6
2042	100.6	99.9	89.4	91.2	90.8	76.1	85.2	84.9	69.2
2043	100.4	99.8	90.1	90.3	90.2	76.7	84.2	84.2	69.7
2044	100.2	99.7	90.9	89.7	89.9	77.3	83.7	83.9	70.3
2045	100.1	99.7	91.6	89.4	89.9	77.8	83.6	84.0	70.8

Source: CRR calculations.

Table A7. *State Contributions to SERS under the Current Agreement and Alternative Funding Methods, in Millions*

Year	8% return			6.5% return			5.5% return		
	Current agreement	Level-dollar	Level-dollar, 15-yr open	Current agreement	Level-dollar	Level-dollar, 15-yr open	Current agreement	Level-dollar	Level-dollar, 15-yr open
2014	\$1,269	\$1,269	\$1,269	\$1,269	\$1,269	\$1,269	\$1,269	\$1,269	\$1,269
2015	1,379	1,379	1,379	1,379	1,379	1,379	1,379	1,379	1,379
2016	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514	1,514
2017	1,569	1,569	1,569	1,569	1,569	1,569	1,569	1,569	1,569
2018	1,979	2,313	2,313	1,988	2,324	2,324	1,995	2,332	2,332
2019	2,193	2,539	2,456	2,214	2,564	2,481	2,228	2,581	2,497
2020	2,258	2,541	2,369	2,297	2,586	2,411	2,322	2,616	2,438
2021	2,332	2,540	2,282	2,396	2,613	2,347	2,438	2,661	2,389
2022	2,409	2,538	2,200	2,504	2,645	2,289	2,565	2,713	2,347
2023	2,487	2,535	2,121	2,619	2,682	2,237	2,703	2,774	2,311
2024	2,566	2,531	2,045	2,743	2,725	2,190	2,854	2,847	2,280
2025	2,647	2,526	1,973	2,880	2,778	2,148	3,024	2,934	2,257
2026	2,730	2,521	1,905	3,032	2,844	2,112	3,216	3,041	2,239
2027	2,814	2,516	1,841	3,203	2,926	2,081	3,438	3,174	2,226
2028	2,899	2,509	1,781	3,402	3,033	2,056	3,703	3,347	2,220
2029	2,986	2,503	1,727	3,645	3,180	2,037	4,034	3,582	2,221
2030	3,069	2,494	1,677	3,956	3,395	2,025	4,476	3,924	2,228
2031	3,139	2,478	1,633	4,415	3,758	2,018	5,156	4,503	2,241
2032	3,148	2,426	1,595	5,371	4,638	2,018	6,652	5,918	2,261
2033	379	383	1,561	395	395	2,023	395	395	2,286
2034	121	159	1,532	97	144	2,033	84	135	2,315
2035	126	168	1,506	26	49	2,047	0	0	2,349
2036	188	236	1,485	153	194	2,066	129	170	2,388
2037	258	313	1,468	313	383	2,090	342	425	2,431
2038	324	384	1,454	468	562	2,117	553	672	2,478
2039	386	447	1,443	611	726	2,148	762	899	2,528
2040	444	504	1,435	753	885	2,183	973	1,127	2,583
2041	499	556	1,430	902	1,051	2,222	1,202	1,365	2,642
2042	551	604	1,428	1,065	1,228	2,264	1,455	1,617	2,705
2043	600	649	1,429	1,245	1,419	2,310	1,735	1,887	2,772
2044	648	692	1,431	1,446	1,628	2,359	2,051	2,182	2,843
2045	678	718	1,420	1,658	1,846	2,397	2,397	2,495	2,903

Source: CRR calculations.

Table A8. TRS Funded Ratio under Current Law Alternative Funding Methods

Year	8.5% return			6.5% return			5.5% return		
	Current law	Level-dollar	Level-dollar, 15-yr open	Current law	Level-dollar	Level-dollar, 15-yr open	Current law	Level-dollar	Level-dollar, 15-yr open
2014	59.0%	59.0%	59.0%	59.0%	59.0%	59.0%	59.0%	59.0%	59.0%
2015	60.2	60.2	60.2	59.9	59.9	59.9	59.8	59.8	59.8
2016	62.5	62.5	62.5	61.6	61.6	61.6	61.2	61.2	61.2
2017	64.6	64.6	64.6	62.7	62.7	62.7	61.8	61.8	61.8
2018	66.5	67.2	67.2	63.4	64.1	64.1	61.9	62.6	62.6
2019	68.4	69.8	69.6	64.0	65.5	65.4	62.0	63.5	63.3
2020	70.3	72.3	71.8	64.8	66.9	66.4	62.2	64.4	63.8
2021	72.3	74.8	73.9	65.7	68.3	67.3	62.6	65.3	64.2
2022	74.4	77.3	75.7	66.8	69.8	68.0	63.3	66.4	64.5
2023	76.7	79.8	77.4	68.2	71.5	68.7	64.3	67.7	64.8
2024	79.1	82.2	79.0	69.8	73.2	69.3	65.7	69.3	65.0
2025	81.6	84.7	80.4	71.8	75.2	69.8	67.5	71.0	65.1
2026	84.3	87.3	81.7	74.1	77.4	70.2	69.8	73.1	65.2
2027	87.2	89.8	82.9	76.9	79.9	70.5	72.6	75.7	65.3
2028	90.2	92.4	84.0	80.3	82.8	70.8	76.2	78.7	65.3
2029	93.4	95.0	85.1	84.4	86.2	71.1	80.7	82.5	65.2
2030	96.9	97.7	86.0	89.5	90.3	71.2	86.4	87.3	65.1
2031	100.5	100.4	86.9	96.1	95.8	71.3	94.3	93.9	65.0
2032	104.1	102.9	87.7	105.9	104.2	71.4	106.6	104.7	64.9
2033	104.2	103.0	88.4	109.2	107.5	71.4	111.4	109.5	64.7
2034	103.7	102.5	89.1	106.4	104.8	71.3	107.6	105.7	64.4
2035	103.1	102.0	89.7	103.0	101.3	71.2	102.8	100.9	64.1
2036	102.6	101.5	90.3	99.7	98.0	71.1	98.2	96.3	63.7
2037	102.2	101.2	90.8	96.9	95.4	70.9	94.2	92.6	63.3
2038	101.8	100.9	91.2	94.5	93.2	70.6	90.8	89.4	62.9
2039	101.5	100.7	91.7	92.3	91.2	70.3	87.6	86.4	62.3
2040	101.3	100.5	92.0	90.2	89.3	69.8	84.7	83.8	61.7
2041	101.1	100.4	92.4	88.3	87.6	69.3	81.9	81.4	61.0
2042	100.9	100.3	92.6	86.6	86.1	68.7	79.5	79.3	60.1
2043	100.8	100.2	92.9	85.0	84.8	68.0	77.4	77.5	59.2
2044	100.7	100.2	93.1	83.8	83.9	67.1	75.7	76.2	58.0
2045	100.6	100.1	93.2	82.9	83.2	66.1	74.5	75.3	56.6

Source: CRR calculations.

Table A9. *State Contributions to TRS under Current Law and Alternative Funding Methods, in Millions*

Year	8.5% return			6.5% return			5.5% return		
	Current law	Level-dollar	Level-dollar, 15-yr open	Current law	Level-dollar	Level-dollar, 15-yr open	Current law	Level-dollar	Level-dollar, 15-yr open
2014	\$949	\$949	\$949	\$949	\$949	\$949	\$949	\$949	\$949
2015	984	984	984	984	984	984	984	984	984
2016	976	976	976	976	976	976	976	976	976
2017	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012
2018	1,219	1,425	1,425	1,245	1,455	1,455	1,258	1,470	1,470
2019	1,247	1,440	1,395	1,304	1,507	1,460	1,331	1,540	1,491
2020	1,283	1,436	1,343	1,385	1,554	1,452	1,434	1,611	1,505
2021	1,322	1,431	1,293	1,477	1,607	1,449	1,551	1,692	1,524
2022	1,363	1,427	1,246	1,580	1,669	1,450	1,682	1,783	1,547
2023	1,406	1,424	1,204	1,694	1,739	1,456	1,828	1,886	1,574
2024	1,450	1,421	1,164	1,820	1,819	1,466	1,990	2,001	1,604
2025	1,494	1,418	1,127	1,962	1,911	1,478	2,172	2,133	1,636
2026	1,539	1,414	1,093	2,121	2,017	1,492	2,379	2,285	1,670
2027	1,583	1,408	1,060	2,305	2,143	1,509	2,620	2,465	1,705
2028	1,625	1,400	1,030	2,522	2,299	1,528	2,908	2,687	1,743
2029	1,664	1,389	1,002	2,790	2,500	1,549	3,268	2,973	1,782
2030	1,695	1,371	976	3,145	2,783	1,572	3,754	3,377	1,822
2031	1,707	1,338	952	3,688	3,246	1,596	4,509	4,042	1,864
2032	1,645	1,250	930	4,872	4,350	1,623	6,200	5,635	1,906
2033	269	270	910	288	288	1,650	288	288	1,950
2034	135	158	892	61	96	1,679	33	73	1,994
2035	136	161	876	0	0	1,709	0	0	2,039
2036	166	195	861	66	93	1,740	28	56	2,084
2037	201	232	848	214	272	1,771	223	292	2,129
2038	234	268	836	360	445	1,804	422	527	2,174
2039	265	299	826	500	599	1,836	614	737	2,219
2040	293	326	818	637	747	1,869	804	942	2,263
2041	320	351	811	782	899	1,902	1,006	1,149	2,306
2042	345	374	806	939	1,056	1,934	1,221	1,361	2,348
2043	369	395	802	1,110	1,220	1,966	1,453	1,581	2,389
2044	392	416	799	1,299	1,395	1,997	1,706	1,811	2,427
2045	414	436	798	1,508	1,582	2,027	1,983	2,054	2,464

Source: CRR calculations.

C. Assumptions and Methods for Projections of Finances

i. Connecticut SERS

- Benefit growth rate: Actuarial Projection, ~ 2.5 percent annually
- Payroll growth rate: Actuarial Projection, ~ 4 percent annually
- Discount rate/long-term assumed return: 8 percent
- Total normal cost rate: 10.2 → 9.2 percent-of-payroll
- Employee contribution rate: Actuarial Projection, 2.2 → 3.0 percent, percent-of-payroll
- Actuarial asset smoothing method: 5-year smoothing
- Percent of ARC paid: 100 percent
- UAAL amortization methods
 - *Current Agreement.*
 - Level-percent-of-payroll, closed (2032)
 - *Alternative 1.*
 - Level-dollar, closed (2032)
 - *Alternative 2.*
 - Level-dollar, open (15-year period)
 - *Alternative 3.*
 - Level-dollar, closed amortization (2032) until plan is 80-percent funded. Then, open (15-year period) amortization of UAAL.

ii. Connecticut TRS

- Benefit growth rate: 3.75 percent
- Payroll growth rate: 3.75 percent
- Discount rate/long-term assumed return: 8.5 percent
- Total normal cost rate: 9.73 percent-of-payroll
- Employee contribution rate: 6 percent-of-payroll
- Percent of ARC paid: 100 percent
- Actuarial asset smoothing method: 5-year smoothing
- UAAL amortization methods
 - *Current Law.*
 - Level-percent-of-payroll, closed (2032)
 - *Alternative 1.*
 - Level-dollar, closed (2032)
 - *Alternative 2.*
 - Level-dollar, open (15-year period)
 - *Alternative 3.*
 - Level-dollar, closed amortization (2032) until plan is 80-percent funded. Then, open (15-year period) amortization of UAAL.