

## Updated Mortality Improvement Rates and Static Mortality Tables for Defined Benefit Pension Plans for 2023

Notice 2022-22

### PURPOSE

This notice specifies updated mortality improvement rates and static mortality tables to be used for defined benefit pension plans under § 430(h)(3)(A) of the Internal Revenue Code (Code) and section 303(h)(3)(A) of the Employee Retirement Income Security Act of 1974, Pub. L. No. 93-406, as amended (ERISA). These updated mortality improvement rates and static mortality tables, which are being issued pursuant to the regulations under section 430(h)(3)(A) of the Code, apply for purposes of determining present value and making any other computation under section 430 for valuation dates occurring during the 2023 calendar year.

This notice also includes a modified unisex version of the mortality tables for use in determining minimum present value under section 417(e)(3) of the Code and section 205(g)(3) of ERISA for distributions with annuity starting dates that occur during stability periods beginning in the 2023 calendar year.

### BACKGROUND

Section 412 of the Code provides minimum funding requirements that generally apply for defined benefit plans. Section 412(a)(2) provides that section 430 sets forth the minimum funding requirements that apply to defined benefit plans that are not multiemployer plans or CSEC plans. Section 430(a) defines the minimum required contribution for such a plan by reference to the plan's funding target for the plan year. Under section 430(d)(1), a plan's funding target for a plan year generally is the present value of all benefits accrued or earned under the plan as of the first day of that plan year.

Section 430(h)(3) provides rules regarding the mortality tables that generally are used under section 430. Under section 430(h)(3)(A), except as provided in section 430(h)(3)(C) or (D), the Secretary is to prescribe by regulation mortality tables to be used in determining any present value or making any computation under section 430. Those tables are to be based on the actual experience of pension plans and projected trends in that experience. Section 430(h)(3)(B) requires the Secretary to revise any table in effect under section 430(h)(3)(A) at least every 10 years to reflect the actual experience of pension plans and projected trends in that experience.

Section 430(h)(3)(C) provides that, upon request by a plan sponsor and approval by the Secretary, substitute mortality tables that meet the applicable requirements may be used in lieu of the standard mortality tables provided under

section 430(h)(3)(A). Section 430(h)(3)(D) provides for the use of separate mortality tables with respect to certain individuals who are entitled to benefits on account of disability.

### ***Mortality Tables for Purposes of § 430***

Treas. Reg. § 1.430(h)(3)-1 provides rules regarding the mortality tables used under section 430(h)(3)(A) for plan years beginning on or after January 1, 2018. The mortality tables used under section 430(h)(3)(A) are based on the tables in the RP-2014 Mortality Tables Report,<sup>1</sup> adjusted for mortality improvement. Section 1.430(h)(3)-1(d) sets forth base mortality tables with a base year of 2006.

Section 1.430(h)(3)-1(a) permits plan sponsors to apply the projection of mortality improvement in one of two ways: through use of static tables that are updated annually to reflect expected improvements in mortality or through use of generational tables. Section 1.430(h)(3)-1(a)(2)(i)(C) provides that, for valuation dates occurring in calendar years after 2018, updated mortality improvement rates that take into account new data for mortality improvement trends of the general population, along with static mortality tables that reflect those updated mortality improvement rates, will be provided through guidance published in the Internal Revenue Bulletin.<sup>2</sup>

Treas. Reg. § 1.430(h)(3)-2 provides rules for the use of substitute mortality tables that are based on the mortality experience of the plan. Pursuant to § 1.430(h)(3)-2(c)(3)(ii), substitute mortality tables are developed using the mortality improvement rates used under § 1.430(h)(3)-1.

### ***Application of These Tables for Other Funding Rules***

Section 431 provides the minimum funding standards for multiemployer plans described in section 414(f) that are subject to section 412. Section 431(c)(6)(D)(iv) provides that the Secretary may by regulation prescribe mortality tables to be used in determining current liability for purposes of section 431(c)(6)(B). Treas. Reg. § 1.431(c)(6)-1 provides that the same mortality assumptions that apply for purposes of section 430(h)(3)(A) and § 1.430(h)(3)-1(a)(2) are used to determine a multiemployer plan's current liability for purposes of applying the full-funding rules of § 431(c)(6). For this purpose, a multiemployer plan may apply either the static mortality tables or the generational mortality tables (as updated pursuant to § 1.430(h)(3)-1(a)(2)(i)(C) and (a)(3)).

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<sup>1</sup> The RP-2014 Mortality Tables Report, as revised November 2014, is available at <https://www.soa.org/Files/Research/Exp-Study/research-2014-rp-report.pdf>.

<sup>2</sup> Notice 2018-2, 2018-2 IRB 281, Notice 2019-26, 2019-15 IRB 943, Notice 2019-67, 2019-52 IRB 1510, and Notice 2020-85, 2020-51 IRB 1645, provide mortality improvement rates and static mortality tables that apply for valuation dates occurring during 2019, 2020, 2021, and 2022, respectively.

Section 433 provides the minimum funding standards for CSEC plans described in section 414(y). Section 433(h)(3)(B)(i) provides that the Secretary may by regulation prescribe mortality tables to be used in determining current liability for purposes of section 433(c)(7)(C). Treas. Reg. § 1.433(h)(3)-1(a) provides that the mortality tables described in section 430(h)(3)(A) are to be used to determine current liability under section 433(c)(7)(C).

### ***Application of Mortality Tables for Minimum Present Value Requirements under Section 417(e)(3)***

Section 417(e)(3) generally provides that the present value of certain accelerated forms of benefit under a qualified pension plan (including single-sum distributions) must not be less than the present value of the accrued benefit using applicable interest rates and the applicable mortality table. Section 417(e)(3)(B) defines the term “applicable mortality table” as the mortality table specified for the plan year under section 430(h)(3)(A) (without regard to section 430(h)(3)(C) or (D)), modified as appropriate by the Secretary.

Rev. Rul. 2007-67, 2007-2 CB 1047, provides that, except as otherwise stated in future guidance, the applicable mortality table under section 417(e)(3) is a static mortality table set forth in published guidance that is developed based on a fixed blend of 50 percent of the static male combined mortality rates and 50 percent of the static female combined mortality rates used under § 1.430(h)(3)-1. Rev. Rul. 2007-67 also provides that the applicable mortality table for a calendar year applies to distributions with annuity starting dates that occur during stability periods that begin during that calendar year.

### **MORTALITY IMPROVEMENT RATES FOR 2023**

The mortality improvement rates for valuation dates occurring during 2023 are the mortality improvement rates in the Mortality Improvement Scale MP-2021 Report (issued by the Retirement Plans Experience Committee (RPEC) of the Society of Actuaries and available at

<https://www.soa.org/globalassets/assets/files/resources/experience-studies/2021/2021-mp-scale-report.pdf>).

### **STATIC MORTALITY TABLES FOR 2023**

The static mortality tables that apply under section 430(h)(3)(A) for valuation dates occurring during 2023 are set forth in the appendix to this notice. The mortality rates in these tables have been developed from the methodology and base mortality rates set forth in § 1.430(h)(3)-1(c) and (d) using the mortality improvement rates specified in the previous section of this notice.

The static mortality table that applies under section 417(e)(3) for distributions with annuity starting dates occurring during stability periods

beginning in 2023 is set forth in the appendix to this notice in the column labeled “Unisex.” The mortality rates in this table are derived from the mortality tables specified under section 430(h)(3)(A) for 2023 in accordance with the procedures set forth in Rev. Rul. 2007-67.

**Drafting Information**

The principal authors of this notice are Arslan Malik and Linda S. F. Marshall of the Office of the Associate Chief Counsel (Employee Benefits, Exempt Organizations, and Employment Taxes). For further information regarding this notice, contact Arslan Malik or Linda Marshall at (202) 317-6700 (not a toll-free number).

## APPENDIX

## Mortality Tables for 2023

**Valuation Dates Occurring During 2023 and  
Distributions Subject to Section 417(e)(3) with Annuity Starting Dates  
During Stability Periods Beginning in 2023**

Age	Male	Male	Male	Female	Female	Female	Unisex
	2023 Non-Annuitant Table	2023 Annuitant Table	2023 Optional Combined Table for Small Plans	2023 Non-Annuitant Table	2023 Annuitant Table	2023 Optional Combined Table for Small Plans	2023 Table for Distributions Subject to § 417(e)(3)
0	0.002575	0.002575	0.002575	0.002261	0.002261	0.002261	0.002418
1	0.000151	0.000151	0.000151	0.000142	0.000142	0.000142	0.000147
2	0.000104	0.000104	0.000104	0.000094	0.000094	0.000094	0.000099
3	0.000087	0.000087	0.000087	0.000071	0.000071	0.000071	0.000079
4	0.000069	0.000069	0.000069	0.000054	0.000054	0.000054	0.000062
5	0.000061	0.000061	0.000061	0.000050	0.000050	0.000050	0.000056
6	0.000056	0.000056	0.000056	0.000046	0.000046	0.000046	0.000051
7	0.000050	0.000050	0.000050	0.000043	0.000043	0.000043	0.000047
8	0.000043	0.000043	0.000043	0.000041	0.000041	0.000041	0.000042
9	0.000035	0.000035	0.000035	0.000038	0.000038	0.000038	0.000037
10	0.000030	0.000030	0.000030	0.000036	0.000036	0.000036	0.000033
11	0.000032	0.000032	0.000032	0.000038	0.000038	0.000038	0.000035
12	0.000048	0.000048	0.000048	0.000044	0.000044	0.000044	0.000046
13	0.000065	0.000065	0.000065	0.000051	0.000051	0.000051	0.000058
14	0.000081	0.000081	0.000081	0.000057	0.000057	0.000057	0.000069
15	0.000097	0.000097	0.000097	0.000063	0.000063	0.000063	0.000080
16	0.000115	0.000115	0.000115	0.000068	0.000068	0.000068	0.000092
17	0.000133	0.000133	0.000133	0.000073	0.000073	0.000073	0.000103
18	0.000153	0.000153	0.000153	0.000078	0.000078	0.000078	0.000116
19	0.000174	0.000174	0.000174	0.000081	0.000081	0.000081	0.000128
20	0.000194	0.000194	0.000194	0.000082	0.000082	0.000082	0.000138
21	0.000221	0.000221	0.000221	0.000085	0.000085	0.000085	0.000153
22	0.000247	0.000247	0.000247	0.000088	0.000088	0.000088	0.000168
23	0.000268	0.000268	0.000268	0.000093	0.000093	0.000093	0.000181
24	0.000282	0.000282	0.000282	0.000097	0.000097	0.000097	0.000190
25	0.000276	0.000276	0.000276	0.000101	0.000101	0.000101	0.000189
26	0.000276	0.000276	0.000276	0.000107	0.000107	0.000107	0.000192
27	0.000280	0.000280	0.000280	0.000114	0.000114	0.000114	0.000197
28	0.000289	0.000289	0.000289	0.000121	0.000121	0.000121	0.000205
29	0.000303	0.000303	0.000303	0.000130	0.000130	0.000130	0.000217

30	0.000321	0.000321	0.000321	0.000143	0.000143	0.000143	0.000232
31	0.000342	0.000342	0.000342	0.000156	0.000156	0.000156	0.000249
32	0.000366	0.000366	0.000366	0.000171	0.000171	0.000171	0.000269
33	0.000391	0.000391	0.000391	0.000186	0.000186	0.000186	0.000289
34	0.000414	0.000414	0.000414	0.000202	0.000202	0.000202	0.000308
35	0.000436	0.000436	0.000436	0.000217	0.000217	0.000217	0.000327
36	0.000455	0.000455	0.000455	0.000231	0.000231	0.000231	0.000343
37	0.000474	0.000474	0.000474	0.000247	0.000247	0.000247	0.000361
38	0.000494	0.000494	0.000494	0.000263	0.000263	0.000263	0.000379
39	0.000516	0.000516	0.000516	0.000281	0.000281	0.000281	0.000399
40	0.000542	0.000542	0.000542	0.000299	0.000299	0.000299	0.000421
41	0.000570	0.000576	0.000570	0.000318	0.000316	0.000318	0.000444
42	0.000603	0.000656	0.000603	0.000339	0.000359	0.000339	0.000471
43	0.000644	0.000779	0.000646	0.000363	0.000425	0.000363	0.000505
44	0.000693	0.000943	0.000698	0.000391	0.000516	0.000391	0.000545
45	0.000750	0.001146	0.000759	0.000423	0.000631	0.000425	0.000592
46	0.000817	0.001390	0.000833	0.000459	0.000771	0.000464	0.000649
47	0.000891	0.001675	0.000916	0.000500	0.000939	0.000511	0.000714
48	0.000973	0.002004	0.001010	0.000546	0.001138	0.000566	0.000788
49	0.001066	0.002383	0.001120	0.000596	0.001371	0.000628	0.000874
50	0.001169	0.002817	0.001244	0.000654	0.001642	0.000704	0.000974
51	0.001284	0.003008	0.001370	0.000719	0.001733	0.000778	0.001074
52	0.001416	0.003218	0.001540	0.000795	0.001848	0.000873	0.001207
53	0.001556	0.003426	0.001734	0.000883	0.001994	0.000988	0.001361
54	0.001714	0.003652	0.001964	0.000985	0.002170	0.001126	0.001545
55	0.001898	0.003903	0.002312	0.001100	0.002380	0.001343	0.001828
56	0.002115	0.004189	0.002773	0.001228	0.002624	0.001627	0.002200
57	0.002374	0.004515	0.003183	0.001370	0.002907	0.001893	0.002538
58	0.002685	0.004885	0.003653	0.001525	0.003225	0.002184	0.002919
59	0.003051	0.005302	0.004173	0.001690	0.003580	0.002514	0.003344
60	0.003483	0.005773	0.004773	0.001865	0.003965	0.002905	0.003839
61	0.003980	0.006292	0.005445	0.002050	0.004381	0.003403	0.004424
62	0.004550	0.006866	0.006195	0.002245	0.004825	0.003947	0.005071
63	0.005206	0.007514	0.007030	0.002456	0.005304	0.004598	0.005814
64	0.005945	0.008227	0.007852	0.002686	0.005826	0.005212	0.006532
65	0.006759	0.008992	0.008731	0.002929	0.006378	0.005879	0.007305
66	0.007575	0.009837	0.009683	0.003262	0.006994	0.006665	0.008174
67	0.008460	0.010755	0.010643	0.003628	0.007673	0.007417	0.009030
68	0.009432	0.011768	0.011684	0.004043	0.008438	0.008228	0.009956
69	0.010530	0.012926	0.012857	0.004516	0.009314	0.009135	0.010996
70	0.011740	0.014211	0.014147	0.005055	0.010311	0.010133	0.012140
71	0.013105	0.015669	0.015609	0.005670	0.011443	0.011267	0.013438
72	0.014651	0.017334	0.017278	0.006377	0.012744	0.012571	0.014925
73	0.016393	0.019222	0.019171	0.007184	0.014219	0.014052	0.016612

74	0.018381	0.021392	0.021345	0.008110	0.015905	0.015747	0.018546
75	0.020625	0.023860	0.023818	0.009171	0.017832	0.017685	0.020752
76	0.023153	0.026669	0.026632	0.010382	0.020029	0.019898	0.023265
77	0.026011	0.029884	0.029854	0.011771	0.022555	0.022445	0.026150
78	0.029220	0.033542	0.033520	0.013355	0.025456	0.025374	0.029447
79	0.032800	0.037690	0.037677	0.015162	0.028794	0.028748	0.033213
80	0.036804	0.042409	0.042409	0.017202	0.032611	0.032611	0.037510
81	0.038779	0.047564	0.047564	0.018997	0.036875	0.036875	0.042220
82	0.042471	0.053493	0.053493	0.022399	0.041763	0.041763	0.047628
83	0.047875	0.060210	0.060210	0.027462	0.047381	0.047381	0.053796
84	0.055112	0.067926	0.067926	0.034254	0.053827	0.053827	0.060877
85	0.064208	0.076650	0.076650	0.042829	0.061163	0.061163	0.068907
86	0.075247	0.086534	0.086534	0.053201	0.069445	0.069445	0.077990
87	0.088214	0.097631	0.097631	0.065455	0.078806	0.078806	0.088219
88	0.103217	0.110080	0.110080	0.079602	0.089236	0.089236	0.099658
89	0.120285	0.123982	0.123982	0.095631	0.100765	0.100765	0.112374
90	0.139404	0.139404	0.139404	0.113553	0.113553	0.113553	0.126479
91	0.155723	0.155723	0.155723	0.127432	0.127432	0.127432	0.141578
92	0.172495	0.172495	0.172495	0.142079	0.142079	0.142079	0.157287
93	0.189416	0.189416	0.189416	0.157436	0.157436	0.157436	0.173426
94	0.206322	0.206322	0.206322	0.173120	0.173120	0.173120	0.189721
95	0.222904	0.222904	0.222904	0.189259	0.189259	0.189259	0.206082
96	0.241036	0.241036	0.241036	0.206635	0.206635	0.206635	0.223836
97	0.259609	0.259609	0.259609	0.224625	0.224625	0.224625	0.242117
98	0.278783	0.278783	0.278783	0.243330	0.243330	0.243330	0.261057
99	0.298557	0.298557	0.298557	0.262575	0.262575	0.262575	0.280566
100	0.318715	0.318715	0.318715	0.282507	0.282507	0.282507	0.300611
101	0.339088	0.339088	0.339088	0.302631	0.302631	0.302631	0.320860
102	0.359387	0.359387	0.359387	0.323025	0.323025	0.323025	0.341206
103	0.379567	0.379567	0.379567	0.343404	0.343404	0.343404	0.361486
104	0.399139	0.399139	0.399139	0.363591	0.363591	0.363591	0.381365
105	0.417508	0.417508	0.417508	0.383361	0.383361	0.383361	0.400435
106	0.435423	0.435423	0.435423	0.402637	0.402637	0.402637	0.419030
107	0.452373	0.452373	0.452373	0.420905	0.420905	0.420905	0.436639
108	0.468127	0.468127	0.468127	0.438323	0.438323	0.438323	0.453225
109	0.483049	0.483049	0.483049	0.454656	0.454656	0.454656	0.468853
110	0.496973	0.496973	0.496973	0.469951	0.469951	0.469951	0.483462
111	0.501966	0.501966	0.501966	0.484210	0.484210	0.484210	0.493088
112	0.501208	0.501208	0.501208	0.497359	0.497359	0.497359	0.499284
113	0.500603	0.500603	0.500603	0.502764	0.502764	0.502764	0.501684
114	0.500001	0.500001	0.500001	0.501052	0.501052	0.501052	0.500527
115	0.499300	0.499300	0.499300	0.499500	0.499500	0.499500	0.499400
116	0.499600	0.499600	0.499600	0.499750	0.499750	0.499750	0.499675
117	0.499800	0.499800	0.499800	0.499850	0.499850	0.499850	0.499825

