II. Term structure of interest rates in the debt securities market *

a) Term structure of interest rates in the debt securities market - estimated values, listed Federal securities

% per annum

End of year or month or trading day	Interest rate at a residual maturity of … years									
	1	2	3	4	5	6	7	8	9	10
2015	– 0.39	– 0.35	– 0.26	– 0.14	– 0.01	0.13	0.28	0.42	0.56	0.70
2016	– 0.84	– 0.80	– 0.76	– 0.65	– 0.51	– 0.35	– 0.18	– 0.03	0.10	0.22
2017	– 0.72	– 0.64	– 0.50	– 0.34	– 0.18	– 0.02	0.12	0.25	0.37	0.48
2018	– 0.70	– 0.65	– 0.56	– 0.44	– 0.31	– 0.18	– 0.06	0.06	0.16	0.25
2019	– 0.69	– 0.63	– 0.58	– 0.54	– 0.49	– 0.44	– 0.37	– 0.31	– 0.25	– 0.19
2020	– 0.73	– 0.75	– 0.77	– 0.77	– 0.75	– 0.72	– 0.68	– 0.65	– 0.61	– 0.57
2021	– 0.73	– 0.68	– 0.62	– 0.56	– 0.50	– 0.44	– 0.38	– 0.33	– 0.28	– 0.24
2022	2.39	2.59	2.55	2.50	2.47	2.47	2.48	2.50	2.51	2.53
2023	2.97	2.35	2.04	1.91	1.87	1.88	1.92	1.96	2.01	2.06
2024	2.17	2.02	2.02	2.06	2.13	2.20	2.27	2.33	2.38	2.43
2025	2.02	2.11	2.21	2.32	2.44	2.55	2.66	2.76	2.85	2.94
2025 Jan.	2.20	2.10	2.09	2.13	2.19	2.26	2.33	2.40	2.46	2.51
Feb.	2.07	1.97	1.97	2.02	2.08	2.15	2.23	2.30	2.36	2.42
Mar.	2.01	1.97	2.03	2.13	2.25	2.37	2.48	2.58	2.67	2.75
Apr.	1.75	1.70	1.78	1.89	2.01	2.13	2.24	2.35	2.44	2.52
May	1.78	1.77	1.85	1.96	2.08	2.20	2.31	2.41	2.50	2.59
June	1.82	1.84	1.92	2.03	2.15	2.26	2.37	2.47	2.56	2.65
July	1.90	1.95	2.04	2.14	2.25	2.36	2.47	2.57	2.66	2.75
Aug.	1.89	1.92	2.00	2.10	2.21	2.33	2.45	2.56	2.67	2.76
Sep.	1.96	2.01	2.08	2.18	2.28	2.39	2.49	2.59	2.69	2.78
Oct.	1.92	1.97	2.05	2.14	2.24	2.34	2.44	2.54	2.63	2.71
Nov.	1.96	2.01	2.09	2.18	2.28	2.38	2.48	2.58	2.68	2.77
Dec.	2.02	2.11	2.21	2.32	2.44	2.55	2.66	2.76	2.85	2.94
2026 Jan.	2.00	2.07	2.16	2.27	2.38	2.50	2.61	2.72	2.82	2.92
Feb.	2.00	2.02	2.08	2.16	2.25	2.36	2.46	2.57	2.66	2.76
Mar.	2.51	2.62	2.62	2.65	2.72	2.79	2.88	2.96	3.03	3.10
Apr.	2.59	2.71	2.73	2.75	2.80	2.88	2.96	3.04	3.11	3.18
May	2.45	2.53	2.55	2.59	2.64	2.71	2.80	2.88	2.96	3.04
June	2.46	2.50	2.50	2.52	2.57	2.63	2.70	2.78	2.86	2.93
2026 June 8	2.60	2.71	2.71	2.73	2.77	2.84	2.92	3.00	3.08	3.15
9	2.57	2.66	2.67	2.70	2.75	2.82	2.90	2.98	3.06	3.13
10	2.58	2.68	2.69	2.71	2.76	2.82	2.90	2.98	3.06	3.13
11	2.60	2.69	2.70	2.72	2.77	2.84	2.92	3.00	3.07	3.15
12	2.52	2.59	2.60	2.63	2.68	2.75	2.83	2.91	2.99	3.07
15	2.49	2.54	2.56	2.59	2.64	2.71	2.80	2.88	2.96	3.04
16	2.49	2.55	2.55	2.58	2.63	2.70	2.78	2.86	2.94	3.02
17	2.50	2.55	2.56	2.58	2.63	2.70	2.78	2.86	2.94	3.01
18	2.53	2.60	2.61	2.62	2.66	2.72	2.80	2.87	2.95	3.02
19	2.54	2.61	2.62	2.64	2.68	2.75	2.82	2.90	2.98	3.05
22	2.54	2.61	2.62	2.64	2.69	2.75	2.83	2.91	2.98	3.05
23	2.50	2.56	2.57	2.59	2.64	2.71	2.78	2.86	2.94	3.01
24	2.50	2.55	2.56	2.58	2.62	2.69	2.76	2.84	2.91	2.99
25	2.48	2.53	2.53	2.55	2.60	2.66	2.73	2.81	2.88	2.95
26	2.46	2.50	2.51	2.53	2.57	2.64	2.71	2.79	2.86	2.94
29	2.47	2.51	2.52	2.54	2.58	2.64	2.72	2.79	2.87	2.94
30	2.46	2.50	2.50	2.52	2.57	2.63	2.70	2.78	2.86	2.93
July 1	2.46	2.50	2.52	2.55	2.60	2.66	2.74	2.82	2.89	2.97
2	2.45	2.51	2.53	2.57	2.62	2.69	2.77	2.85	2.93	3.00
3	2.45	2.51	2.54	2.58	2.63	2.70	2.78	2.86	2.94	3.02
6	2.44	2.50	2.53	2.57	2.63	2.70	2.78	2.86	2.94	3.02
	Memo item: yields, derived from the term structure of interest rates, on listed Federal securitiers with annual coupon payments									
2026 June 30	2.46	2.50	2.50	2.52	2.56	2.62	2.69	2.76	2.83	2.90

Parameters for calculating the term structure of interest rates

	Beta0	Beta1	Beta2	Beta3	Tau1	Tau2
2026 June 30	3.84998	– 1.61670	27.87446	– 29.91843	1.73593	1.85104
July 1	3.89380	– 1.66511	27.86593	– 29.92180	1.74238	1.85465
2	3.93982	– 1.70836	27.84339	– 29.92138	1.76544	1.87527
3	3.96205	– 1.72746	27.84043	– 29.94313	1.79396	1.90095
6	3.96921	– 1.73504	27.80913	– 29.94316	1.78613	1.89369

***** Interest rates on (theoretical) zero coupon bonds without a default risk, estimated according to the procedure outlined in the explanatory notes. The estimates are based on the prices of Federal bonds, five-year Federal notes and Federal Treasury notes with a residual maturity of at least three months. The interest rates are estimated using a non-linear, parametric approach.

II. Term structure of interest rates in the debt securities market *

still: a) Term structure of interest rates in the debt securities market - estimated values, listed Federal securities

% per annum

End of year or month or trading day	Interest rate at a residual maturity of … years									
	11	12	13	14	15	16	17	18	19	20
2015	0.82	0.94	1.04	1.14	1.22	1.30	1.36	1.41	1.46	1.50
2016	0.33	0.42	0.49	0.56	0.62	0.67	0.72	0.76	0.80	0.83
2017	0.57	0.66	0.74	0.81	0.87	0.92	0.97	1.02	1.06	1.10
2018	0.33	0.40	0.47	0.52	0.57	0.62	0.66	0.69	0.73	0.76
2019	− 0.14	− 0.09	− 0.04	− 0.00	0.04	0.07	0.11	0.13	0.16	0.19
2020	− 0.53	− 0.50	− 0.46	− 0.43	− 0.40	− 0.37	− 0.35	− 0.32	− 0.30	− 0.28
2021	− 0.20	− 0.16	− 0.13	− 0.10	− 0.07	− 0.05	− 0.03	− 0.01	0.01	0.02
2022	2.55	2.56	2.57	2.57	2.58	2.58	2.57	2.57	2.56	2.55
2023	2.11	2.15	2.19	2.22	2.25	2.27	2.28	2.30	2.30	2.31
2024	2.48	2.52	2.55	2.58	2.60	2.62	2.63	2.64	2.65	2.65
2025	3.02	3.09	3.16	3.22	3.27	3.31	3.35	3.38	3.41	3.44
2025 Jan.	2.56	2.60	2.64	2.67	2.70	2.72	2.73	2.75	2.76	2.76
Feb.	2.47	2.52	2.56	2.59	2.62	2.64	2.66	2.67	2.68	2.69
Mar.	2.82	2.87	2.92	2.96	2.99	3.02	3.04	3.05	3.06	3.07
Apr.	2.60	2.66	2.72	2.76	2.80	2.84	2.86	2.89	2.90	2.91
May	2.66	2.73	2.79	2.84	2.88	2.92	2.95	2.98	3.00	3.01
June	2.72	2.78	2.84	2.89	2.93	2.97	3.00	3.02	3.04	3.06
July	2.82	2.89	2.94	2.99	3.03	3.07	3.10	3.12	3.14	3.15
Aug.	2.85	2.93	2.99	3.05	3.10	3.15	3.18	3.21	3.24	3.26
Sep.	2.86	2.93	2.99	3.04	3.09	3.13	3.17	3.20	3.22	3.25
Oct.	2.79	2.86	2.92	2.98	3.03	3.07	3.11	3.14	3.16	3.18
Nov.	2.85	2.92	2.99	3.05	3.10	3.15	3.19	3.23	3.26	3.28
Dec.	3.02	3.09	3.16	3.22	3.27	3.31	3.35	3.38	3.41	3.44
2026 Jan.	3.00	3.08	3.15	3.21	3.27	3.32	3.36	3.40	3.43	3.46
Feb.	2.84	2.92	2.99	3.06	3.12	3.17	3.21	3.25	3.28	3.31
Mar.	3.16	3.21	3.25	3.29	3.32	3.35	3.38	3.40	3.43	3.45
Apr.	3.24	3.30	3.35	3.39	3.43	3.46	3.49	3.52	3.54	3.56
May	3.10	3.16	3.22	3.27	3.31	3.35	3.38	3.41	3.44	3.46
June	2.99	3.06	3.11	3.16	3.20	3.24	3.28	3.31	3.34	3.36
2026 June 8	3.21	3.27	3.32	3.37	3.41	3.44	3.47	3.50	3.53	3.55
9	3.20	3.26	3.31	3.36	3.40	3.44	3.47	3.50	3.52	3.55
10	3.20	3.26	3.31	3.36	3.40	3.44	3.47	3.50	3.53	3.55
11	3.21	3.27	3.32	3.37	3.41	3.45	3.48	3.51	3.53	3.56
12	3.13	3.19	3.25	3.29	3.34	3.37	3.41	3.44	3.46	3.49
15	3.11	3.17	3.23	3.28	3.32	3.36	3.39	3.42	3.45	3.48
16	3.09	3.15	3.20	3.25	3.30	3.33	3.37	3.40	3.43	3.45
17	3.08	3.14	3.19	3.24	3.28	3.32	3.36	3.39	3.42	3.44
18	3.08	3.14	3.19	3.24	3.28	3.31	3.35	3.37	3.40	3.43
19	3.11	3.17	3.23	3.27	3.31	3.35	3.38	3.41	3.44	3.47
22	3.12	3.18	3.23	3.28	3.32	3.36	3.39	3.42	3.45	3.48
23	3.08	3.14	3.20	3.24	3.29	3.33	3.36	3.39	3.42	3.44
24	3.05	3.11	3.16	3.21	3.25	3.29	3.33	3.36	3.38	3.41
25	3.02	3.07	3.13	3.17	3.22	3.25	3.29	3.32	3.34	3.37
26	3.00	3.06	3.11	3.16	3.20	3.24	3.28	3.31	3.34	3.36
29	3.01	3.07	3.12	3.17	3.21	3.25	3.29	3.32	3.34	3.37
30	2.99	3.06	3.11	3.16	3.20	3.24	3.28	3.31	3.34	3.36
July 1	3.03	3.10	3.15	3.20	3.24	3.28	3.32	3.35	3.38	3.40
2	3.07	3.13	3.19	3.24	3.28	3.32	3.36	3.39	3.42	3.44
3	3.08	3.15	3.20	3.25	3.30	3.34	3.37	3.40	3.43	3.46
6	3.09	3.15	3.20	3.25	3.30	3.34	3.38	3.41	3.44	3.46
	Memo item: yields, derived from the term structure of interest rates, on listed Federal securitiers with annual coupon payments									
2026 June 30	2.95	3.01	3.06	3.10	3.13	3.17	3.20	3.22	3.25	3.27

Parameters for calculating the term structure of interest rates

	Beta0	Beta1	Beta2	Beta3	Tau1	Tau2
2026 June 30	3.84998	− 1.61670	27.87446	− 29.91843	1.73593	1.85104
July 1	3.89380	− 1.66511	27.86593	− 29.92180	1.74238	1.85465
2	3.93982	− 1.70836	27.84339	− 29.92138	1.76544	1.87527
3	3.96205	− 1.72746	27.84043	− 29.94313	1.79396	1.90095
6	3.96921	− 1.73504	27.80913	− 29.94316	1.78613	1.89369

* Interest rates on (theoretical) zero coupon bonds without a default risk, estimated according to the procedure outlined in the explanatory notes. The estimates are based on the prices of Federal bonds, five-year Federal notes and Federal Treasury notes with a residual maturity of at least three months. The interest rates are estimated using a non-linear, parametric approach.

II. Term structure of interest rates in the debt securities market *

still: a) Term structure of interest rates in the debt securities market - estimated values, listed Federal securities

% per annum

End of year or month or trading day	Interest rate at a residual maturity of … years: 21	22	23	24	25	26	27	28	29	30
2015	1.53	1.56	1.57	1.59	1.59	1.60	1.60	1.59	1.59	1.58
2016	0.86	0.89	0.91	0.94	0.96	0.98	1.00	1.01	1.03	1.04
2017	1.13	1.16	1.19	1.22	1.24	1.26	1.28	1.30	1.32	1.34
2018	0.78	0.81	0.83	0.85	0.87	0.89	0.90	0.92	0.93	0.95
2019	0.21	0.23	0.25	0.26	0.28	0.29	0.31	0.32	0.33	0.34
2020	− 0.26	− 0.25	− 0.23	− 0.21	− 0.20	− 0.19	− 0.17	− 0.16	− 0.15	− 0.14
2021	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.12
2022	2.53	2.52	2.50	2.48	2.47	2.45	2.43	2.41	2.39	2.36
2023	2.31	2.31	2.30	2.30	2.29	2.28	2.27	2.25	2.24	2.22
2024	2.65	2.65	2.65	2.64	2.64	2.63	2.62	2.61	2.60	2.59
2025	3.46	3.48	3.49	3.50	3.51	3.52	3.53	3.53	3.53	3.54
2025 Jan.	2.76	2.76	2.76	2.76	2.75	2.74	2.73	2.72	2.71	2.69
Feb.	2.69	2.69	2.69	2.69	2.68	2.67	2.66	2.65	2.64	2.62
Mar.	3.08	3.08	3.08	3.08	3.08	3.07	3.07	3.06	3.05	3.05
Apr.	2.92	2.93	2.93	2.92	2.92	2.91	2.90	2.89	2.87	2.86
May	3.02	3.03	3.04	3.04	3.04	3.03	3.03	3.02	3.01	3.00
June	3.07	3.08	3.08	3.08	3.08	3.08	3.07	3.07	3.06	3.05
July	3.16	3.17	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.17
Aug.	3.28	3.30	3.31	3.32	3.33	3.33	3.34	3.34	3.34	3.35
Sep.	3.26	3.28	3.29	3.29	3.30	3.30	3.31	3.31	3.31	3.31
Oct.	3.20	3.22	3.23	3.23	3.24	3.24	3.25	3.25	3.25	3.25
Nov.	3.30	3.32	3.33	3.35	3.35	3.36	3.37	3.37	3.37	3.37
Dec.	3.46	3.48	3.49	3.50	3.51	3.52	3.53	3.53	3.53	3.54
2026 Jan.	3.48	3.50	3.52	3.54	3.55	3.56	3.57	3.57	3.58	3.58
Feb.	3.34	3.36	3.38	3.39	3.41	3.42	3.43	3.43	3.44	3.44
Mar.	3.46	3.48	3.49	3.51	3.52	3.53	3.54	3.55	3.56	3.57
Apr.	3.58	3.60	3.61	3.63	3.64	3.65	3.67	3.68	3.69	3.70
May	3.48	3.50	3.52	3.54	3.56	3.57	3.58	3.60	3.61	3.62
June	3.38	3.41	3.42	3.44	3.46	3.47	3.49	3.50	3.51	3.52
2026 June 8	3.57	3.59	3.60	3.62	3.63	3.65	3.66	3.67	3.68	3.69
9	3.57	3.59	3.61	3.62	3.64	3.65	3.67	3.68	3.69	3.70
10	3.57	3.59	3.61	3.63	3.64	3.65	3.67	3.68	3.69	3.70
11	3.58	3.60	3.61	3.63	3.65	3.66	3.67	3.68	3.70	3.71
12	3.51	3.53	3.55	3.56	3.58	3.59	3.60	3.62	3.63	3.64
15	3.50	3.52	3.54	3.56	3.57	3.59	3.60	3.61	3.62	3.64
16	3.48	3.50	3.52	3.53	3.55	3.56	3.58	3.59	3.60	3.61
17	3.46	3.48	3.50	3.52	3.54	3.55	3.56	3.58	3.59	3.60
18	3.45	3.47	3.48	3.50	3.52	3.53	3.54	3.56	3.57	3.58
19	3.49	3.51	3.53	3.54	3.56	3.57	3.59	3.60	3.61	3.62
22	3.50	3.52	3.54	3.55	3.57	3.58	3.60	3.61	3.62	3.63
23	3.47	3.49	3.51	3.52	3.54	3.56	3.57	3.58	3.59	3.60
24	3.43	3.45	3.47	3.49	3.50	3.52	3.53	3.54	3.55	3.57
25	3.39	3.41	3.43	3.45	3.46	3.48	3.49	3.50	3.51	3.52
26	3.38	3.40	3.42	3.44	3.46	3.47	3.49	3.50	3.51	3.52
29	3.39	3.41	3.43	3.45	3.47	3.48	3.49	3.51	3.52	3.53
30	3.38	3.41	3.42	3.44	3.46	3.47	3.49	3.50	3.51	3.52
July 1	3.43	3.45	3.47	3.48	3.50	3.52	3.53	3.54	3.55	3.57
2	3.47	3.49	3.51	3.52	3.54	3.56	3.57	3.58	3.60	3.61
3	3.48	3.50	3.52	3.54	3.56	3.58	3.59	3.60	3.62	3.63
6	3.49	3.51	3.53	3.55	3.56	3.58	3.59	3.61	3.62	3.63
Memo item: yields, derived from the term structure of interest rates, on listed Federal securitiers with annual coupon payments										
2026 June 30	3.29	3.30	3.32	3.33	3.35	3.36	3.37	3.38	3.39	3.40

Parameters for calculating the term structure of interest rates

	Beta0	Beta1	Beta2	Beta3	Tau1	Tau2
2026 June 30	3.84998	− 1.61670	27.87446	− 29.91843	1.73593	1.85104
July 1	3.89380	− 1.66511	27.86593	− 29.92180	1.74238	1.85465
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***** Interest rates on (theoretical) zero coupon bonds without a default risk, estimated according to the procedure outlined in the explanatory notes. The estimates are based on the prices of Federal bonds, five-year Federal notes and Federal Treasury notes with a residual maturity of at least three months. The interest rates are estimated using a non-linear, parametric approach.