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 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
July	2.66	2.76	2.79	2.82	2.86	2.93	3.00	3.07	3.15	3.21
Aug.	2.76	2.89	2.93	2.97	3.02	3.08	3.15	3.23	3.30	3.37
2026 Aug. 3	2.65	2.75	2.77	2.80	2.85	2.92	2.99	3.07	3.14	3.21
4	2.66	2.76	2.79	2.82	2.86	2.93	3.00	3.08	3.15	3.22
5	2.61	2.70	2.72	2.75	2.80	2.86	2.93	3.01	3.09	3.16
6	2.62	2.71	2.74	2.77	2.82	2.88	2.95	3.03	3.10	3.17
7	2.64	2.74	2.77	2.80	2.85	2.91	2.98	3.06	3.13	3.20
10	2.64	2.74	2.76	2.79	2.84	2.90	2.98	3.05	3.13	3.19
11	2.68	2.79	2.83	2.86	2.90	2.97	3.04	3.11	3.19	3.26
12	2.66	2.76	2.79	2.82	2.86	2.93	3.00	3.07	3.14	3.21
13	2.66	2.75	2.78	2.81	2.85	2.92	2.99	3.07	3.14	3.21
14	2.66	2.76	2.78	2.81	2.86	2.93	3.00	3.08	3.15	3.22
17	2.67	2.78	2.81	2.84	2.90	2.96	3.04	3.12	3.19	3.26
18	2.70	2.81	2.85	2.88	2.94	3.01	3.09	3.17	3.24	3.32
19	2.71	2.83	2.87	2.90	2.95	3.02	3.10	3.18	3.25	3.33
20	2.72	2.84	2.88	2.91	2.96	3.03	3.10	3.18	3.25	3.32
21	2.70	2.80	2.84	2.88	2.93	3.00	3.08	3.16	3.23	3.31
24	2.71	2.82	2.85	2.89	2.94	3.01	3.08	3.16	3.23	3.30
25	2.73	2.84	2.87	2.90	2.95	3.01	3.09	3.16	3.24	3.31
26	2.68	2.77	2.80	2.84	2.89	2.96	3.04	3.11	3.19	3.26
27	2.75	2.79	2.76	2.76	2.81	2.89	2.98	3.07	3.15	3.22
28	2.76	2.81	2.77	2.78	2.83	2.91	3.00	3.09	3.17	3.24
31	2.76	2.89	2.93	2.97	3.02	3.08	3.15	3.23	3.30	3.37
Sep. 1	2.83	2.90	2.87	2.88	2.93	3.01	3.09	3.18	3.25	3.32
2	2.83	2.98	3.02	3.06	3.11	3.17	3.24	3.31	3.39	3.45
	Memo item: yields, derived from the term structure of interest rates, on listed Federal securitiers with annual coupon payments									
2026 Aug. 31	2.76	2.89	2.93	2.96	3.01	3.07	3.14	3.21	3.27	3.33

Parameters for calculating the term structure of interest rates

	Beta0	Beta1	Beta2	Beta3	Tau1	Tau2
2026 Aug. 27	3.96275	− 1.80767	28.72123	− 29.97107	1.28446	1.40751
28	3.98008	− 1.82744	28.72410	− 29.94443	1.27914	1.40193
31	4.19178	− 1.89146	28.65976	− 29.99376	1.62012	1.73438
Sep. 1	4.03224	− 1.92583	29.08405	− 29.99919	1.24652	1.36908
2	4.22652	− 1.93597	28.90138	− 29.99366	1.55497	1.66804

***** 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 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
July	3.28	3.33	3.38	3.43	3.47	3.50	3.54	3.56	3.59	3.61
Aug.	3.43	3.49	3.54	3.58	3.62	3.65	3.68	3.71	3.74	3.76
2026 Aug. 3	3.27	3.33	3.38	3.42	3.47	3.50	3.53	3.56	3.59	3.61
4	3.28	3.34	3.39	3.44	3.48	3.51	3.54	3.57	3.60	3.62
5	3.22	3.28	3.33	3.38	3.42	3.46	3.49	3.52	3.54	3.57
6	3.24	3.29	3.34	3.39	3.43	3.47	3.50	3.53	3.56	3.58
7	3.27	3.33	3.38	3.42	3.46	3.50	3.53	3.56	3.59	3.61
10	3.26	3.32	3.37	3.41	3.45	3.49	3.52	3.55	3.58	3.60
11	3.32	3.37	3.43	3.47	3.51	3.55	3.58	3.61	3.63	3.65
12	3.28	3.33	3.38	3.43	3.47	3.50	3.54	3.56	3.59	3.61
13	3.27	3.33	3.38	3.43	3.47	3.51	3.54	3.57	3.60	3.62
14	3.28	3.34	3.40	3.44	3.48	3.52	3.55	3.58	3.61	3.64
17	3.33	3.39	3.44	3.49	3.53	3.57	3.60	3.63	3.66	3.69
18	3.38	3.44	3.49	3.54	3.58	3.62	3.65	3.68	3.71	3.73
19	3.39	3.45	3.50	3.55	3.59	3.63	3.66	3.69	3.72	3.74
20	3.38	3.44	3.49	3.54	3.58	3.61	3.64	3.67	3.70	3.72
21	3.37	3.43	3.48	3.53	3.57	3.61	3.64	3.67	3.70	3.72
24	3.37	3.43	3.48	3.52	3.57	3.60	3.63	3.66	3.69	3.71
25	3.37	3.43	3.48	3.52	3.56	3.60	3.63	3.66	3.69	3.71
26	3.33	3.38	3.44	3.48	3.53	3.56	3.60	3.62	3.65	3.68
27	3.28	3.33	3.38	3.42	3.46	3.49	3.52	3.54	3.56	3.58
28	3.30	3.35	3.40	3.44	3.48	3.51	3.54	3.56	3.58	3.60
31	3.43	3.49	3.54	3.58	3.62	3.65	3.68	3.71	3.74	3.76
Sep. 1	3.38	3.43	3.48	3.52	3.55	3.58	3.61	3.63	3.65	3.67
2	3.51	3.56	3.61	3.65	3.69	3.72	3.75	3.78	3.80	3.82
	Memo item: yields, derived from the term structure of interest rates, on listed Federal securitiers with annual coupon payments									
2026 Aug. 31	3.39	3.43	3.48	3.51	3.55	3.58	3.60	3.62	3.64	3.66

Parameters for calculating the term structure of interest rates

	Beta0	Beta1	Beta2	Beta3	Tau1	Tau2
2026 Aug. 27	3.96275	− 1.80767	28.72123	− 29.97107	1.28446	1.40751
28	3.98008	− 1.82744	28.72410	− 29.94443	1.27914	1.40193
31	4.19178	− 1.89146	28.65976	− 29.99376	1.62012	1.73438
Sep. 1	4.03224	− 1.92583	29.08405	− 29.99919	1.24652	1.36908
2	4.22652	− 1.93597	28.90138	− 29.99366	1.55497	1.66804

* 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 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
July	3.63	3.65	3.67	3.69	3.70	3.71	3.73	3.74	3.75	3.76
Aug.	3.78	3.80	3.82	3.83	3.85	3.86	3.87	3.88	3.89	3.90
2026 Aug. 3	3.63	3.65	3.67	3.69	3.70	3.71	3.73	3.74	3.75	3.76
4	3.64	3.66	3.68	3.69	3.71	3.72	3.74	3.75	3.76	3.77
5	3.59	3.61	3.63	3.65	3.66	3.68	3.69	3.70	3.71	3.72
6	3.60	3.62	3.64	3.66	3.67	3.69	3.70	3.71	3.72	3.73
7	3.63	3.65	3.67	3.69	3.70	3.72	3.73	3.74	3.75	3.76
10	3.62	3.64	3.66	3.68	3.69	3.71	3.72	3.73	3.74	3.75
11	3.68	3.69	3.71	3.73	3.74	3.76	3.77	3.78	3.79	3.80
12	3.63	3.65	3.67	3.69	3.70	3.72	3.73	3.74	3.75	3.76
13	3.64	3.66	3.68	3.70	3.71	3.73	3.74	3.75	3.76	3.78
14	3.66	3.68	3.70	3.71	3.73	3.74	3.76	3.77	3.78	3.79
17	3.71	3.73	3.75	3.77	3.78	3.80	3.81	3.82	3.83	3.84
18	3.76	3.78	3.79	3.81	3.83	3.84	3.85	3.87	3.88	3.89
19	3.76	3.78	3.80	3.82	3.83	3.85	3.86	3.87	3.88	3.89
20	3.74	3.76	3.78	3.80	3.81	3.83	3.84	3.85	3.86	3.87
21	3.74	3.76	3.78	3.80	3.81	3.83	3.84	3.85	3.86	3.87
24	3.74	3.76	3.77	3.79	3.81	3.82	3.83	3.84	3.86	3.87
25	3.73	3.75	3.77	3.79	3.80	3.82	3.83	3.84	3.85	3.86
26	3.70	3.72	3.74	3.75	3.77	3.78	3.79	3.81	3.82	3.83
27	3.60	3.62	3.63	3.65	3.66	3.67	3.68	3.69	3.70	3.71
28	3.62	3.64	3.65	3.66	3.68	3.69	3.70	3.71	3.72	3.73
31	3.78	3.80	3.82	3.83	3.85	3.86	3.87	3.88	3.89	3.90
Sep. 1	3.69	3.70	3.72	3.73	3.74	3.76	3.77	3.77	3.78	3.79
2	3.84	3.86	3.87	3.89	3.90	3.92	3.93	3.94	3.95	3.96
	Memo item: yields, derived from the term structure of interest rates, on listed Federal securitiers with annual coupon payments									
2026 Aug. 31	3.68	3.69	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78

Parameters for calculating the term structure of interest rates

	Beta0	Beta1	Beta2	Beta3	Tau1	Tau2
2026 Aug. 27	3.96275	– 1.80767	28.72123	– 29.97107	1.28446	1.40751
28	3.98008	– 1.82744	28.72410	– 29.94443	1.27914	1.40193
31	4.19178	– 1.89146	28.65976	– 29.99376	1.62012	1.73438
Sep. 1	4.03224	– 1.92583	29.08405	– 29.99919	1.24652	1.36908
2	4.22652	– 1.93597	28.90138	– 29.99366	1.55497	1.66804

***** 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.