

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

b) Term structure of interest rates in the debt securities market - estimated values, Pfandbriefe

% per annum

		Interest rate at a residual maturity of ... years									
End of year or month or trading day		1	2	3	4	5	6	7	8	9	10
2013		0.50	0.60	0.84	1.12	1.40	1.67	1.92	2.15	2.37	2.58
2014		0.25	0.23	0.27	0.34	0.44	0.54	0.65	0.76	0.87	0.97
2015		0.10	0.10	0.14	0.25	0.39	0.54	0.69	0.84	0.97	1.09
2016		0.03	0.07	0.06	0.09	0.16	0.26	0.38	0.51	0.63	0.74
2017		0.12	0.03	0.08	0.20	0.33	0.46	0.59	0.72	0.84	0.95
2018		0.11	0.04	0.04	0.15	0.29	0.44	0.59	0.73	0.85	0.97
2019		0.21	0.20	0.15	0.09	0.02	0.05	0.11	0.18	0.24	0.30
2020		0.42	0.40	0.37	0.34	0.31	0.28	0.25	0.21	0.17	0.13
2021		0.41	0.23	0.07	0.03	0.09	0.15	0.19	0.24	0.29	0.35
2022		3.22	3.33	3.28	3.26	3.26	3.26	3.27	3.28	3.29	3.28
2023		3.53	3.01	2.79	2.71	2.71	2.73	2.76	2.80	2.83	2.86
2022 Oct.		2.59	2.82	2.88	2.92	2.97	3.02	3.05	3.08	3.10	3.11
Nov.		2.82	2.85	2.83	2.81	2.80	2.79	2.78	2.78	2.77	2.77
Dec.		3.22	3.33	3.28	3.26	3.26	3.26	3.27	3.28	3.29	3.28
2023 Jan.		3.34	3.29	3.15	3.08	3.05	3.04	3.05	3.05	3.06	3.07
Feb.		3.66	3.74	3.64	3.53	3.47	3.43	3.41	3.41	3.40	3.40
Mar.		3.63	3.48	3.36	3.29	3.26	3.24	3.23	3.23	3.22	3.22
Apr.		3.83	3.55	3.38	3.29	3.26	3.24	3.23	3.23	3.24	3.24
May		3.87	3.61	3.36	3.24	3.19	3.17	3.17	3.17	3.18	3.18
June		4.07	3.93	3.69	3.51	3.41	3.34	3.31	3.29	3.27	3.26
July		4.08	3.80	3.57	3.45	3.38	3.35	3.34	3.33	3.33	3.33
Aug.		4.03	3.74	3.52	3.41	3.35	3.33	3.32	3.32	3.33	3.33
Sep.		4.18	3.90	3.73	3.66	3.63	3.62	3.63	3.63	3.64	3.65
Oct.		4.03	3.72	3.55	3.49	3.49	3.52	3.55	3.59	3.61	3.64
Nov.		3.84	3.49	3.29	3.20	3.16	3.17	3.19	3.22	3.26	3.30
Dec.		3.53	3.01	2.79	2.71	2.71	2.73	2.76	2.80	2.83	2.86
2024 Jan.		3.62	3.15	2.96	2.90	2.91	2.93	2.96	3.00	3.02	3.05
Feb.		3.90	3.55	3.35	3.24	3.20	3.18	3.19	3.21	3.23	3.26
Mar.		3.81	3.43	3.21	3.08	3.01	2.99	2.99	3.01	3.04	3.07
2024 Mar.	4	3.88	3.49	3.27	3.16	3.12	3.11	3.11	3.13	3.16	3.18
	5	3.89	3.48	3.26	3.15	3.10	3.08	3.09	3.11	3.13	3.15
	6	3.88	3.48	3.25	3.13	3.08	3.06	3.06	3.08	3.10	3.12
	7	3.87	3.46	3.23	3.11	3.05	3.03	3.04	3.06	3.08	3.11
	8	3.81	3.39	3.15	3.03	2.98	2.96	2.97	2.99	3.02	3.05
	11	3.80	3.37	3.13	3.01	2.95	2.94	2.95	2.98	3.01	3.04
	12	3.82	3.40	3.16	3.03	2.97	2.96	2.97	2.99	3.02	3.05
	13	3.83	3.41	3.18	3.05	2.99	2.97	2.98	3.00	3.03	3.06
	14	3.84	3.44	3.21	3.09	3.03	3.01	3.02	3.04	3.07	3.10
	15	3.86	3.50	3.28	3.16	3.10	3.08	3.09	3.10	3.13	3.16
	18	3.87	3.51	3.30	3.18	3.12	3.10	3.10	3.12	3.14	3.18
	19	3.86	3.51	3.29	3.17	3.11	3.09	3.09	3.11	3.14	3.17
	20	3.85	3.49	3.27	3.15	3.09	3.07	3.07	3.09	3.12	3.16
	21	3.84	3.46	3.25	3.13	3.08	3.06	3.07	3.10	3.13	3.16
	22	3.82	3.44	3.22	3.10	3.05	3.03	3.04	3.07	3.10	3.13
	25	3.81	3.43	3.21	3.09	3.03	3.01	3.02	3.05	3.08	3.11
	26	3.82	3.45	3.22	3.10	3.04	3.02	3.03	3.05	3.08	3.11
	27	3.81	3.43	3.21	3.08	3.02	3.00	3.00	3.02	3.05	3.09
	28	3.81	3.43	3.21	3.08	3.01	2.99	2.99	3.01	3.04	3.07
Apr.	2	3.79	3.42	3.20	3.08	3.02	3.01	3.01	3.04	3.07	3.10
	3	3.78	3.41	3.20	3.09	3.03	3.02	3.03	3.06	3.09	3.12
Memo item: yields, derived from the term of structure of interest rates, on Pfandbriefe with annual coupon payments											
2024 Mar.	28	3.81	3.44	3.22	3.09	3.03	3.00	3.01	3.02	3.05	3.07
Parameters for calculating the term structure of interest rates											
		Beta0	Beta1	Beta2	Beta3	Tau1	Tau2				
2024 Mar.	28	0.22291	4.18890	0.10074	8.98211	1.89760	13.76186				
Apr.	2	0.20000	4.18153	0.01014	9.14345	1.93001	13.51016				
	3	0.54811	3.83504	0.01957	8.26712	1.78951	13.63248				

* Interest rates on (theoretical) zero coupon bonds, estimated according to the procedure outlined in the explanatory notes. The estimates are based on the prices of Pfandbriefe (mortgage Pfandbriefe and public Pfandbriefe) with a residual maturity of

at least three months. The interest rates are estimated using a non-linear, parametric approach.

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% per annum

		Interest rate at a residual maturity of ... years										
End of year or month or trading day		11	12	13	14	15	16	17	18	19	20	
2013		.	.	.	.	.	.	.	.	.	.
2014		.	.	.	.	.	.	.	.	.	.
2015		.	.	.	.	.	.	.	.	.	.
2016		.	.	.	.	.	.	.	.	.	.
2017		1.05	1.15	1.24	1.32	1.39	1.46	1.52	1.57	1.62	1.67	
2018		1.07	1.17	1.25	1.32	1.38	1.44	1.49	1.54	1.58	1.62	
2019		0.36	0.41	0.47	0.52	0.57	0.62	0.66	0.71	0.76	0.81	
2020		-	0.09	-	0.01	0.04	0.08	0.13	0.17	0.22	0.27	0.32
2021		0.41	0.46	0.52	0.58	0.63	0.69	0.74	0.79	0.84	0.89	0.89
2022		3.28	3.27	3.26	3.25	3.23	3.21	3.19	3.17	3.15	3.13	3.13
2023		2.88	2.90	2.92	2.94	2.96	2.97	2.98	2.99	3.00	3.01	3.01
2022 Oct.		3.12	3.12	3.12	3.11	3.10	3.09	3.08	3.07	3.05	3.04	3.04
Nov.		2.77	2.77	2.77	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
Dec.		3.28	3.27	3.26	3.25	3.23	3.21	3.19	3.17	3.15	3.13	3.13
2023 Jan.		3.08	3.08	3.08	3.07	3.07	3.06	3.05	3.03	3.02	3.00	3.00
Feb.		3.40	3.40	3.40	3.40	3.39	3.38	3.37	3.35	3.34	3.32	3.32
Mar.		3.22	3.21	3.21	3.21	3.20	3.20	3.19	3.18	3.17	3.16	3.16
Apr.		3.24	3.24	3.25	3.25	3.25	3.24	3.24	3.24	3.23	3.22	3.22
May		3.19	3.19	3.20	3.20	3.20	3.21	3.21	3.21	3.21	3.21	3.21
June		3.25	3.24	3.24	3.23	3.23	3.22	3.22	3.22	3.21	3.21	3.21
July		3.33	3.33	3.33	3.33	3.34	3.34	3.34	3.34	3.34	3.34	3.34
Aug.		3.34	3.35	3.35	3.36	3.36	3.37	3.37	3.37	3.38	3.38	3.38
Sep.		3.66	3.67	3.68	3.69	3.69	3.70	3.70	3.71	3.71	3.71	3.72
Oct.		3.66	3.68	3.69	3.71	3.72	3.73	3.74	3.75	3.75	3.76	3.76
Nov.		3.33	3.36	3.39	3.41	3.43	3.44	3.45	3.45	3.46	3.46	3.46
Dec.		2.88	2.90	2.92	2.94	2.96	2.97	2.98	2.99	3.00	3.01	3.01
2024 Jan.		3.07	3.09	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.18
Feb.		3.28	3.31	3.32	3.34	3.35	3.36	3.37	3.37	3.37	3.37	3.37
Mar.		3.11	3.14	3.17	3.19	3.22	3.23	3.25	3.26	3.26	3.27	3.27
2024 Mar.	4	3.21	3.23	3.25	3.27	3.29	3.30	3.31	3.31	3.31	3.31	3.31
	5	3.18	3.20	3.22	3.24	3.25	3.26	3.27	3.28	3.28	3.28	3.28
	6	3.14	3.16	3.18	3.20	3.21	3.22	3.23	3.24	3.24	3.24	3.24
	7	3.13	3.16	3.18	3.20	3.22	3.23	3.24	3.25	3.25	3.25	3.25
	8	3.08	3.11	3.14	3.16	3.18	3.20	3.21	3.22	3.22	3.22	3.23
	11	3.07	3.10	3.13	3.15	3.17	3.19	3.20	3.21	3.21	3.22	3.22
	12	3.08	3.11	3.14	3.17	3.19	3.21	3.22	3.23	3.24	3.24	3.24
	13	3.10	3.13	3.16	3.18	3.20	3.22	3.23	3.24	3.25	3.25	3.25
	14	3.13	3.16	3.19	3.22	3.24	3.25	3.27	3.28	3.28	3.29	3.29
	15	3.19	3.22	3.25	3.28	3.30	3.31	3.33	3.33	3.34	3.34	3.34
	18	3.21	3.24	3.27	3.29	3.31	3.33	3.34	3.35	3.36	3.36	3.36
	19	3.20	3.24	3.26	3.29	3.31	3.33	3.34	3.35	3.36	3.36	3.36
	20	3.19	3.22	3.25	3.28	3.30	3.32	3.33	3.35	3.35	3.35	3.35
	21	3.20	3.23	3.26	3.28	3.31	3.32	3.34	3.35	3.35	3.36	3.36
	22	3.17	3.20	3.23	3.26	3.29	3.30	3.32	3.33	3.34	3.34	3.34
	25	3.15	3.18	3.21	3.24	3.26	3.28	3.30	3.31	3.31	3.31	3.31
	26	3.15	3.18	3.21	3.24	3.27	3.28	3.30	3.31	3.32	3.32	3.32
	27	3.12	3.16	3.19	3.21	3.24	3.26	3.27	3.28	3.29	3.30	3.30
	28	3.11	3.14	3.17	3.19	3.22	3.23	3.25	3.26	3.26	3.27	3.27
Apr.	2	3.14	3.17	3.20	3.23	3.25	3.27	3.28	3.29	3.29	3.30	3.30
	3	3.16	3.19	3.22	3.25	3.27	3.29	3.30	3.31	3.32	3.32	3.32
Memo item: yields, derived from the term of structure of interest rates, on Pfandbriefe with annual coupon payments												
2024 Mar.	28	3.10	3.13	3.15	3.17	3.19	3.21	3.22	3.23	3.23	3.24	3.24
Parameters for calculating the term structure of interest rates												
		Beta0	Beta1	Beta2	Beta3	Tau1	Tau2					
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	3	0.54811	3.83504	0.01957	8.26712	1.78951	13.63248					

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at least three months. The interest rates are estimated using a non-linear, parametric approach.