

## II. Euro foreign exchange reference rates of the European Central Bank \*

### 1. End-of-month and daily rates

EUR 1 = CU ...

Period		EU member countries						
		Bulgaria	Czechia	Denmark	Hungary	Poland	Romania	Sweden
		Bulgarian lev BGN	Czech koruna CZK	Danish krone DKK	Hungarian forint HUF	Polish zloty PLN	Romanian leu RON	Swedish krona SEK
2023	Apr.	1.9558	23.502	7.4538	373.78	4.5815	4.9301	11.3515
	May	1.9558	23.741	7.4480	370.85	4.5368	4.9695	11.6278
	June	1.9558	23.742	7.4474	371.93	4.4388	4.9635	11.8055
	July	1.9558	23.900	7.4529	386.93	4.4070	4.9349	11.5895
	Aug.	1.9558	24.072	7.4523	380.13	4.4673	4.9420	11.8430
	Sep.	1.9558	24.339	7.4571	389.50	4.6283	4.9735	11.5325
	Oct.	1.9558	24.558	7.4647	382.13	4.4405	4.9659	11.8275
	Nov.	1.9558	24.292	7.4548	380.75	4.3490	4.9718	11.4308
	Dec.	1.9558	24.724	7.4529	382.80	4.3395	4.9756	11.0960
2024	Jan.	1.9558	24.891	7.4550	384.90	4.3330	4.9758	11.2682
	Feb.	1.9558	25.363	7.4540	393.48	4.3208	4.9706	11.2150
	Mar.	1.9558	25.305	7.4580	395.26	4.3123	4.9735	11.5250
	Apr.	1.9558	25.140	7.4583	390.68	4.3178	4.9759	11.7530
2024	Apr. 24	1.9558	25.242	7.4575	393.35	4.3193	4.9757	11.6225
	25	1.9558	25.152	7.4587	392.98	4.3165	4.9761	11.6390
	26	1.9558	25.164	7.4573	392.28	4.3205	4.9764	11.7052
	29	1.9558	25.175	7.4581	391.64	4.3255	4.9759	11.6850
	30	1.9558	25.140	7.4583	390.68	4.3178	4.9759	11.7530
	May 2	1.9558	25.090	7.4589	388.98	4.3278	4.9763	11.6820
	3	1.9558	25.025	7.4583	388.95	4.3290	4.9761	11.6398
	6	1.9558	24.995	7.4589	389.38	4.3185	4.9688	11.6250
	7	1.9558	25.014	7.4596	389.05	4.3138	4.9757	11.6810
	8	1.9558	25.036	7.4599	388.88	4.3075	4.9757	11.7330
	9	1.9558	24.935	7.4594	387.95	4.2920	4.9753	11.7205
	10	1.9558	24.936	7.4607	387.72	4.2968	4.9758	11.6865
	13	1.9558	24.779	7.4608	387.00	4.2860	4.9762	11.7000
	14	1.9558	24.750	7.4608	386.10	4.2695	4.9758	11.7285
	15	1.9558	24.766	7.4617	386.00	4.2690	4.9758	11.6751
	16	1.9558	24.709	7.4612	386.18	4.2648	4.9755	11.6172
	17	1.9558	24.722	7.4615	387.60	4.2650	4.9752	11.6550
	20	1.9558	24.748	7.4611	385.65	4.2533	4.9750	11.6127

Period		Other European and non-European countries						
		Australia	Brazil	Canada	China	Hong Kong	Iceland	India
		Australian dollar AUD	Brazilian real BRL	Canadian dollar CAD	Yuan (renminbi) CNY	Hong Kong dollar HKD	Icelandic krona ISK	Indian rupee INR
2023	Apr.	1.6664	5.4872	1.4981	7.5979	8.6199	149.10	89.8555
	May	1.6497	5.4288	1.4582	7.5926	8.3696	149.70	88.3400
	June	1.6398	5.2788	1.4415	7.8983	8.5157	148.70	89.2065
	July	1.6436	5.2031	1.4566	7.8808	8.5966	144.30	90.6690
	Aug.	1.6785	5.3082	1.4721	7.9196	8.5250	142.30	89.9293
	Sep.	1.6339	5.3065	1.4227	7.7352	8.2959	144.90	88.0165
	Oct.	1.6739	5.3743	1.4712	7.7686	8.3079	147.50	88.4195
	Nov.	1.6542	5.3984	1.4870	7.8008	8.5384	150.70	91.1143
	Dec.	1.6263	5.3618	1.4642	7.8509	8.6314	150.50	91.9045
2024	Jan.	1.6468	5.3749	1.4558	7.7789	8.4734	148.30	90.0010
	Feb.	1.6684	5.4054	1.4719	7.7888	8.4735	149.30	89.7458
	Mar.	1.6607	5.4032	1.4672	7.8144	8.4594	150.30	90.1365
	Apr.	1.6423	5.4928	1.4672	7.7609	8.3817	150.30	89.4155
2024	Apr. 24	1.6421	5.4856	1.4628	7.7431	8.3700	150.30	89.0435
	25	1.6415	5.5050	1.4659	7.7682	8.3920	150.10	89.3155
	26	1.6392	5.5208	1.4632	7.7638	8.3873	150.30	89.3191
	29	1.6322	5.4706	1.4635	7.7627	8.3904	150.30	89.4610
	30	1.6423	5.4928	1.4672	7.7609	8.3817	150.30	89.4155
	May 2	1.6386	5.5025	1.4678	7.7465	8.3633	150.10	89.2938
	3	1.6330	5.4916	1.4682	7.7798	8.3961	150.30	89.6710
	6	1.6248	5.4683	1.4731	7.7662	8.4223	150.30	89.9875
	7	1.6297	5.4629	1.4730	7.7707	8.4197	150.30	89.8980
	8	1.6374	5.4682	1.4784	7.7651	8.3989	150.10	89.7015
	9	1.6299	5.5189	1.4728	7.7554	8.3881	150.30	89.6070
	10	1.6320	5.5332	1.4747	7.7877	8.4228	150.30	90.0185
	13	1.6305	5.5486	1.4757	7.8095	8.4329	150.30	90.1330
	14	1.6329	5.5419	1.4753	7.8103	8.4341	150.50	90.1600
	15	1.6308	5.5827	1.4763	7.8212	8.4578	150.30	90.4445
	16	1.6290	5.5696	1.4810	7.8430	8.4798	150.30	90.7300
	17	1.6281	5.5645	1.4784	7.8370	8.4600	150.30	90.3883
	20	1.6259	5.5590	1.4798	7.8560	8.4712	150.30	90.4715

\* See Explanatory notes, p. 48.

## II. Euro foreign exchange reference rates of the European Central Bank \*

## 1. End-of-month and daily rates (cont'd)

EUR 1 = CU ...

Other European and non-European countries (cont'd)									
Period	Indonesia Indonesian rupiah IDR	Israel New shekel ILS	Japan Japanese yen JPY	Korea, Republic of South Korean won KRW	Malaysia Malaysian ringgit MYR	Mexico Mexican peso MXN	New Zealand New Zealand dollar NZD	Norway Norwegian krone NOK	
2023 Apr.	16,111.90	3.9939	149.35	1,470.89	4.8981	19.8182	1.7864	11.7910	
May	16,030.39	3.9713	149.13	1,416.29	4.9307	18.9263	1.7793	12.0045	
June	16,384.54	4.0486	157.16	1,435.88	5.0717	18.5614	1.7858	11.7040	
July	16,622.65	4.0714	156.73	1,405.49	4.9703	18.4088	1.7773	11.1805	
Aug.	16,551.96	4.1293	158.49	1,439.56	5.0428	18.1866	1.8259	11.5800	
Sep.	16,383.62	4.0472	158.10	1,425.26	4.9741	18.5030	1.7575	11.2535	
Oct.	16,868.28	4.2756	160.30	1,434.66	5.0594	19.1551	1.8224	11.8735	
Nov.	16,981.14	4.0597	161.19	1,418.78	5.0933	19.0235	1.7762	11.7200	
Dec.	17,079.71	3.9993	156.33	1,433.66	5.0775	18.7231	1.7504	11.2405	
2024 Jan.	17,076.29	3.9431	160.19	1,444.63	5.1259	18.5817	1.7705	11.3510	
Feb.	17,038.18	3.8736	162.53	1,447.43	5.1375	18.4969	1.7807	11.4920	
Mar.	17,157.87	3.9799	163.45	1,458.67	5.1168	17.9179	1.8092	11.6990	
Apr.	17,422.11	4.0172	168.27	1,479.67	5.1130	18.1895	1.8035	11.8150	
2024 Apr. 24	17,277.66	4.0339	165.57	1,469.91	5.1058	18.0824	1.8010	11.7330	
25	17,355.14	4.0646	166.76	1,473.23	5.1215	18.2670	1.7990	11.7140	
26	17,385.77	4.0798	168.03	1,474.65	5.1079	18.4672	1.8010	11.7995	
29	17,408.74	4.0316	167.53	1,476.15	5.1108	18.3202	1.7932	11.7835	
30	17,422.11	4.0172	168.27	1,479.67	5.1130	18.1895	1.8035	11.8150	
May 2	17,302.04	4.0046	165.63	1,470.41	5.0864	18.1187	1.8047	11.8430	
3	17,247.67	3.9943	164.62	1,460.24	5.0927	18.2086	1.7952	11.7080	
6	17,289.39	4.0322	165.70	1,460.00	5.1067	18.2346	1.7891	11.6663	
7	17,295.26	4.0056	166.45	1,462.45	5.1009	18.1606	1.7918	11.6980	
8	17,270.98	3.9883	167.15	1,466.47	5.0949	18.1936	1.7948	11.7570	
9	17,248.52	4.0140	167.32	1,471.57	5.0878	18.1764	1.7881	11.7215	
10	17,292.10	4.0091	167.87	1,472.72	5.1082	18.0730	1.7923	11.6735	
13	17,371.37	4.0161	168.25	1,476.01	5.1082	18.0713	1.7923	11.6800	
14	17,407.15	4.0089	168.89	1,476.56	5.0952	18.1363	1.7934	11.6815	
15	17,340.14	4.0030	168.43	1,471.93	5.0986	18.2710	1.7860	11.6490	
16	17,297.31	4.0057	168.33	1,463.04	5.0885	18.1784	1.7794	11.6420	
17	17,316.08	4.0318	168.96	1,471.55	5.0831	18.0889	1.7751	11.6330	
20	17,351.81	4.0267	169.25	1,477.31	5.0884	18.0315	1.7773	11.6115	

Other European and non-European countries (cont'd)									
Period	Philippines Philippine peso PHP	Singapore Singapore dollar SGD	South Africa South African rand ZAR	Switzerland Swiss franc CHF	Thailand Thai baht THB	Turkey Turkish lira TRY	United Kingdom Pound sterling GBP	United States US dollar USD	
2023 Apr.	60.923	1.4679	20.1558	0.9839	37.467	21.3608	0.88050	1.0981	
May	60.053	1.4467	21.1353	0.9724	37.134	22.1320	0.86405	1.0683	
June	60.082	1.4732	20.5785	0.9788	38.482	28.3193	0.85828	1.0866	
July	60.522	1.4660	19.5511	0.9619	37.732	29.7126	0.85765	1.1023	
Aug.	61.545	1.4686	20.4199	0.9584	38.005	28.9848	0.85718	1.0868	
Sep.	59.969	1.4443	19.9813	0.9669	38.679	29.0514	0.86458	1.0594	
Oct.	60.295	1.4525	19.9507	0.9607	38.266	30.0455	0.87366	1.0619	
Nov.	60.623	1.4602	20.5703	0.9562	38.494	31.5441	0.86368	1.0931	
Dec.	61.283	1.4591	20.3477	0.9260	37.973	32.6531	0.86905	1.1050	
2024 Jan.	61.023	1.4517	20.3238	0.9348	38.461	32.8984	0.85435	1.0837	
Feb.	60.858	1.4570	20.9007	0.9534	38.909	33.8067	0.85655	1.0826	
Mar.	60.797	1.4587	20.5226	0.9766	39.412	34.9487	0.85510	1.0811	
Apr.	61.830	1.4593	20.0682	0.9787	39.732	34.7045	0.85478	1.0718	
2024 Apr. 24	61.487	1.4547	20.5062	0.9774	39.602	34.7497	0.85945	1.0686	
25	61.940	1.4581	20.3377	0.9792	39.691	34.8475	0.85675	1.0720	
26	61.830	1.4587	20.2037	0.9779	39.583	34.8036	0.85643	1.0714	
29	61.858	1.4578	20.0504	0.9776	39.696	34.7103	0.85493	1.0720	
30	61.830	1.4593	20.0682	0.9787	39.732	34.7045	0.85478	1.0718	
May 2	61.628	1.4538	19.9690	0.9759	39.508	34.6345	0.85538	1.0698	
3	61.392	1.4527	19.8952	0.9744	39.516	34.7482	0.85573	1.0744	
6	61.660	1.4548	19.8369	0.9754	39.618	34.7747	0.85660	1.0776	
7	61.678	1.4570	19.9127	0.9770	39.683	34.7408	0.85805	1.0766	
8	61.643	1.4572	20.0409	0.9770	39.717	34.6564	0.86083	1.0743	
9	61.569	1.4558	19.8856	0.9760	39.617	34.5811	0.85995	1.0732	
10	61.936	1.4592	19.8673	0.9779	39.580	34.7431	0.86055	1.0779	
13	62.417	1.4605	19.8185	0.9784	39.688	34.7702	0.86023	1.0795	
14	62.452	1.4609	19.8835	0.9801	39.589	34.8169	0.85983	1.0796	
15	62.284	1.4609	19.9073	0.9800	39.580	34.9765	0.85840	1.0832	
16	62.490	1.4617	19.7911	0.9822	39.291	34.9901	0.85850	1.0866	
17	62.559	1.4609	19.8068	0.9855	39.358	34.9852	0.85685	1.0844	
20	62.853	1.4628	19.8052	0.9880	39.214	34.9725	0.85548	1.0861	

\* See Explanatory notes, p. 48.

## II. Euro foreign exchange reference rates of the European Central Bank \*

### 2. Annual and monthly averages +

EUR 1 = CU ...

EU member countries								
Period	Bulgaria Bulgarian lev BGN	Croatia <sup>1</sup> Kuna HRK	Czechia Czech koruna CZK	Denmark Danish krone DKK	Hungary Hungarian forint HUF	Poland Polish zloty PLN	Romania Romanian leu RON	Sweden Swedish krona SEK
2022	1.9558	7.5349	24.566	7.4396	391.29	4.6861	4.9313	10.6296
2023	1.9558	–	24.004	7.4509	381.85	4.5420	4.9467	11.4788
2022 Mar.	1.9558	7.5711	25.007	7.4404	376.64	4.7522	4.9482	10.5463
Apr.	1.9558	7.5577	24.435	7.4391	374.87	4.6485	4.9442	10.3175
May	1.9558	7.5356	24.750	7.4405	384.45	4.6485	4.9460	10.4956
June	1.9558	7.5252	24.719	7.4392	396.66	4.6471	4.9444	10.6005
July	1.9558	7.5185	24.594	7.4426	404.10	4.7682	4.9396	10.5752
Aug.	1.9558	7.5138	24.568	7.4393	402.10	4.7233	4.8943	10.5021
Sep.	1.9558	7.5222	24.576	7.4366	404.19	4.7414	4.9097	10.7840
Oct.	1.9558	7.5298	24.528	7.4389	418.31	4.8040	4.9259	10.9503
Nov.	1.9558	7.5426	24.369	7.4387	406.68	4.6964	4.9142	10.8798
Dec.	1.9558	7.5448	24.269	7.4377	407.68	4.6832	4.9224	10.9859
2023 Jan.	1.9558	–	23.958	7.4383	396.03	4.6974	4.9242	11.2051
Feb.	1.9558	–	23.712	7.4447	384.91	4.7415	4.9087	11.1725
Mar.	1.9558	–	23.683	7.4456	385.01	4.6893	4.9263	11.2276
Apr.	1.9558	–	23.437	7.4518	375.34	4.6320	4.9365	11.3370
May	1.9558	–	23.595	7.4485	372.37	4.5345	4.9477	11.3697
June	1.9558	–	23.695	7.4492	370.60	4.4608	4.9600	11.6766
July	1.9558	–	23.892	7.4508	379.04	4.4431	4.9411	11.6343
Aug.	1.9558	–	24.108	7.4522	385.05	4.4601	4.9411	11.8117
Sep.	1.9558	–	24.380	7.4566	386.43	4.5981	4.9656	11.8417
Oct.	1.9558	–	24.584	7.4604	385.33	4.5124	4.9682	11.6472
Nov.	1.9558	–	24.485	7.4581	379.19	4.4020	4.9703	11.5475
Dec.	1.9558	–	24.478	7.4556	381.80	4.3335	4.9707	11.2028
2024 Jan.	1.9558	–	24.716	7.4572	382.04	4.3648	4.9749	11.2834
Feb.	1.9558	–	25.232	7.4550	388.04	4.3256	4.9746	11.2500
Mar.	1.9558	–	25.292	7.4566	395.09	4.3069	4.9708	11.3054
Apr.	1.9558	–	25.278	7.4596	392.41	4.3026	4.9730	11.5910

Other European and non-European countries								
Period	Australia Australian dollar AUD	Brazil Brazilian real BRL	Canada Canadian dollar CAD	China Yuan (renminbi) CNY	Hong Kong Hong Kong dollar HKD	Iceland Icelandic krona ISK	India Indian rupee INR	Indonesia Indonesian rupiah IDR
2022	1.5167	5.4399	1.3695	7.0788	8.2451	142.24	82.6864	15,625.25
2023	1.6288	5.4010	1.4595	7.6600	8.4650	149.13	89.3001	16,479.62
2022 Mar.	1.4946	5.4884	1.3950	6.9916	8.6199	143.39	83.9933	15,802.12
Apr.	1.4663	5.1342	1.3652	6.9605	8.4828	139.83	82.4033	15,566.64
May	1.4995	5.2460	1.3588	7.0830	8.3030	138.46	81.7828	15,422.62
June	1.5044	5.3209	1.3537	7.0734	8.2922	138.47	82.5112	15,531.74
July	1.4856	5.4718	1.3180	6.8538	7.9895	139.05	81.0182	15,258.22
Aug.	1.4550	5.2111	1.3078	6.8884	7.9473	140.12	80.5563	15,024.16
Sep.	1.4820	5.1791	1.3187	6.9508	7.7738	140.35	79.4558	14,847.40
Oct.	1.5474	5.1658	1.3477	7.0687	7.7128	141.50	80.9180	15,172.93
Nov.	1.5455	5.3846	1.3708	7.3171	7.9873	146.98	83.3384	15,975.07
Dec.	1.5685	5.5589	1.4379	7.3859	8.2434	150.76	87.3381	16,503.30
2023 Jan.	1.5523	5.6047	1.4474	7.3173	8.4217	154.06	88.1441	16,427.04
Feb.	1.5514	5.5386	1.4400	7.3244	8.4077	153.11	88.5004	16,232.58
Mar.	1.6034	5.5784	1.4649	7.3807	8.4026	149.89	88.1159	16,364.98
Apr.	1.6389	5.4995	1.4792	7.5561	8.6093	149.62	89.9311	16,313.20
May	1.6346	5.4092	1.4687	7.5948	8.5167	150.47	89.4602	16,116.84
June	1.6157	5.2695	1.4414	7.7653	8.4899	149.35	89.1134	16,194.88
July	1.6423	5.3099	1.4618	7.9482	8.6437	146.79	90.8395	16,639.99
Aug.	1.6818	5.3427	1.4703	7.9096	8.5370	143.87	90.3518	16,639.40
Sep.	1.6622	5.2770	1.4458	7.7967	8.3640	144.46	88.7372	16,424.67
Oct.	1.6637	5.3509	1.4474	7.7200	8.2648	146.50	87.8937	16,646.67
Nov.	1.6634	5.2963	1.4828	7.8087	8.4380	151.44	90.0102	16,853.56
Dec.	1.6321	5.3428	1.4653	7.7870	8.5152	150.55	90.8009	16,910.33
2024 Jan.	1.6422	5.3569	1.4631	7.8201	8.5244	149.43	90.6347	17,049.43
Feb.	1.6533	5.3559	1.4564	7.7651	8.4432	148.68	89.5608	16,898.59
Mar.	1.6586	5.4157	1.4726	7.8297	8.5049	149.04	90.2515	17,063.66
Apr.	1.6469	5.4975	1.4661	7.7658	8.4006	150.35	89.4676	17,258.77

\* See Explanatory notes, p. 48. + Averages: Bundesbank calculations based on the daily euro foreign exchange reference rates published by the ECB. <sup>1</sup> Accession to the euro area on 1 January 2023.

## II. Euro foreign exchange reference rates of the European Central Bank \*

### 2. Annual and monthly averages + (cont'd)

EUR 1 = CU ...

Other European and non-European countries (cont'd)								
	Israel	Japan	Korea, Republic of	Malaysia	Mexico	New Zealand	Norway	Philippines
Period	New shekel ILS	Japanese yen JPY	South Korean won KRW	Malaysian ringgit MYR	Mexican peso MXN	New Zealand dollar NZD	Norwegian krone NOK	Philippine peso PHP
2022	3.5345	138.03	1,358.07	4.6279	21.1869	1.6582	10.1026	57.314
2023	3.9880	151.99	1,412.88	4.9320	19.1830	1.7622	11.4248	60.163
2022 Mar.	3.5710	130.71	1,345.66	4.6277	22.6476	1.6049	9.7367	57.415
Apr.	3.5106	136.61	1,337.58	4.6208	21.7206	1.5978	9.6191	56.264
May	3.5758	136.24	1,340.10	4.6344	21.1861	1.6515	10.1453	55.421
June	3.6038	141.57	1,351.47	4.6496	21.1240	1.6640	10.2972	56.756
July	3.5309	139.17	1,332.00	4.5197	20.8955	1.6436	10.1823	56.917
Aug.	3.3408	136.85	1,337.90	4.5233	20.3909	1.6158	9.8309	56.542
Sep.	3.4181	141.57	1,381.71	4.5005	19.8718	1.6691	10.1697	57.074
Oct.	3.4823	144.73	1,403.51	4.6127	19.6481	1.7299	10.3919	57.738
Nov.	3.5488	145.12	1,384.19	4.7002	19.8393	1.6828	10.3357	58.655
Dec.	3.6562	142.82	1,370.59	4.6721	20.7608	1.6660	10.4480	58.888
2023 Jan.	3.7126	140.54	1,341.38	4.6589	20.4573	1.6851	10.7149	59.162
Feb.	3.7975	142.38	1,368.77	4.6794	19.9543	1.7016	10.9529	58.743
Mar.	3.8742	143.01	1,398.25	4.7816	19.7242	1.7242	11.2858	58.581
Apr.	3.9877	146.51	1,452.07	4.8561	19.8195	1.7673	11.5187	60.807
May	3.9863	148.93	1,442.31	4.9119	19.2755	1.7481	11.7330	60.604
June	3.9502	153.15	1,406.43	5.0208	18.6993	1.7686	11.7164	60.475
July	4.0546	155.94	1,419.16	5.0754	18.7085	1.7758	11.3474	60.690
Aug.	4.0861	157.96	1,443.24	5.0294	18.5202	1.8195	11.4127	61.461
Sep.	4.0793	157.80	1,424.53	5.0024	18.4757	1.8012	11.4525	60.665
Oct.	4.2034	158.04	1,427.33	5.0142	19.0882	1.7916	11.6284	59.994
Nov.	4.1118	161.84	1,412.57	5.0667	18.7877	1.8033	11.7958	60.285
Dec.	4.0057	157.21	1,423.13	5.0826	18.7665	1.7556	11.5333	60.593
2024 Jan.	4.0493	159.46	1,447.18	5.1105	18.6268	1.7673	11.3501	61.090
Feb.	3.9345	161.38	1,437.37	5.1468	18.4425	1.7618	11.3843	60.486
Mar.	3.9442	162.77	1,448.12	5.1272	18.2610	1.7869	11.5214	60.736
Apr.	4.0240	165.03	1,469.42	5.1139	18.0066	1.7992	11.6828	61.171

Other European and non-European countries (cont'd)								
	Russian Federation	Singapore	South Africa	Switzerland	Thailand	Turkey	United Kingdom	United States
	Russian rouble RUB 1	Singapore dollar SGD	South African rand ZAR	Swiss franc CHF	Thai baht THB	Turkish lira TRY	Pound sterling GBP	US dollar USD
2022	–	1.4512	17.2086	1.0047	36.856	17.4088	0.85276	1.0530
2023	–	1.4523	19.9551	0.9718	37.631	25.7597	0.86979	1.0813
2022 Mar.	–	1.4972	16.5138	1.0245	36.648	16.1233	0.83638	1.1019
Apr.	–	1.4775	16.2796	1.0211	36.559	15.9311	0.83655	1.0819
May	–	1.4621	16.8131	1.0355	36.392	16.5412	0.84969	1.0579
June	–	1.4624	16.6961	1.0245	36.928	17.9599	0.85759	1.0566
July	–	1.4211	17.1606	0.9876	37.028	17.7896	0.84955	1.0179
Aug.	–	1.4016	16.9182	0.9690	36.306	18.2701	0.84499	1.0128
Sep.	–	1.3999	17.3828	0.9640	36.670	18.1465	0.87463	0.9904
Oct.	–	1.4003	17.8214	0.9791	37.286	18.2655	0.87058	0.9826
Nov.	–	1.4144	17.8328	0.9842	37.087	18.9877	0.86892	1.0201
Dec.	–	1.4313	18.3036	0.9865	36.817	19.7613	0.86950	1.0589
2023 Jan.	–	1.4283	18.4320	0.9961	35.840	20.2312	0.88212	1.0769
Feb.	–	1.4262	19.1765	0.9905	36.486	20.1981	0.88550	1.0715
Mar.	–	1.4354	19.5602	0.9908	36.912	20.3491	0.88192	1.0706
Apr.	–	1.4609	19.9205	0.9846	37.549	21.2267	0.88115	1.0968
May	–	1.4555	20.6864	0.9751	37.166	21.4918	0.87041	1.0868
June	–	1.4596	20.3033	0.9764	37.852	25.7697	0.85861	1.0840
July	–	1.4753	20.1074	0.9663	38.243	29.3212	0.85856	1.1058
Aug.	–	1.4735	20.4723	0.9588	38.195	29.3788	0.85892	1.0909
Sep.	–	1.4562	20.2780	0.9600	38.301	28.8643	0.86158	1.0684
Oct.	–	1.4462	20.1390	0.9547	38.549	29.4506	0.86798	1.0563
Nov.	–	1.4575	20.0397	0.9634	38.327	30.9786	0.87045	1.0808
Dec.	–	1.4533	20.3373	0.9441	38.176	31.7243	0.86168	1.0903
2024 Jan.	–	1.4569	20.5161	0.9368	38.401	32.8165	0.85873	1.0905
Feb.	–	1.4513	20.5082	0.9462	38.709	33.2644	0.85466	1.0795
Mar.	–	1.4573	20.4955	0.9656	39.079	34.8229	0.85524	1.0872
Apr.	–	1.4554	20.2378	0.9761	39.454	34.6926	0.85658	1.0728

\* See Explanatory notes, p. 48. + Averages: Bundesbank calculations based on the daily euro foreign exchange reference rates published by the ECB. 1 The ECB has suspended

the publication of the euro foreign exchange reference rate against the Russian rouble with effect from 2 March 2022.

## II. Euro foreign exchange reference rates of the European Central Bank \*

### 3. End-of-year rates and annual averages

EUR 1 = CU ...

EU member countries									
	Bulgaria	Croatia <sup>1</sup>	Czechia	Denmark	Estonia <sup>1</sup>	Hungary	Latvia <sup>1</sup>	Lithuania <sup>1</sup>	Poland
Period	Bulgarian lev BGN	Kuna HRK	Czech koruna CZK	Danish krone DKK	Estonian kroon EEK	Hungarian forint HUF	Latvian lats LVL	Lithuanian litas LTL	Polish zloty PLN
<b>End of year</b>									
2010	1.9558	7.3830	25.061	7.4535	15.6466	277.95	0.709400	3.4528	3.9750
2011	1.9558	7.5370	25.787	7.4342	–	314.58	0.699500	3.4528	4.4580
2012	1.9558	7.5575	25.151	7.4610	–	292.30	0.697700	3.4528	4.0740
2013	1.9558	7.6265	27.427	7.4593	–	297.04	0.702804	3.4528	4.1543
2014	1.9558	7.6580	27.735	7.4453	–	315.54	–	3.4528	4.2732
2015	1.9558	7.6380	27.023	7.4626	–	315.98	–	–	4.2639
2016	1.9558	7.5597	27.021	7.4344	–	309.83	–	–	4.4103
2017	1.9558	7.4400	25.535	7.4449	–	310.33	–	–	4.1770
2018	1.9558	7.4125	25.724	7.4673	–	320.98	–	–	4.3014
2019	1.9558	7.4395	25.408	7.4715	–	330.53	–	–	4.2568
2020	1.9558	7.5519	26.242	7.4409	–	363.89	–	–	4.5597
2021	1.9558	7.5156	24.858	7.4364	–	369.19	–	–	4.5969
2022	1.9558	7.5365	24.116	7.4365	–	400.87	–	–	4.6808
2023	1.9558	–	24.724	7.4529	–	382.80	–	–	4.3395
<b>Annual averages +</b>									
2010	1.9558	7.2891	25.284	7.4473	15.6466	275.48	0.7087	3.4528	3.9947
2011	1.9558	7.4390	24.590	7.4506	–	279.37	0.7063	3.4528	4.1206
2012	1.9558	7.5217	25.149	7.4437	–	289.25	0.6973	3.4528	4.1847
2013	1.9558	7.5786	25.980	7.4579	–	296.87	0.7015	3.4528	4.1975
2014	1.9558	7.6344	27.536	7.4548	–	308.71	–	3.4528	4.1843
2015	1.9558	7.6137	27.279	7.4587	–	310.00	–	–	4.1841
2016	1.9558	7.5333	27.034	7.4452	–	311.44	–	–	4.3632
2017	1.9558	7.4637	26.326	7.4386	–	309.19	–	–	4.2570
2018	1.9558	7.4182	25.647	7.4532	–	318.89	–	–	4.2615
2019	1.9558	7.4180	25.670	7.4661	–	325.30	–	–	4.2976
2020	1.9558	7.5384	26.455	7.4542	–	351.25	–	–	4.4430
2021	1.9558	7.5284	25.640	7.4370	–	358.52	–	–	4.5652
2022	1.9558	7.5349	24.566	7.4396	–	391.29	–	–	4.6861
2023	1.9558	–	24.004	7.4509	–	381.85	–	–	4.5420

EU member countries (cont'd)		Other European and non-European countries						
	Romania	Sweden	Australia	Brazil	Canada	China	Hong Kong	Iceland
	Romanian leu RON	Swedish krona SEK	Australian dollar AUD	Brazilian real BRL	Canadian dollar CAD	Yuan (renminbi) CNY	Hong Kong dollar HKD	Icelandic krona ISK <sup>2</sup>
<b>End of year</b>								
2010	4.2620	8.9655	1.3136	2.2177	1.3322	8.8220	10.3856	–
2011	4.3233	8.9120	1.2723	2.4159	1.3215	8.1588	10.0510	–
2012	4.4445	8.5820	1.2712	2.7036	1.3137	8.2207	10.2260	–
2013	4.4710	8.8591	1.5423	3.2576	1.4671	8.3491	10.6933	–
2014	4.4828	9.3930	1.4829	3.2207	1.4063	7.5358	9.4170	–
2015	4.5240	9.1895	1.4897	4.3117	1.5116	7.0608	8.4376	–
2016	4.5390	9.5525	1.4596	3.4305	1.4188	7.3202	8.1751	–
2017	4.6585	9.8438	1.5346	3.9729	1.5039	7.8044	9.3720	–
2018	4.6635	10.2548	1.6220	4.4440	1.5605	7.8751	8.9675	133.20
2019	4.7830	10.4468	1.5995	4.5157	1.4598	7.8205	8.7473	135.80
2020	4.8683	10.0343	1.5896	6.3735	1.5633	8.0225	9.5142	156.10
2021	4.9490	10.2503	1.5615	6.3101	1.4393	7.1947	8.8333	147.60
2022	4.9495	11.1218	1.5693	5.6386	1.4440	7.3582	8.3163	151.50
2023	4.9756	11.0960	1.6263	5.3618	1.4642	7.8509	8.6314	150.50
<b>Annual averages +</b>								
2010	4.2122	9.5373	1.4423	2.3314	1.3651	8.9712	10.2994	–
2011	4.2391	9.0298	1.3484	2.3265	1.3761	8.9960	10.8362	–
2012	4.4593	8.7041	1.2407	2.5084	1.2842	8.1052	9.9663	–
2013	4.4190	8.6515	1.3777	2.8687	1.3684	8.1646	10.3016	–
2014	4.4437	9.0985	1.4719	3.1211	1.4661	8.1857	10.3025	–
2015	4.4454	9.3535	1.4777	3.7004	1.4186	6.9733	8.6014	–
2016	4.4904	9.4689	1.4883	3.8561	1.4659	7.3522	8.5922	–
2017	4.5688	9.6351	1.4732	3.6054	1.4647	7.6290	8.8045	–
2018	4.6540	10.2583	1.5797	4.3085	1.5294	7.8081	9.2559	127.89
2019	4.7453	10.5891	1.6109	4.4134	1.4855	7.7355	8.7715	137.28
2020	4.8383	10.4848	1.6549	5.8943	1.5300	7.8747	8.8587	154.59
2021	4.9215	10.1465	1.5749	6.3779	1.4826	7.6282	9.1932	150.15
2022	4.9313	10.6296	1.5167	5.4399	1.3695	7.0788	8.2451	142.24
2023	4.9467	11.4788	1.6288	5.4010	1.4595	7.6600	8.4650	149.13

\* See Explanatory notes, p. 48. + Averages: Bundesbank calculations based on the daily euro foreign exchange reference rates published by the ECB. <sup>1</sup> Accession to the euro

area, see p. 7 (Table I. 1.). <sup>2</sup> The ECB did not fix euro foreign exchange reference rates for the Icelandic krona from 4 December 2008 to 31 January 2018.

## II. Euro foreign exchange reference rates of the European Central Bank \*

### 3. End-of-year rates and annual averages (cont'd)

EUR 1 = CU ...

Other European and non-European countries (cont'd)									
India	Indonesia	Israel	Japan	Korea, Republic of	Malaysia	Mexico	New Zealand	Norway	
Indian rupee INR	Indonesian rupiah IDR	New shekel ILS <sup>1</sup>	Japanese yen JPY	South Korean won KRW	Malaysian ringgit MYR	Mexican peso MXN	New Zealand dollar NZD	Norwegian krone NOK	
<b>End of year</b>									
2010	59.7580	12,002.14	4.7321	108.65	1,499.06	4.0950	16.5475	1.7200	7.8000
2011	68.7130	11,731.47	4.9453	100.20	1,498.69	4.1055	18.0512	1.6737	7.7540
2012	72.5600	12,713.97	4.9258	113.61	1,406.23	4.0347	17.1845	1.6045	7.3483
2013	85.3660	16,764.78	4.7880	144.72	1,450.93	4.5221	18.0731	1.6762	8.3630
2014	76.7190	15,076.10	4.7200	145.23	1,324.80	4.2473	17.8679	1.5525	9.0420
2015	72.0215	15,039.99	4.2481	131.07	1,280.78	4.6959	18.9145	1.5923	9.6030
2016	71.5935	14,173.43	4.0477	123.40	1,269.36	4.7287	21.7719	1.5158	9.0863
2017	76.6055	16,239.12	4.1635	135.01	1,279.61	4.8536	23.6612	1.6850	9.8403
2018	79.7298	16,500.00	4.2972	125.85	1,277.93	4.7317	22.4921	1.7056	9.9483
2019	80.1870	15,595.60	3.8845	121.94	1,296.28	4.5953	21.2202	1.6653	9.8638
2020	89.6605	17,240.76	3.9447	126.49	1,336.00	4.9340	24.4160	1.6984	10.4703
2021	84.2292	16,100.42	3.5159	130.38	1,346.38	4.7184	23.1438	1.6579	9.9888
2022	88.1710	16,519.82	3.7554	140.66	1,344.09	4.6984	20.8560	1.6798	10.5138
2023	91.9045	17,079.71	3.9993	156.33	1,433.66	5.0775	18.7231	1.7504	11.2405
<b>Annual averages +</b>									
2010	60.5878	12,041.70	4.9457	116.24	1,531.82	4.2668	16.7373	1.8377	8.0043
2011	64.8859	12,206.51	4.9775	110.96	1,541.23	4.2558	17.2877	1.7600	7.7934
2012	68.5973	12,045.73	4.9536	102.49	1,447.69	3.9672	16.9029	1.5867	7.4751
2013	77.9300	13,857.50	4.7948	129.66	1,453.91	4.1855	16.9641	1.6206	7.8067
2014	81.0406	15,748.92	4.7449	140.31	1,398.14	4.3446	17.6550	1.5995	8.3544
2015	71.1956	14,870.39	4.3122	134.31	1,256.54	4.3373	17.6157	1.5930	8.9496
2016	74.3717	14,720.83	4.2489	120.20	1,284.18	4.5835	20.6673	1.5886	9.2906
2017	73.5324	15,118.01	4.0622	126.71	1,276.74	4.8527	21.3286	1.5897	9.3270
2018	80.7332	16,803.22	4.2423	130.40	1,299.07	4.7634	22.7054	1.7065	9.5975
2019	78.8361	15,835.27	3.9901	122.01	1,305.32	4.6374	21.5565	1.6998	9.8511
2020	84.6392	16,627.37	3.9258	121.85	1,345.58	4.7959	24.5194	1.7561	10.7228
2021	87.4392	16,920.72	3.8208	129.88	1,354.06	4.9015	23.9852	1.6724	10.1633
2022	82.6864	15,625.25	3.5345	138.03	1,358.07	4.6279	21.1869	1.6582	10.1026
2023	89.3001	16,479.62	3.9880	151.99	1,412.88	4.9320	19.1830	1.7622	11.4248

Other European and non-European countries (cont'd)									
Philippines	Russian Federation	Singapore	South Africa	Switzerland	Thailand	Turkey	United Kingdom	United States	
Philippine peso PHP	Russian rouble RUB <sup>2</sup>	Singapore dollar SGD	South African rand ZAR	Swiss franc CHF	Thai baht THB	Turkish lira TRY	Pound sterling GBP	US dollar USD	
<b>End of year</b>									
2010	58.300	40.8200	1.7136	8.8625	1.2504	40.170	2.0694	0.86075	1.3362
2011	56.754	41.7650	1.6819	10.4830	1.2156	40.991	2.4432	0.83530	1.2939
2012	54.107	40.3295	1.6111	11.1727	1.2072	40.347	2.3551	0.81610	1.3194
2013	61.289	45.3246	1.7414	14.5660	1.2276	45.178	2.9605	0.83370	1.3791
2014	54.436	72.3370	1.6058	14.0353	1.2024	39.910	2.8320	0.77890	1.2141
2015	50.999	80.6736	1.5417	16.9530	1.0835	39.248	3.1765	0.73395	1.0887
2016	52.268	64.3000	1.5234	14.4570	1.0739	37.726	3.7072	0.85618	1.0541
2017	59.795	69.3920	1.6024	14.8054	1.1702	39.121	4.5464	0.88723	1.1993
2018	60.113	79.7153	1.5591	16.4594	1.1269	37.052	6.0588	0.89453	1.1450
2019	56.900	69.9563	1.5111	15.7773	1.0854	33.415	6.6843	0.85080	1.1234
2020	59.125	91.4671	1.6218	18.0219	1.0802	36.727	9.1131	0.89903	1.2271
2021	57.763	85.3004	1.5279	18.0625	1.0331	37.653	15.2335	0.84028	1.1326
2022	59.320	-	1.4300	18.0986	0.9847	36.835	19.9649	0.88693	1.0666
2023	61.283	-	1.4591	20.3477	0.9260	37.973	32.6531	0.86905	1.1050
<b>Annual averages +</b>									
2010	59.739	40.2629	1.8055	9.6984	1.3803	42.014	1.9965	0.85784	1.3257
2011	60.260	40.8846	1.7489	10.0970	1.2326	42.429	2.3378	0.86788	1.3920
2012	54.246	39.9262	1.6055	10.5511	1.2053	39.928	2.3135	0.81087	1.2848
2013	56.428	42.3370	1.6619	12.8330	1.2311	40.830	2.5335	0.84926	1.3281
2014	58.979	50.9518	1.6823	14.4037	1.2146	43.147	2.9065	0.80612	1.3285
2015	50.522	68.0720	1.5255	14.1723	1.0679	38.028	3.0255	0.72584	1.1095
2016	52.556	74.1446	1.5275	16.2645	1.0902	39.043	3.3433	0.81948	1.1069
2017	56.973	65.9383	1.5588	15.0490	1.1117	38.296	4.1206	0.87667	1.1297
2018	62.210	74.0416	1.5926	15.6186	1.1550	38.164	5.7077	0.88471	1.1810
2019	57.985	72.4553	1.5273	16.1757	1.1124	34.757	6.3578	0.87777	1.1195
2020	56.615	82.7248	1.5742	18.7655	1.0705	35.708	8.0547	0.88970	1.1422
2021	58.299	87.1527	1.5891	17.4766	1.0811	37.837	10.5124	0.85960	1.1827
2022	57.314	-	1.4512	17.2086	1.0047	36.856	17.4088	0.85276	1.0530
2023	60.163	-	1.4523	19.9551	0.9718	37.631	25.7597	0.86979	1.0813

\* See Explanatory notes, p. 48. + Averages: Bundesbank calculations based on the daily euro foreign exchange reference rates published by the ECB. <sup>1</sup> Up to December 2010,

ECB indicative rates. <sup>2</sup> The ECB has suspended the publication of the euro foreign exchange reference rate against the Russian rouble with effect from 2 March 2022.

## II. Euro foreign exchange reference rates of the European Central Bank\*

### 4. Exchange rates of major currencies



\* See explanatory notes, p. 48. <sup>1</sup> Bundesbank calculations based on the daily euro foreign exchange reference rates published by the ECB.