

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 Bulgarian lev BGN	Czechia Czech koruna CZK	Denmark Danish krone DKK	Hungary Hungarian forint HUF	Poland Polish zloty PLN	Romania Romanian leu RON	Sweden Swedish krona SEK
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
May		1.9558	24.709	7.4588	388.83	4.2645	4.9767	11.4210
June		1.9558	25.025	7.4575	395.10	4.3090	4.9773	11.3595
July		1.9558	25.457	7.4621	395.78	4.2908	4.9749	11.6125
Aug.		1.9558	25.031	7.4589	392.53	4.2763	4.9768	11.3355
Sep.		1.9558	25.184	7.4560	396.88	4.2788	4.9753	11.3000
Oct.		1.9558	25.327	7.4601	408.28	4.3508	4.9749	11.6308
Nov.		1.9558	25.256	7.4579	411.75	4.2960	4.9774	11.5180
Dec.		1.9558	25.185	7.4578	411.35	4.2750	4.9743	11.4590
2025 Jan.		1.9558	25.166	7.4618	407.95	4.2130	4.9767	11.4740
2025 Jan.	6	1.9558	25.154	7.4591	414.68	4.2518	4.9747	11.4645
	7	1.9558	25.137	7.4592	415.73	4.2583	4.9744	11.4750
	8	1.9558	25.150	7.4608	416.25	4.2765	4.9739	11.5125
	9	1.9558	25.116	7.4609	413.98	4.2723	4.9734	11.4945
	10	1.9558	25.090	7.4606	413.68	4.2660	4.9735	11.4970
	13	1.9558	25.230	7.4605	413.68	4.2715	4.9731	11.5055
	14	1.9558	25.294	7.4607	412.05	4.2683	4.9749	11.5120
	15	1.9558	25.218	7.4611	410.63	4.2613	4.9742	11.5015
	16	1.9558	25.231	7.4609	412.35	4.2688	4.9754	11.4850
	17	1.9558	25.265	7.4608	412.65	4.2585	4.9765	11.5060
	20	1.9558	25.209	7.4611	413.15	4.2568	4.9769	11.4945
	21	1.9558	25.178	7.4614	411.48	4.2538	4.9768	11.4750
	22	1.9558	25.139	7.4612	411.08	4.2300	4.9768	11.4670
	23	1.9558	25.140	7.4606	409.70	4.2110	4.9763	11.4685
	24	1.9558	25.097	7.4614	408.85	4.2138	4.9761	11.4590
	27	1.9558	25.102	7.4625	408.78	4.2193	4.9750	11.4960
	28	1.9558	25.091	7.4626	408.13	4.2078	4.9749	11.4780
	29	1.9558	25.122	7.4627	408.08	4.2135	4.9753	11.4555
	30	1.9558	25.121	7.4616	407.25	4.2063	4.9758	11.4700
	31	1.9558	25.166	7.4618	407.95	4.2130	4.9767	11.4740

Period		Other European and non-European countries						
		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
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
May		1.6315	5.6418	1.4804	7.8577	8.4838	149.10	90.5255
June		1.6079	5.8915	1.4670	7.7748	8.3594	148.90	89.2495
July		1.6635	6.0874	1.4977	7.8194	8.4589	149.90	90.6250
Aug.		1.6301	6.2155	1.4941	7.8585	8.6455	152.90	92.9485
Sep.		1.6166	6.0504	1.5133	7.8511	8.6933	150.70	93.8130
Oct.		1.6559	6.2635	1.5134	7.7436	8.4598	148.90	91.4930
Nov.		1.6245	6.4361	1.4796	7.6484	8.2211	145.70	89.3245
Dec.		1.6772	6.4253	1.4948	7.5833	8.0686	143.90	88.9335
2025 Jan.		1.6702	6.0677	1.5035	7.5363	8.0990	146.70	89.9945
2025 Jan.	6	1.6555	6.3649	1.4914	7.6284	8.1035	144.70	89.2605
	7	1.6557	6.3134	1.4878	7.6142	8.0824	145.50	89.1120
	8	1.6600	6.3075	1.4803	7.5413	8.0018	145.10	88.3520
	9	1.6630	6.2991	1.4831	7.5558	8.0189	144.90	88.4740
	10	1.6655	6.2397	1.4845	7.5542	8.0224	145.30	88.6265
	13	1.6578	6.2109	1.4699	7.4771	7.9412	144.50	88.4165
	14	1.6601	6.2299	1.4744	7.5108	7.9761	144.90	88.6925
	15	1.6616	6.2377	1.4784	7.5515	8.0201	144.70	89.0145
	16	1.6574	6.1984	1.4776	7.5311	8.0007	145.10	88.9430
	17	1.6646	6.2518	1.4864	7.5474	8.0194	145.10	89.1980
	20	1.6627	6.2688	1.4924	7.5431	8.0301	145.50	89.2735
	21	1.6639	6.2685	1.4963	7.5443	8.0636	145.90	89.6860
	22	1.6603	6.2738	1.4972	7.5892	8.1322	146.50	90.2090
	23	1.6594	6.1921	1.4984	7.5829	8.1045	145.90	89.9285
	24	1.6600	6.1866	1.5015	7.5891	8.1559	146.30	90.3300
	27	1.6700	6.2375	1.5096	7.6306	8.1987	146.30	90.8800
	28	1.6698	6.1535	1.5019	7.5517	8.1189	146.10	90.1955
	29	1.6710	6.0791	1.5011	7.5385	8.0992	145.70	89.9945
	30	1.6705	6.1496	1.4997	7.5436	8.1050	146.10	90.0970
	31	1.6702	6.0677	1.5035	7.5363	8.0990	146.70	89.9945

* 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)									
	Indonesia	Israel	Japan	Korea, Republic of	Malaysia	Mexico	New Zealand	Norway	
Period	Indonesian rupiah IDR	New shekel ILS	Japanese yen JPY	South Korean won KRW	Malaysian ringgit MYR	Mexican peso MXN	New Zealand dollar NZD	Norwegian krone NOK	
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	
May	17,641.72	4.0342	170.52	1,501.11	5.1080	18.4387	1.7696	11.3830	
June	17,487.21	4.0200	171.94	1,474.86	5.0501	19.5654	1.7601	11.3965	
July	17,634.43	4.0822	162.76	1,485.96	4.9749	20.3317	1.8289	11.8175	
Aug.	17,180.03	4.0245	161.19	1,478.60	4.7901	21.7581	1.7709	11.6620	
Sep.	16,975.88	4.1491	159.82	1,469.11	4.6167	21.9842	1.7616	11.7645	
Oct.	17,105.85	4.0441	166.30	1,500.05	4.7652	21.8087	1.8220	11.9385	
Nov.	16,753.81	3.8411	158.64	1,476.11	4.6948	21.5370	1.7873	11.6805	
Dec.	16,820.88	3.7885	163.06	1,532.15	4.6454	21.5504	1.8532	11.7950	
2025 Jan.	16,941.21	3.7199	160.99	1,506.62	4.6301	21.4769	1.8391	11.7373	
2025 Jan. 6	16,834.71	3.7905	163.25	1,518.24	4.7032	21.1962	1.8354	11.7095	
7	16,794.93	3.7681	163.86	1,507.35	4.6639	21.1387	1.8317	11.7385	
8	16,719.53	3.7798	162.94	1,503.50	4.6313	21.0093	1.8383	11.7380	
9	16,693.79	3.7713	162.56	1,504.23	4.6403	21.1013	1.8417	11.7605	
10	16,680.99	3.7889	162.86	1,511.32	4.6332	21.1258	1.8454	11.7570	
13	16,640.94	3.7436	160.22	1,497.52	4.5993	21.1803	1.8358	11.7090	
14	16,708.88	3.7185	161.63	1,496.39	4.6154	21.1339	1.8324	11.7195	
15	16,872.43	3.7299	161.75	1,503.15	4.6340	21.0900	1.8381	11.7035	
16	16,852.50	3.7232	160.46	1,499.04	4.6250	21.1824	1.8389	11.6965	
17	16,887.38	3.6971	160.23	1,502.05	4.6403	21.4193	1.8435	11.7590	
20	16,908.13	3.6994	161.36	1,497.20	4.6350	21.5304	1.8407	11.7665	
21	16,921.73	3.7145	161.26	1,493.41	4.6353	21.4878	1.8406	11.8170	
22	16,928.83	3.6962	162.72	1,496.01	4.6330	21.4707	1.8387	11.7525	
23	16,895.73	3.7117	162.58	1,494.90	4.6235	21.2962	1.8377	11.7305	
24	16,900.50	3.7585	163.90	1,501.60	4.5841	21.2056	1.8364	11.7495	
27	17,007.37	3.8064	162.21	1,507.97	4.6106	21.5878	1.8464	11.8095	
28	16,907.81	3.7725	161.86	1,506.81	4.5779	21.5381	1.8439	11.7785	
29	16,883.00	3.7423	161.50	1,504.02	4.5670	21.2947	1.8426	11.7785	
30	16,901.81	3.7277	160.32	1,500.02	4.5700	21.3551	1.8408	11.7615	
31	16,941.21	3.7199	160.99	1,506.62	4.6301	21.4769	1.8391	11.7373	

Other European and non-European countries (cont'd)									
	Philippines	Singapore	South Africa	Switzerland	Thailand	Turkey	United Kingdom	United States	
Period	Philippine peso PHP	Singapore dollar SGD	South African rand ZAR	Swiss franc CHF	Thai baht THB	Turkish lira TRY	Pound sterling GBP	US dollar USD	
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	
May	63.604	1.4663	20.2927	0.9818	39.925	34.9691	0.85365	1.0852	
June	62.560	1.4513	19.4970	0.9634	39.319	35.1868	0.84638	1.0705	
July	63.218	1.4491	19.7400	0.9533	38.629	35.9085	0.84380	1.0828	
Aug.	62.309	1.4441	19.5358	0.9416	37.541	37.7651	0.84120	1.1087	
Sep.	62.740	1.4342	19.2258	0.9439	36.107	38.2693	0.83543	1.1196	
Oct.	63.364	1.4377	19.1869	0.9412	36.754	37.2680	0.83753	1.0882	
Nov.	61.939	1.4159	19.0777	0.9309	36.217	36.6390	0.83205	1.0562	
Dec.	60.301	1.4164	19.6188	0.9412	35.676	36.7372	0.82918	1.0389	
2025 Jan.	60.682	1.4091	19.3588	0.9449	34.915	37.2655	0.83608	1.0393	
2025 Jan. 6	60.369	1.4168	19.2724	0.9396	35.834	36.8305	0.83098	1.0426	
7	60.378	1.4150	19.3216	0.9426	35.830	36.7432	0.82915	1.0393	
8	60.192	1.4096	19.4357	0.9379	35.682	36.3952	0.83403	1.0286	
9	60.281	1.4102	19.4534	0.9397	35.645	36.4212	0.83808	1.0305	
10	60.242	1.4092	19.6165	0.9416	35.616	36.4849	0.83693	1.0304	
13	59.851	1.4010	19.5236	0.9346	35.464	36.2019	0.84160	1.0198	
14	60.196	1.4036	19.4143	0.9395	35.612	36.3634	0.84288	1.0245	
15	60.358	1.4089	19.4319	0.9394	35.762	36.5477	0.84313	1.0300	
16	60.157	1.4061	19.4048	0.9376	35.592	36.4071	0.84258	1.0272	
17	60.337	1.4083	19.3288	0.9394	35.492	36.6271	0.84453	1.0298	
20	60.334	1.4077	19.3381	0.9429	35.337	36.7135	0.84588	1.0316	
21	60.621	1.4078	19.2676	0.9427	35.281	36.9008	0.84553	1.0357	
22	61.003	1.4126	19.2877	0.9449	35.334	37.2312	0.84466	1.0443	
23	61.063	1.4114	19.3143	0.9442	35.400	37.0993	0.84468	1.0404	
24	61.145	1.4129	19.2520	0.9494	35.270	37.3769	0.84413	1.0472	
27	61.408	1.4134	19.6537	0.9453	35.402	37.6265	0.84106	1.0530	
28	60.900	1.4087	19.4839	0.9441	35.306	37.2705	0.83868	1.0421	
29	60.723	1.4051	19.4050	0.9430	35.107	37.1934	0.83723	1.0396	
30	60.693	1.4048	19.2738	0.9441	35.053	37.2230	0.83685	1.0403	
31	60.682	1.4091	19.3588	0.9449	34.915	37.2655	0.83608	1.0393	

* 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								
	Bulgaria	Croatia ¹	Czechia	Denmark	Hungary	Poland	Romania	Sweden
Period	Bulgarian lev BGN	Kuna HRK	Czech koruna CZK	Danish krone DKK	Hungarian forint HUF	Polish zloty PLN	Romanian leu RON	Swedish krona SEK
2023	1.9558	–	24.004	7.4509	381.85	4.5420	4.9467	11.4788
2024	1.9558	–	25.120	7.4589	395.30	4.3058	4.9746	11.4325
2022 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
May	1.9558	–	24.819	7.4606	387.18	4.2796	4.9754	11.6186
June	1.9558	–	24.779	7.4592	394.76	4.3209	4.9767	11.2851
July	1.9558	–	25.299	7.4606	392.84	4.2817	4.9730	11.5324
Aug.	1.9558	–	25.179	7.4614	394.70	4.2917	4.9766	11.4557
Sep.	1.9558	–	25.099	7.4600	394.86	4.2761	4.9744	11.3577
Oct.	1.9558	–	25.298	7.4593	401.90	4.3170	4.9750	11.4048
Nov.	1.9558	–	25.301	7.4583	409.25	4.3317	4.9762	11.5828
Dec.	1.9558	–	25.136	7.4589	411.99	4.2704	4.9749	11.5040
2025 Jan.	1.9558	–	25.163	7.4609	411.73	4.2467	4.9752	11.4797

Other European and non-European countries								
	Australia	Brazil	Canada	China	Hong Kong	Iceland	India	Indonesia
	Australian dollar AUD	Brazilian real BRL	Canadian dollar CAD	Yuan (renminbi) CNY	Hong Kong dollar HKD	Icelandic krona ISK	Indian rupee INR	Indonesian rupiah IDR
2023	1.6288	5.4010	1.4595	7.6600	8.4650	149.13	89.3001	16,479.62
2024	1.6397	5.8283	1.4821	7.7875	8.4454	149.31	90.5563	17,157.68
2022 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
May	1.6317	5.5529	1.4780	7.8206	8.4458	150.00	90.1573	17,375.67
June	1.6206	5.7884	1.4750	7.8051	8.4023	149.36	89.8106	17,595.94
July	1.6257	6.0053	1.4868	7.8750	8.4684	149.43	90.6557	17,623.29
Aug.	1.6559	6.1193	1.5049	7.8736	8.5849	151.84	92.4062	17,347.75
Sep.	1.6398	6.1528	1.5037	7.8611	8.6528	152.21	93.0808	17,020.23
Oct.	1.6250	6.1195	1.4993	7.7276	8.4726	149.07	91.6266	16,988.19
Nov.	1.6267	6.1729	1.4855	7.6617	8.2699	146.72	89.6717	16,817.07
Dec.	1.6529	6.3843	1.4915	7.6298	8.1459	145.24	89.0453	16,810.95
2025 Jan.	1.6626	6.2408	1.4904	7.5560	8.0605	145.40	89.3418	16,832.40

* See Explanatory notes, p. 48. + Averages: Bundesbank calculations based on the daily euro foreign exchange reference rates published by the ECB. ¹ 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	
2023	3.9880	151.99	1,412.88	4.9320	19.1830	1.7622	11.4248	60.163	
2024	4.0067	163.85	1,475.40	4.9503	19.8314	1.7880	11.6290	62.007	
2022 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	
May	4.0062	168.54	1,474.96	5.0971	18.1549	1.7819	11.5988	62.523	
June	4.0074	169.81	1,485.38	5.0680	19.6134	1.7539	11.4178	63.177	
July	3.9902	171.17	1,499.62	5.0737	19.6397	1.7985	11.7160	63.416	
Aug.	4.1079	161.06	1,488.61	4.8605	21.0823	1.8112	11.7895	62.710	
Sep.	4.1452	159.08	1,478.72	4.7341	21.7625	1.7845	11.7852	62.256	
Oct.	4.1020	163.20	1,484.59	4.6883	21.4603	1.7917	11.7907	62.655	
Nov.	3.9523	163.23	1,482.25	4.7141	21.6152	1.7967	11.7408	62.410	
Dec.	3.7896	161.08	1,506.85	4.6728	21.2338	1.8217	11.7447	61.203	
2025 Jan.	3.7450	161.92	1,503.60	4.6232	21.2951	1.8393	11.7456	60.479	

Other European and non-European countries (cont'd)									
	Singapore	South Africa	Switzerland	Thailand	Turkey	United Kingdom	United States		
Period	Singapore dollar SGD	South African rand ZAR	Swiss franc CHF	Thai baht THB	Turkish lira TRY	Pound sterling GBP	US dollar USD		
2023	1.4523	19.9551	0.9718	37.631	25.7597	0.86979	1.0813		
2024	1.4458	19.8297	0.9526	38.181	35.5734	0.84662	1.0824		
2022 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		
May	1.4606	19.9079	0.9830	39.607	34.8605	0.85564	1.0812		
June	1.4547	19.8144	0.9616	39.492	35.0667	0.84643	1.0759		
July	1.4602	19.7950	0.9676	39.324	35.6969	0.84332	1.0844		
Aug.	1.4488	19.8651	0.9450	38.263	37.1098	0.85150	1.1012		
Sep.	1.4396	19.5634	0.9414	37.012	37.8238	0.84021	1.1106		
Oct.	1.4283	19.1609	0.9386	36.411	37.3473	0.83496	1.0904		
Nov.	1.4206	19.0553	0.9355	36.596	36.6237	0.83379	1.0630		
Dec.	1.4144	19.0606	0.9339	35.794	36.6588	0.82804	1.0479		
2025 Jan.	1.4092	19.3821	0.9414	35.444	36.8091	0.83908	1.0354		

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

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

3. End-of-year rates and annual averages

EUR 1 = CU ...

Period	EU member countries							
	Bulgaria Bulgarian lev BGN	Croatia ¹ Kuna HRK	Czechia Czech koruna CZK	Denmark Danish krone DKK	Hungary Hungarian forint HUF	Latvia ¹ Latvian lats LVL	Lithuania ¹ Lithuanian litas LTL	Poland Polish zloty PLN
	End of year							
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
2024	1.9558	–	25.185	7.4578	411.35	–	–	4.2750
	Annual averages +							
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
2024	1.9558	–	25.120	7.4589	395.30	–	–	4.3058

Period	EU member countries (cont'd)		Other European and non-European countries					
	Romania Romanian leu RON	Sweden Swedish krona SEK	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 ²
	End of year							
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
2024	4.9743	11.4590	1.6772	6.4253	1.4948	7.5833	8.0686	143.90
	Annual averages +							
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
2024	4.9746	11.4325	1.6397	5.8283	1.4821	7.7875	8.4454	149.31

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

area, see p. 7 (Table I. 1.). ² 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 ¹	Japanese yen JPY	South Korean won KRW	Malaysian ringgit MYR	Mexican peso MXN	New Zealand dollar NZD	Norwegian krone NOK	
End of year									
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
2024	88.9335	16,820.88	3.7885	163.06	1,532.15	4.6454	21.5504	1.8532	11.7950
Annual averages +									
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
2024	90.5563	17,157.68	4.0067	163.85	1,475.40	4.9503	19.8314	1.7880	11.6290

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 ²	Singapore dollar SGD	South African rand ZAR	Swiss franc CHF	Thai baht THB	Turkish lira TRY	Pound sterling GBP	US dollar USD	
End of year									
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
2024	60.301	–	1.4164	19.6188	0.9412	35.676	36.7372	0.82918	1.0389
Annual averages +									
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
2024	62.007	–	1.4458	19.8297	0.9526	38.181	35.5734	0.84662	1.0824

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

ECB indicative rates. ² 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. ¹ Bundesbank calculations based on the daily euro foreign exchange reference rates published by the ECB.