

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	Croatia ¹ 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 Oct.	1.9558	7.5310	24.488	7.4444	409.65	4.7085	4.9143	10.9010	
Nov.	1.9558	7.5490	24.338	7.4366	408.40	4.6635	4.9245	10.9345	
Dec.	1.9558	7.5365	24.116	7.4365	400.87	4.6808	4.9495	11.1218	
2023 Jan.	1.9558	–	23.792	7.4388	390.91	4.7090	4.9210	11.3480	
Feb.	1.9558	–	23.497	7.4443	377.68	4.7125	4.9200	11.0780	
Mar.	1.9558	–	23.492	7.4485	379.50	4.6700	4.9490	11.2805	
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	
2023 Nov. 2	1.9558	–	24.634	7.4635	382.00	4.4495	4.9685	11.8190	
3	1.9558	–	24.414	7.4625	380.38	4.4500	4.9693	11.7400	
6	1.9558	–	24.443	7.4587	379.98	4.4670	4.9692	11.6575	
7	1.9558	–	24.622	7.4577	378.50	4.4618	4.9685	11.6695	
8	1.9558	–	24.666	7.4580	379.38	4.4655	4.9665	11.6555	
9	1.9558	–	24.555	7.4584	378.50	4.4490	4.9686	11.6340	
10	1.9558	–	24.525	7.4577	377.43	4.4243	4.9698	11.6290	
13	1.9558	–	24.581	7.4598	377.20	4.4280	4.9710	11.6100	
14	1.9558	–	24.551	7.4597	377.61	4.4211	4.9719	11.6537	
15	1.9558	–	24.506	7.4588	377.30	4.3970	4.9704	11.4510	
16	1.9558	–	24.446	7.4592	376.30	4.3730	4.9705	11.4898	
17	1.9558	–	24.461	7.4582	377.75	4.3770	4.9723	11.4810	
20	1.9558	–	24.541	7.4565	378.90	4.3690	4.9721	11.4270	
21	1.9558	–	24.509	7.4556	379.18	4.3625	4.9707	11.4040	
22	1.9558	–	24.480	7.4547	380.60	4.3625	4.9708	11.3900	
23	1.9558	–	24.367	7.4559	379.68	4.3655	4.9699	11.4385	
24	1.9558	–	24.406	7.4559	379.88	4.3638	4.9698	11.4390	
27	1.9558	–	24.364	7.4554	379.98	4.3590	4.9709	11.4210	
28	1.9558	–	24.365	7.4560	379.85	4.3473	4.9726	11.4330	

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	Indonesia Indonesian rupiah IDR
2022 Oct.	1.5529	5.2694	1.3553	7.2380	7.7822	143.30	82.1035	15,489.55	
Nov.	1.5425	5.5063	1.4021	7.3437	8.0944	147.10	84.4215	16,271.81	
Dec.	1.5693	5.6386	1.4440	7.3582	8.3163	151.50	88.1710	16,519.82	
2023 Jan.	1.5476	5.5373	1.4570	7.3198	8.4898	153.10	88.6360	16,282.57	
Feb.	1.5760	5.5280	1.4411	7.3663	8.3351	152.30	87.7205	16,193.42	
Mar.	1.6268	5.5158	1.4737	7.4763	8.5367	148.30	89.3995	16,300.19	
Apr.	1.6664	5.4872	1.4981	7.5979	8.6199	149.10	89.8555	16,111.90	
May	1.6497	5.4288	1.4582	7.5926	8.3696	149.70	88.3400	16,030.39	
June	1.6398	5.2788	1.4415	7.8983	8.5157	148.70	89.2065	16,384.54	
July	1.6436	5.2031	1.4566	7.8808	8.5966	144.30	90.6690	16,622.65	
Aug.	1.6785	5.3082	1.4721	7.9196	8.5250	142.30	89.9293	16,551.96	
Sep.	1.6339	5.3065	1.4227	7.7352	8.2959	144.90	88.0165	16,383.62	
Oct.	1.6739	5.3743	1.4712	7.7686	8.3079	147.50	88.4195	16,868.28	
2023 Nov. 2	1.6543	5.2818	1.4707	7.8009	8.3424	147.90	88.7040	16,855.04	
3	1.6478	5.2423	1.4653	7.8193	8.3745	149.10	89.0545	16,763.88	
6	1.6524	5.2595	1.4664	7.8094	8.4020	150.50	89.3960	16,684.96	
7	1.6636	5.1967	1.4679	7.7839	8.3558	150.50	88.9765	16,736.52	
8	1.6592	5.2132	1.4711	7.7699	8.3408	150.50	88.8760	16,729.41	
9	1.6699	5.2378	1.4736	7.7886	8.3505	150.90	89.0530	16,721.42	
10	1.6795	5.2579	1.4753	7.7874	8.3433	151.90	88.9803	16,764.67	
13	1.6742	5.2599	1.4754	7.7794	8.3309	153.30	88.8440	16,751.90	
14	1.6819	5.2449	1.4832	7.8171	8.3754	153.70	89.1958	16,841.35	
15	1.6648	5.2829	1.4854	7.8702	8.4852	153.90	90.2937	16,825.84	
16	1.6736	5.2703	1.4891	7.8655	8.4640	153.30	90.3145	16,901.66	
17	1.6709	5.2947	1.4908	7.8414	8.4785	153.30	90.5065	16,717.28	
20	1.6669	5.3364	1.4994	7.8378	8.5165	152.50	91.1060	16,881.57	
21	1.6653	5.3454	1.5029	7.8178	8.5409	152.50	91.2425	16,979.32	
22	1.6618	5.3402	1.4959	7.8015	8.5061	153.90	90.9030	17,023.45	
23	1.6633	5.3367	1.4940	7.7852	8.5000	152.90	90.8150	16,949.50	
24	1.6621	5.3325	1.4935	7.8090	8.5086	150.30	91.0390	16,995.99	
27	1.6575	5.3522	1.4929	7.8331	8.5310	150.50	91.2743	16,954.34	
28	1.6567	5.3593	1.4887	7.8323	8.5368	150.90	91.2550	16,955.57	

* See Explanatory notes, p. 48. **1** Accession to the euro area on 1 January 2023.

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	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	Philippines Philippine peso PHP
2022 Oct.	3.4933	147.40	1,416.12	4.6873	19.7122	1.7099	10.3028	57.800
Nov.	3.5691	144.28	1,365.14	4.6147	20.0111	1.6634	10.2648	58.697
Dec.	3.7554	140.66	1,344.09	4.6984	20.8560	1.6798	10.5138	59.320
2023 Jan.	3.7675	141.27	1,338.90	4.6211	20.3961	1.6858	10.9083	59.192
Feb.	3.8821	145.23	1,401.84	4.7653	19.4480	1.7216	10.9713	58.760
Mar.	3.9284	144.83	1,420.26	4.7986	19.6392	1.7392	11.3940	59.050
Apr.	3.9939	149.35	1,470.89	4.8981	19.8182	1.7864	11.7910	60.923
May	3.9713	149.13	1,416.29	4.9307	18.9263	1.7793	12.0045	60.053
June	4.0486	157.16	1,435.88	5.0717	18.5614	1.7858	11.7040	60.082
July	4.0714	156.73	1,405.49	4.9703	18.4088	1.7773	11.1805	60.522
Aug.	4.1293	158.49	1,439.56	5.0428	18.1866	1.8259	11.5800	61.545
Sep.	4.0472	158.10	1,425.26	4.9741	18.5030	1.7575	11.2535	59.969
Oct.	4.2756	160.30	1,434.66	5.0594	19.1551	1.8224	11.8735	60.295
2023 Nov. 2	4.2183	159.89	1,417.13	5.0656	18.7524	1.8041	11.8743	60.240
3	4.2491	159.87	1,402.42	5.0615	18.5803	1.7917	11.8535	60.017
6	4.1723	160.87	1,394.34	4.9801	18.7638	1.7987	11.8235	60.049
7	4.1300	160.77	1,398.07	4.9920	18.7248	1.8046	11.9220	59.911
8	4.1091	160.97	1,402.03	4.9978	18.6974	1.8006	11.9305	59.742
9	4.1101	161.57	1,401.90	5.0168	18.7570	1.8035	11.9335	59.715
10	4.1458	161.77	1,408.82	5.0296	19.0402	1.8119	11.8725	59.680
13	4.1267	161.96	1,413.72	5.0234	18.8820	1.8142	11.8770	59.842
14	4.1117	162.67	1,421.73	5.0596	18.8358	1.8270	11.9450	60.065
15	4.0943	163.39	1,410.50	5.0781	18.8419	1.7985	11.7460	60.546
16	4.0970	164.05	1,403.37	5.0866	18.7435	1.8141	11.7675	60.440
17	4.0487	162.29	1,405.00	5.0881	18.7042	1.8161	11.8110	60.416
20	4.0811	162.12	1,412.56	5.1006	18.7590	1.8132	11.7200	60.497
21	4.0655	161.61	1,413.92	5.0974	18.7681	1.8026	11.6700	60.724
22	4.0638	162.25	1,418.10	5.1042	18.7421	1.8065	11.7020	60.698
23	4.0784	162.98	1,418.85	5.1001	18.7094	1.8052	11.7110	60.364
24	4.0807	163.30	1,425.61	5.1136	18.6962	1.7992	11.7345	60.507
27	4.0818	162.86	1,422.61	5.1262	18.6759	1.7955	11.6840	60.793
28	4.0546	162.74	1,419.89	5.1148	18.8095	1.7980	11.7165	60.696

Other European and non-European countries (cont'd)								
Period	Russian Federation Russian rouble RUB 1	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
2022 Oct.	—	1.4038	18.1736	0.9925	37.748	18.4562	0.86115	0.9914
Nov.	—	1.4180	17.5768	0.9854	36.588	19.3333	0.86488	1.0376
Dec.	—	1.4300	18.0986	0.9847	36.835	19.9649	0.88693	1.0666
2023 Jan.	—	1.4268	18.9223	1.0032	35.787	20.3787	0.88073	1.0833
Feb.	—	1.4314	19.5518	0.9947	37.485	20.0556	0.87701	1.0619
Mar.	—	1.4464	19.3275	0.9968	37.111	20.8632	0.87920	1.0875
Apr.	—	1.4679	20.1558	0.9839	37.467	21.3608	0.88050	1.0981
May	—	1.4467	21.1353	0.9724	37.134	22.1320	0.86405	1.0683
June	—	1.4732	20.5785	0.9788	38.482	28.3193	0.85828	1.0866
July	—	1.4660	19.5511	0.9619	37.732	29.7126	0.85765	1.1023
Aug.	—	1.4686	20.4199	0.9584	38.005	28.9848	0.85718	1.0868
Sep.	—	1.4443	19.9813	0.9669	38.679	29.0514	0.86458	1.0594
Oct.	—	1.4525	19.9507	0.9607	38.266	30.0455	0.87366	1.0619
2023 Nov. 2	—	1.4522	19.5695	0.9622	38.252	30.2241	0.87305	1.0661
3	—	1.4516	19.6279	0.9625	38.056	30.4016	0.86983	1.0702
6	—	1.4501	19.6149	0.9646	38.200	30.5458	0.86640	1.0741
7	—	1.4483	19.6516	0.9626	38.058	30.4546	0.86855	1.0686
8	—	1.4481	19.7290	0.9599	37.917	30.4255	0.87015	1.0671
9	—	1.4523	19.8926	0.9637	38.089	30.4699	0.87205	1.0691
10	—	1.4525	20.0296	0.9636	38.395	30.5149	0.87435	1.0683
13	—	1.4520	20.0025	0.9656	38.407	30.5041	0.87155	1.0670
14	—	1.4592	20.0694	0.9668	38.665	30.7098	0.87230	1.0724
15	—	1.4645	19.7127	0.9640	38.560	31.1558	0.87188	1.0868
16	—	1.4634	19.8718	0.9651	38.492	31.1057	0.87520	1.0849
17	—	1.4610	19.9254	0.9643	38.068	31.1970	0.87395	1.0872
20	—	1.4641	20.1445	0.9665	38.494	31.4332	0.87630	1.0928
21	—	1.4638	20.1403	0.9673	38.545	31.5552	0.87326	1.0955
22	—	1.4622	20.3008	0.9640	38.379	31.4546	0.87030	1.0911
23	—	1.4618	20.5225	0.9644	38.444	31.3536	0.86940	1.0900
24	—	1.4640	20.6312	0.9640	38.692	31.5270	0.86818	1.0916
27	—	1.4641	20.4087	0.9640	38.389	31.6571	0.86671	1.0951
28	—	1.4630	20.4833	0.9645	38.234	31.6793	0.86820	1.0949

* See Explanatory notes, p. 48. 1 The ECB has suspended the publication of the euro foreign exchange reference rate against the Russian rouble with effect from 2 March 2022.