

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 ¹ | Croatia ¹ | Czechia | Denmark | Hungary | Latvia ¹ | Lithuania ¹ | Poland | |
| Bulgarian lev BGN | Kuna HRK | Czech koruna CZK | Danish krone DKK | Hungarian forint HUF | Latvian lats LVL | Lithuanian litas LTL | Polish zloty PLN | |
| End of year | | | | | | | | |
| 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 |
| 2025 | 1.9558 | – | 24.237 | 7.4689 | 385.15 | – | – | 4.2210 |
| Annual averages ⁺ | | | | | | | | |
| 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 |
| 2025 | 1.9558 | – | 24.688 | 7.4634 | 397.77 | – | – | 4.2397 |

| 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 ² | |
| End of year | | | | | | | | |
| 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 |
| 2025 | 5.0968 | 10.8215 | 1.7581 | 6.4364 | 1.6088 | 8.2262 | 9.1464 | 147.20 |
| Annual averages ⁺ | | | | | | | | |
| 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 |
| 2025 | 5.0424 | 11.0663 | 1.7518 | 6.3072 | 1.5787 | 8.1185 | 8.8104 | 144.66 |

* 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 1.1.). 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 | Japanese yen JPY | South Korean won KRW | Malaysian ringgit MYR | Mexican peso MXN | New Zealand dollar NZD | Norwegian krone NOK | |
| End of year | | | | | | | | | |
| 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 |
| 2025 | 105.5965 | 19,640.83 | 3.7471 | 184.09 | 1,696.94 | 4.7682 | 21.1180 | 2.0380 | 11.8430 |
| Annual averages + | | | | | | | | | |
| 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 |
| 2025 | 98.5239 | 18,623.06 | 3.8927 | 169.04 | 1,605.45 | 4.8339 | 21.6705 | 1.9422 | 11.7173 |

| 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 1 | 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 | | | | | | | | | |
| 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 |
| 2025 | 69.266 | – | 1.5105 | 19.4439 | 0.9314 | 37.218 | 50.4838 | 0.87260 | 1.1750 |
| Annual averages + | | | | | | | | | |
| 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 |
| 2025 | 64.977 | – | 1.4756 | 20.1789 | 0.9370 | 37.116 | 44.8161 | 0.85679 | 1.1300 |

* 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.