



# Capital market indicators

## November 2020

Statistical Series

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## Notes

### Changes of definitions

Up to the end of 1999, debt securities comprise bonds, and money market paper issued by domestic banks; from January 2000, all debt securities with the exception of commercial paper issued by Corporates (Non-MFIs).

### NB

Percentages are computed from figures reported in € thousand.

## Abbreviations and symbols

|          |   |
|----------|---|
| <b>p</b> | Provisional   |
| <b>r</b> | Revised   |
| <b>s</b> | Estimated   |
| <b>.</b> | Data unknown, not to be published or not meaningful |
| <b>0</b> | Less than 0.5 but more than nil                     |
| <b>–</b> | Nil   |

Discrepancies in the totals are due to rounding.

## I. Indices

### Indices for securities issued by residents

| Debt securities issued by residents <sup>1</sup> |             |              | Indices on debt securities issued by residents <sup>2 3</sup> |                       |                      |                          |                         |                             |                              |                                   |
|--|-------------|--------------|---|-----------------------|----------------------|--------------------------|-------------------------|-----------------------------|------------------------------|-----------------------------------|
| Issue Yields                                     | Yields      |              | Shares  |                       |                      |                          | Debt securities         |                             |                              |                                   |
|  |             |              | Share price index   |                       | Performance Index    |                          | Share price index       |                             | Performance Index            |                                   |
|  |             |              | CDAX share price index  | DAX share price index | Composite DAX (CDAX) | German share index (DAX) | German bond index (REX) | iBoxx-€ Germany price index | REX-Performance index (REXP) | iBoxx-€ Germany Performance-index |
| Period   | % per annum | End-1987=100 | End-1987=1,000  | End-1987=100          | End-1987=1,000       | Average daily rate       | End-1998=100            | End-1987=100                | End-1998=100                 |                                   |
| 2003   | 3.8         | 3.7          | 252.48  | 2,857.84              | 344.89               | 3,965.16                 | 117.36                  | 97.09                       | 284.72                       | 125.21                            |
| 2004   | 3.9         | 3.7          | 268.32  | 3,004.65              | 374.09               | 4,256.08                 | 120.19                  | 99.89                       | 303.80                       | 134.40                            |
| 2005   | 3.3         | 3.1          | 335.59  | 3,719.79              | 479.59               | 5,408.26                 | 120.92                  | 101.09                      | 316.20                       | 141.50                            |
| 2006   | 3.8         | 3.8          | 407.16  | 4,429.01              | 595.11               | 6,596.92                 | 116.78                  | 96.69                       | 317.05                       | 140.98                            |
| 2007   | 4.3         | 4.3          | 478.65  | 5,277.23              | 716.65               | 8,067.32                 | 114.85                  | 94.62                       | 325.02                       | 143.83                            |
| 2008   | 4.3         | 4.2          | 266.33  | 3,041.60              | 411.51               | 4,810.20                 | 121.68                  | 102.06                      | 357.99                       | 161.42                            |
| 2009   | 3.5         | 3.2          | 320.32  | 3,604.02              | 516.05               | 5,957.43                 | 123.62                  | 100.12                      | 375.62                       | 164.54                            |
| 2010   | 2.6         | 2.5          | 368.72  | 4,053.71              | 611.30               | 6,914.19                 | 124.96                  | 102.95                      | 390.67                       | 174.97                            |
| 2011   | 2.7         | 2.6          | 304.60  | 3,346.06              | 520.73               | 5,898.35                 | 131.48                  | 109.53                      | 423.06                       | 191.98                            |
| 2012   | 1.6         | 1.4          | 380.03  | 4,161.30              | 673.11               | 7,612.39                 | 135.11                  | 111.18                      | 442.69                       | 200.27                            |
| 2013   | 1.6         | 1.4          | 466.53  | 5,051.89              | 853.14               | 9,552.16                 | 132.11                  | 105.92                      | 440.54                       | 195.87                            |
| 2014   | 1.2         | 1.0          | 468.39  | 5,044.71              | 879.54               | 9,805.55                 | 139.68                  | 114.37                      | 471.82                       | 216.25                            |
| 2015   | 0.7         | 0.5          | 508.80  | 5,390.31              | 979.19               | 10,743.01                | 139.52                  | 112.42                      | 474.24                       | 216.98                            |
| 2016   | 0.4         | 0.1          | 526.55  | 5,588.27              | 1,042.86             | 11,481.06                | 142.50                  | 112.72                      | 485.31                       | 225.72                            |
| 2017   | 0.6         | 0.3          | 595.45  | 6,122.26              | 1,209.51             | 12,917.64                | 140.53                  | 109.03                      | 480.68                       | 222.42                            |
| 2018   | 0.7         | 0.4          | 474.85  | 4,862.74              | 990.45               | 10,558.96                | 141.84                  | 109.71                      | 487.68                       | 227.73                            |
| 2019   | 0.2         | -            | 575.80  | 5,909.66              | 1,238.89             | 13,249.01                | 143.72                  | 111.32                      | 493.22                       | 234.59                            |
| 2017 Apr.  | 0.3         | 0.2          | 570.29  | 6,004.37              | 1,137.78             | 12,438.01                | 141.87                  | 111.03                      | 483.78                       | 224.08                            |
| May  | 0.5         | 0.3          | 572.60  | 5,990.58              | 1,159.99             | 12,615.06                | 141.95                  | 110.90                      | 484.21                       | 223.94                            |
| June   | 0.5         | 0.2          | 557.50  | 5,841.44              | 1,132.19             | 12,325.12                | 140.79                  | 109.60                      | 480.42                       | 221.32                            |
| July   | 0.5         | 0.4          | 552.08  | 5,743.40              | 1,121.34             | 12,118.25                | 140.78                  | 108.71                      | 480.60                       | 221.21                            |
| Aug.   | 0.6         | 0.3          | 551.25  | 5,713.82              | 1,119.70             | 12,055.84                | 141.85                  | 110.01                      | 484.46                       | 224.15                            |
| Sep.   | 0.7         | 0.3          | 585.63  | 6,080.19              | 1,189.55             | 12,828.86                | 141.21                  | 109.06                      | 482.44                       | 222.43                            |
| Oct.   | 0.5         | 0.3          | 603.37  | 6,270.10              | 1,225.58             | 13,229.57                | 141.63                  | 109.70                      | 484.08                       | 223.78                            |
| Nov.   | 0.5         | 0.3          | 597.74  | 6,172.66              | 1,214.16             | 13,023.98                | 141.23                  | 109.62                      | 482.90                       | 223.63                            |
| Dec.   | 1.2         | 0.3          | 595.45  | 6,122.26              | 1,209.51             | 12,917.64                | 140.53                  | 109.03                      | 480.68                       | 222.42                            |
| 2018 Jan.  | 0.8         | 0.5          | 608.72  | 6,250.68              | 1,236.54             | 13,189.48                | 139.19                  | 107.24                      | 476.34                       | 220.12                            |
| Feb.   | 1.0         | 0.6          | 577.02  | 5,875.60              | 1,175.06             | 12,435.85                | 139.24                  | 107.33                      | 476.80                       | 220.54                            |
| Mar.   | 0.6         | 0.5          | 561.97  | 5,715.45              | 1,144.50             | 12,096.73                | 140.36                  | 108.53                      | 480.92                       | 223.00                            |
| Apr.   | 0.6         | 0.5          | 579.61  | 5,916.24              | 1,187.85             | 12,612.11                | 139.85                  | 108.02                      | 479.42                       | 221.98                            |
| May  | 0.7         | 0.5          | 572.08  | 5,804.98              | 1,192.30             | 12,604.89                | 141.11                  | 109.76                      | 483.98                       | 225.67                            |
| June   | 0.5         | 0.4          | 557.27  | 5,668.60              | 1,162.24             | 12,306.00                | 141.29                  | 109.87                      | 484.77                       | 225.89                            |
| July   | 0.8         | 0.3          | 580.49  | 5,898.69              | 1,210.78             | 12,805.50                | 140.83                  | 108.50                      | 483.35                       | 224.63                            |
| Aug.   | 0.6         | 0.3          | 567.19  | 5,695.34              | 1,183.07             | 12,364.06                | 141.24                  | 109.06                      | 484.93                       | 226.15                            |
| Sep.   | 0.6         | 0.4          | 556.11  | 5,641.29              | 1,159.95             | 12,246.73                | 140.34                  | 108.01                      | 482.02                       | 224.18                            |
| Oct.   | 0.8         | 0.5          | 519.54  | 5,273.14              | 1,083.66             | 11,447.51                | 141.11                  | 108.69                      | 484.87                       | 225.61                            |
| Nov.   | 0.5         | 0.4          | 509.46  | 5,185.50              | 1,062.63             | 11,257.24                | 141.47                  | 109.14                      | 486.30                       | 226.55                            |
| Dec.   | 1.0         | 0.3          | 474.85  | 4,862.74              | 990.45               | 10,558.96                | 141.84                  | 109.71                      | 487.68                       | 227.73                            |
| 2019 Jan.  | 0.6         | 0.3          | 505.55  | 5,128.61              | 1,057.30             | 11,173.10                | 142.15                  | 110.01                      | 488.86                       | 229.54                            |
| Feb.   | 0.4         | 0.2          | 517.62  | 5,284.27              | 1,083.17             | 11,515.64                | 142.06                  | 109.52                      | 488.60                       | 228.75                            |
| Mar.   | 0.3         | 0.2          | 516.84  | 5,274.00              | 1,083.74             | 11,526.04                | 143.19                  | 111.35                      | 492.53                       | 232.58                            |
| Apr.   | 0.4         | 0.1          | 552.28  | 5,626.34              | 1,162.42             | 12,344.08                | 142.69                  | 110.72                      | 490.85                       | 231.26                            |
| May  | 0.3         | 0.1          | 510.79  | 5,235.06              | 1,097.08             | 11,726.84                | 144.20                  | 112.36                      | 496.03                       | 234.80                            |
| June   | 0.4         | -            | 535.23  | 5,535.26              | 1,151.35             | 12,398.80                | 144.73                  | 113.54                      | 497.76                       | 237.27                            |
| July   | -           | 0.1          | 528.16  | 5,441.61              | 1,136.26             | 12,189.04                | 145.43                  | 113.94                      | 500.03                       | 239.49                            |
| Aug.   | -           | 0.1          | 518.10  | 5,327.67              | 1,114.63             | 11,939.28                | 147.13                  | 116.35                      | 505.60                       | 244.97                            |
| Sep.   | 0.0         | -            | 535.82  | 5,545.79              | 1,152.86             | 12,428.08                | 145.93                  | 114.98                      | 501.23                       | 242.30                            |
| Oct.   | -           | 0.1          | 554.98  | 5,741.56              | 1,194.09             | 12,866.79                | 144.91                  | 113.34                      | 497.53                       | 238.84                            |
| Nov.   | 0.2         | -            | 571.40  | 5,906.48              | 1,229.42             | 13,236.38                | 144.67                  | 112.86                      | 496.58                       | 237.84                            |
| Dec.   | 0.5         | -            | 575.80  | 5,909.66              | 1,238.89             | 13,249.01                | 143.72                  | 111.32                      | 493.22                       | 234.59                            |
| 2020 Jan.  | 0.2         | -            | 565.28  | 5,790.54              | 1,216.25             | 12,981.97                | 144.88                  | 113.14                      | 497.10                       | 239.46                            |
| Feb.   | 0.1         | -            | 516.08  | 5,287.76              | 1,113.36             | 11,890.35                | 146.02                  | 114.54                      | 500.85                       | 242.68                            |
| Mar.   | 0.1         | -            | 429.84  | 4,416.97              | 927.23               | 9,935.84                 | 145.13                  | 113.12                      | 497.56                       | 239.67                            |
| Apr.   | 0.4         | -            | 471.38  | 4,804.60              | 1,020.92             | 10,861.64                | 144.99                  | 114.35                      | 496.93                       | 242.26                            |
| May  | 0.0         | -            | 502.26  | 5,079.39              | 1,097.58             | 11,586.85                | 144.54                  | 112.80                      | 495.23                       | 239.12                            |
| June   | -           | 0.0          | 525.07  | 5,357.17              | 1,155.00             | 12,310.93                | 145.24                  | 113.18                      | 497.48                       | 239.92                            |
| July   | 0.2         | -            | 522.53  | 5,346.62              | 1,151.65             | 12,313.36                | 145.85                  | 113.27                      | 499.35                       | 241.36                            |
| Aug.   | -           | 0.4          | 549.79  | 5,610.72              | 1,213.99             | 12,945.38                | 145.81                  | 111.72                      | 499.04                       | 238.47                            |
| Sep.   | -           | 0.1          | 544.40  | 5,528.17              | 1,202.43             | 12,760.73                | 145.96                  | 112.79                      | 499.33                       | 240.88                            |
| Oct.   | -           | 0.3          | 492.31  | 5,001.72              | 1,088.72             | 11,556.48                | 146.56                  | 113.81                      | 501.12                       | 243.05                            |

<sup>1</sup> Average of year or month; see explanatory notes for further details. <sup>2</sup> End of year or month. <sup>3</sup> Source: Deutsche Börse AG; see explanatory notes for further details.

## II. Yields

### 1. Issue yields, by category of securities

% per annum

| Period            | Bank debt securities |       |                      |                    |   |                            |       | Corporate bonds (non-MFIs) | Public debt securities                   |     |  |
|-------------------|----------------------|-------|----------------------|--------------------|---|----------------------------|-------|----------------------------|--|-----|--|
|                   | Total                | Total | Mortgage Pfandbriefe | Public Pfandbriefe | Debt securities issued by special purpose credit institutions | Other bank debt securities | Total |                            | of which: Listed Federal debt securities |     |  |
| 2003              | 3.8                  | 3.8   | 3.8                  | 3.7                | 3.9   | 3.8                        | 3.4   | 3.8                        | 3.8                                      | 3.8 |  |
| 2004              | 3.9                  | 3.7   | 3.7                  | 3.6                | 3.7   | 3.8                        | 5.7   | 3.8                        | 3.8                                      | 3.5 |  |
| 2005              | 3.3                  | 3.2   | 3.2                  | 3.1                | 3.3   | 3.1                        | 6.3   | 3.2                        | 3.2                                      | 3.2 |  |
| 2006              | 3.8                  | 3.8   | 3.8                  | 3.8                | 4.0   | 3.8                        | 3.3   | 3.8                        | 3.8                                      | 3.8 |  |
| 2007              | 4.3                  | 4.5   | 4.4                  | 4.4                | 4.5   | 4.5                        | 6.3   | 4.3                        | 4.3                                      | 4.2 |  |
| 2008              | 4.3                  | 4.5   | 4.5                  | 4.4                | 4.4   | 4.7                        | 6.7   | 4.0                        | 4.0                                      | 3.9 |  |
| 2009              | 3.5                  | 3.5   | 3.5                  | 3.4                | 3.1   | 3.8                        | 5.9   | 3.1                        | 3.1                                      | 3.0 |  |
| 2010              | 2.6                  | 2.7   | 2.6                  | 2.6                | 2.4   | 3.0                        | .     | 2.4                        | 2.4                                      | 2.4 |  |
| 2011              | 2.7                  | 3.0   | 3.0                  | 3.1                | 2.8   | 3.1                        | 6.6   | 2.5                        | 2.5                                      | 2.3 |  |
| 2012              | 1.6                  | 1.8   | 1.7                  | 1.8                | 1.5   | 2.3                        | 5.0   | 1.3                        | 1.3                                      | 1.2 |  |
| 2013              | 1.6                  | 1.8   | 1.5                  | 1.6                | 1.2   | 2.3                        | 4.8   | 1.3                        | 1.3                                      | 1.2 |  |
| 2014              | 1.2                  | 1.3   | 1.1                  | 1.3                | 0.9   | 1.8                        | 5.5   | 1.1                        | 1.1                                      | 0.9 |  |
| 2015              | 0.7                  | 0.7   | 0.5                  | 0.6                | 0.4   | 1.3                        | 5.1   | 0.4                        | 0.4                                      | 0.4 |  |
| 2016 <sup>1</sup> | 0.4                  | 0.6   | 0.3                  | 0.4                | 0.4   | 1.2                        | 3.8   | 0.1                        | -  | 0.1 |  |
| 2017 <sup>1</sup> | 0.6                  | 0.6   | 0.5                  | 0.5                | 0.5   | 1.2                        | 3.7   | 0.4                        | 0.4                                      | 0.2 |  |
| 2018              | 0.7                  | 0.6   | 0.5                  | 0.5                | 0.5   | 1.1                        | 3.8   | 0.6                        | 0.6                                      | 0.4 |  |
| 2019              | 0.2                  | 0.4   | 0.3                  | 0.4                | 0.3   | 0.8                        | 3.3   | -                          | 0.1                                      | 0.3 |  |
| 2017 Apr.         | 0.3                  | 0.6   | 0.6                  | 0.4                | 0.5   | 0.9                        | 4.4   | 0.1                        | 0.1                                      | 0.0 |  |
| May               | 0.5                  | 0.7   | 0.6                  | 0.4                | 0.5   | 1.2                        | 2.7   | 0.4                        | 0.4                                      | 0.3 |  |
| June              | 0.5                  | 0.6   | 0.4                  | 0.3                | 0.6   | 1.0                        | 5.6   | 0.4                        | 0.4                                      | 0.1 |  |
| July              | 0.5                  | 0.4   | 1.0                  | 0.2                | 0.4   | 1.0                        | 3.1   | 0.5                        | 0.5                                      | 0.4 |  |
| Aug.              | 0.6                  | 0.7   | 0.8                  | 0.2                | 0.7   | 1.1                        | 3.9   | 0.4                        | 0.4                                      | 0.2 |  |
| Sep.              | 0.7                  | 0.6   | 0.4                  | 0.4                | 0.6   | 1.0                        | 4.0   | 0.4                        | 0.4                                      | 0.3 |  |
| Oct.              | 0.5                  | 0.5   | 0.6                  | 0.6                | 0.2   | 1.0                        | 5.4   | 0.6                        | 0.6                                      | 0.3 |  |
| Nov.              | 0.5                  | 0.5   | 0.3                  | 0.5                | 0.5   | 0.9                        | 4.1   | 0.3                        | 0.3                                      | 0.2 |  |
| Dec. <sup>1</sup> | 1.2                  | 0.8   | 0.4                  | 0.7                | 0.4   | 1.0                        | 4.9   | 0.3                        | 0.3                                      | 0.3 |  |
| 2018 Jan.         | 0.8                  | 0.7   | 0.6                  | 0.6                | 0.6   | 1.4                        | 4.0   | 0.7                        | 0.7                                      | 0.7 |  |
| Feb.              | 1.0                  | 0.8   | 0.6                  | 0.4                | 0.7   | 1.4                        | 6.1   | 0.8                        | 0.8                                      | 0.6 |  |
| Mar.              | 0.6                  | 0.4   | 0.5                  | 0.8                | 0.3   | 1.1                        | 1.9   | 0.6                        | 0.6                                      | 0.5 |  |
| Apr.              | 0.6                  | 0.6   | 0.7                  | 0.5                | 0.5   | 1.3                        | 2.7   | 0.5                        | 0.5                                      | 0.4 |  |
| May               | 0.7                  | 0.7   | 0.5                  | 0.3                | 0.8   | 1.1                        | 4.0   | 0.4                        | 0.4                                      | 0.4 |  |
| June              | 0.5                  | 0.3   | 0.4                  | 0.4                | 0.2   | 0.9                        | 2.6   | 0.6                        | 0.6                                      | 0.4 |  |
| July              | 0.8                  | 0.7   | 0.6                  | 0.7                | 0.7   | 1.0                        | 5.7   | 0.5                        | 0.5                                      | 0.2 |  |
| Aug.              | 0.6                  | 0.8   | 0.5                  | 0.3                | 0.3   | 0.9                        | 4.5   | 0.4                        | 0.4                                      | 0.2 |  |
| Sep.              | 0.6                  | 0.5   | 0.5                  | 0.8                | 0.5   | 1.0                        | 2.0   | 0.6                        | 0.6                                      | 0.4 |  |
| Oct.              | 0.8                  | 0.8   | 0.6                  | 1.1                | 0.6   | 1.1                        | 3.5   | 0.6                        | 0.6                                      | 0.4 |  |
| Nov.              | 0.5                  | 0.3   | 0.5                  | 0.4                | 0.2   | 1.0                        | 5.3   | 0.6                        | 0.6                                      | 0.3 |  |
| Dec.              | 1.0                  | 0.5   | 0.5                  | -                  | 0.2   | 1.0                        | 2.7   | 0.4                        | -  | 0.1 |  |
| 2019 Jan.         | 0.6                  | 0.7   | 0.7                  | 0.6                | 0.7   | 1.0                        | 1.4   | 0.5                        | 0.5                                      | 0.1 |  |
| Feb.              | 0.4                  | 0.5   | 0.6                  | 0.6                | 0.2   | 1.5                        | 6.0   | 0.2                        | 0.2                                      | 0.1 |  |
| Mar.              | 0.3                  | 0.7   | 0.5                  | 0.8                | 0.3   | 1.0                        | 2.9   | 0.2                        | 0.2                                      | 0.0 |  |
| Apr.              | 0.4                  | 0.7   | 0.9                  | 0.6                | 0.6   | 0.7                        | 2.8   | 0.1                        | 0.1                                      | 0.0 |  |
| May               | 0.3                  | 0.4   | 0.6                  | 0.2                | 0.1   | 0.9                        | 8.6   | -                          | 0.1                                      | 0.2 |  |
| June              | 0.4                  | 0.6   | 0.1                  | 0.2                | 0.6   | 0.8                        | 3.2   | -                          | 0.1                                      | 0.2 |  |
| July              | -                    | 0.1   | 0.0                  | 0.0                | 0.1   | 0.4                        | 4.5   | -                          | 0.2                                      | 0.4 |  |
| Aug.              | -                    | 0.1   | -                    | 0.1                | -   | 0.1                        | 0.8   | -                          | 0.4                                      | 0.6 |  |
| Sep.              | 0.0                  | 0.3   | -                    | 0.1                | 0.1   | 0.5                        | 0.5   | -                          | 0.4                                      | 0.6 |  |
| Oct.              | -                    | 0.1   | -                    | 0.2                | 0.0   | 0.3                        | 2.7   | -                          | 0.4                                      | 0.5 |  |
| Nov.              | 0.2                  | 0.5   | 0.1                  | 0.2                | 0.1   | 1.1                        | 2.6   | -                          | 0.2                                      | 0.4 |  |
| Dec.              | 0.5                  | 0.5   | 0.1                  | 1.2                | 0.6   | 0.6                        | 3.9   | -                          | 0.2                                      | 0.3 |  |
| 2020 Jan.         | 0.2                  | 0.1   | 0.0                  | 0.1                | -   | 0.2                        | 2.1   | -                          | 0.0                                      | 0.3 |  |
| Feb.              | 0.1                  | -     | 0.1                  | 0.1                | -   | 0.2                        | 3.7   | -                          | 0.1                                      | 0.4 |  |
| Mar.              | 0.1                  | 0.1   | -                    | 0.0                | 0.0   | 0.1                        | 3.9   | -                          | 0.1                                      | 0.5 |  |
| Apr.              | 0.4                  | 0.2   | 0.1                  | 0.0                | 0.1   | 0.7                        | 2.2   | -                          | 0.2                                      | 0.4 |  |
| May               | 0.0                  | 0.2   | -                    | 0.2                | 0.3   | 0.1                        | 1.3   | -                          | 0.4                                      | 0.5 |  |
| June              | -                    | 0.0   | 0.2                  | -                  | 0.2   | 0.1                        | 1.2   | -                          | 0.3                                      | 0.3 |  |
| July              | 0.2                  | 0.1   | -                    | 0.2                | 1.0   | 0.0                        | 2.4   | -                          | 0.4                                      | 0.5 |  |
| Aug.              | -                    | 0.4   | 0.2                  | 0.3                | 0.1   | 0.5                        | 4.9   | -                          | 0.5                                      | 0.5 |  |
| Sep.              | -                    | 0.1   | -                    | 0.2                | -   | 0.2                        | 1.7   | -                          | 0.4                                      | 0.5 |  |

<sup>1</sup> Sectoral reclassification of debt securities.

## II. Yields

### 2a) Yields on debt securities outstanding, by category of securities

% per annum

| Period            | Bank debt securities |                    |                      |                    |   |                            |                            |                    | Public debt securities                 |   |  |  |
|-------------------|----------------------|--------------------|----------------------|--------------------|---|----------------------------|----------------------------|--------------------|--|---|--|--|
|                   | Total <sup>1</sup>   | Total <sup>1</sup> | Mortgage Pfandbriefe | Public Pfandbriefe | Debt securities issued by special purpose credit institutions | Other bank debt securities | Corporate bonds (non-MFIs) | Total <sup>1</sup> | of which:<br>Listed Federal securities |   |  |  |
|                   |                      |                    |                      |                    |   |                            |                            |                    | Total                                  | of which:<br>With a maturity of more than 9 up to and including 10 years <sup>2</sup> |  |  |
| 2009              | 3.2                  | 3.5                | 3.3                  | 3.4                | 3.3   | 4.2                        | 5.5                        | 3.1                | 3.0                                    | 3.2   |  |  |
| 2010              | 2.5                  | 2.7                | 2.5                  | 2.6                | 2.6   | 3.1                        | 4.0                        | 2.4                | 2.4                                    | 2.7   |  |  |
| 2011              | 2.6                  | 2.9                | 2.7                  | 2.9                | 2.7   | 3.5                        | 4.3                        | 2.4                | 2.4                                    | 2.6   |  |  |
| 2012              | 1.4                  | 1.6                | 1.4                  | 1.5                | 1.4   | 2.4                        | 3.7                        | 1.3                | 1.3                                    | 1.5   |  |  |
| 2013              | 1.4                  | 1.3                | 1.3                  | 1.2                | 1.1   | 1.9                        | 3.4                        | 1.3                | 1.3                                    | 1.6   |  |  |
| 2014              | 1.0                  | 0.9                | 0.9                  | 0.9                | 0.7   | 1.4                        | 2.9                        | 1.0                | 1.0                                    | 1.2   |  |  |
| 2015              | 0.5                  | 0.5                | 0.4                  | 0.4                | 0.2   | 1.2                        | 2.4                        | 0.4                | 0.4                                    | 0.5   |  |  |
| 2016 <sup>3</sup> | 0.1                  | 0.3                | 0.2                  | 0.2                | –   | 0.1                        | 1.2                        | 2.1                | 0.0                                    | 0.1   |  |  |
| 2017 <sup>3</sup> | 0.3                  | 0.4                | 0.3                  | 0.4                | 0.2   | 1.2                        | 1.7                        | 0.2                | 0.2                                    | 0.3   |  |  |
| 2018              | 0.4                  | 0.6                | 0.4                  | 0.5                | 0.4   | 1.3                        | 2.5                        | 0.3                | 0.3                                    | 0.4   |  |  |
| 2019              | –                    | 0.1                | 0.1                  | 0.0                | –   | 0.1                        | 0.9                        | 2.5                | –                                      | 0.3   |  |  |
| 2018 May          | 0.5                  | 0.6                | 0.5                  | 0.6                | 0.4   | 1.3                        | 2.3                        | 0.4                | 0.3                                    | 0.5   |  |  |
| June              | 0.4                  | 0.6                | 0.4                  | 0.5                | 0.4   | 1.4                        | 2.4                        | 0.3                | 0.2                                    | 0.3   |  |  |
| July              | 0.3                  | 0.5                | 0.3                  | 0.5                | 0.4   | 1.3                        | 2.5                        | 0.2                | 0.2                                    | 0.3   |  |  |
| Aug.              | 0.3                  | 0.5                | 0.4                  | 0.5                | 0.3   | 1.3                        | 2.5                        | 0.2                | 0.2                                    | 0.3   |  |  |
| Sep.              | 0.4                  | 0.6                | 0.4                  | 0.5                | 0.4   | 1.4                        | 2.7                        | 0.3                | 0.3                                    | 0.4   |  |  |
| Oct.              | 0.5                  | 0.6                | 0.5                  | 0.6                | 0.4   | 1.4                        | 2.8                        | 0.3                | 0.3                                    | 0.4   |  |  |
| Nov.              | 0.4                  | 0.6                | 0.4                  | 0.6                | 0.4   | 1.4                        | 3.0                        | 0.3                | 0.2                                    | 0.3   |  |  |
| Dec.              | 0.3                  | 0.6                | 0.4                  | 0.5                | 0.3   | 1.5                        | 3.3                        | 0.2                | 0.1                                    | 0.2   |  |  |
| 2019 Jan.         | 0.3                  | 0.5                | 0.4                  | 0.5                | 0.3   | 1.4                        | 3.3                        | 0.2                | 0.1                                    | 0.1   |  |  |
| Feb.              | 0.2                  | 0.4                | 0.3                  | 0.4                | 0.2   | 1.3                        | 3.0                        | 0.1                | 0.0                                    | 0.1   |  |  |
| Mar.              | 0.2                  | 0.4                | 0.2                  | 0.4                | 0.1   | 1.2                        | 2.8                        | 0.0                | –                                      | 0.0   |  |  |
| Apr.              | 0.1                  | 0.3                | 0.2                  | 0.3                | 0.1   | 1.1                        | 2.6                        | 0.0                | –                                      | 0.0   |  |  |
| May               | 0.1                  | 0.2                | 0.1                  | 0.2                | 0.0   | 1.1                        | 2.6                        | –                  | 0.1                                    | –   |  |  |
| June              | –                    | 0.1                | 0.0                  | 0.0                | –   | 0.1                        | 1.0                        | 2.5                | –                                      | 0.3   |  |  |
| July              | –                    | 0.2                | –                    | 0.1                | –   | 0.2                        | 0.7                        | 2.4                | –                                      | 0.4   |  |  |
| Aug.              | –                    | 0.4                | –                    | 0.3                | –   | 0.4                        | 0.5                        | 2.3                | –                                      | 0.6   |  |  |
| Sep.              | –                    | 0.4                | –                    | 0.3                | –   | 0.4                        | 0.6                        | 2.3                | –                                      | 0.6   |  |  |
| Oct.              | –                    | 0.2                | –                    | 0.2                | –   | 0.3                        | 0.7                        | 2.4                | –                                      | 0.5   |  |  |
| Nov.              | –                    | 0.1                | –                    | 0.1                | –   | 0.2                        | 0.7                        | 2.2                | –                                      | 0.3   |  |  |
| Dec.              | –                    | 0.1                | –                    | 0.1                | –   | 0.1                        | 0.8                        | 2.1                | –                                      | 0.3   |  |  |
| 2020 Jan.         | –                    | 0.1                | –                    | 0.1                | –   | 0.1                        | 0.7                        | 2.0                | –                                      | 0.3   |  |  |
| Feb.              | –                    | 0.2                | –                    | 0.2                | –   | 0.3                        | 0.6                        | 1.8                | –                                      | 0.4   |  |  |
| Mar.              | –                    | 0.2                | –                    | 0.1                | –   | 0.1                        | 1.3                        | 3.5                | –                                      | 0.6   |  |  |
| Apr.              | –                    | 0.1                | –                    | 0.1                | –   | 0.0                        | 1.6                        | 3.7                | –                                      | 0.4   |  |  |
| May <sup>4</sup>  | –                    | 0.1                | –                    | 0.1                | –   | 0.2                        | 1.4                        | 2.0                | –                                      | 0.5   |  |  |
| June              | –                    | 0.1                | –                    | 0.1                | –   | 0.2                        | 1.1                        | 1.6                | –                                      | 0.4   |  |  |
| July              | –                    | 0.2                | –                    | 0.2                | –   | 0.3                        | 0.9                        | 1.3                | –                                      | 0.5   |  |  |
| Aug.              | –                    | 0.2                | –                    | 0.2                | –   | 0.3                        | 0.8                        | 1.2                | –                                      | 0.5   |  |  |
| Sep.              | –                    | 0.2                | –                    | 0.3                | –   | 0.4                        | 0.8                        | 1.1                | –                                      | 0.5   |  |  |
| Oct.              | –                    | 0.3                | –                    | 0.3                | –   | 0.4                        | 0.7                        | 1.1                | –                                      | 0.6   |  |  |
| 2020 Oct. 1       | –                    | 0.24               | –                    | 0.30               | –   | 0.37                       | 0.75                       | 1.18               | –                                      | 0.52  |  |  |
| 2                 | –                    | 0.26               | –                    | 0.31               | –   | 0.38                       | 0.74                       | 1.15               | –                                      | 0.55  |  |  |
| 5                 | –                    | 0.25               | –                    | 0.31               | –   | 0.39                       | 0.74                       | 1.14               | –                                      | 0.54  |  |  |
| 6                 | –                    | 0.24               | –                    | 0.30               | –   | 0.37                       | 0.74                       | 1.12               | –                                      | 0.53  |  |  |
| 7                 | –                    | 0.24               | –                    | 0.30               | –   | 0.37                       | 0.73                       | 1.12               | –                                      | 0.52  |  |  |
| 8                 | –                    | 0.24               | –                    | 0.30               | –   | 0.37                       | 0.72                       | 1.10               | –                                      | 0.52  |  |  |
| 9                 | –                    | 0.27               | –                    | 0.31               | –   | 0.39                       | 0.70                       | 1.07               | –                                      | 0.55  |  |  |
| 12                | –                    | 0.27               | –                    | 0.31               | –   | 0.39                       | 0.70                       | 1.05               | –                                      | 0.55  |  |  |
| 13                | –                    | 0.27               | –                    | 0.32               | –   | 0.39                       | 0.69                       | 1.04               | –                                      | 0.56  |  |  |
| 14                | –                    | 0.29               | –                    | 0.34               | –   | 0.41                       | 0.67                       | 1.03               | –                                      | 0.58  |  |  |
| 15                | –                    | 0.33               | –                    | 0.36               | –   | 0.43                       | 0.66                       | 1.02               | –                                      | 0.62  |  |  |
| 16                | –                    | 0.33               | –                    | 0.36               | –   | 0.43                       | 0.65                       | 1.01               | –                                      | 0.62  |  |  |
| 19                | –                    | 0.33               | –                    | 0.36               | –   | 0.43                       | 0.65                       | 1.00               | –                                      | 0.62  |  |  |
| 20                | –                    | 0.33               | –                    | 0.36               | –   | 0.43                       | 0.64                       | 0.99               | –                                      | 0.63  |  |  |
| 21                | –                    | 0.31               | –                    | 0.34               | –   | 0.42                       | 0.66                       | 1.00               | –                                      | 0.59  |  |  |
| 22                | –                    | 0.30               | –                    | 0.34               | –   | 0.41                       | 0.67                       | 1.00               | –                                      | 0.59  |  |  |
| 23                | –                    | 0.29               | –                    | 0.32               | –   | 0.40                       | 0.67                       | 1.01               | –                                      | 0.58  |  |  |
| 26                | –                    | 0.30               | –                    | 0.33               | –   | 0.42                       | 0.66                       | 1.01               | –                                      | 0.58  |  |  |
| 27                | –                    | 0.30               | –                    | 0.33               | –   | 0.42                       | 0.66                       | 1.01               | –                                      | 0.59  |  |  |
| 28                | –                    | 0.34               | –                    | 0.36               | –   | 0.45                       | 0.65                       | 1.01               | –                                      | 0.64  |  |  |
| 29                | –                    | 0.33               | –                    | 0.36               | –   | 0.44                       | 0.68                       | 1.04               | –                                      | 0.64  |  |  |
| 30                | –                    | 0.33               | –                    | 0.36               | –   | 0.44                       | 0.68                       | 1.05               | –                                      | 0.63  |  |  |

<sup>1</sup> Yields for comparable categories of residual maturity, see Table II. <sup>2</sup> Only bonds eligible as underlying instruments for futures contracts; calculated as an unweighted average. <sup>3</sup> Sectoral reclassification of debt securities. <sup>4</sup> Adjustment of the scope of securities included on 1 May 2020.

## II. Yields

### 2b) Yields on debt securities outstanding, by residual maturity \*

% per annum

| Period                        | Mean residual maturity of ... years |                            |                            |                            |                            |                            |                            |                            |                             |      |
|-------------------------------|-------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|------|
|                               | More than 1<br>and up to 2          | More than 2<br>and up to 3 | More than 3<br>and up to 4 | More than 4<br>and up to 5 | More than 5<br>and up to 6 | More than 6<br>and up to 7 | More than 7                |                            |                             |      |
|                               |                                     |                            |                            |                            |                            |                            | Total                      | of which                   |                             |      |
|                               |                                     |                            |                            |                            |                            |                            | More than 7<br>and up to 8 | More than 8<br>and up to 9 | More than 9<br>and up to 10 |      |
| <b>Debt securities, total</b> |                                     |                            |                            |                            |                            |                            |                            |                            |                             |      |
| 2003                          | 2.6                                 | 2.8                        | 3.1                        | 3.4                        | 3.6                        | 3.8                        | 4.2                        | 3.9                        | 4.0                         | 4.1  |
| 2004                          | 2.5                                 | 2.8                        | 3.1                        | 3.3                        | 3.5                        | 3.7                        | 4.2                        | 3.9                        | 4.0                         | 4.1  |
| 2005                          | 2.4                                 | 2.6                        | 2.7                        | 2.9                        | 3.0                        | 3.1                        | 3.5                        | 3.2                        | 3.3                         | 3.4  |
| 2006                          | 3.5                                 | 3.5                        | 3.6                        | 3.7                        | 3.7                        | 3.8                        | 3.9                        | 3.8                        | 3.8                         | 3.8  |
| 2007                          | 4.2                                 | 4.3                        | 4.3                        | 4.2                        | 4.3                        | 4.3                        | 4.4                        | 4.3                        | 4.3                         | 4.3  |
| 2008                          | 4.1                                 | 4.0                        | 4.0                        | 4.1                        | 4.1                        | 4.2                        | 4.3                        | 4.1                        | 4.2                         | 4.2  |
| 2009                          | 1.9                                 | 2.2                        | 2.6                        | 2.8                        | 3.1                        | 3.2                        | 3.7                        | 3.4                        | 3.5                         | 3.4  |
| 2010                          | 1.1                                 | 1.5                        | 1.7                        | 2.1                        | 2.3                        | 2.6                        | 3.1                        | 2.7                        | 2.8                         | 2.9  |
| 2011                          | 1.5                                 | 1.7                        | 2.0                        | 2.2                        | 2.5                        | 2.6                        | 3.0                        | 2.6                        | 2.7                         | 2.9  |
| 2012                          | 0.4                                 | 0.5                        | 0.7                        | 1.0                        | 1.2                        | 1.3                        | 1.9                        | 1.4                        | 1.5                         | 1.7  |
| 2013                          | 0.3                                 | 0.4                        | 0.6                        | 0.9                        | 1.0                        | 1.2                        | 1.9                        | 1.3                        | 1.5                         | 1.7  |
| 2014                          | 0.2                                 | 0.2                        | 0.4                        | 0.5                        | 0.7                        | 0.9                        | 1.5                        | 1.0                        | 1.2                         | 1.3  |
| 2015                          | -                                   | 0.1                        | 0.0                        | 0.2                        | 0.3                        | 0.3                        | 0.8                        | 0.4                        | 0.5                         | 0.8  |
| 2016                          | -                                   | 0.4                        | 0.3                        | 0.2                        | 0.1                        | 0.0                        | 0.4                        | 0.0                        | 0.3                         | 0.4  |
| 2017                          | -                                   | 0.6                        | 0.4                        | 0.3                        | 0.2                        | 0.0                        | 0.7                        | 0.3                        | 0.4                         | 0.6  |
| 2018                          | -                                   | 0.4                        | 0.3                        | 0.1                        | 0.2                        | 0.4                        | 0.8                        | 0.6                        | 0.6                         | 0.6  |
| 2019                          | -                                   | 0.5                        | 0.4                        | 0.3                        | 0.1                        | 0.0                        | 0.1                        | 0.1                        | 0.1                         | 0.0  |
| 2018 Oct.                     | -                                   | 0.4                        | 0.3                        | 0.1                        | 0.2                        | 0.5                        | 0.8                        | 0.6                        | 0.5                         | 0.6  |
| Nov.                          | -                                   | 0.4                        | 0.3                        | 0.1                        | 0.1                        | 0.2                        | 0.4                        | 0.6                        | 0.5                         | 0.5  |
| Dec.                          | -                                   | 0.4                        | 0.3                        | 0.1                        | 0.1                        | 0.1                        | 0.4                        | 0.6                        | 0.5                         | 0.4  |
| 2019 Jan.                     | -                                   | 0.4                        | 0.3                        | 0.1                        | 0.0                        | 0.1                        | 0.3                        | 0.5                        | 0.4                         | 0.4  |
| Feb.                          | -                                   | 0.3                        | 0.3                        | 0.1                        | 0.0                        | 0.1                        | 0.2                        | 0.5                        | 0.3                         | 0.4  |
| Mar.                          | -                                   | 0.4                        | 0.3                        | 0.2                        | 0.1                        | 0.1                        | 0.2                        | 0.4                        | 0.3                         | 0.3  |
| Apr.                          | -                                   | 0.4                        | 0.3                        | 0.2                        | 0.1                        | 0.0                        | 0.4                        | 0.2                        | 0.1                         | 0.2  |
| May                           | -                                   | 0.4                        | 0.4                        | 0.3                        | 0.2                        | 0.0                        | 0.1                        | 0.3                        | 0.1                         | 0.1  |
| June                          | -                                   | 0.5                        | 0.5                        | 0.4                        | 0.3                        | 0.1                        | 0.1                        | 0.1                        | 0.2                         | 0.1  |
| July                          | -                                   | 0.6                        | 0.5                        | 0.4                        | 0.4                        | 0.2                        | 0.0                        | 0.3                        | 0.3                         | 0.1  |
| Aug.                          | -                                   | 0.7                        | 0.6                        | 0.6                        | 0.6                        | 0.4                        | 0.3                        | 0.5                        | 0.5                         | 0.4  |
| Sep.                          | -                                   | 0.6                        | 0.6                        | 0.5                        | 0.5                        | 0.4                        | 0.3                        | 0.5                        | 0.5                         | 0.3  |
| Oct.                          | -                                   | 0.5                        | 0.5                        | 0.4                        | 0.4                        | 0.3                        | 0.2                        | 0.4                        | 0.3                         | 0.3  |
| Nov.                          | -                                   | 0.5                        | 0.4                        | 0.3                        | 0.3                        | 0.2                        | 0.1                        | 0.0                        | 0.2                         | 0.1  |
| Dec.                          | -                                   | 0.5                        | 0.4                        | 0.3                        | 0.3                        | 0.1                        | 0.1                        | 0.0                        | 0.2                         | 0.1  |
| 2020 Jan.                     | -                                   | 0.4                        | 0.3                        | 0.3                        | 0.3                        | 0.1                        | 0.1                        | 0.0                        | 0.2                         | 0.2  |
| Feb.                          | -                                   | 0.5                        | 0.4                        | 0.4                        | 0.4                        | 0.3                        | 0.2                        | 0.1                        | 0.4                         | 0.2  |
| Mar.                          | -                                   | 0.4                        | 0.3                        | 0.3                        | 0.2                        | 0.1                        | 0.1                        | 0.2                        | 0.3                         | 0.2  |
| Apr.                          | -                                   | 0.2                        | 0.1                        | 0.2                        | 0.0                        | 0.1                        | 0.1                        | 0.2                        | 0.2                         | 0.1  |
| May <sup>1</sup>              | -                                   | 0.2                        | 0.2                        | 0.2                        | 0.0                        | 0.0                        | 0.0                        | 0.1                        | 0.2                         | 0.2  |
| June                          | -                                   | 0.3                        | 0.2                        | 0.2                        | 0.1                        | 0.0                        | 0.0                        | 0.1                        | 0.2                         | 0.1  |
| July                          | -                                   | 0.3                        | 0.3                        | 0.3                        | 0.1                        | 0.2                        | 0.1                        | 0.3                        | 0.3                         | 0.3  |
| Aug.                          | -                                   | 0.4                        | 0.3                        | 0.3                        | 0.2                        | 0.2                        | 0.2                        | 0.3                        | 0.3                         | 0.2  |
| Sep.                          | -                                   | 0.4                        | 0.4                        | 0.3                        | 0.3                        | 0.2                        | 0.2                        | 0.3                        | 0.3                         | 0.2  |
| Oct.                          | -                                   | 0.5                        | 0.4                        | 0.3                        | 0.3                        | 0.3                        | 0.3                        | 0.4                        | 0.4                         | 0.3  |
| 2020 Oct. 1                   | -                                   | 0.43                       | 0.37                       | 0.29                       | 0.29                       | 0.25                       | 0.26                       | 0.20                       | 0.37                        | 0.27 |
| 2                             | -                                   | 0.44                       | 0.38                       | 0.31                       | 0.30                       | 0.27                       | 0.28                       | 0.23                       | 0.40                        | 0.30 |
| 5                             | -                                   | 0.47                       | 0.36                       | 0.32                       | 0.30                       | 0.27                       | 0.28                       | 0.22                       | 0.39                        | 0.29 |
| 6                             | -                                   | 0.45                       | 0.35                       | 0.31                       | 0.30                       | 0.26                       | 0.26                       | 0.21                       | 0.38                        | 0.28 |
| 7                             | -                                   | 0.45                       | 0.35                       | 0.31                       | 0.30                       | 0.26                       | 0.26                       | 0.20                       | 0.38                        | 0.27 |
| 8                             | -                                   | 0.46                       | 0.36                       | 0.31                       | 0.32                       | 0.23                       | 0.26                       | 0.20                       | 0.37                        | 0.27 |
| 9                             | -                                   | 0.47                       | 0.40                       | 0.30                       | 0.34                       | 0.26                       | 0.29                       | 0.23                       | 0.40                        | 0.30 |
| 12                            | -                                   | 0.48                       | 0.40                       | 0.31                       | 0.34                       | 0.26                       | 0.29                       | 0.23                       | 0.40                        | 0.30 |
| 13                            | -                                   | 0.49                       | 0.41                       | 0.31                       | 0.36                       | 0.27                       | 0.30                       | 0.24                       | 0.41                        | 0.31 |
| 14                            | -                                   | 0.49                       | 0.41                       | 0.32                       | 0.38                       | 0.28                       | 0.32                       | 0.26                       | 0.43                        | 0.33 |
| 15                            | -                                   | 0.50                       | 0.43                       | 0.37                       | 0.36                       | 0.30                       | 0.35                       | 0.30                       | 0.47                        | 0.37 |
| 16                            | -                                   | 0.51                       | 0.43                       | 0.38                       | 0.36                       | 0.31                       | 0.35                       | 0.31                       | 0.47                        | 0.38 |
| 19                            | -                                   | 0.51                       | 0.44                       | 0.38                       | 0.37                       | 0.30                       | 0.35                       | 0.30                       | 0.47                        | 0.37 |
| 20                            | -                                   | 0.51                       | 0.44                       | 0.39                       | 0.37                       | 0.31                       | 0.36                       | 0.31                       | 0.48                        | 0.38 |
| 21                            | -                                   | 0.51                       | 0.43                       | 0.37                       | 0.36                       | 0.29                       | 0.33                       | 0.27                       | 0.45                        | 0.34 |
| 22                            | -                                   | 0.52                       | 0.43                       | 0.37                       | 0.35                       | 0.28                       | 0.33                       | 0.27                       | 0.45                        | 0.34 |
| 23                            | -                                   | 0.52                       | 0.42                       | 0.36                       | 0.34                       | 0.28                       | 0.32                       | 0.26                       | 0.44                        | 0.33 |
| 26                            | -                                   | 0.52                       | 0.42                       | 0.36                       | 0.34                       | 0.28                       | 0.33                       | 0.26                       | 0.45                        | 0.34 |
| 27                            | -                                   | 0.52                       | 0.42                       | 0.36                       | 0.35                       | 0.29                       | 0.33                       | 0.27                       | 0.45                        | 0.34 |
| 28                            | -                                   | 0.53                       | 0.44                       | 0.38                       | 0.37                       | 0.32                       | 0.36                       | 0.32                       | 0.49                        | 0.39 |
| 29                            | -                                   | 0.52                       | 0.43                       | 0.38                       | 0.36                       | 0.31                       | 0.35                       | 0.31                       | 0.48                        | 0.38 |
| 30                            | -                                   | 0.52                       | 0.44                       | 0.38                       | 0.37                       | 0.31                       | 0.35                       | 0.31                       | 0.48                        | 0.38 |

\* Only bearer bonds by residents with a maximum maturity as per the terms of issue of more than 4 years are included. <sup>1</sup> Adjustment of the scope of securities included on 1 May 2020.



## II. Yields

### still: 2b) Yields on debt securities outstanding, by residual maturity \*

% per annum

| Period                      | Mean residual maturity of ... years |                            |                            |                            |                            |                            |                            |                            |                             |      |
|-----------------------------|-------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|------|
|                             | More than 1<br>and up to 2          | More than 2<br>and up to 3 | More than 3<br>and up to 4 | More than 4<br>and up to 5 | More than 5<br>and up to 6 | More than 6<br>and up to 7 | More than 7                |                            |                             |      |
|                             |                                     |                            |                            |                            |                            |                            | Total                      | of which                   |                             |      |
|                             |                                     |                            |                            |                            |                            |                            | More than 7<br>and up to 8 | More than 8<br>and up to 9 | More than 9<br>and up to 10 |      |
| <b>Bank debt securities</b> |                                     |                            |                            |                            |                            |                            |                            |                            |                             |      |
| 2003                        | 2.6                                 | 2.9                        | 3.2                        | 3.5                        | 3.7                        | 3.9                        | 4.2                        | 4.0                        | 4.2                         | 4.3  |
| 2004                        | 2.6                                 | 2.9                        | 3.2                        | 3.4                        | 3.6                        | 3.8                        | 4.1                        | 4.0                        | 4.1                         | 4.2  |
| 2005                        | 2.5                                 | 2.6                        | 2.8                        | 3.0                        | 3.1                        | 3.2                        | 3.4                        | 3.3                        | 3.4                         | 3.5  |
| 2006                        | 3.6                                 | 3.6                        | 3.7                        | 3.8                        | 3.8                        | 3.8                        | 4.0                        | 3.9                        | 3.9                         | 4.0  |
| 2007                        | 4.4                                 | 4.4                        | 4.4                        | 4.4                        | 4.4                        | 4.5                        | 4.5                        | 4.5                        | 4.5                         | 4.5  |
| 2008                        | 4.6                                 | 4.5                        | 4.4                        | 4.4                        | 4.5                        | 4.5                        | 4.7                        | 4.6                        | 4.6                         | 4.7  |
| 2009                        | 2.4                                 | 2.7                        | 3.1                        | 3.3                        | 3.6                        | 3.8                        | 4.1                        | 4.0                        | 4.2                         | 4.0  |
| 2010                        | 1.5                                 | 1.9                        | 2.2                        | 2.4                        | 2.7                        | 2.9                        | 3.2                        | 3.1                        | 3.1                         | 3.3  |
| 2011                        | 2.0                                 | 2.3                        | 2.5                        | 2.8                        | 3.1                        | 3.0                        | 3.4                        | 3.1                        | 3.5                         | 3.5  |
| 2012                        | 0.8                                 | 1.0                        | 1.2                        | 1.4                        | 1.6                        | 1.7                        | 2.2                        | 2.1                        | 2.2                         | 2.1  |
| 2013                        | 0.5                                 | 0.7                        | 0.9                        | 1.1                        | 1.2                        | 1.5                        | 1.9                        | 1.8                        | 1.8                         | 2.1  |
| 2014                        | 0.3                                 | 0.4                        | 0.5                        | 0.7                        | 0.9                        | 1.1                        | 1.5                        | 1.2                        | 1.4                         | 1.7  |
| 2015                        | 0.1                                 | 0.1                        | 0.1                        | 0.3                        | 0.5                        | 0.5                        | 1.0                        | 0.8                        | 0.9                         | 1.2  |
| 2016                        | –                                   | 0.1                        | –                          | 0.0                        | 0.1                        | 0.2                        | 0.3                        | 0.4                        | 0.8                         | 1.0  |
| 2017                        | –                                   | 0.3                        | –                          | 0.2                        | 0.2                        | 0.3                        | 0.4                        | 0.9                        | 0.7                         | 0.9  |
| 2018                        | –                                   | 0.2                        | –                          | 0.0                        | 0.2                        | 0.4                        | 0.7                        | 1.0                        | 0.9                         | 1.0  |
| 2019                        | –                                   | 0.2                        | –                          | 0.1                        | –                          | 0.1                        | 0.3                        | 0.4                        | 0.3                         | 0.3  |
| 2018 Oct.                   | –                                   | 0.1                        | 0.0                        | 0.2                        | 0.3                        | 0.5                        | 0.8                        | 1.1                        | 1.0                         | 1.1  |
| Nov.                        | –                                   | 0.1                        | 0.0                        | 0.2                        | 0.3                        | 0.4                        | 0.7                        | 1.0                        | 0.9                         | 1.0  |
| Dec.                        | –                                   | 0.0                        | 0.0                        | 0.2                        | 0.3                        | 0.4                        | 0.7                        | 1.0                        | 0.9                         | 1.0  |
| 2019 Jan.                   | 0.0                                 | 0.2                        | 0.1                        | 0.2                        | 0.4                        | 0.7                        | 0.9                        | 0.8                        | 0.8                         | 0.9  |
| Feb.                        | 0.0                                 | 0.2                        | 0.1                        | 0.2                        | 0.4                        | 0.5                        | 0.8                        | 0.7                        | 0.8                         | 0.8  |
| Mar.                        | 0.0                                 | 0.1                        | 0.0                        | 0.2                        | 0.3                        | 0.4                        | 0.7                        | 0.7                        | 0.6                         | 0.6  |
| Apr.                        | –                                   | 0.1                        | 0.0                        | 0.0                        | 0.1                        | 0.2                        | 0.4                        | 0.6                        | 0.6                         | 0.5  |
| May                         | –                                   | 0.1                        | 0.0                        | –                          | 0.1                        | 0.2                        | 0.4                        | 0.5                        | 0.4                         | 0.4  |
| June                        | –                                   | 0.2                        | –                          | 0.1                        | –                          | 0.1                        | 0.2                        | 0.4                        | 0.3                         | 0.2  |
| July                        | –                                   | 0.3                        | –                          | 0.2                        | –                          | 0.3                        | –                          | 0.1                        | –                           | 0.1  |
| Aug.                        | –                                   | 0.4                        | –                          | 0.3                        | –                          | 0.4                        | –                          | 0.3                        | –                           | 0.2  |
| Sep.                        | –                                   | 0.3                        | –                          | 0.3                        | –                          | 0.4                        | –                          | 0.2                        | –                           | 0.1  |
| Oct.                        | –                                   | 0.3                        | –                          | 0.3                        | –                          | 0.3                        | –                          | 0.1                        | –                           | 0.1  |
| Nov.                        | –                                   | 0.2                        | –                          | 0.2                        | –                          | 0.2                        | –                          | 0.0                        | –                           | 0.2  |
| Dec.                        | –                                   | 0.2                        | –                          | 0.2                        | –                          | 0.1                        | –                          | 0.0                        | –                           | 0.2  |
| 2020 Jan.                   | –                                   | 0.2                        | –                          | 0.2                        | –                          | 0.1                        | –                          | 0.0                        | –                           | 0.1  |
| Feb.                        | –                                   | 0.2                        | –                          | 0.3                        | –                          | 0.2                        | –                          | 0.1                        | –                           | 0.1  |
| Mar.                        | –                                   | 0.2                        | –                          | 0.1                        | –                          | 0.0                        | –                          | 0.1                        | –                           | 0.3  |
| Apr.                        | –                                   | 0.4                        | –                          | 0.1                        | –                          | 0.2                        | –                          | 0.4                        | –                           | 0.3  |
| May <sup>1</sup>            | –                                   | 0.0                        | –                          | 0.1                        | –                          | 0.0                        | –                          | 0.2                        | –                           | 0.2  |
| June                        | –                                   | 0.1                        | –                          | 0.2                        | –                          | 0.1                        | –                          | 0.2                        | –                           | 0.1  |
| July                        | –                                   | 0.2                        | –                          | 0.3                        | –                          | 0.2                        | –                          | 0.1                        | –                           | 0.0  |
| Aug.                        | –                                   | 0.3                        | –                          | 0.3                        | –                          | 0.2                        | –                          | 0.0                        | –                           | 0.0  |
| Sep.                        | –                                   | 0.4                        | –                          | 0.4                        | –                          | 0.3                        | –                          | 0.0                        | –                           | 0.0  |
| Oct.                        | –                                   | 0.4                        | –                          | 0.4                        | –                          | 0.3                        | –                          | 0.0                        | –                           | 0.1  |
| 2020 Oct. 1                 | –                                   | 0.37                       | –                          | 0.38                       | –                          | 0.26                       | –                          | 0.00                       | –                           | 0.03 |
| 2                           | –                                   | 0.38                       | –                          | 0.39                       | –                          | 0.27                       | –                          | 0.01                       | –                           | 0.05 |
| 5                           | –                                   | 0.38                       | –                          | 0.39                       | –                          | 0.27                       | –                          | 0.01                       | –                           | 0.05 |
| 6                           | –                                   | 0.38                       | –                          | 0.39                       | –                          | 0.26                       | –                          | 0.00                       | –                           | 0.03 |
| 7                           | –                                   | 0.38                       | –                          | 0.39                       | –                          | 0.26                       | –                          | 0.01                       | –                           | 0.03 |
| 8                           | –                                   | 0.39                       | –                          | 0.39                       | –                          | 0.27                       | –                          | 0.01                       | –                           | 0.02 |
| 9                           | –                                   | 0.40                       | –                          | 0.41                       | –                          | 0.28                       | –                          | 0.03                       | –                           | 0.05 |
| 12                          | –                                   | 0.39                       | –                          | 0.41                       | –                          | 0.28                       | –                          | 0.01                       | –                           | 0.04 |
| 13                          | –                                   | 0.40                       | –                          | 0.41                       | –                          | 0.29                       | –                          | 0.02                       | –                           | 0.05 |
| 14                          | –                                   | 0.40                       | –                          | 0.42                       | –                          | 0.31                       | –                          | 0.05                       | –                           | 0.07 |
| 15                          | –                                   | 0.41                       | –                          | 0.43                       | –                          | 0.32                       | –                          | 0.07                       | –                           | 0.09 |
| 16                          | –                                   | 0.41                       | –                          | 0.43                       | –                          | 0.32                       | –                          | 0.07                       | –                           | 0.10 |
| 19                          | –                                   | 0.41                       | –                          | 0.44                       | –                          | 0.32                       | –                          | 0.07                       | –                           | 0.09 |
| 20                          | –                                   | 0.41                       | –                          | 0.44                       | –                          | 0.32                       | –                          | 0.06                       | –                           | 0.09 |
| 21                          | –                                   | 0.41                       | –                          | 0.43                       | –                          | 0.31                       | –                          | 0.06                       | –                           | 0.07 |
| 22                          | –                                   | 0.40                       | –                          | 0.43                       | –                          | 0.31                       | –                          | 0.05                       | –                           | 0.06 |
| 23                          | –                                   | 0.40                       | –                          | 0.43                       | –                          | 0.30                       | –                          | 0.05                       | –                           | 0.05 |
| 26                          | –                                   | 0.41                       | –                          | 0.43                       | –                          | 0.41                       | –                          | 0.06                       | –                           | 0.06 |
| 27                          | –                                   | 0.41                       | –                          | 0.44                       | –                          | 0.41                       | –                          | 0.07                       | –                           | 0.07 |
| 28                          | –                                   | 0.42                       | –                          | 0.45                       | –                          | 0.43                       | –                          | 0.08                       | –                           | 0.10 |
| 29                          | –                                   | 0.42                       | –                          | 0.45                       | –                          | 0.42                       | –                          | 0.07                       | –                           | 0.09 |
| 30                          | –                                   | 0.42                       | –                          | 0.45                       | –                          | 0.43                       | –                          | 0.08                       | –                           | 0.09 |

\* Only bearer bonds by residents with a maximum maturity as per the terms of issue of more than 4 years are included. <sup>1</sup> Adjustment of the scope of securities included on 1 May 2020.

## II. Yields

### still: 2b) Yields on debt securities outstanding, by residual maturity \*

% per annum

| Period                      | Mean residual maturity of ... years |                            |                            |                            |                            |                            |                            |                            |                             |      |
|-----------------------------|-------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|------|
|                             | More than 1<br>and up to 2          | More than 2<br>and up to 3 | More than 3<br>and up to 4 | More than 4<br>and up to 5 | More than 5<br>and up to 6 | More than 6<br>and up to 7 | More than 7                |                            |                             |      |
|                             |                                     |                            |                            |                            |                            |                            | Total                      | of which                   |                             |      |
|                             |                                     |                            |                            |                            |                            |                            | More than 7<br>and up to 8 | More than 8<br>and up to 9 | More than 9<br>and up to 10 |      |
| <b>Mortgage Pfandbriefe</b> |                                     |                            |                            |                            |                            |                            |                            |                            |                             |      |
| 2003                        | 2.7                                 | 3.0                        | 3.2                        | 3.5                        | 3.7                        | 3.9                        | 4.2                        | 4.1                        | 4.3                         | 4.3  |
| 2004                        | 2.6                                 | 2.9                        | 3.2                        | 3.4                        | 3.6                        | 3.8                        | 4.1                        | 4.0                        | 4.1                         | 4.3  |
| 2005                        | 2.5                                 | 2.7                        | 2.8                        | 3.0                        | 3.1                        | 3.2                        | 3.4                        | 3.3                        | 3.4                         | 3.5  |
| 2006                        | 3.6                                 | 3.6                        | 3.7                        | 3.7                        | 3.8                        | 3.9                        | 4.0                        | 3.9                        | 3.9                         | 4.0  |
| 2007                        | 4.4                                 | 4.4                        | 4.4                        | 4.4                        | 4.4                        | 4.5                        | 4.5                        | 4.5                        | 4.5                         | 4.5  |
| 2008                        | 4.5                                 | 4.5                        | 4.5                        | 4.5                        | 4.5                        | 4.5                        | 4.6                        | 4.5                        | 4.6                         | 4.7  |
| 2009                        | 2.4                                 | 2.7                        | 3.0                        | 3.3                        | 3.4                        | 3.6                        | 4.0                        | 4.0                        | 4.1                         | 4.1  |
| 2010                        | 1.5                                 | 1.7                        | 2.1                        | 2.3                        | 2.6                        | 2.9                        | 3.2                        | 3.1                        | 3.2                         | 3.3  |
| 2011                        | 1.9                                 | 2.2                        | 2.5                        | 2.7                        | 2.9                        | 3.1                        | 3.4                        | 3.2                        | 3.3                         | 3.5  |
| 2012                        | 0.9                                 | 1.0                        | 1.2                        | 1.4                        | 1.7                        | 1.8                        | 2.2                        | 2.1                        | 2.1                         | 2.3  |
| 2013                        | 0.5                                 | 0.6                        | 0.9                        | 1.1                        | 1.4                        | 1.5                        | 1.9                        | 1.7                        | 1.9                         | 2.0  |
| 2014                        | 0.3                                 | 0.4                        | 0.6                        | 0.7                        | 0.9                        | 1.0                        | 1.4                        | 1.2                        | 1.3                         | 1.6  |
| 2015                        | 0.1                                 | 0.1                        | 0.1                        | 0.2                        | 0.3                        | 0.5                        | 0.7                        | 0.6                        | 0.8                         | 0.7  |
| 2016                        | -                                   | 0.1                        | 0.1                        | -                          | 0.1                        | 0.1                        | 0.2                        | 0.4                        | 0.3                         | 0.4  |
| 2017                        | -                                   | 0.2                        | 0.2                        | -                          | 0.1                        | 0.2                        | 0.3                        | 0.6                        | 0.4                         | 0.6  |
| 2018                        | -                                   | 0.3                        | 0.1                        | 0.1                        | 0.2                        | 0.4                        | 0.5                        | 0.8                        | 0.7                         | 0.9  |
| 2019                        | -                                   | 0.3                        | 0.3                        | -                          | 0.2                        | 0.1                        | 0.0                        | 0.3                        | 0.1                         | 0.2  |
| 2018 Oct.                   | -                                   | 0.2                        | 0.1                        | 0.1                        | 0.3                        | 0.4                        | 0.6                        | 0.8                        | 0.7                         | 0.8  |
| 2018 Nov.                   | -                                   | 0.2                        | 0.1                        | 0.1                        | 0.3                        | 0.4                        | 0.5                        | 0.8                        | 0.6                         | 0.8  |
| 2018 Dec.                   | -                                   | 0.2                        | 0.1                        | 0.1                        | 0.2                        | 0.3                        | 0.5                        | 0.8                        | 0.6                         | 0.7  |
| 2019 Jan.                   | -                                   | 0.2                        | 0.1                        | 0.0                        | 0.2                        | 0.3                        | 0.4                        | 0.7                        | 0.6                         | 0.7  |
| 2019 Feb.                   | -                                   | 0.2                        | 0.1                        | 0.0                        | 0.1                        | 0.2                        | 0.4                        | 0.6                        | 0.5                         | 0.6  |
| 2019 Mar.                   | -                                   | 0.2                        | 0.1                        | 0.0                        | 0.1                        | 0.2                        | 0.3                        | 0.6                        | 0.4                         | 0.5  |
| 2019 Apr.                   | -                                   | 0.2                        | 0.1                        | 0.1                        | 0.0                        | 0.1                        | 0.2                        | 0.5                        | 0.3                         | 0.4  |
| 2019 May                    | -                                   | 0.3                        | 0.2                        | 0.1                        | 0.0                        | 0.0                        | 0.1                        | 0.4                        | 0.2                         | 0.3  |
| 2019 June                   | -                                   | 0.3                        | 0.3                        | 0.2                        | 0.2                        | 0.1                        | 0.0                        | 0.2                        | 0.1                         | 0.2  |
| 2019 July                   | -                                   | 0.4                        | 0.4                        | 0.3                        | 0.3                        | 0.2                        | 0.1                        | 0.1                        | 0.1                         | 0.0  |
| 2019 Aug.                   | -                                   | 0.5                        | 0.5                        | 0.5                        | 0.4                        | 0.4                        | 0.3                        | 0.2                        | 0.3                         | 0.2  |
| 2019 Sep.                   | -                                   | 0.4                        | 0.5                        | 0.4                        | 0.4                        | 0.4                        | 0.3                        | 0.1                        | 0.3                         | 0.1  |
| 2019 Oct.                   | -                                   | 0.4                        | 0.4                        | 0.3                        | 0.3                        | 0.3                        | 0.2                        | 0.0                        | 0.2                         | 0.1  |
| 2019 Nov.                   | -                                   | 0.3                        | 0.3                        | 0.2                        | 0.2                        | 0.2                        | 0.1                        | 0.1                        | 0.1                         | 0.0  |
| 2019 Dec.                   | -                                   | 0.3                        | 0.3                        | 0.2                        | 0.2                        | 0.1                        | 0.1                        | 0.1                        | 0.0                         | 0.1  |
| 2020 Jan.                   | -                                   | 0.3                        | 0.3                        | 0.2                        | 0.2                        | 0.1                        | 0.1                        | 0.1                        | 0.0                         | 0.1  |
| 2020 Feb.                   | -                                   | 0.3                        | 0.3                        | 0.3                        | 0.3                        | 0.3                        | 0.2                        | 0.1                        | 0.2                         | 0.1  |
| 2020 Mar.                   | -                                   | 0.2                        | 0.3                        | 0.2                        | 0.2                        | 0.2                        | 0.1                        | 0.0                        | 0.1                         | 0.0  |
| 2020 Apr.                   | -                                   | 0.0                        | 0.1                        | 0.0                        | 0.0                        | 0.0                        | 0.1                        | 0.2                        | 0.1                         | 0.2  |
| 2020 May <sup>1</sup>       | -                                   | 0.2                        | 0.2                        | 0.2                        | 0.2                        | 0.1                        | 0.1                        | 0.0                        | 0.1                         | 0.0  |
| 2020 June                   | -                                   | 0.2                        | 0.2                        | 0.2                        | 0.2                        | 0.2                        | 0.2                        | 0.0                        | 0.1                         | 0.0  |
| 2020 July                   | -                                   | 0.3                        | 0.3                        | 0.3                        | 0.3                        | 0.3                        | 0.2                        | 0.1                        | 0.2                         | 0.1  |
| 2020 Aug.                   | -                                   | 0.4                        | 0.4                        | 0.3                        | 0.3                        | 0.3                        | 0.3                        | 0.1                        | 0.2                         | 0.1  |
| 2020 Sep.                   | -                                   | 0.4                        | 0.4                        | 0.4                        | 0.3                        | 0.3                        | 0.3                        | 0.1                        | 0.2                         | 0.2  |
| 2020 Oct.                   | -                                   | 0.5                        | 0.5                        | 0.5                        | 0.4                        | 0.4                        | 0.4                        | 0.2                        | 0.3                         | 0.2  |
| 2020 Oct. 1                 | -                                   | 0.43                       | 0.44                       | 0.43                       | 0.36                       | 0.33                       | 0.32                       | 0.15                       | 0.26                        | 0.19 |
| 2020 Oct. 2                 | -                                   | 0.44                       | 0.45                       | 0.43                       | 0.37                       | 0.34                       | 0.34                       | 0.17                       | 0.27                        | 0.21 |
| 2020 Oct. 5                 | -                                   | 0.44                       | 0.45                       | 0.43                       | 0.38                       | 0.34                       | 0.34                       | 0.17                       | 0.27                        | 0.21 |
| 2020 Oct. 6                 | -                                   | 0.45                       | 0.45                       | 0.43                       | 0.37                       | 0.34                       | 0.33                       | 0.16                       | 0.27                        | 0.19 |
| 2020 Oct. 7                 | -                                   | 0.44                       | 0.45                       | 0.43                       | 0.37                       | 0.34                       | 0.32                       | 0.15                       | 0.26                        | 0.19 |
| 2020 Oct. 8                 | -                                   | 0.45                       | 0.45                       | 0.43                       | 0.37                       | 0.34                       | 0.33                       | 0.15                       | 0.26                        | 0.19 |
| 2020 Oct. 9                 | -                                   | 0.46                       | 0.46                       | 0.44                       | 0.38                       | 0.35                       | 0.34                       | 0.17                       | 0.28                        | 0.21 |
| 2020 Oct. 12                | -                                   | 0.46                       | 0.46                       | 0.44                       | 0.38                       | 0.35                       | 0.34                       | 0.17                       | 0.28                        | 0.20 |
| 2020 Oct. 13                | -                                   | 0.45                       | 0.46                       | 0.44                       | 0.38                       | 0.35                       | 0.35                       | 0.17                       | 0.28                        | 0.21 |
| 2020 Oct. 14                | -                                   | 0.46                       | 0.47                       | 0.46                       | 0.40                       | 0.38                       | 0.37                       | 0.20                       | 0.31                        | 0.24 |
| 2020 Oct. 15                | -                                   | 0.47                       | 0.48                       | 0.47                       | 0.42                       | 0.39                       | 0.39                       | 0.23                       | 0.34                        | 0.27 |
| 2020 Oct. 16                | -                                   | 0.47                       | 0.48                       | 0.47                       | 0.41                       | 0.39                       | 0.39                       | 0.23                       | 0.34                        | 0.27 |
| 2020 Oct. 19                | -                                   | 0.47                       | 0.48                       | 0.47                       | 0.41                       | 0.39                       | 0.39                       | 0.22                       | 0.33                        | 0.26 |
| 2020 Oct. 20                | -                                   | 0.47                       | 0.49                       | 0.47                       | 0.42                       | 0.39                       | 0.39                       | 0.23                       | 0.33                        | 0.26 |
| 2020 Oct. 21                | -                                   | 0.46                       | 0.48                       | 0.46                       | 0.40                       | 0.37                       | 0.36                       | 0.20                       | 0.31                        | 0.24 |
| 2020 Oct. 22                | -                                   | 0.47                       | 0.48                       | 0.46                       | 0.40                       | 0.37                       | 0.36                       | 0.20                       | 0.30                        | 0.24 |
| 2020 Oct. 23                | -                                   | 0.46                       | 0.47                       | 0.45                       | 0.39                       | 0.36                       | 0.35                       | 0.18                       | 0.29                        | 0.22 |
| 2020 Oct. 26                | -                                   | 0.46                       | 0.47                       | 0.45                       | 0.40                       | 0.37                       | 0.35                       | 0.19                       | 0.30                        | 0.23 |
| 2020 Oct. 27                | -                                   | 0.47                       | 0.48                       | 0.45                       | 0.40                       | 0.37                       | 0.36                       | 0.20                       | 0.30                        | 0.24 |
| 2020 Oct. 28                | -                                   | 0.48                       | 0.50                       | 0.48                       | 0.42                       | 0.40                       | 0.39                       | 0.24                       | 0.34                        | 0.28 |
| 2020 Oct. 29                | -                                   | 0.48                       | 0.49                       | 0.47                       | 0.42                       | 0.39                       | 0.38                       | 0.22                       | 0.33                        | 0.27 |
| 2020 Oct. 30                | -                                   | 0.49                       | 0.50                       | 0.48                       | 0.43                       | 0.40                       | 0.38                       | 0.22                       | 0.33                        | 0.26 |

\* Only bearer bonds by residents with a maximum maturity as per the terms of issue of more than 4 years are included. <sup>1</sup> Adjustment of the scope of securities included on 1 May 2020.

## II. Yields

still: 2b) Yields on debt securities outstanding, by residual maturity \*

% per annum

| Period                    | Mean residual maturity of ... years |                            |                            |                            |                            |                            |                            |                            |                             |        |
|---------------------------|-------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|--------|
|                           | More than 1<br>and up to 2          | More than 2<br>and up to 3 | More than 3<br>and up to 4 | More than 4<br>and up to 5 | More than 5<br>and up to 6 | More than 6<br>and up to 7 | More than 7                |                            |                             |        |
|                           |                                     |                            |                            |                            |                            |                            | Total                      | of which                   |                             |        |
|                           |                                     |                            |                            |                            |                            |                            | More than 7<br>and up to 8 | More than 8<br>and up to 9 | More than 9<br>and up to 10 |        |
| <b>Public Pfandbriefe</b> |                                     |                            |                            |                            |                            |                            |                            |                            |                             |        |
| 2003                      | 2.6                                 | 2.9                        | 3.2                        | 3.4                        | 3.7                        | 3.9                        | 4.1                        | 4.0                        | 4.1                         | 4.3    |
| 2004                      | 2.5                                 | 2.8                        | 3.1                        | 3.4                        | 3.6                        | 3.8                        | 4.1                        | 3.9                        | 4.1                         | 4.2    |
| 2005                      | 2.5                                 | 2.6                        | 2.8                        | 2.9                        | 3.0                        | 3.2                        | 3.4                        | 3.3                        | 3.4                         | 3.5    |
| 2006                      | 3.5                                 | 3.6                        | 3.7                        | 3.7                        | 3.8                        | 3.8                        | 4.0                        | 3.9                        | 3.9                         | 4.0    |
| 2007                      | 4.3                                 | 4.4                        | 4.4                        | 4.4                        | 4.4                        | 4.4                        | 4.5                        | 4.5                        | 4.5                         | 4.5    |
| 2008                      | 4.6                                 | 4.4                        | 4.4                        | 4.4                        | 4.5                        | 4.5                        | 4.6                        | 4.5                        | 4.6                         | 4.7    |
| 2009                      | 2.3                                 | 2.6                        | 3.0                        | 3.3                        | 3.5                        | 3.8                        | 4.1                        | 3.8                        | 4.5                         | 4.1    |
| 2010                      | 1.5                                 | 1.8                        | 2.2                        | 2.4                        | 2.6                        | 2.8                        | 3.2                        | 3.1                        | 3.1                         | 3.3    |
| 2011                      | 2.0                                 | 2.3                        | 2.5                        | 2.8                        | 2.9                        | 3.2                        | 3.4                        | 3.2                        | 3.3                         | 3.5    |
| 2012                      | 0.8                                 | 0.9                        | 1.2                        | 1.4                        | 1.7                        | 1.9                        | 2.3                        | 2.1                        | 2.3                         | 2.4    |
| 2013                      | 0.5                                 | 0.7                        | 0.8                        | 1.1                        | 1.4                        | 1.6                        | 2.1                        | 1.9                        | 1.9                         | 1.9    |
| 2014                      | 0.3                                 | 0.4                        | 0.5                        | 0.7                        | 0.9                        | 1.1                        | 1.5                        | 1.3                        | 1.3                         | 1.5    |
| 2015                      | 0.0                                 | 0.1                        | 0.2                        | 0.2                        | 0.3                        | 0.4                        | 0.8                        | 0.6                        | 0.7                         | 0.8    |
| 2016                      | - 0.1                               | - 0.1                      | - 0.1                      | - 0.0                      | 0.1                        | 0.1                        | 0.5                        | 0.3                        | 0.4                         | 0.4    |
| 2017                      | - 0.2                               | - 0.1                      | - 0.0                      | 0.1                        | 0.2                        | 0.4                        | 0.7                        | 0.5                        | 0.6                         | 0.7    |
| 2018                      | - 0.2                               | - 0.1                      | 0.1                        | 0.2                        | 0.4                        | 0.6                        | 0.9                        | 0.6                        | 0.7                         | 0.9    |
| 2019                      | - 0.3                               | - 0.2                      | - 0.2                      | - 0.1                      | - 0.0                      | 0.0                        | 0.3                        | 0.1                        | 0.2                         | 0.3    |
| 2018 Oct.                 | - 0.2                               | - 0.1                      | 0.2                        | 0.2                        | 0.5                        | 0.6                        | 0.9                        | 0.7                        | 0.8                         | 0.9    |
| Nov.                      | - 0.1                               | - 0.1                      | 0.1                        | 0.2                        | 0.4                        | 0.5                        | 0.9                        | 0.7                        | 0.7                         | 0.9    |
| Dec.                      | - 0.1                               | 0.0                        | 0.1                        | 0.2                        | 0.4                        | 0.5                        | 0.9                        | 0.6                        | 0.7                         | 0.8    |
| 2019 Jan.                 | - 0.1                               | 0.0                        | 0.1                        | 0.2                        | 0.4                        | 0.5                        | 0.9                        | 0.6                        | 0.7                         | 0.8    |
| Feb.                      | - 0.1                               | 0.1                        | 0.0                        | 0.1                        | 0.3                        | 0.3                        | 0.7                        | 0.5                        | 0.6                         | 0.7    |
| Mar.                      | - 0.1                               | 0.0                        | 0.0                        | 0.1                        | 0.2                        | 0.3                        | 0.6                        | 0.4                        | 0.5                         | 0.6    |
| Apr.                      | - 0.1                               | 0.0                        | - 0.1                      | 0.1                        | 0.2                        | 0.2                        | 0.6                        | 0.3                        | 0.4                         | 0.5    |
| May                       | - 0.2                               | - 0.1                      | - 0.1                      | 0.0                        | 0.1                        | 0.1                        | 0.4                        | 0.2                        | 0.3                         | 0.4    |
| June                      | - 0.3                               | - 0.2                      | - 0.3                      | - 0.1                      | - 0.1                      | - 0.1                      | 0.2                        | 0.1                        | 0.1                         | 0.2    |
| July                      | - 0.4                               | - 0.3                      | - 0.4                      | - 0.2                      | - 0.2                      | - 0.2                      | 0.1                        | - 0.1                      | 0.0                         | 0.1    |
| Aug.                      | - 0.5                               | - 0.4                      | - 0.5                      | - 0.4                      | - 0.4                      | - 0.4                      | 0.2                        | - 0.3                      | 0.3                         | 0.2    |
| Sep.                      | - 0.4                               | - 0.4                      | - 0.4                      | - 0.4                      | - 0.4                      | - 0.3                      | 0.1                        | - 0.3                      | 0.2                         | 0.2    |
| Oct.                      | - 0.4                               | - 0.3                      | - 0.3                      | - 0.3                      | - 0.2                      | - 0.2                      | 0.0                        | - 0.2                      | - 0.1                       | 0.0    |
| Nov.                      | - 0.3                               | - 0.2                      | - 0.2                      | - 0.2                      | - 0.2                      | - 0.1                      | 0.1                        | - 0.1                      | 0.0                         | 0.1    |
| Dec.                      | - 0.3                               | - 0.2                      | - 0.2                      | - 0.1                      | - 0.1                      | - 0.1                      | 0.1                        | 0.0                        | 0.0                         | 0.1    |
| 2020 Jan.                 | - 0.3                               | - 0.2                      | - 0.2                      | - 0.1                      | - 0.1                      | - 0.0                      | 0.2                        | 0.0                        | 0.0                         | 0.1    |
| Feb.                      | - 0.3                               | - 0.3                      | - 0.3                      | - 0.3                      | - 0.3                      | - 0.2                      | 0.0                        | - 0.2                      | - 0.1                       | 0.1    |
| Mar.                      | - 0.1                               | - 0.2                      | - 0.2                      | - 0.2                      | - 0.2                      | - 0.2                      | 0.0                        | - 0.1                      | 0.0                         | 0.0    |
| Apr.                      | - 0.1                               | - 0.1                      | - 0.1                      | - 0.1                      | - 0.0                      | 0.0                        | 0.2                        | 0.1                        | 0.1                         | 0.2    |
| May <sup>1</sup>          | - 0.1                               | - 0.2                      | - 0.2                      | - 0.2                      | - 0.1                      | - 0.2                      | 0.1                        | 0.0                        | 0.1                         | 0.0    |
| June                      | - 0.2                               | - 0.2                      | - 0.2                      | - 0.2                      | - 0.1                      | - 0.2                      | 0.1                        | 0.0                        | 0.1                         | 0.1    |
| July                      | - 0.3                               | - 0.3                      | - 0.3                      | - 0.3                      | - 0.2                      | - 0.3                      | 0.1                        | - 0.2                      | - 0.2                       | 0.1    |
| Aug.                      | - 0.3                               | - 0.4                      | - 0.3                      | - 0.3                      | - 0.2                      | - 0.3                      | 0.1                        | - 0.2                      | - 0.2                       | 0.2    |
| Sep.                      | - 0.4                               | - 0.4                      | - 0.3                      | - 0.3                      | - 0.3                      | - 0.3                      | 0.1                        | - 0.3                      | - 0.2                       | 0.2    |
| Oct.                      | - 0.4                               | - 0.5                      | - 0.3                      | - 0.4                      | - 0.3                      | - 0.3                      | 0.2                        | - 0.3                      | - 0.3                       | 0.2    |
| 2020 Oct. 1               | - 0.41                              | - 0.44                     | - 0.29                     | - 0.32                     | - 0.30                     | - 0.31                     | - 0.13                     | - 0.27                     | - 0.21                      | - 0.20 |
| 2                         | - 0.42                              | - 0.45                     | - 0.30                     | - 0.34                     | - 0.31                     | - 0.33                     | - 0.15                     | - 0.29                     | - 0.23                      | - 0.22 |
| 5                         | - 0.42                              | - 0.45                     | - 0.30                     | - 0.34                     | - 0.32                     | - 0.33                     | - 0.14                     | - 0.29                     | - 0.23                      | - 0.21 |
| 6                         | - 0.42                              | - 0.45                     | - 0.30                     | - 0.33                     | - 0.31                     | - 0.32                     | - 0.13                     | - 0.28                     | - 0.22                      | - 0.20 |
| 7                         | - 0.42                              | - 0.45                     | - 0.32                     | - 0.32                     | - 0.30                     | - 0.31                     | - 0.13                     | - 0.27                     | - 0.21                      | - 0.19 |
| 8                         | - 0.43                              | - 0.46                     | - 0.32                     | - 0.33                     | - 0.31                     | - 0.32                     | - 0.13                     | - 0.28                     | - 0.22                      | - 0.20 |
| 9                         | - 0.43                              | - 0.46                     | - 0.33                     | - 0.34                     | - 0.32                     | - 0.33                     | - 0.15                     | - 0.29                     | - 0.24                      | - 0.22 |
| 12                        | - 0.43                              | - 0.47                     | - 0.33                     | - 0.34                     | - 0.32                     | - 0.33                     | - 0.15                     | - 0.29                     | - 0.24                      | - 0.22 |
| 13                        | - 0.43                              | - 0.46                     | - 0.34                     | - 0.34                     | - 0.33                     | - 0.34                     | - 0.15                     | - 0.30                     | - 0.24                      | - 0.22 |
| 14                        | - 0.44                              | - 0.48                     | - 0.35                     | - 0.36                     | - 0.35                     | - 0.35                     | - 0.18                     | - 0.33                     | - 0.27                      | - 0.25 |
| 15                        | - 0.45                              | - 0.49                     | - 0.36                     | - 0.37                     | - 0.37                     | - 0.38                     | - 0.21                     | - 0.36                     | - 0.30                      | - 0.29 |
| 16                        | - 0.45                              | - 0.49                     | - 0.36                     | - 0.38                     | - 0.36                     | - 0.38                     | - 0.21                     | - 0.36                     | - 0.30                      | - 0.28 |
| 19                        | - 0.45                              | - 0.49                     | - 0.36                     | - 0.37                     | - 0.36                     | - 0.38                     | - 0.21                     | - 0.35                     | - 0.30                      | - 0.28 |
| 20                        | - 0.45                              | - 0.49                     | - 0.37                     | - 0.38                     | - 0.36                     | - 0.37                     | - 0.20                     | - 0.35                     | - 0.29                      | - 0.27 |
| 21                        | - 0.44                              | - 0.48                     | - 0.36                     | - 0.36                     | - 0.34                     | - 0.36                     | - 0.18                     | - 0.32                     | - 0.27                      | - 0.25 |
| 22                        | - 0.43                              | - 0.48                     | - 0.35                     | - 0.36                     | - 0.34                     | - 0.35                     | - 0.17                     | - 0.32                     | - 0.27                      | - 0.24 |
| 23                        | - 0.43                              | - 0.47                     | - 0.35                     | - 0.35                     | - 0.33                     | - 0.34                     | - 0.15                     | - 0.30                     | - 0.24                      | - 0.22 |
| 26                        | - 0.43                              | - 0.47                     | - 0.35                     | - 0.35                     | - 0.34                     | - 0.34                     | - 0.17                     | - 0.31                     | - 0.26                      | - 0.24 |
| 27                        | - 0.44                              | - 0.47                     | - 0.35                     | - 0.36                     | - 0.35                     | - 0.35                     | - 0.17                     | - 0.32                     | - 0.26                      | - 0.25 |
| 28                        | - 0.45                              | - 0.49                     | - 0.37                     | - 0.38                     | - 0.38                     | - 0.38                     | - 0.21                     | - 0.36                     | - 0.30                      | - 0.28 |
| 29                        | - 0.45                              | - 0.49                     | - 0.37                     | - 0.38                     | - 0.37                     | - 0.37                     | - 0.20                     | - 0.35                     | - 0.28                      | - 0.27 |
| 30                        | - 0.46                              | - 0.50                     | - 0.38                     | - 0.38                     | - 0.37                     | - 0.37                     | - 0.19                     | - 0.35                     | - 0.28                      | - 0.27 |

\* Only bearer bonds by residents with a maximum maturity as per the terms of issue of more than 4 years are included. <sup>1</sup> Adjustment of the scope of securities included on 1 May 2020.

## II. Yields

### still: 2b) Yields on debt securities outstanding, by residual maturity \*

% per annum

| Period                        | Mean residual maturity of ... years |                            |                            |                            |                            |                            |                            |                            |                             |      |
|-------------------------------|-------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|------|
|                               | More than 1<br>and up to 2          | More than 2<br>and up to 3 | More than 3<br>and up to 4 | More than 4<br>and up to 5 | More than 5<br>and up to 6 | More than 6<br>and up to 7 | More than 7                |                            |                             |      |
|                               |                                     |                            |                            |                            |                            |                            | Total                      | of which                   |                             |      |
|                               |                                     |                            |                            |                            |                            |                            | More than 7<br>and up to 8 | More than 8<br>and up to 9 | More than 9<br>and up to 10 |      |
| <b>Public debt securities</b> |                                     |                            |                            |                            |                            |                            |                            |                            |                             |      |
| 2003                          | 2.4                                 | 2.7                        | 3.0                        | 3.3                        | 3.5                        | 3.7                        | 4.3                        | 3.9                        | 4.0                         | 4.1  |
| 2004                          | 2.4                                 | 2.7                        | 3.0                        | 3.2                        | 3.4                        | 3.7                        | 4.2                        | 3.8                        | 4.0                         | 4.0  |
| 2005                          | 2.4                                 | 2.5                        | 2.7                        | 2.8                        | 3.0                        | 3.1                        | 3.5                        | 3.2                        | 3.3                         | 3.4  |
| 2006                          | 3.4                                 | 3.5                        | 3.5                        | 3.6                        | 3.7                        | 3.7                        | 3.9                        | 3.7                        | 3.8                         | 3.8  |
| 2007                          | 4.1                                 | 4.1                        | 4.2                        | 4.2                        | 4.2                        | 4.2                        | 4.3                        | 4.2                        | 4.2                         | 4.3  |
| 2008                          | 3.7                                 | 3.7                        | 3.8                        | 3.8                        | 3.9                        | 4.0                        | 4.3                        | 4.0                        | 4.1                         | 4.1  |
| 2009                          | 1.4                                 | 1.8                        | 2.2                        | 2.5                        | 2.7                        | 2.9                        | 3.7                        | 3.1                        | 3.3                         | 3.3  |
| 2010                          | 0.8                                 | 1.1                        | 1.5                        | 1.8                        | 2.1                        | 2.3                        | 3.1                        | 2.5                        | 2.7                         | 2.8  |
| 2011                          | 1.1                                 | 1.4                        | 1.7                        | 1.9                        | 2.2                        | 2.3                        | 2.9                        | 2.4                        | 2.6                         | 2.7  |
| 2012                          | 0.2                                 | 0.3                        | 0.4                        | 0.6                        | 0.9                        | 1.1                        | 1.9                        | 1.2                        | 1.4                         | 1.6  |
| 2013                          | 0.2                                 | 0.3                        | 0.4                        | 0.6                        | 0.8                        | 1.0                        | 1.9                        | 1.2                        | 1.4                         | 1.6  |
| 2014                          | 0.1                                 | 0.1                        | 0.2                        | 0.4                        | 0.5                        | 0.7                        | 1.5                        | 0.9                        | 1.1                         | 1.2  |
| 2015                          | -                                   | 0.2                        | -                          | 0.1                        | -                          | 0.0                        | 0.1                        | 0.2                        | 0.7                         | 0.6  |
| 2016                          | -                                   | 0.6                        | -                          | 0.5                        | -                          | 0.4                        | -                          | 0.3                        | 0.3                         | 0.2  |
| 2017                          | -                                   | 0.7                        | -                          | 0.6                        | -                          | 0.4                        | -                          | 0.2                        | 0.6                         | 0.4  |
| 2018                          | -                                   | 0.6                        | -                          | 0.5                        | -                          | 0.3                        | -                          | 0.2                        | 0.7                         | 0.4  |
| 2019                          | -                                   | 0.6                        | -                          | 0.6                        | -                          | 0.5                        | -                          | 0.4                        | 0.0                         | 0.2  |
| 2018 Oct.                     | -                                   | 0.6                        | -                          | 0.4                        | -                          | 0.3                        | -                          | 0.1                        | 0.2                         | 0.4  |
| Nov.                          | -                                   | 0.6                        | -                          | 0.5                        | -                          | 0.3                        | -                          | 0.2                        | 0.6                         | 0.4  |
| Dec.                          | -                                   | 0.6                        | -                          | 0.5                        | -                          | 0.4                        | -                          | 0.3                        | 0.1                         | 0.2  |
| 2019 Jan.                     | -                                   | 0.6                        | -                          | 0.5                        | -                          | 0.4                        | -                          | 0.3                        | 0.4                         | 0.2  |
| Feb.                          | -                                   | 0.5                        | -                          | 0.5                        | -                          | 0.4                        | -                          | 0.2                        | 0.4                         | 0.1  |
| Mar.                          | -                                   | 0.5                        | -                          | 0.5                        | -                          | 0.4                        | -                          | 0.2                        | 0.3                         | 0.1  |
| Apr.                          | -                                   | 0.6                        | -                          | 0.5                        | -                          | 0.4                        | -                          | 0.3                        | 0.3                         | 0.0  |
| May                           | -                                   | 0.6                        | -                          | 0.6                        | -                          | 0.5                        | -                          | 0.3                        | 0.2                         | 0.1  |
| June                          | -                                   | 0.6                        | -                          | 0.7                        | -                          | 0.6                        | -                          | 0.4                        | 0.0                         | 0.2  |
| July                          | -                                   | 0.7                        | -                          | 0.7                        | -                          | 0.6                        | -                          | 0.5                        | 0.1                         | 0.3  |
| Aug.                          | -                                   | 0.8                        | -                          | 0.8                        | -                          | 0.8                        | -                          | 0.7                        | 0.4                         | 0.5  |
| Sep.                          | -                                   | 0.8                        | -                          | 0.8                        | -                          | 0.8                        | -                          | 0.7                        | 0.4                         | 0.5  |
| Oct.                          | -                                   | 0.7                        | -                          | 0.7                        | -                          | 0.6                        | -                          | 0.6                        | 0.2                         | 0.4  |
| Nov.                          | -                                   | 0.6                        | -                          | 0.6                        | -                          | 0.5                        | -                          | 0.5                        | 0.1                         | 0.3  |
| Dec.                          | -                                   | 0.6                        | -                          | 0.6                        | -                          | 0.5                        | -                          | 0.4                        | 0.1                         | 0.2  |
| 2020 Jan.                     | -                                   | 0.6                        | -                          | 0.5                        | -                          | 0.5                        | -                          | 0.4                        | 0.1                         | 0.3  |
| Feb.                          | -                                   | 0.6                        | -                          | 0.6                        | -                          | 0.6                        | -                          | 0.6                        | 0.2                         | 0.4  |
| Mar.                          | -                                   | 0.7                        | -                          | 0.7                        | -                          | 0.6                        | -                          | 0.6                        | 0.3                         | 0.5  |
| Apr.                          | -                                   | 0.5                        | -                          | 0.5                        | -                          | 0.5                        | -                          | 0.5                        | 0.2                         | 0.4  |
| May <sup>1</sup>              | -                                   | 0.6                        | -                          | 0.6                        | -                          | 0.6                        | -                          | 0.6                        | 0.3                         | 0.4  |
| June                          | -                                   | 0.6                        | -                          | 0.6                        | -                          | 0.5                        | -                          | 0.5                        | 0.2                         | 0.4  |
| July                          | -                                   | 0.6                        | -                          | 0.6                        | -                          | 0.6                        | -                          | 0.6                        | 0.3                         | 0.5  |
| Aug.                          | -                                   | 0.6                        | -                          | 0.6                        | -                          | 0.6                        | -                          | 0.6                        | 0.3                         | 0.5  |
| Sep.                          | -                                   | 0.7                        | -                          | 0.7                        | -                          | 0.6                        | -                          | 0.6                        | 0.3                         | 0.5  |
| Oct.                          | -                                   | 0.7                        | -                          | 0.7                        | -                          | 0.7                        | -                          | 0.7                        | 0.4                         | 0.5  |
| 2020 Oct. 1                   | -                                   | 0.66                       | -                          | 0.67                       | -                          | 0.64                       | -                          | 0.64                       | 0.32                        | 0.48 |
| 2                             | -                                   | 0.67                       | -                          | 0.69                       | -                          | 0.70                       | -                          | 0.66                       | 0.35                        | 0.51 |
| 5                             | -                                   | 0.67                       | -                          | 0.69                       | -                          | 0.71                       | -                          | 0.66                       | 0.34                        | 0.50 |
| 6                             | -                                   | 0.67                       | -                          | 0.68                       | -                          | 0.69                       | -                          | 0.66                       | 0.32                        | 0.48 |
| 7                             | -                                   | 0.67                       | -                          | 0.68                       | -                          | 0.69                       | -                          | 0.65                       | 0.32                        | 0.48 |
| 8                             | -                                   | 0.67                       | -                          | 0.67                       | -                          | 0.70                       | -                          | 0.66                       | 0.31                        | 0.47 |
| 9                             | -                                   | 0.68                       | -                          | 0.70                       | -                          | 0.71                       | -                          | 0.68                       | 0.35                        | 0.50 |
| 12                            | -                                   | 0.69                       | -                          | 0.70                       | -                          | 0.71                       | -                          | 0.69                       | 0.34                        | 0.50 |
| 13                            | -                                   | 0.70                       | -                          | 0.71                       | -                          | 0.72                       | -                          | 0.69                       | 0.35                        | 0.51 |
| 14                            | -                                   | 0.71                       | -                          | 0.72                       | -                          | 0.73                       | -                          | 0.71                       | 0.38                        | 0.53 |
| 15                            | -                                   | 0.73                       | -                          | 0.74                       | -                          | 0.77                       | -                          | 0.72                       | 0.42                        | 0.58 |
| 16                            | -                                   | 0.74                       | -                          | 0.75                       | -                          | 0.77                       | -                          | 0.73                       | 0.43                        | 0.58 |
| 19                            | -                                   | 0.74                       | -                          | 0.75                       | -                          | 0.77                       | -                          | 0.72                       | 0.42                        | 0.57 |
| 20                            | -                                   | 0.74                       | -                          | 0.75                       | -                          | 0.78                       | -                          | 0.73                       | 0.43                        | 0.58 |
| 21                            | -                                   | 0.73                       | -                          | 0.74                       | -                          | 0.76                       | -                          | 0.71                       | 0.39                        | 0.54 |
| 22                            | -                                   | 0.73                       | -                          | 0.74                       | -                          | 0.76                       | -                          | 0.71                       | 0.38                        | 0.54 |
| 23                            | -                                   | 0.73                       | -                          | 0.73                       | -                          | 0.75                       | -                          | 0.70                       | 0.37                        | 0.52 |
| 26                            | -                                   | 0.72                       | -                          | 0.73                       | -                          | 0.75                       | -                          | 0.70                       | 0.38                        | 0.53 |
| 27                            | -                                   | 0.72                       | -                          | 0.73                       | -                          | 0.75                       | -                          | 0.70                       | 0.39                        | 0.54 |
| 28                            | -                                   | 0.75                       | -                          | 0.75                       | -                          | 0.78                       | -                          | 0.74                       | 0.44                        | 0.59 |
| 29                            | -                                   | 0.75                       | -                          | 0.76                       | -                          | 0.78                       | -                          | 0.74                       | 0.43                        | 0.58 |
| 30                            | -                                   | 0.76                       | -                          | 0.76                       | -                          | 0.79                       | -                          | 0.74                       | 0.43                        | 0.58 |

\* Only bearer bonds by residents with a maximum maturity as per the terms of issue of more than 4 years are included. <sup>1</sup> Adjustment of the scope of securities included on 1 May 2020.

## II. Yields

### 2c) Yields on listed Federal securities outstanding - average, highest and lowest rates

% per annum

| Period    | Total        |               |                | of which:   |             |              |   |             |              |  |             |              |
|-----------|--------------|---------------|----------------|---|-------------|--------------|---|-------------|--------------|--|-------------|--------------|
|           | Average rate | Lowest rate 1 | Highest rate 2 | Residual maturity of more than 3 an up to 5 years |             |              | Residual maturity of more than 5 an up to 8 years |             |              | Residual maturity of more than 8 an up to 15 years |             |              |
|           |              |               |                | Average rate                                      | Lowest rate | Highest rate | Average rate                                      | Lowest rate | Highest rate | Average rate                                       | Lowest rate | Highest rate |
| 2003      | 3.81         | 3.17          | 4.19           | 3.12  | 2.40        | 3.56         | 3.65  | 2.89        | 4.07         | 4.03   | 3.37        | 4.41         |
| 2004      | 3.75         | 3.25          | 4.10           | 3.10  | 2.70        | 3.48         | 3.62  | 3.11        | 3.98         | 3.99   | 3.43        | 4.34         |
| 2005      | 3.18         | 2.84          | 3.52           | 2.72  | 2.34        | 3.08         | 3.05  | 2.70        | 3.40         | 3.31   | 2.94        | 3.73         |
| 2006      | 3.74         | 3.16          | 4.05           | 3.55  | 2.93        | 3.91         | 3.67  | 3.08        | 4.00         | 3.75   | 3.20        | 4.09         |
| 2007      | 4.24         | 3.91          | 4.70           | 4.13  | 3.75        | 4.63         | 4.18  | 3.85        | 4.67         | 4.21   | 3.86        | 4.68         |
| 2008      | 3.99         | 2.81          | 4.78           | 3.68  | 2.26        | 4.78         | 3.83  | 2.60        | 4.72         | 3.98   | 2.89        | 4.67         |
| 2009      | 3.03         | 2.71          | 3.40           | 2.18  | 1.86        | 2.54         | 2.79  | 2.50        | 3.22         | 3.27   | 2.93        | 3.68         |
| 2010      | 2.43         | 1.81          | 3.11           | 1.50  | 1.02        | 2.25         | 2.21  | 1.63        | 2.92         | 2.73   | 2.05        | 3.38         |
| 2011      | 2.39         | 1.46          | 3.26           | 1.60  | 0.53        | 2.56         | 2.17  | 1.16        | 3.10         | 2.59   | 1.60        | 3.46         |
| 2012      | 1.27         | 0.92          | 1.72           | 0.36  | 0.08        | 0.78         | 0.93  | 0.58        | 1.43         | 1.47   | 1.00        | 1.96         |
| 2013      | 1.33         | 0.98          | 1.67           | 0.41  | 0.11        | 0.74         | 0.94  | 0.53        | 1.37         | 1.63   | 1.17        | 2.07         |
| 2014      | 1.02         | 0.48          | 1.65           | 0.22  | -           | 0.06         | 0.71  | 0.64        | 1.35         | 1.24   | 0.55        | 2.03         |
| 2015      | 0.41         | 0.05          | 0.80           | -   | 0.12        | -            | 0.31  | -           | 0.13         | -  | 0.12        | 0.50         |
| 2016      | 0.00         | -             | 0.29           | 0.46  | -           | 0.51         | -   | 0.70        | -            | 0.28   | -           | 0.53         |
| 2017      | 0.17         | -             | 0.06           | 0.37  | -           | 0.51         | -   | 0.76        | -            | 0.15   | -           | 0.38         |
| 2018      | 0.29         | -             | 0.06           | 0.55  | -           | 0.32         | -   | 0.55        | -            | 0.12   | -           | 0.04         |
| 2019      | -            | 0.26          | -              | 0.73  | 0.13        | -            | 0.62  | -           | 0.98         | -  | 0.39        | -            |
| 2017 Apr. | 0.06         | -             | 0.04           | 0.16  | -           | 0.60         | -   | 0.70        | -            | 0.49   | -           | 0.26         |
| May       | 0.18         | -             | 0.11           | 0.23  | -           | 0.51         | -   | 0.58        | -            | 0.45   | -           | 0.22         |
| June      | 0.12         | -             | 0.08           | 0.25  | -           | 0.53         | -   | 0.60        | -            | 0.41   | -           | 0.21         |
| July      | 0.32         | -             | 0.27           | 0.37  | -           | 0.36         | -   | 0.41        | -            | 0.31   | -           | 0.00         |
| Aug.      | 0.19         | -             | 0.10           | 0.28  | -           | 0.48         | -   | 0.57        | -            | 0.41   | -           | 0.10         |
| Sep.      | 0.19         | -             | 0.12           | 0.27  | -           | 0.49         | -   | 0.55        | -            | 0.43   | -           | 0.11         |
| Oct.      | 0.24         | -             | 0.18           | 0.28  | -           | 0.45         | -   | 0.51        | -            | 0.42   | -           | 0.08         |
| Nov.      | 0.19         | -             | 0.15           | 0.23  | -           | 0.49         | -   | 0.53        | -            | 0.45   | -           | 0.13         |
| Dec.      | 0.17         | -             | 0.06           | 0.37  | -           | 0.46         | -   | 0.52        | -            | 0.36   | -           | 0.11         |
| 2018 Jan. | 0.37         | -             | 0.30           | 0.47  | -           | 0.28         | -   | 0.35        | -            | 0.15   | -           | 0.07         |
| Feb.      | 0.50         | -             | 0.45           | 0.55  | -           | 0.16         | -   | 0.20        | -            | 0.12   | -           | 0.28         |
| Mar.      | 0.39         | -             | 0.29           | 0.46  | -           | 0.25         | -   | 0.32        | -            | 0.19   | -           | 0.16         |
| Apr.      | 0.37         | -             | 0.32           | 0.44  | -           | 0.26         | -   | 0.30        | -            | 0.21   | -           | 0.11         |
| May       | 0.34         | -             | 0.06           | 0.44  | -           | 0.29         | -   | 0.55        | -            | 0.20   | -           | 0.10         |
| June      | 0.23         | -             | 0.16           | 0.32  | -           | 0.39         | -   | 0.46        | -            | 0.30   | -           | 0.03         |
| July      | 0.19         | -             | 0.15           | 0.25  | -           | 0.41         | -   | 0.44        | -            | 0.35   | -           | 0.09         |
| Aug.      | 0.18         | -             | 0.12           | 0.28  | -           | 0.39         | -   | 0.45        | -            | 0.30   | -           | 0.05         |
| Sep.      | 0.27         | -             | 0.18           | 0.35  | -           | 0.30         | -   | 0.39        | -            | 0.22   | -           | 0.02         |
| Oct.      | 0.30         | -             | 0.21           | 0.39  | -           | 0.28         | -   | 0.37        | -            | 0.20   | -           | 0.05         |
| Nov.      | 0.23         | -             | 0.17           | 0.29  | -           | 0.36         | -   | 0.41        | -            | 0.30   | -           | 0.04         |
| Dec.      | 0.12         | -             | 0.09           | 0.18  | -           | 0.43         | -   | 0.46        | -            | 0.39   | -           | 0.14         |
| 2019 Jan. | 0.08         | -             | 0.05           | 0.13  | -           | 0.44         | -   | 0.47        | -            | 0.40   | -           | 0.19         |
| Feb.      | 0.02         | -             | 0.01           | 0.06  | -           | 0.45         | -   | 0.47        | -            | 0.42   | -           | 0.22         |
| Mar.      | -            | 0.02          | -              | 0.14  | 0.08        | -            | 0.46  | -           | 0.54         | -  | 0.39        | -            |
| Apr.      | -            | 0.06          | -              | 0.10  | 0.00        | -            | 0.50  | -           | 0.53         | -  | 0.46        | -            |
| May       | -            | 0.15          | -              | 0.25  | 0.04        | -            | 0.57  | -           | 0.65         | -  | 0.49        | -            |
| June      | -            | 0.31          | -              | 0.35  | 0.25        | -            | 0.67  | -           | 0.71         | -  | 0.63        | -            |
| July      | -            | 0.37          | -              | 0.44  | 0.27        | -            | 0.73  | -           | 0.78         | -  | 0.66        | -            |
| Aug.      | -            | 0.63          | -              | 0.71  | 0.44        | -            | 0.89  | -           | 0.96         | -  | 0.77        | -            |
| Sep.      | -            | 0.57          | -              | 0.73  | 0.48        | -            | 0.83  | -           | 0.98         | -  | 0.75        | -            |
| Oct.      | -            | 0.45          | -              | 0.59  | 0.35        | -            | 0.72  | -           | 0.83         | -  | 0.63        | -            |
| Nov.      | -            | 0.34          | -              | 0.40  | 0.26        | -            | 0.62  | -           | 0.67         | -  | 0.58        | -            |
| Dec.      | -            | 0.30          | -              | 0.34  | 0.23        | -            | 0.59  | -           | 0.63         | -  | 0.54        | -            |
| 2020 Jan. | -            | 0.30          | -              | 0.42  | 0.20        | -            | 0.59  | -           | 0.67         | -  | 0.53        | -            |
| Feb.      | -            | 0.43          | -              | 0.59  | 0.36        | -            | 0.67  | -           | 0.79         | -  | 0.63        | -            |
| Mar.      | -            | 0.55          | -              | 0.83  | 0.32        | -            | 0.77  | -           | 1.00         | -  | 0.55        | -            |
| Apr.      | -            | 0.44          | -              | 0.50  | 0.34        | -            | 0.66  | -           | 0.72         | -  | 0.59        | -            |
| May       | -            | 0.49          | -              | 0.57  | 0.41        | -            | 0.73  | -           | 0.80         | -  | 0.64        | -            |
| June      | -            | 0.40          | -              | 0.49  | 0.28        | -            | 0.66  | -           | 0.73         | -  | 0.59        | -            |
| July      | -            | 0.48          | -              | 0.57  | 0.42        | -            | 0.71  | -           | 0.77         | -  | 0.67        | -            |
| Aug.      | -            | 0.49          | -              | 0.55  | 0.40        | -            | 0.72  | -           | 0.76         | -  | 0.67        | -            |
| Sep.      | -            | 0.50          | -              | 0.55  | 0.40        | -            | 0.73  | -           | 0.76         | -  | 0.67        | -            |
| Oct.      | -            | 0.58          | -              | 0.64  | 0.52        | -            | 0.79  | -           | 0.84         | -  | 0.74        | -            |

1 Historical low: -0.83 on 12 March 2020. 2 Historical high: 11.43 on 7 and 8 September 1981.

### III. Term structure of interest rates in the debt securities market \*

#### a) Term structure of interest rates in the debt securities market - estimated values, listed Federal securities

% 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   |
| 2009   | 0.77 | 1.33 | 1.79 | 2.18 | 2.52 | 2.80 | 3.06 | 3.27 | 3.47 | 3.63 |
| 2010   | 0.56 | 0.87 | 1.25 | 1.63 | 1.99 | 2.31 | 2.59 | 2.83 | 3.03 | 3.19 |
| 2011   | 0.02 | 0.14 | 0.36 | 0.61 | 0.87 | 1.13 | 1.38 | 1.60 | 1.81 | 1.99 |
| 2012   | 0.04 | 0.04 | 0.05 | 0.20 | 0.39 | 0.59 | 0.80 | 1.01 | 1.20 | 1.38 |
| 2013   | 0.13 | 0.24 | 0.44 | 0.69 | 0.95 | 1.21 | 1.47 | 1.70 | 1.92 | 2.11 |
| 2014   | 0.10 | 0.10 | 0.10 | 0.10 | 0.06 | 0.02 | 0.12 | 0.24 | 0.36 | 0.49 |
| 2015   | 0.39 | 0.35 | 0.26 | 0.15 | 0.01 | 0.13 | 0.28 | 0.42 | 0.56 | 0.70 |
| 2016   | 0.84 | 0.80 | 0.76 | 0.65 | 0.51 | 0.35 | 0.18 | 0.03 | 0.10 | 0.22 |
| 2017   | 0.72 | 0.64 | 0.50 | 0.34 | 0.18 | 0.02 | 0.12 | 0.25 | 0.37 | 0.48 |
| 2018   | 0.70 | 0.65 | 0.56 | 0.44 | 0.31 | 0.18 | 0.06 | 0.06 | 0.16 | 0.25 |
| 2019   | 0.69 | 0.63 | 0.58 | 0.54 | 0.49 | 0.44 | 0.37 | 0.31 | 0.25 | 0.19 |
| 2018 May   | 0.68 | 0.65 | 0.54 | 0.39 | 0.23 | 0.06 | 0.09 | 0.22 | 0.34 | 0.44 |
| June   | 0.69 | 0.65 | 0.54 | 0.40 | 0.25 | 0.10 | 0.04 | 0.16 | 0.28 | 0.38 |
| July   | 0.67 | 0.60 | 0.48 | 0.34 | 0.19 | 0.04 | 0.09 | 0.22 | 0.33 | 0.43 |
| Aug.   | 0.65 | 0.61 | 0.51 | 0.38 | 0.25 | 0.11 | 0.03 | 0.15 | 0.26 | 0.35 |
| Sep.   | 0.62 | 0.54 | 0.40 | 0.25 | 0.09 | 0.05 | 0.18 | 0.30 | 0.40 | 0.49 |
| Oct.   | 0.72 | 0.65 | 0.51 | 0.35 | 0.20 | 0.05 | 0.08 | 0.20 | 0.30 | 0.40 |
| Nov.   | 0.68 | 0.64 | 0.53 | 0.40 | 0.26 | 0.12 | 0.01 | 0.13 | 0.24 | 0.33 |
| Dec.   | 0.70 | 0.65 | 0.56 | 0.44 | 0.31 | 0.18 | 0.06 | 0.06 | 0.16 | 0.25 |
| 2019 Jan.  | 0.59 | 0.58 | 0.51 | 0.43 | 0.33 | 0.22 | 0.12 | 0.03 | 0.06 | 0.15 |
| Feb.   | 0.57 | 0.55 | 0.49 | 0.42 | 0.32 | 0.22 | 0.12 | 0.03 | 0.07 | 0.15 |
| Mar.   | 0.61 | 0.62 | 0.59 | 0.54 | 0.47 | 0.39 | 0.30 | 0.22 | 0.14 | 0.07 |
| Apr.   | 0.59 | 0.60 | 0.56 | 0.49 | 0.41 | 0.32 | 0.23 | 0.14 | 0.05 | 0.03 |
| May  | 0.64 | 0.69 | 0.69 | 0.65 | 0.59 | 0.52 | 0.44 | 0.36 | 0.28 | 0.20 |
| June   | 0.70 | 0.75 | 0.75 | 0.71 | 0.66 | 0.59 | 0.52 | 0.45 | 0.38 | 0.31 |
| July   | 0.72 | 0.78 | 0.79 | 0.77 | 0.73 | 0.68 | 0.62 | 0.55 | 0.49 | 0.43 |
| Aug.   | 0.85 | 0.92 | 0.95 | 0.95 | 0.93 | 0.90 | 0.85 | 0.80 | 0.76 | 0.71 |
| Sep.   | 0.73 | 0.80 | 0.82 | 0.80 | 0.78 | 0.74 | 0.70 | 0.66 | 0.62 | 0.57 |
| Oct.   | 0.67 | 0.69 | 0.69 | 0.67 | 0.64 | 0.60 | 0.56 | 0.51 | 0.47 | 0.42 |
| Nov.   | 0.64 | 0.66 | 0.66 | 0.64 | 0.61 | 0.56 | 0.52 | 0.47 | 0.42 | 0.37 |
| Dec.   | 0.69 | 0.63 | 0.58 | 0.54 | 0.49 | 0.44 | 0.37 | 0.31 | 0.25 | 0.19 |
| 2020 Jan.  | 0.64 | 0.68 | 0.68 | 0.67 | 0.64 | 0.61 | 0.56 | 0.52 | 0.47 | 0.42 |
| Feb.   | 0.73 | 0.77 | 0.79 | 0.79 | 0.77 | 0.75 | 0.72 | 0.69 | 0.65 | 0.61 |
| Mar.   | 0.69 | 0.70 | 0.71 | 0.70 | 0.68 | 0.64 | 0.60 | 0.56 | 0.51 | 0.47 |
| Apr.   | 0.64 | 0.71 | 0.73 | 0.73 | 0.70 | 0.67 | 0.63 | 0.59 | 0.54 | 0.50 |
| May  | 0.60 | 0.63 | 0.65 | 0.65 | 0.63 | 0.59 | 0.55 | 0.50 | 0.45 | 0.41 |
| June   | 0.68 | 0.70 | 0.73 | 0.74 | 0.72 | 0.68 | 0.64 | 0.59 | 0.54 | 0.50 |
| July   | 0.70 | 0.75 | 0.77 | 0.78 | 0.76 | 0.73 | 0.70 | 0.66 | 0.62 | 0.57 |
| Aug.   | 0.65 | 0.67 | 0.68 | 0.68 | 0.65 | 0.61 | 0.56 | 0.51 | 0.45 | 0.40 |
| Sep.   | 0.67 | 0.73 | 0.76 | 0.76 | 0.75 | 0.72 | 0.69 | 0.65 | 0.61 | 0.56 |
| Oct.   | 0.77 | 0.82 | 0.86 | 0.86 | 0.85 | 0.82 | 0.77 | 0.73 | 0.68 | 0.63 |
| 2020 Oct. 1  | 0.67 | 0.71 | 0.74 | 0.74 | 0.73 | 0.69 | 0.66 | 0.61 | 0.57 | 0.53 |
| 2  | 0.68 | 0.73 | 0.76 | 0.76 | 0.75 | 0.72 | 0.69 | 0.65 | 0.60 | 0.56 |
| 5  | 0.68 | 0.73 | 0.76 | 0.76 | 0.75 | 0.72 | 0.69 | 0.65 | 0.60 | 0.56 |
| 6  | 0.68 | 0.72 | 0.75 | 0.75 | 0.73 | 0.70 | 0.66 | 0.62 | 0.57 | 0.53 |
| 7  | 0.68 | 0.72 | 0.75 | 0.75 | 0.73 | 0.70 | 0.66 | 0.62 | 0.57 | 0.53 |
| 8  | 0.68 | 0.72 | 0.74 | 0.74 | 0.72 | 0.69 | 0.65 | 0.61 | 0.56 | 0.52 |
| 9  | 0.68 | 0.74 | 0.77 | 0.77 | 0.76 | 0.73 | 0.69 | 0.65 | 0.60 | 0.56 |
| 12   | 0.68 | 0.74 | 0.77 | 0.77 | 0.76 | 0.73 | 0.69 | 0.65 | 0.60 | 0.56 |
| 13   | 0.68 | 0.74 | 0.77 | 0.77 | 0.76 | 0.73 | 0.69 | 0.65 | 0.60 | 0.56 |
| 14   | 0.71 | 0.76 | 0.79 | 0.79 | 0.78 | 0.75 | 0.72 | 0.67 | 0.63 | 0.59 |
| 15   | 0.74 | 0.80 | 0.82 | 0.83 | 0.81 | 0.78 | 0.75 | 0.70 | 0.66 | 0.62 |
| 16   | 0.74 | 0.81 | 0.84 | 0.84 | 0.83 | 0.80 | 0.76 | 0.72 | 0.68 | 0.64 |
| 19   | 0.74 | 0.81 | 0.84 | 0.84 | 0.83 | 0.80 | 0.76 | 0.72 | 0.68 | 0.64 |
| 20   | 0.76 | 0.82 | 0.84 | 0.84 | 0.82 | 0.79 | 0.76 | 0.72 | 0.68 | 0.64 |
| 21   | 0.75 | 0.80 | 0.82 | 0.81 | 0.79 | 0.76 | 0.72 | 0.68 | 0.64 | 0.60 |
| 22   | 0.75 | 0.80 | 0.82 | 0.81 | 0.79 | 0.76 | 0.72 | 0.68 | 0.64 | 0.60 |
| 23   | 0.74 | 0.78 | 0.82 | 0.82 | 0.80 | 0.77 | 0.72 | 0.67 | 0.62 | 0.58 |
| 26   | 0.74 | 0.77 | 0.81 | 0.82 | 0.80 | 0.77 | 0.72 | 0.68 | 0.63 | 0.59 |
| 27   | 0.73 | 0.78 | 0.81 | 0.81 | 0.80 | 0.78 | 0.74 | 0.69 | 0.65 | 0.60 |
| 28   | 0.76 | 0.82 | 0.84 | 0.84 | 0.83 | 0.80 | 0.77 | 0.73 | 0.70 | 0.66 |
| 29   | 0.77 | 0.82 | 0.86 | 0.86 | 0.85 | 0.82 | 0.77 | 0.73 | 0.68 | 0.63 |
| 30   | 0.77 | 0.82 | 0.86 | 0.86 | 0.85 | 0.82 | 0.77 | 0.73 | 0.68 | 0.63 |
| Memo item: yields, derived from the term structure of interest rates, on listed Federal securities with annual coupon payments |      |      |      |      |      |      |      |      |      |      |
| 2020 Oct.  | 0.77 | 0.82 | 0.86 | 0.86 | 0.85 | 0.81 | 0.77 | 0.72 | 0.68 | 0.63 |

\* Interest rates on (national) zero coupon bonds without a default risk, estimated according to the procedure outlined in the explanatory notes. The estimates are based on the prices of Federal bonds, five-year Federal notes and Federal Treasury notes with

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

III. 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

| End of year or month or trading day   | Interest rate at a residual maturity of ... years |      |      |      |      |      |      |      |      |      |
|---|---|------|------|------|------|------|------|------|------|------|
|   | 1   | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   |
| 2009  | 1.43  | 1.98 | 2.45 | 2.82 | 3.12 | 3.37 | 3.58 | 3.77 | 3.94 | 4.09 |
| 2010  | 1.54  | 1.80 | 2.14 | 2.47 | 2.77 | 3.05 | 3.29 | 3.50 | 3.69 | 3.85 |
| 2011  | 1.76  | 1.62 | 1.72 | 1.90 | 2.11 | 2.34 | 2.57 | 2.79 | 3.01 | 3.22 |
| 2012  | 0.42  | 0.51 | 0.64 | 0.80 | 0.99 | 1.19 | 1.41 | 1.64 | 1.87 | 2.10 |
| 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 |
| 2017  | -   | 0.12 | 0.03 | 0.08 | 0.20 | 0.33 | 0.46 | 0.59 | 0.72 | 0.84 |
| 2018  | -   | 0.11 | 0.04 | 0.04 | 0.15 | 0.29 | 0.44 | 0.59 | 0.73 | 0.85 |
| 2019  | -   | 0.21 | 0.20 | 0.15 | 0.09 | 0.02 | 0.05 | 0.11 | 0.18 | 0.24 |
| 2018 May  | -   | 0.18 | 0.06 | 0.04 | 0.16 | 0.30 | 0.45 | 0.60 | 0.74 | 0.87 |
| June  | -   | 0.19 | 0.04 | 0.03 | 0.13 | 0.27 | 0.42 | 0.57 | 0.71 | 0.84 |
| July  | -   | 0.17 | 0.07 | 0.06 | 0.20 | 0.35 | 0.50 | 0.64 | 0.77 | 0.89 |
| Aug.  | -   | 0.13 | 0.06 | 0.05 | 0.18 | 0.32 | 0.46 | 0.60 | 0.73 | 0.85 |
| Sep.  | -   | 0.15 | 0.02 | 0.13 | 0.28 | 0.43 | 0.58 | 0.71 | 0.84 | 0.96 |
| Oct.  | -   | 0.15 | 0.00 | 0.11 | 0.23 | 0.37 | 0.52 | 0.66 | 0.80 | 0.92 |
| Nov.  | -   | 0.12 | 0.01 | 0.09 | 0.21 | 0.35 | 0.49 | 0.63 | 0.77 | 0.89 |
| Dec.  | -   | 0.11 | 0.04 | 0.04 | 0.15 | 0.29 | 0.44 | 0.59 | 0.73 | 0.85 |
| 2019 Jan.   | -   | 0.10 | 0.04 | 0.05 | 0.17 | 0.29 | 0.42 | 0.55 | 0.68 | 0.80 |
| Feb.  | -   | 0.09 | 0.00 | 0.08 | 0.16 | 0.27 | 0.39 | 0.52 | 0.65 | 0.77 |
| Mar.  | -   | 0.12 | 0.03 | 0.00 | 0.05 | 0.13 | 0.23 | 0.35 | 0.46 | 0.57 |
| Apr.  | -   | 0.12 | 0.04 | 0.01 | 0.07 | 0.15 | 0.24 | 0.35 | 0.46 | 0.56 |
| May   | -   | 0.26 | 0.08 | 0.11 | 0.09 | 0.02 | 0.10 | 0.22 | 0.35 | 0.47 |
| June  | -   | 0.22 | 0.25 | 0.23 | 0.18 | 0.10 | 0.02 | 0.07 | 0.16 | 0.25 |
| July  | -   | 0.26 | 0.31 | 0.30 | 0.26 | 0.20 | 0.13 | 0.05 | 0.03 | 0.12 |
| Aug.  | -   | 0.40 | 0.45 | 0.46 | 0.44 | 0.41 | 0.37 | 0.33 | 0.28 | 0.23 |
| Sep.  | -   | 0.40 | 0.42 | 0.40 | 0.37 | 0.33 | 0.28 | 0.22 | 0.17 | 0.11 |
| Oct.  | -   | 0.28 | 0.24 | 0.22 | 0.20 | 0.17 | 0.13 | 0.07 | 0.00 | 0.07 |
| Nov.  | -   | 0.27 | 0.21 | 0.20 | 0.20 | 0.16 | 0.11 | 0.04 | 0.03 | 0.11 |
| Dec.  | -   | 0.21 | 0.20 | 0.15 | 0.09 | 0.02 | 0.05 | 0.11 | 0.18 | 0.24 |
| 2020 Jan.   | -   | 0.24 | 0.26 | 0.24 | 0.21 | 0.16 | 0.10 | 0.05 | 0.00 | 0.05 |
| Feb.  | -   | 0.32 | 0.33 | 0.32 | 0.30 | 0.27 | 0.23 | 0.19 | 0.15 | 0.11 |
| Mar.  | -   | 0.04 | 0.14 | 0.14 | 0.09 | 0.03 | 0.03 | 0.08 | 0.12 | 0.16 |
| Apr.  | -   | 0.22 | 0.14 | 0.08 | 0.03 | 0.02 | 0.05 | 0.09 | 0.12 | 0.16 |
| May   | -   | 0.14 | 0.12 | 0.10 | 0.07 | 0.05 | 0.02 | 0.01 | 0.03 | 0.06 |
| June  | -   | 0.24 | 0.24 | 0.23 | 0.20 | 0.17 | 0.14 | 0.11 | 0.08 | 0.05 |
| July  | -   | 0.30 | 0.29 | 0.28 | 0.26 | 0.24 | 0.22 | 0.19 | 0.17 | 0.14 |
| Aug.  | -   | 0.31 | 0.30 | 0.27 | 0.23 | 0.19 | 0.15 | 0.11 | 0.07 | 0.03 |
| Sep.  | -   | 0.39 | 0.35 | 0.32 | 0.30 | 0.28 | 0.25 | 0.23 | 0.20 | 0.16 |
| Oct.  | -   | 0.42 | 0.41 | 0.37 | 0.34 | 0.32 | 0.29 | 0.26 | 0.23 | 0.19 |
| 2020 Oct. 1   | -   | 0.36 | 0.36 | 0.33 | 0.30 | 0.27 | 0.24 | 0.21 | 0.17 | 0.14 |
| 2   | -   | 0.38 | 0.36 | 0.33 | 0.31 | 0.28 | 0.25 | 0.22 | 0.19 | 0.15 |
| 5   | -   | 0.38 | 0.37 | 0.34 | 0.31 | 0.28 | 0.25 | 0.23 | 0.20 | 0.16 |
| 6   | -   | 0.39 | 0.37 | 0.34 | 0.31 | 0.28 | 0.25 | 0.22 | 0.19 | 0.15 |
| 7   | -   | 0.38 | 0.37 | 0.33 | 0.30 | 0.27 | 0.24 | 0.20 | 0.17 | 0.13 |
| 8   | -   | 0.40 | 0.37 | 0.34 | 0.31 | 0.28 | 0.24 | 0.21 | 0.17 | 0.13 |
| 9   | -   | 0.39 | 0.37 | 0.34 | 0.31 | 0.28 | 0.25 | 0.22 | 0.18 | 0.14 |
| 12  | -   | 0.39 | 0.38 | 0.35 | 0.32 | 0.28 | 0.25 | 0.21 | 0.18 | 0.14 |
| 13  | -   | 0.39 | 0.38 | 0.35 | 0.31 | 0.28 | 0.25 | 0.21 | 0.17 | 0.13 |
| 14  | -   | 0.41 | 0.39 | 0.36 | 0.33 | 0.30 | 0.28 | 0.24 | 0.21 | 0.17 |
| 15  | -   | 0.41 | 0.40 | 0.36 | 0.34 | 0.32 | 0.29 | 0.27 | 0.23 | 0.20 |
| 16  | -   | 0.41 | 0.40 | 0.37 | 0.34 | 0.33 | 0.31 | 0.28 | 0.25 | 0.22 |
| 19  | -   | 0.41 | 0.40 | 0.37 | 0.35 | 0.33 | 0.31 | 0.28 | 0.25 | 0.22 |
| 20  | -   | 0.42 | 0.41 | 0.37 | 0.34 | 0.32 | 0.30 | 0.27 | 0.24 | 0.21 |
| 21  | -   | 0.41 | 0.40 | 0.36 | 0.34 | 0.32 | 0.29 | 0.27 | 0.24 | 0.20 |
| 22  | -   | 0.41 | 0.41 | 0.37 | 0.33 | 0.30 | 0.27 | 0.24 | 0.21 | 0.18 |
| 23  | -   | 0.40 | 0.40 | 0.36 | 0.33 | 0.30 | 0.27 | 0.23 | 0.20 | 0.16 |
| 26  | -   | 0.40 | 0.41 | 0.37 | 0.34 | 0.31 | 0.28 | 0.25 | 0.22 | 0.19 |
| 27  | -   | 0.39 | 0.40 | 0.36 | 0.33 | 0.30 | 0.27 | 0.24 | 0.20 | 0.17 |
| 28  | -   | 0.40 | 0.42 | 0.39 | 0.35 | 0.33 | 0.30 | 0.27 | 0.23 | 0.19 |
| 29  | -   | 0.43 | 0.41 | 0.37 | 0.34 | 0.32 | 0.29 | 0.26 | 0.23 | 0.19 |
| 30  | -   | 0.42 | 0.41 | 0.37 | 0.34 | 0.32 | 0.29 | 0.26 | 0.23 | 0.19 |
| Memo item: yields, derived from the term of structure of interest rates, on Pfandbriefe with annual coupon payments |   |      |      |      |      |      |      |      |      |      |
| 2020 Oct.   | -   | 0.42 | 0.41 | 0.37 | 0.34 | 0.32 | 0.29 | 0.26 | 0.23 | 0.19 |

\* Interest rates on (national) zero coupon bonds without a default risk, 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.

## Explanatory notes

### Yields

Unlike the nominal interest rate, the bond yield indicates the interest actually received per annum. Its calculation takes account of all the factors influencing the earnings from a debt security. These comprise not only the nominal interest rate but also the frequency of interest payments, the purchase and redemption price, maturity and the mode of redemption (falling due en bloc, falling due in instalments). Yields calculated in this way permit a comparison of the interest actually received on different bonds or a comparison between bonds and other forms of investment (eg savings deposits, the yield on which is wholly dependent on the interest rate).

The yield statistics cover debt securities issued by residents with a maximum maturity according to the terms of issue of over four years. Structured Products and the like, debt securities with unscheduled redemptions, zero coupon bonds, floating rate notes and bonds not denominated in Euro are not included. The yields of redeemable issues are based on the computed residual maturity. The calculation of total yield and of yield by type of security covers only securities with a residual maturity of more than three years. Group yields are weighted by the amounts outstanding at market prices (up to December 2001, by nominal amounts outstanding) or (in the case of issue yields) the amounts sold of the debt securities included in the calculation. Owing to the monthly changes in the composition of the debt securities included in the calculation, the movement of the changes in the interest rate level but - particularly in the computed yield is to be attributed not only to movement case of the issue yields - also to structural influences (e.g. changes in the maturity pattern). The monthly figures on yields outstanding are calculated on the basis of the yields based on the XETRA prices on all the trading days in a month; up to 23 May 2011 on the basis of spot rates. The annual figures are the unweighted means of the monthly figures; 12 monthly figures were not always available for the computation, especially in the case of issue yields.

### Term structure of interest rates

The term structure of interest rates in the bond market shows the relation between the interest rates and maturities of zero coupon bonds. The data on the term structure of interest rates published here are estimates derived from the observed yields to maturity

of coupon bonds outstanding. In contrast to the implied assumption calculating yields to maturity that all payment flows of a coupon bond carry the same rate of return (namely the yield to maturity), the estimation of the term structure of interest rates assumes a different rate of return for each payment flow of a coupon bond at the interest rate corresponding to the current market conditions on the respective payment date. The individual payment flows of a coupon bond are regarded as redemptions of zero coupon bonds with different maturities and interest rates. The prices and interest rates of these notional individual zero coupon bonds are unknown, however, since they are only traded as a bundle in the form of the coupon bond. The price of the coupon which is interpreted as the aggregate price of the component zero coupon bonds, reflects the interest rate expectations of market participants which are to be captured in the envisaged term structure of interest rates. If the individual payment flows of a coupon bond were discounted at the respective interest rates of this (unknown) term structure of interest rates, the sum of the present values should theoretically equal the market price of the coupon bond and hence also its market yield.

This being so, the term structure of interest rates can be calculated with the help of a non-linear optimisation procedure. In this process, the individual payment flows of the coupon bonds are first discounted at the interest rates of a tentatively specified term structure and the notional coupon bond yields to maturity which are derived from the sum of the present values of the payment flows are compared with the actual yields to maturity observed in the market. The specified term structure is varied until the deviations between the notional yields to maturity and the market yields of the coupon bonds included in the estimate are minimised. The term structure of interest rates thus derived then approximately matches the term structure in the bond market which determines the market prices of coupon bonds.

$$z(T, \beta, \tau) = \beta_0 + \beta_1 \left( \frac{1 - \exp(-T/\tau_1)}{(T/\tau_1)} \right) + \beta_2 \left( \frac{1 - \exp(-T/\tau_1)}{(T/\tau_1)} - \exp(-T/\tau_1) \right) + \beta_3 \left( \frac{1 - \exp(-T/\tau_2)}{(T/\tau_2)} - \exp(-T/\tau_2) \right)$$



The estimation of the term structure of interest rates is based on listed Federal bonds, five-year Federal notes and Federal Treasury notes as well as on listed mortgage and public Pfandbriefe. These securities are largely homogeneous. To avoid distortions at the short end of the term structure, securities with a residual maturity (time to maturity) of less than three months are not included. However, the inclusion of bonds with a residual maturity of between three months and one year ensures that the one-year interest rate can be reliably estimated.

For the purpose of the estimation, an assumption is made about the functional relation between interest rates and residual maturities. In the estimation approach used here, the interest rate is defined as the sum of a constant and various exponential terms (where the residual maturity has a negative sign in the exponent) and as a function of a total of six parameters: where  $z(T, \beta, \tau)$  denotes the interest rate for maturity  $T$  in years as a function of the parameter vectors  $(\beta_0, \beta_1, \beta_2, \beta_3)$  and  $(\tau_1, \tau_2)$  denotes the parameters to be estimated.

This parametric approach is sufficiently flexible to reflect the data constellations observed in the market. These include monotonically rising, declining, U-shaped, inverted U-shaped and S-shaped curves. Unlike non-parametric approaches, this estimation procedure smooths out individual kinks in the curve so that the estimation results are relatively little influenced by individual observations. This makes them less suited to identify, for example, abnormalities in individual maturity segments or in individual securities. However, they provide curves which are relatively free of outliers and thus are easier to interpret for monetary policy analysis.

For further details of the process of estimating term structure data see Deutsche Bundesbank, Estimating the term structure of interest rates, Monthly Report, October 1997, pages 61-66.

## ■ Securities indices

To present the general price and earnings trends of securities, price indices and performance indices of shares or debt securities have to be computed. While pure price indices only reflect the price movements of constant securities deposits, performance indices show the value movements of a portfolio, in which current earnings are reinvested.

The CDAX share price index of Deutsche Börse AG shows the average price movements of all shares of companies domiciled in Germany listed on the Frankfurt stock ex-

change in the Prime Standard and General Standard segments. When computing the index, price reductions and price distortions which arise in the case of capital changes (capital increases with subscription rights, capital adjustments, issues of bonus shares, capital reductions, admissions and retirements of public limited companies) are eliminated. By contrast, price movements in connection with the distribution of dividends are not eliminated.

The Composite DAX (CDAX) of Deutsche Börse AG is the performance index matching the CDAX share price index. It does not describe the price movements but the value movements of the securities portfolio analysed, with dividends and the proceeds of subscription rights being reinvested in the portfolio.

The German share index (DAX) of Deutsche Börse AG is also a performance index which describes the value movements of a portfolio of 30 standard shares. The index has been calculated on an original basis since the end of 1987; values dating even further back have been obtained by Deutsche Börse AG by linking up with the share price index published by the *Börsenzeitung*; from 1981, the share price index consisted of an unweighted performance index and, before that, of a price index.

Unlike the German share index (DAX), the DAX share price index tracks only the price movements of a portfolio comprising 30 blue chips. Changes in capital are treated in the same way as in the CDAX share price index. It contains no retrospective calculations for the period prior to 1987.

The German bond index (REX) is calculated by Deutsche Börse AG as the weighted average of the prices of 30 synthetic bonds with coupons of 6%, 7 1/2% and 9% and with whole-year (residual) maturities of one to ten years that are constant over time. The prices are derived from the corresponding yields of an econometrically estimated yield pattern. They are weighted jointly at constant weights which represent the significance of the individual bond categories in the German bond market, taking the average of the years from 1967 to 1991. The bonds in the REX portfolio have an average coupon of 7.44% and an average maturity of 5.49 years.

The REX performance index (REXP) of Deutsche Börse AG is the performance index matching the debt securities portfolio of the German bond index (REX). It depicts the value movement of the REX portfolio, with coupon payments being reinvested in the portfolio, while retaining the portfolio structure. It is assumed that the average coupon income, amounting to 7.44% per annum, accrues uniformly over all the days of a year and is reinvested reg-

ularly. The daily reinvested coupon income is discounted in such a way that, after taking due account of the compound interest effect running for less than one year, precisely the average annual income of 7.44% (seen over the entire year) is obtained.

The iBoxx € Germany bond price index shows the price movements of listed Federal securities. It is part of the iBoxx € bond index family, which depicts the market for fixed interest securities denominated in euro or the legacy currencies of the euro area. Unlike the German bond index (REX), the portfolio in the iBoxx € Germany bond price index is not composed of synthetic securities but of Federal

securities actually outstanding in the market. The index basket is adjusted at the start of each month. The prices included in the calculation are based on current data from a fixed group of banks.

The iBoxx € Germany performance index is the performance index matching the iBoxx € Germany bond price index. In line with the monthly adjustment of the index basket, due coupon payments are reinvested in the portfolio only at the start of each month. The accrued interest accumulating between coupon payments is, however, included in the daily index calculation.