

| LTD - Margin Collateral Haircut Schedule             |   |                         | 21-Aug-17                    |                                  |
|--|---|-------------------------|------------------------------|----------------------------------|
| Government Securities (Description & Bloomberg Code) |   | Term                    | Haircut (Conventional Bonds) | Haircut (Inflation Linked Bonds) |
| Australia  | Australian Treasury Bill (ACTB)<br>Australian Government Bond (ACGB)<br>Australian Government I/L (ACGB)  | 11 business days <= 1yr | 5.88%                        | 5.88%                            |
|  |   | > 1yr <= 3yrs           | 6.25%                        | 6.25%                            |
|  |   | > 3yrs <= 7 yrs         | 7.50%                        | 7.50%                            |
|  |   | > 7yrs <= 11yrs         | 8.00%                        | 8.00%                            |
|  |   | > 11yrs <= 30yrs        | 12.13%                       | 12.13%                           |
|  |   | > 30yrs                 | NA                           | NA                               |
| Austria  | Austrian Treasury Bill (RATB)<br>Austrian Government Bond (RAGB)  | 4 business days <= 1yr  | 5.50%                        |                                  |
|  |   | > 1yr <= 3yrs           | 6.25%                        |                                  |
|  |   | > 3yrs <= 7 yrs         | 8.00%                        |                                  |
|  |   | > 7yrs <= 11yrs         | 8.25%                        |                                  |
|  |   | > 11yrs <= 30yrs        | 11.50%                       |                                  |
|  |   | > 30yrs                 | 13.63%                       |                                  |
| Belgium  | Belgian Treasury Bill (BGTB)<br>Belgian Government Bond (BGB)   | 4 business days <= 1yr  | 6.13%                        |                                  |
|  |   | > 1yr <= 3yrs           | 7.00%                        |                                  |
|  |   | > 3yrs <= 7 yrs         | 8.75%                        |                                  |
|  |   | > 7yrs <= 11yrs         | 10.00%                       |                                  |
|  |   | > 11yrs <= 30yrs        | 13.25%                       |                                  |
|  |   | > 30yrs                 | 17.13%                       |                                  |
| Canada   | Canadian Treasury Bill (CTB)<br>Canadian Government Bond (CAN)<br>Canada Government Real Return Bond (CAN)  | 10 calendar days <= 1yr | 5.50%                        | 5.50%                            |
|  |   | > 1yr <= 3yrs           | 6.13%                        | 6.13%                            |
|  |   | > 3yrs <= 7 yrs         | 6.88%                        | 6.88%                            |
|  |   | > 7yrs <= 11yrs         | 7.50%                        | 7.75%                            |
|  |   | > 11yrs <= 30yrs        | 9.25%                        | 11.63%                           |
|  |   | > 30yrs                 | 10.50%                       | 11.63%                           |
| Denmark  | Danish Treasury Bill (DGTB)<br>Danish Government Bond (DGB)<br>Danish Government I/L (DGBI)   | 6 business days <= 1yr  | 5.63%                        | 5.63%                            |
|  |   | > 1yr <= 3yrs           | 6.25%                        | 6.25%                            |
|  |   | > 3yrs <= 7 yrs         | 7.25%                        | 7.25%                            |
|  |   | > 7yrs <= 11yrs         | 7.88%                        | 7.88%                            |
|  |   | > 11yrs <= 30yrs        | 12.00%                       | NA                               |
|  |   | > 30yrs                 | NA                           | NA                               |
| Finland  | Finnish Treasury Bill (RFTB)<br>Finnish Government Bonds (RFGB)   | 4 business days <= 1yr  | 5.50%                        |                                  |
|  |   | > 1yr <= 3yrs           | 6.25%                        |                                  |
|  |   | > 3yrs <= 7 yrs         | 7.25%                        |                                  |
|  |   | > 7yrs <= 11yrs         | 8.00%                        |                                  |
|  |   | > 11yrs <= 30yrs        | 11.50%                       |                                  |
|  |   | > 30yrs                 | NA                           |                                  |
| France   | Bons du Trésor à Taux Fixe et Intérêt Précompté (BTF)<br>Bons du Trésor à Taux Fixe et Intérêt Annuel (BTNS)<br>Bons du Trésor à Taux Fixe et Intérêt Annuel I/L (BTNS)<br>Obligations Assimilables du Trésor (FRTR)<br>Obligations Assimilables du Trésor I/L (FRTR) | 4 business days <= 1yr  | 5.75%                        | 5.75%                            |
|  |   | > 1yr <= 3yrs           | 6.25%                        | 6.25%                            |
|  |   | > 3yrs <= 7 yrs         | 7.25%                        | 8.25%                            |
|  |   | > 7yrs <= 11yrs         | 7.75%                        | 10.50%                           |
|  |   | > 11yrs <= 30yrs        | 11.75%                       | 12.25%                           |
|  |   | > 30yrs                 | 13.88%                       | NA                               |
| Germany  | German Treasury Bill (BUBILL)<br>Bundesschatzanweisungen (BKO)<br>Bundesobligationen (OBL)<br>Bundesobligationen I/L (OBLI)<br>Deutsche Bundesrepublik (DBR)<br>Deutschland I/L (DBRI)  | 3 business days <= 1yr  | 5.50%                        | 5.50%                            |
|  |   | > 1yr <= 3yrs           | 6.13%                        | 6.13%                            |
|  |   | > 3yrs <= 7 yrs         | 7.25%                        | 8.00%                            |
|  |   | > 7yrs <= 11yrs         | 8.00%                        | 8.50%                            |
|  |   | > 11yrs <= 30yrs        | 12.25%                       | 12.25%                           |
|  |   | > 30yrs                 | 12.75%                       | 12.75%                           |
| Italy  | Buoni Ordinari del Tesoro (BOTS)<br>Buoni del Tesoro Poliennali (BTPS)<br>Buoni del Tesoro Poliennali I/L (BTPS)<br>Certificati di Credito del Tesoro (CCTS)  | 3 business days <= 1yr  | 8.00%                        | 8.50%                            |
|  |   | > 1yr <= 3yrs           | 10.50%                       | 11.25%                           |
|  |   | > 3yrs <= 7 yrs         | 14.13%                       | 14.50%                           |
|  |   | > 7yrs <= 11yrs         | 15.88%                       | 20.50%                           |
|  |   | > 11yrs <= 30yrs        | 19.75%                       | 23.25%                           |
|  |   | > 30yrs                 | 21.63%                       | NA                               |
| Japan  | Japanese Treasury Bill (JGTB)<br>Japanese Treasury Discount Bill (JTDB)<br>Japanese Government Bond (JGB)   | 6 business days <= 1yr  | 6.88%                        |                                  |
|  |   | > 1yr <= 3yrs           | 7.50%                        |                                  |
|  |   | > 3yrs <= 7 yrs         | 8.38%                        |                                  |
|  |   | > 7yrs <= 11yrs         | 8.38%                        |                                  |
|  |   | > 11yrs <= 30yrs        | 11.63%                       |                                  |
|  |   | > 30yrs                 | 13.63%                       |                                  |

| Government Securities (Description & Bloomberg Code) |   | Term                    | Haircut (Conventional Bonds) | Haircut (Inflation Linked Bonds) |
|--|---|-------------------------|------------------------------|----------------------------------|
| Luxembourg   | Luxembougois Government Bonds (LGB)   | 5 business days <= 1yr  | 5.88%                        |                                  |
|  |   | > 1yr <= 3yrs           | 6.50%                        |                                  |
|  |   | > 3yrs <= 7 yrs         | 7.38%                        |                                  |
|  |   | > 7yrs <= 11yrs         | 8.13%                        |                                  |
|  |   | > 11yrs <= 30yrs        | 11.38%                       |                                  |
|  |   | > 30yrs                 | 13.63%                       |                                  |
| Netherlands  | Dutch Treasury Certificate (DTB)<br>Dutch Government Bond (NETHER)  | 10 business days <= 1yr | 5.50%                        |                                  |
|  |   | > 1yr <= 3yrs           | 6.13%                        |                                  |
|  |   | > 3yrs <= 7 yrs         | 7.25%                        |                                  |
|  |   | > 7yrs <= 11yrs         | 7.50%                        |                                  |
|  |   | > 11yrs <= 30yrs        | 11.63%                       |                                  |
|  |   | > 30yrs                 | 12.38%                       |                                  |
| Norway   | Norwegian Treasury Bill (NGTB)<br>Norwegian Government Bond (NGB)   | 9 business days <= 1yr  | 5.50%                        |                                  |
|  |   | > 1yr <= 3yrs           | 6.50%                        |                                  |
|  |   | > 3yrs <= 7 yrs         | 7.50%                        |                                  |
|  |   | > 7yrs <= 11yrs         | 8.88%                        |                                  |
|  |   | > 11yrs <= 30yrs        | NA                           |                                  |
|  |   | > 30yrs                 | NA                           |                                  |
| Spain  | Spanish Letras del Tesoro (SGLT)<br>Spanish Government Bond (SPGB)  | 3 business days <= 1yr  | 7.88%                        |                                  |
|  |   | > 1yr <= 3yrs           | 10.63%                       |                                  |
|  |   | > 3yrs <= 7 yrs         | 14.38%                       |                                  |
|  |   | > 7yrs <= 11yrs         | 16.63%                       |                                  |
|  |   | > 11yrs <= 30yrs        | 22.38%                       |                                  |
|  |   | > 30yrs                 | 23.88%                       |                                  |
| Sweden   | Swedish Treasury Bill (SWTB)<br>Swedish Government Bond (SGB)<br>Swedish Government I/L (SGBI)                            | 4 business days <= 1yr  | 5.38%                        | 6.00%                            |
|  |   | > 1yr <= 3yrs           | 6.25%                        | 6.88%                            |
|  |   | > 3yrs <= 7 yrs         | 7.50%                        | 7.50%                            |
|  |   | > 7yrs <= 11yrs         | 8.13%                        | 8.13%                            |
|  |   | > 11yrs <= 30yrs        | 11.88%                       | 11.88%                           |
|  |   | > 30yrs                 | NA                           | NA                               |
| Switzerland  | Swiss Treasury Bill (SWISTB)<br>Swiss Government Bond (SWISS)   | 3 business days <= 1yr  | 5.88%                        |                                  |
|  |   | > 1yr <= 3yrs           | 6.13%                        |                                  |
|  |   | > 3yrs <= 7 yrs         | 7.00%                        |                                  |
|  |   | > 7yrs <= 11yrs         | 7.75%                        |                                  |
|  |   | > 11yrs <= 30yrs        | 12.75%                       |                                  |
|  |   | > 30yrs                 | 14.63%                       |                                  |
| United Kingdom                                       | United Kingdom Treasury Bill (UKTB)<br>United Kingdom Gilt (UKT)<br>United Kingdom Index Linked Gilt (UKTI)               | 9 business days <= 1yr  | 5.50%                        | 5.50%                            |
|  |   | > 1yr <= 3yrs           | 6.25%                        | 6.25%                            |
|  |   | > 3yrs <= 7 yrs         | 7.50%                        | 8.50%                            |
|  |   | > 7yrs <= 11yrs         | 8.25%                        | 10.00%                           |
|  |   | > 11yrs <= 30yrs        | 10.75%                       | 13.13%                           |
|  |   | > 30yrs                 | 11.88%                       | 15.13%                           |
| United States  | United States Treasury Bill (B)<br>United States Treasury Bond (T)<br>United States Treasury Inflation Indexed Bond (TII) | 3 business days <= 1yr  | 5.50%                        | 5.50%                            |
|  |   | > 1yr <= 3yrs           | 6.63%                        | 7.63%                            |
|  |   | > 3yrs <= 7 yrs         | 8.00%                        | 8.25%                            |
|  |   | > 7yrs <= 11yrs         | 8.75%                        | 10.00%                           |
|  |   | > 11yrs <= 30yrs        | 12.50%                       | 16.00%                           |
|  |   | > 30yrs                 | NA                           | NA                               |

| Mortgage Backed Securities<br>(Description & Bloomberg Code) |  | Term Since Issue       | Haircut |
|--|--|------------------------|---------|
| US MBS   | General National Mortgage Association (GNMA) | New (0 - 30 months)    | 17.25%  |
|  |  | Medium (30- 60 months) | 19.75%  |
|  |  | Seasoned (> 60 months) | NA      |

| Government Agencies<br>(Description & Bloomberg Code) |  | Term                   | Haircut |
|---|--|------------------------|---------|
| EUR Agencies  | Kreditanstalt für Wiederaufbau (KFW)<br>FMS Wertmanagement (FMSWER)  | 3 business days <= 1yr | 5.88%   |
|   |  | > 1yr <= 3yrs          | 6.13%   |
|   |  | > 3yrs <= 7 yrs        | 7.00%   |
|   |  | > 7yrs <= 11yrs        | 7.88%   |
|   |  | > 11yrs <= 30yrs       | 14.63%  |
|   |  | >30yrs                 | NA      |
| US Agencies   | Federal National Mortgage Association (FNMA)<br>Federal Home Loan Mortgage Corporation (FHLMC)<br>Federal Home Loan Banks (FHLB) | 3 business days <= 1yr | 6.00%   |
|   |  | > 1yr <= 3yrs          | 6.75%   |
|   |  | > 3yrs <= 7 yrs        | 8.38%   |
|   |  | > 7yrs <= 11yrs        | 9.25%   |
|   |  | > 11yrs <= 30yrs       | 12.50%  |
|   |  | >30yrs                 | NA      |

| Other Stipulations     |  |  |      |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
|------------------------|--|--|------|--------------------|--|--|-----|-----|-----|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|
| Haircuts               | FX (Cash & Non-Cash)   | <p>A 5.25% incremental FX haircut has been applied to all non-cash securities in the schedule above, regardless of the currency of the asset.<br/>Using the grid below, LCH will apply a further incremental FX haircut in any instances where (i) there is a mismatch between the main currency of risk on the cleared positions and currency of collateral (cash and non-cash) and (ii) the implied FX haircut using the grid is greater than the 5.25% already applied to the non-cash securities.</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="3">Liability Currency</th> </tr> <tr> <th>USD</th> <th>EUR</th> <th>GBP</th> </tr> </thead> <tbody> <tr> <td>USD</td> <td>0.0%</td> <td>4.0%</td> <td>4.8%</td> </tr> <tr> <td>EUR</td> <td>4.1%</td> <td>0.0%</td> <td>3.7%</td> </tr> <tr> <td>GBP</td> <td>5.0%</td> <td>3.8%</td> <td>0.0%</td> </tr> <tr> <td>AUD</td> <td>6.5%</td> <td>5.5%</td> <td>5.5%</td> </tr> <tr> <td>CHF</td> <td>5.2%</td> <td>4.2%</td> <td>5.9%</td> </tr> <tr> <td>JPY</td> <td>4.4%</td> <td>5.9%</td> <td>8.0%</td> </tr> <tr> <td>SEK</td> <td>5.0%</td> <td>3.3%</td> <td>5.4%</td> </tr> <tr> <td>DKK</td> <td>4.1%</td> <td>0.1%</td> <td>3.7%</td> </tr> <tr> <td>NOK</td> <td>5.0%</td> <td>3.9%</td> <td>4.6%</td> </tr> <tr> <td>CAD</td> <td>4.1%</td> <td>4.3%</td> <td>4.2%</td> </tr> </tbody> </table> |      | Liability Currency |  |  | USD | EUR | GBP | USD | 0.0% | 4.0% | 4.8% | EUR | 4.1% | 0.0% | 3.7% | GBP | 5.0% | 3.8% | 0.0% | AUD | 6.5% | 5.5% | 5.5% | CHF | 5.2% | 4.2% | 5.9% | JPY | 4.4% | 5.9% | 8.0% | SEK | 5.0% | 3.3% | 5.4% | DKK | 4.1% | 0.1% | 3.7% | NOK | 5.0% | 3.9% | 4.6% | CAD | 4.1% | 4.3% | 4.2% |
|                        |  | Liability Currency   |      |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| USD                    |  | EUR  | GBP  |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| USD                    | 0.0%   | 4.0%   | 4.8% |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| EUR                    | 4.1%   | 0.0%   | 3.7% |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| GBP                    | 5.0%   | 3.8%   | 0.0% |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| AUD                    | 6.5%   | 5.5%   | 5.5% |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| CHF                    | 5.2%   | 4.2%   | 5.9% |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| JPY                    | 4.4%   | 5.9%   | 8.0% |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| SEK                    | 5.0%   | 3.3%   | 5.4% |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| DKK                    | 4.1%   | 0.1%   | 3.7% |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| NOK                    | 5.0%   | 3.9%   | 4.6% |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| CAD                    | 4.1%   | 4.3%   | 4.2% |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| Additional             | Certain collateral can at times be subject to additional haircuts above those stated. Members lodging this collateral will be contacted directly as appropriate, and further detail can be obtained by contacting LCH.   |  |      |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| Market of Issue        | <p>Government securities must be issued in the home country of the issuer and be denominated in the domestic currency to be acceptable.</p> <p>Government agencies and securities issued under Government Credit Guarantee Schemes must both be issued in the home country of the issuer and be denominated in the domestic currency to be acceptable. These instrument categories are maintained using ISIN lists.</p>  |  |      |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| Maximum Term Maturity  | <p>Haircuts have been set appropriately to reflect the current maximum term maturity for each issuer. Any new issuances of maturity greater than the existing will need to be assessed before being accepted as margin collateral.</p> <p>Conventional Bonds maximum eligible term:<br/>Australia: 30 yrs<br/>Denmark: 30 yrs<br/>Finland: 30 yrs<br/>Germany: 32 yrs<br/>Norway: 11 yrs<br/>Sweden: 30 yrs<br/>United States: 30 yrs</p> <p>Inflation Linked Bonds maximum eligible term:<br/>Australia ILB: 25 yrs<br/>Denmark ILB: 11 yrs<br/>France ILB: 30 yrs<br/>Italy ILB: 30 yrs<br/>Sweden ILB: 30 yrs<br/>United States ILB: 30 yrs</p> |  |      |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| Excluded Instruments   | Zero coupon bonds, stripped bonds and perpetual bonds.<br>Japanese Govt FRNs and Japanese Govt ILBs  |  |      |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| Concentration Controls | In addition to the concentration limits in place upon particular asset types as noted above, LCH.Clearnet reserves the right to manage specific concentrations in margin collateral in all circumstances. Where positions are considered to be excessively concentrated, members will be contacted directly with a view to re-alignment of their portfolio.  |  |      |                    |  |  |     |     |     |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |

**Swiss Bonds**

Swiss Bonds can currently only be accepted via the tri-party service offered at EuroClear and Clearstream.