

**TREASURY INFLATION-PROTECTED SECURITIES (TIPS)**  
**Ref CPI and Index Ratios for**  
**July 2018**

| Security:                 |           |             | 3-5/8% 30-Year TIPS       | 3-7/8% 30-Year TIPS                  | 3-3/8% 30-1/2-Year TIPS | 2-3/8% 20-1/2-Year TIPS           |
|---------------------------|-----------|-------------|---------------------------|--------------------------------------|-------------------------|-----------------------------------|
| Description:              |           |             | TIPS of April 2028        | TIPS of April 2029                   | TIPS of April 2032      | TIPS of January 2025              |
| CUSIP Number:             |           |             | 912810FD5                 | 912810FH6                            | 912810FQ6               | 912810FR4                         |
| Dated Date:               |           |             | April 15, 1998            | April 15, 1999                       | October 15, 2001        | July 15, 2004                     |
| Original Issue Date:      |           |             | April 15, 1998            | April 15, 1999                       | October 15, 2001        | July 30, 2004                     |
| Additional Issue Date(s): |           |             | July 15, 1998             | October 15, 1999<br>October 16, 2000 |                         | January 31, 2005<br>July 29, 2005 |
| Maturity Date:            |           |             | April 15, 2028            | April 15, 2029                       | April 15, 2032          | January 15, 2025                  |
| Ref CPI on Dated Date:    |           |             | 161.74000                 | 164.39333                            | 177.50000               | 188.49677                         |
| Date                      | Ref CPI   | Index Ratio | Index Ratio               | Index Ratio                          | Index Ratio             |                                   |
| July 1 2018               | 250.54600 | 1.54907     | 1.52406                   | 1.41153                              | 1.32918                 |                                   |
| July 2 2018               | 250.57961 | 1.54927     | 1.52427                   | 1.41172                              | 1.32936                 |                                   |
| July 3 2018               | 250.61323 | 1.54948     | 1.52447                   | 1.41191                              | 1.32954                 |                                   |
| July 4 2018               | 250.64684 | 1.54969     | 1.52468                   | 1.41209                              | 1.32971                 |                                   |
| July 5 2018               | 250.68045 | 1.54990     | 1.52488                   | 1.41228                              | 1.32989                 |                                   |
| July 6 2018               | 250.71406 | 1.55011     | 1.52509                   | 1.41247                              | 1.33007                 |                                   |
| July 7 2018               | 250.74768 | 1.55031     | 1.52529                   | 1.41266                              | 1.33025                 |                                   |
| July 8 2018               | 250.78129 | 1.55052     | 1.52550                   | 1.41285                              | 1.33043                 |                                   |
| July 9 2018               | 250.81490 | 1.55073     | 1.52570                   | 1.41304                              | 1.33061                 |                                   |
| July 10 2018              | 250.84852 | 1.55094     | 1.52590                   | 1.41323                              | 1.33078                 |                                   |
| July 11 2018              | 250.88213 | 1.55114     | 1.52611                   | 1.41342                              | 1.33096                 |                                   |
| July 12 2018              | 250.91574 | 1.55135     | 1.52631                   | 1.41361                              | 1.33114                 |                                   |
| July 13 2018              | 250.94935 | 1.55156     | 1.52652                   | 1.41380                              | 1.33132                 |                                   |
| July 14 2018              | 250.98297 | 1.55177     | 1.52672                   | 1.41399                              | 1.33150                 |                                   |
| July 15 2018              | 251.01658 | 1.55198     | 1.52693                   | 1.41418                              | 1.33168                 |                                   |
| July 16 2018              | 251.05019 | 1.55218     | 1.52713                   | 1.41437                              | 1.33185                 |                                   |
| July 17 2018              | 251.08381 | 1.55239     | 1.52734                   | 1.41456                              | 1.33203                 |                                   |
| July 18 2018              | 251.11742 | 1.55260     | 1.52754                   | 1.41475                              | 1.33221                 |                                   |
| July 19 2018              | 251.15103 | 1.55281     | 1.52774                   | 1.41494                              | 1.33239                 |                                   |
| July 20 2018              | 251.18465 | 1.55302     | 1.52795                   | 1.41512                              | 1.33257                 |                                   |
| July 21 2018              | 251.21826 | 1.55322     | 1.52815                   | 1.41531                              | 1.33275                 |                                   |
| July 22 2018              | 251.25187 | 1.55343     | 1.52836                   | 1.41550                              | 1.33292                 |                                   |
| July 23 2018              | 251.28548 | 1.55364     | 1.52856                   | 1.41569                              | 1.33310                 |                                   |
| July 24 2018              | 251.31910 | 1.55385     | 1.52877                   | 1.41588                              | 1.33328                 |                                   |
| July 25 2018              | 251.35271 | 1.55405     | 1.52897                   | 1.41607                              | 1.33346                 |                                   |
| July 26 2018              | 251.38632 | 1.55426     | 1.52918                   | 1.41626                              | 1.33364                 |                                   |
| July 27 2018              | 251.41994 | 1.55447     | 1.52938                   | 1.41645                              | 1.33382                 |                                   |
| July 28 2018              | 251.45355 | 1.55468     | 1.52958                   | 1.41664                              | 1.33399                 |                                   |
| July 29 2018              | 251.48716 | 1.55489     | 1.52979                   | 1.41683                              | 1.33417                 |                                   |
| July 30 2018              | 251.52077 | 1.55509     | 1.52999                   | 1.41702                              | 1.33435                 |                                   |
| July 31 2018              | 251.55439 | 1.55530     | 1.53020                   | 1.41721                              | 1.33453                 |                                   |
| <b>CPI-U (NSA) for:</b>   |           |             | <b>March 2018 249.554</b> | <b>April 2018 250.546</b>            | <b>May 2018 251.588</b> |                                   |

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**Ref CPI and Index Ratios for**  
**July 2018**

| Security:<br>Description:<br>CUSIP Number:<br>Dated Date:<br>Original Issue Date:<br>Additional Issue Date(s): |                   |                | 2% 20-Year TIPS<br>TIPS of January 2026<br>912810FS2<br>January 15, 2006<br>January 31, 2006<br>January 31, 2006 | 2-3/8% 20-Year TIPS<br>TIPS of January 2027<br>912810PS1<br>January 15, 2007<br>January 31, 2007<br>July 31, 2007 | 1-3/4% 20-Year TIPS<br>TIPS of January 2028<br>912810PV4<br>January 15, 2008<br>January 31, 2008<br>July 31, 2008 | 1-3/8% 10-Year TIPS<br>Series D-2018<br>912828JE1<br>July 15, 2008<br>July 15, 2008<br>October 15, 2008 |
|--|-------------------|----------------|--|---|---|---|
| Maturity Date:<br>Ref CPI on Dated Date:   |                   |                | January 15, 2026<br>198.47742  | January 15, 2027<br>201.66452   | January 15, 2028<br>209.49645   | July 15, 2018<br>215.63997  |
| Date   | Ref CPI           | Index Ratio    | Index Ratio  | Index Ratio   | Index Ratio   |   |
| July 1 2018  | 250.54600         | 1.26234        | 1.24239  | 1.19594   | 1.16187   |   |
| July 2 2018  | 250.57961         | 1.26251        | 1.24256  | 1.19610   | 1.16203   |   |
| July 3 2018  | 250.61323         | 1.26268        | 1.24272  | 1.19626   | 1.16218   |   |
| July 4 2018  | 250.64684         | 1.26285        | 1.24289  | 1.19643   | 1.16234   |   |
| July 5 2018  | 250.68045         | 1.26302        | 1.24306  | 1.19659   | 1.16250   |   |
| July 6 2018  | 250.71406         | 1.26319        | 1.24322  | 1.19675   | 1.16265   |   |
| July 7 2018  | 250.74768         | 1.26336        | 1.24339  | 1.19691   | 1.16281   |   |
| July 8 2018  | 250.78129         | 1.26353        | 1.24356  | 1.19707   | 1.16296   |   |
| July 9 2018  | 250.81490         | 1.26369        | 1.24372  | 1.19723   | 1.16312   |   |
| July 10 2018   | 250.84852         | 1.26386        | 1.24389  | 1.19739   | 1.16327   |   |
| July 11 2018   | 250.88213         | 1.26403        | 1.24406  | 1.19755   | 1.16343   |   |
| July 12 2018   | 250.91574         | 1.26420        | 1.24422  | 1.19771   | 1.16359   |   |
| July 13 2018   | 250.94935         | 1.26437        | 1.24439  | 1.19787   | 1.16374   |   |
| July 14 2018   | 250.98297         | 1.26454        | 1.24456  | 1.19803   | 1.16390   |   |
| July 15 2018   | 251.01658         | 1.26471        | 1.24472  | 1.19819   | 1.16405   |   |
| July 16 2018   | 251.05019         | 1.26488        | 1.24489  | 1.19835   |   |   |
| July 17 2018   | 251.08381         | 1.26505        | 1.24506  | 1.19851   |   |   |
| July 18 2018   | 251.11742         | 1.26522        | 1.24522  | 1.19867   |   |   |
| July 19 2018   | 251.15103         | 1.26539        | 1.24539  | 1.19883   |   |   |
| July 20 2018   | 251.18465         | 1.26556        | 1.24556  | 1.19899   |   |   |
| July 21 2018   | 251.21826         | 1.26573        | 1.24572  | 1.19915   |   |   |
| July 22 2018   | 251.25187         | 1.26590        | 1.24589  | 1.19931   |   |   |
| July 23 2018   | 251.28548         | 1.26607        | 1.24606  | 1.19947   |   |   |
| July 24 2018   | 251.31910         | 1.26624        | 1.24622  | 1.19963   |   |   |
| July 25 2018   | 251.35271         | 1.26640        | 1.24639  | 1.19979   |   |   |
| July 26 2018   | 251.38632         | 1.26657        | 1.24656  | 1.19996   |   |   |
| July 27 2018   | 251.41994         | 1.26674        | 1.24672  | 1.20012   |   |   |
| July 28 2018   | 251.45355         | 1.26691        | 1.24689  | 1.20028   |   |   |
| July 29 2018   | 251.48716         | 1.26708        | 1.24706  | 1.20044   |   |   |
| July 30 2018   | 251.52077         | 1.26725        | 1.24722  | 1.20060   |   |   |
| July 31 2018   | 251.55439         | 1.26742        | 1.24739  | 1.20076   |   |   |
| <b>CPI-U (NSA) for:</b>  | <b>March 2018</b> | <b>249.554</b> | <b>April 2018</b>  | <b>250.546</b>  | <b>May 2018</b>   | <b>251.588</b>  |

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**Ref CPI and Index Ratios for**  
**July 2018**

| Security:<br>Description:<br>CUSIP Number:<br>Dated Date:<br>Original Issue Date:<br>Additional Issue Date(s): |                   |                | 2-1/8% 10-Year TIPS<br>Series A-2019<br>912828JX9<br>January 15, 2009<br>January 15, 2009<br>April 15, 2009 | 2-1/2% 20-Year TIPS<br>TIPS of January 2029<br>912810PZ5<br>January 15, 2009<br>January 30, 2009<br>July 31, 2009 | 1-7/8% 10-Year TIPS<br>Series D-2019<br>912828LA6<br>July 15, 2009<br>July 15, 2009<br>October 15, 2009 | 1-3/8% 10-Year TIPS<br>Series A-2020<br>912828MF4<br>January 15, 2010<br>January 15, 2010<br>April 15, 2010 |
|--|-------------------|----------------|---|---|---|---|
| Maturity Date:<br>Ref CPI on Dated Date:   |                   |                | January 15, 2019<br>214.69971   | January 15, 2029<br>214.69971   | July 15, 2019<br>213.51819  | January 15, 2020<br>216.24610   |
| Date   | Ref CPI           | Index Ratio    | Index Ratio   | Index Ratio   | Index Ratio   |   |
| July 1 2018  | 250.54600         | 1.16696        | 1.16696   | 1.17342   | 1.15862   |   |
| July 2 2018  | 250.57961         | 1.16712        | 1.16712   | 1.17358   | 1.15877   |   |
| July 3 2018  | 250.61323         | 1.16727        | 1.16727   | 1.17373   | 1.15893   |   |
| July 4 2018  | 250.64684         | 1.16743        | 1.16743   | 1.17389   | 1.15908   |   |
| July 5 2018  | 250.68045         | 1.16759        | 1.16759   | 1.17405   | 1.15924   |   |
| July 6 2018  | 250.71406         | 1.16774        | 1.16774   | 1.17420   | 1.15939   |   |
| July 7 2018  | 250.74768         | 1.16790        | 1.16790   | 1.17436   | 1.15955   |   |
| July 8 2018  | 250.78129         | 1.16806        | 1.16806   | 1.17452   | 1.15970   |   |
| July 9 2018  | 250.81490         | 1.16821        | 1.16821   | 1.17468   | 1.15986   |   |
| July 10 2018   | 250.84852         | 1.16837        | 1.16837   | 1.17483   | 1.16001   |   |
| July 11 2018   | 250.88213         | 1.16853        | 1.16853   | 1.17499   | 1.16017   |   |
| July 12 2018   | 250.91574         | 1.16868        | 1.16868   | 1.17515   | 1.16032   |   |
| July 13 2018   | 250.94935         | 1.16884        | 1.16884   | 1.17531   | 1.16048   |   |
| July 14 2018   | 250.98297         | 1.16900        | 1.16900   | 1.17546   | 1.16064   |   |
| July 15 2018   | 251.01658         | 1.16915        | 1.16915   | 1.17562   | 1.16079   |   |
| July 16 2018   | 251.05019         | 1.16931        | 1.16931   | 1.17578   | 1.16095   |   |
| July 17 2018   | 251.08381         | 1.16947        | 1.16947   | 1.17594   | 1.16110   |   |
| July 18 2018   | 251.11742         | 1.16962        | 1.16962   | 1.17609   | 1.16126   |   |
| July 19 2018   | 251.15103         | 1.16978        | 1.16978   | 1.17625   | 1.16141   |   |
| July 20 2018   | 251.18465         | 1.16993        | 1.16993   | 1.17641   | 1.16157   |   |
| July 21 2018   | 251.21826         | 1.17009        | 1.17009   | 1.17657   | 1.16172   |   |
| July 22 2018   | 251.25187         | 1.17025        | 1.17025   | 1.17672   | 1.16188   |   |
| July 23 2018   | 251.28548         | 1.17040        | 1.17040   | 1.17688   | 1.16203   |   |
| July 24 2018   | 251.31910         | 1.17056        | 1.17056   | 1.17704   | 1.16219   |   |
| July 25 2018   | 251.35271         | 1.17072        | 1.17072   | 1.17720   | 1.16235   |   |
| July 26 2018   | 251.38632         | 1.17087        | 1.17087   | 1.17735   | 1.16250   |   |
| July 27 2018   | 251.41994         | 1.17103        | 1.17103   | 1.17751   | 1.16266   |   |
| July 28 2018   | 251.45355         | 1.17119        | 1.17119   | 1.17767   | 1.16281   |   |
| July 29 2018   | 251.48716         | 1.17134        | 1.17134   | 1.17783   | 1.16297   |   |
| July 30 2018   | 251.52077         | 1.17150        | 1.17150   | 1.17798   | 1.16312   |   |
| July 31 2018   | 251.55439         | 1.17166        | 1.17166   | 1.17814   | 1.16328   |   |
| <b>CPI-U (NSA) for:</b>  | <b>March 2018</b> | <b>249.554</b> | <b>April 2018</b>   | <b>250.546</b>  | <b>May 2018</b>   | <b>251.588</b>  |

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**Ref CPI and Index Ratios for**  
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| Security:<br>Description:<br>CUSIP Number:<br>Dated Date:<br>Original Issue Date:<br>Additional Issue Date(s): |                   |                | 2-1/8% 30-Year TIPS<br>TIPS of February 2040<br>912810QF8<br>February 15, 2010<br>February 26, 2010<br>August 31, 2010 | 1-1/4% 10-Year TIPS<br>Series D-2020<br>912828NM8<br>July 15, 2010<br>July 15, 2010<br>September 15, 2010<br>November 15, 2010 | 1-1/8% 10-Year TIPS<br>Series A-2021<br>912828PP9<br>January 15, 2011<br>January 31, 2011<br>March 31, 2011<br>May 31, 2011 | 2-1/8% 30-Year TIPS<br>TIPS of February 2041<br>912810QP6<br>February 15, 2011<br>February 28, 2011<br>June 30, 2011<br>October 31, 2011 |
|--|-------------------|----------------|--|--|---|--|
| Maturity Date:<br>Ref CPI on Dated Date:   |                   |                | February 15, 2040<br>216.13950   | July 15, 2020<br>218.08532   | January 15, 2021<br>218.75255   | February 15, 2041<br>218.99100   |
| Date   | Ref CPI           | Index Ratio    | Index Ratio  | Index Ratio  | Index Ratio   |  |
| July 1 2018  | 250.54600         | 1.15919        | 1.14884  | 1.14534  | 1.14409   |  |
| July 2 2018  | 250.57961         | 1.15934        | 1.14900  | 1.14549  | 1.14425   |  |
| July 3 2018  | 250.61323         | 1.15950        | 1.14915  | 1.14565  | 1.14440   |  |
| July 4 2018  | 250.64684         | 1.15965        | 1.14931  | 1.14580  | 1.14455   |  |
| July 5 2018  | 250.68045         | 1.15981        | 1.14946  | 1.14595  | 1.14471   |  |
| July 6 2018  | 250.71406         | 1.15996        | 1.14961  | 1.14611  | 1.14486   |  |
| July 7 2018  | 250.74768         | 1.16012        | 1.14977  | 1.14626  | 1.14501   |  |
| July 8 2018  | 250.78129         | 1.16028        | 1.14992  | 1.14642  | 1.14517   |  |
| July 9 2018  | 250.81490         | 1.16043        | 1.15008  | 1.14657  | 1.14532   |  |
| July 10 2018   | 250.84852         | 1.16059        | 1.15023  | 1.14672  | 1.14547   |  |
| July 11 2018   | 250.88213         | 1.16074        | 1.15039  | 1.14688  | 1.14563   |  |
| July 12 2018   | 250.91574         | 1.16090        | 1.15054  | 1.14703  | 1.14578   |  |
| July 13 2018   | 250.94935         | 1.16105        | 1.15069  | 1.14718  | 1.14593   |  |
| July 14 2018   | 250.98297         | 1.16121        | 1.15085  | 1.14734  | 1.14609   |  |
| July 15 2018   | 251.01658         | 1.16136        | 1.15100  | 1.14749  | 1.14624   |  |
| July 16 2018   | 251.05019         | 1.16152        | 1.15116  | 1.14764  | 1.14640   |  |
| July 17 2018   | 251.08381         | 1.16167        | 1.15131  | 1.14780  | 1.14655   |  |
| July 18 2018   | 251.11742         | 1.16183        | 1.15146  | 1.14795  | 1.14670   |  |
| July 19 2018   | 251.15103         | 1.16199        | 1.15162  | 1.14811  | 1.14686   |  |
| July 20 2018   | 251.18465         | 1.16214        | 1.15177  | 1.14826  | 1.14701   |  |
| July 21 2018   | 251.21826         | 1.16230        | 1.15193  | 1.14841  | 1.14716   |  |
| July 22 2018   | 251.25187         | 1.16245        | 1.15208  | 1.14857  | 1.14732   |  |
| July 23 2018   | 251.28548         | 1.16261        | 1.15223  | 1.14872  | 1.14747   |  |
| July 24 2018   | 251.31910         | 1.16276        | 1.15239  | 1.14887  | 1.14762   |  |
| July 25 2018   | 251.35271         | 1.16292        | 1.15254  | 1.14903  | 1.14778   |  |
| July 26 2018   | 251.38632         | 1.16307        | 1.15270  | 1.14918  | 1.14793   |  |
| July 27 2018   | 251.41994         | 1.16323        | 1.15285  | 1.14933  | 1.14808   |  |
| July 28 2018   | 251.45355         | 1.16339        | 1.15301  | 1.14949  | 1.14824   |  |
| July 29 2018   | 251.48716         | 1.16354        | 1.15316  | 1.14964  | 1.14839   |  |
| July 30 2018   | 251.52077         | 1.16370        | 1.15331  | 1.14980  | 1.14854   |  |
| July 31 2018   | 251.55439         | 1.16385        | 1.15347  | 1.14995  | 1.14870   |  |
| <b>CPI-U (NSA) for:</b>  | <b>March 2018</b> | <b>249.554</b> | <b>April 2018</b>  | <b>250.546</b>   | <b>May 2018</b>   | <b>251.588</b>   |

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**Ref CPI and Index Ratios for**  
**July 2018**

| Security:<br>Description:<br>CUSIP Number:<br>Dated Date:<br>Original Issue Date:<br>Additional Issue Date(s): |                   |                | 0-5/8% 10-Year TIPS<br>Series D-2021<br>912828QV5<br>July 15, 2011<br>July 29, 2011<br>September 30, 2011<br>November 30, 2011 | 0-1/8% 10-Year TIPS<br>Series A-2022<br>912828SA9<br>January 15, 2012<br>January 31, 2012<br>March 30, 2012<br>May 31, 2012 | 0-3/4% 30-Year TIPS<br>TIPS of February 2042<br>912810QV3<br>February 15, 2012<br>February 29, 2012<br>June 29, 2012<br>October 31, 2012 | 0-1/8% 10-Year TIPS<br>Series D-2022<br>912828TE0<br>July 15, 2012<br>July 31, 2012<br>September 28, 2012<br>November 30, 2012 |
|--|-------------------|----------------|--|---|--|--|
| Maturity Date:<br>Ref CPI on Dated Date:   |                   |                | July 15, 2021<br>225.38381   | January 15, 2022<br>226.33474   | February 15, 2042<br>225.96062   | July 15, 2022<br>229.96306   |
| Date   | Ref CPI           | Index Ratio    | Index Ratio  | Index Ratio   | Index Ratio  |  |
| July 1 2018  | 250.54600         | 1.11164        | 1.10697  | 1.10880   | 1.08951  |  |
| July 2 2018  | 250.57961         | 1.11179        | 1.10712  | 1.10895   | 1.08965  |  |
| July 3 2018  | 250.61323         | 1.11194        | 1.10727  | 1.10910   | 1.08980  |  |
| July 4 2018  | 250.64684         | 1.11209        | 1.10742  | 1.10925   | 1.08994  |  |
| July 5 2018  | 250.68045         | 1.11224        | 1.10757  | 1.10940   | 1.09009  |  |
| July 6 2018  | 250.71406         | 1.11239        | 1.10771  | 1.10955   | 1.09024  |  |
| July 7 2018  | 250.74768         | 1.11254        | 1.10786  | 1.10970   | 1.09038  |  |
| July 8 2018  | 250.78129         | 1.11269        | 1.10801  | 1.10985   | 1.09053  |  |
| July 9 2018  | 250.81490         | 1.11283        | 1.10816  | 1.10999   | 1.09067  |  |
| July 10 2018   | 250.84852         | 1.11298        | 1.10831  | 1.11014   | 1.09082  |  |
| July 11 2018   | 250.88213         | 1.11313        | 1.10846  | 1.11029   | 1.09097  |  |
| July 12 2018   | 250.91574         | 1.11328        | 1.10860  | 1.11044   | 1.09111  |  |
| July 13 2018   | 250.94935         | 1.11343        | 1.10875  | 1.11059   | 1.09126  |  |
| July 14 2018   | 250.98297         | 1.11358        | 1.10890  | 1.11074   | 1.09141  |  |
| July 15 2018   | 251.01658         | 1.11373        | 1.10905  | 1.11089   | 1.09155  |  |
| July 16 2018   | 251.05019         | 1.11388        | 1.10920  | 1.11104   | 1.09170  |  |
| July 17 2018   | 251.08381         | 1.11403        | 1.10935  | 1.11118   | 1.09184  |  |
| July 18 2018   | 251.11742         | 1.11418        | 1.10950  | 1.11133   | 1.09199  |  |
| July 19 2018   | 251.15103         | 1.11433        | 1.10964  | 1.11148   | 1.09214  |  |
| July 20 2018   | 251.18465         | 1.11448        | 1.10979  | 1.11163   | 1.09228  |  |
| July 21 2018   | 251.21826         | 1.11462        | 1.10994  | 1.11178   | 1.09243  |  |
| July 22 2018   | 251.25187         | 1.11477        | 1.11009  | 1.11193   | 1.09257  |  |
| July 23 2018   | 251.28548         | 1.11492        | 1.11024  | 1.11208   | 1.09272  |  |
| July 24 2018   | 251.31910         | 1.11507        | 1.11039  | 1.11223   | 1.09287  |  |
| July 25 2018   | 251.35271         | 1.11522        | 1.11054  | 1.11237   | 1.09301  |  |
| July 26 2018   | 251.38632         | 1.11537        | 1.11068  | 1.11252   | 1.09316  |  |
| July 27 2018   | 251.41994         | 1.11552        | 1.11083  | 1.11267   | 1.09331  |  |
| July 28 2018   | 251.45355         | 1.11567        | 1.11098  | 1.11282   | 1.09345  |  |
| July 29 2018   | 251.48716         | 1.11582        | 1.11113  | 1.11297   | 1.09360  |  |
| July 30 2018   | 251.52077         | 1.11597        | 1.11128  | 1.11312   | 1.09374  |  |
| July 31 2018   | 251.55439         | 1.11612        | 1.11143  | 1.11327   | 1.09389  |  |
| <b>CPI-U (NSA) for:</b>  | <b>March 2018</b> | <b>249.554</b> | <b>April 2018</b>  | <b>250.546</b>  | <b>May 2018</b>  | <b>251.588</b>   |

**TREASURY INFLATION-PROTECTED SECURITIES (TIPS)**  
**Ref CPI and Index Ratios for**  
**July 2018**

| Date                    |    |      | Ref CPI           | Index Ratio    | Index Ratio       | Index Ratio    | Index Ratio     |                |
|-------------------------|----|------|-------------------|----------------|-------------------|----------------|-----------------|----------------|
| July                    | 1  | 2018 | 250.54600         | 1.08545        | 1.08975           | 1.07661        | 1.07378         |                |
| July                    | 2  | 2018 | 250.57961         | 1.08560        | 1.08990           | 1.07675        | 1.07393         |                |
| July                    | 3  | 2018 | 250.61323         | 1.08574        | 1.09004           | 1.07690        | 1.07407         |                |
| July                    | 4  | 2018 | 250.64684         | 1.08589        | 1.09019           | 1.07704        | 1.07421         |                |
| July                    | 5  | 2018 | 250.68045         | 1.08603        | 1.09034           | 1.07719        | 1.07436         |                |
| July                    | 6  | 2018 | 250.71406         | 1.08618        | 1.09048           | 1.07733        | 1.07450         |                |
| July                    | 7  | 2018 | 250.74768         | 1.08632        | 1.09063           | 1.07747        | 1.07465         |                |
| July                    | 8  | 2018 | 250.78129         | 1.08647        | 1.09078           | 1.07762        | 1.07479         |                |
| July                    | 9  | 2018 | 250.81490         | 1.08662        | 1.09092           | 1.07776        | 1.07493         |                |
| July                    | 10 | 2018 | 250.84852         | 1.08676        | 1.09107           | 1.07791        | 1.07508         |                |
| July                    | 11 | 2018 | 250.88213         | 1.08691        | 1.09121           | 1.07805        | 1.07522         |                |
| July                    | 12 | 2018 | 250.91574         | 1.08705        | 1.09136           | 1.07820        | 1.07537         |                |
| July                    | 13 | 2018 | 250.94935         | 1.08720        | 1.09151           | 1.07834        | 1.07551         |                |
| July                    | 14 | 2018 | 250.98297         | 1.08734        | 1.09165           | 1.07849        | 1.07565         |                |
| July                    | 15 | 2018 | 251.01658         | 1.08749        | 1.09180           | 1.07863        | 1.07580         |                |
| July                    | 16 | 2018 | 251.05019         | 1.08764        | 1.09195           | 1.07877        | 1.07594         |                |
| July                    | 17 | 2018 | 251.08381         | 1.08778        | 1.09209           | 1.07892        | 1.07609         |                |
| July                    | 18 | 2018 | 251.11742         | 1.08793        | 1.09224           | 1.07906        | 1.07623         |                |
| July                    | 19 | 2018 | 251.15103         | 1.08807        | 1.09238           | 1.07921        | 1.07637         |                |
| July                    | 20 | 2018 | 251.18465         | 1.08822        | 1.09253           | 1.07935        | 1.07652         |                |
| July                    | 21 | 2018 | 251.21826         | 1.08836        | 1.09268           | 1.07950        | 1.07666         |                |
| July                    | 22 | 2018 | 251.25187         | 1.08851        | 1.09282           | 1.07964        | 1.07681         |                |
| July                    | 23 | 2018 | 251.28548         | 1.08865        | 1.09297           | 1.07979        | 1.07695         |                |
| July                    | 24 | 2018 | 251.31910         | 1.08880        | 1.09311           | 1.07993        | 1.07709         |                |
| July                    | 25 | 2018 | 251.35271         | 1.08895        | 1.09326           | 1.08007        | 1.07724         |                |
| July                    | 26 | 2018 | 251.38632         | 1.08909        | 1.09341           | 1.08022        | 1.07738         |                |
| July                    | 27 | 2018 | 251.41994         | 1.08924        | 1.09355           | 1.08036        | 1.07753         |                |
| July                    | 28 | 2018 | 251.45355         | 1.08938        | 1.09370           | 1.08051        | 1.07767         |                |
| July                    | 29 | 2018 | 251.48716         | 1.08953        | 1.09385           | 1.08065        | 1.07781         |                |
| July                    | 30 | 2018 | 251.52077         | 1.08967        | 1.09399           | 1.08080        | 1.07796         |                |
| July                    | 31 | 2018 | 251.55439         | 1.08982        | 1.09414           | 1.08094        | 1.07810         |                |
| <b>CPI-U (NSA) for:</b> |    |      | <b>March 2018</b> | <b>249.554</b> | <b>April 2018</b> | <b>250.546</b> | <b>May 2018</b> | <b>251.588</b> |

**TREASURY INFLATION-PROTECTED SECURITIES (TIPS)**  
**Ref CPI and Index Ratios for**  
**July 2018**

| Security:<br>Description:<br>CUSIP Number:<br>Dated Date:<br>Original Issue Date:<br>Additional Issue Date(s): |                   |                | 1-3/8% 30-Year TIPS<br>TIPS of February 2044<br>912810RF7<br>February 15, 2014<br>February 28, 2014<br>June 30, 2014<br>October 31, 2014 | 0-1/8% 5-Year TIPS<br>Series X-2019<br>912828C99<br>April 15, 2014<br>April 30, 2014<br>August 29, 2014<br>December 31, 2014 | 0-1/8% 10-Year TIPS<br>Series D-2024<br>912828WU0<br>July 15, 2014<br>July 31, 2014<br>September 30, 2014<br>November 28, 2014 | 0-1/4% 10-Year TIPS<br>Series A-2025<br>912828H45<br>January 15, 2015<br>January 30, 2015<br>March 31, 2015<br>May 29, 2015 |
|--|-------------------|----------------|--|--|--|---|
| Maturity Date:<br>Ref CPI on Dated Date:   |                   |                | February 15, 2044<br>233.05900   | April 15, 2019<br>234.31967  | July 15, 2024<br>237.44594   | January 15, 2025<br>236.85403   |
| Date   | Ref CPI           | Index Ratio    | Index Ratio  | Index Ratio  | Index Ratio  |   |
| July 1 2018  | 250.54600         | 1.07503        | 1.06925  | 1.05517  | 1.05781  |   |
| July 2 2018  | 250.57961         | 1.07518        | 1.06939  | 1.05531  | 1.05795  |   |
| July 3 2018  | 250.61323         | 1.07532        | 1.06954  | 1.05545  | 1.05809  |   |
| July 4 2018  | 250.64684         | 1.07547        | 1.06968  | 1.05560  | 1.05823  |   |
| July 5 2018  | 250.68045         | 1.07561        | 1.06982  | 1.05574  | 1.05838  |   |
| July 6 2018  | 250.71406         | 1.07575        | 1.06997  | 1.05588  | 1.05852  |   |
| July 7 2018  | 250.74768         | 1.07590        | 1.07011  | 1.05602  | 1.05866  |   |
| July 8 2018  | 250.78129         | 1.07604        | 1.07025  | 1.05616  | 1.05880  |   |
| July 9 2018  | 250.81490         | 1.07619        | 1.07040  | 1.05630  | 1.05894  |   |
| July 10 2018   | 250.84852         | 1.07633        | 1.07054  | 1.05644  | 1.05908  |   |
| July 11 2018   | 250.88213         | 1.07647        | 1.07068  | 1.05659  | 1.05923  |   |
| July 12 2018   | 250.91574         | 1.07662        | 1.07083  | 1.05673  | 1.05937  |   |
| July 13 2018   | 250.94935         | 1.07676        | 1.07097  | 1.05687  | 1.05951  |   |
| July 14 2018   | 250.98297         | 1.07691        | 1.07111  | 1.05701  | 1.05965  |   |
| July 15 2018   | 251.01658         | 1.07705        | 1.07126  | 1.05715  | 1.05979  |   |
| July 16 2018   | 251.05019         | 1.07720        | 1.07140  | 1.05729  | 1.05994  |   |
| July 17 2018   | 251.08381         | 1.07734        | 1.07154  | 1.05744  | 1.06008  |   |
| July 18 2018   | 251.11742         | 1.07748        | 1.07169  | 1.05758  | 1.06022  |   |
| July 19 2018   | 251.15103         | 1.07763        | 1.07183  | 1.05772  | 1.06036  |   |
| July 20 2018   | 251.18465         | 1.07777        | 1.07197  | 1.05786  | 1.06050  |   |
| July 21 2018   | 251.21826         | 1.07792        | 1.07212  | 1.05800  | 1.06065  |   |
| July 22 2018   | 251.25187         | 1.07806        | 1.07226  | 1.05814  | 1.06079  |   |
| July 23 2018   | 251.28548         | 1.07821        | 1.07240  | 1.05829  | 1.06093  |   |
| July 24 2018   | 251.31910         | 1.07835        | 1.07255  | 1.05843  | 1.06107  |   |
| July 25 2018   | 251.35271         | 1.07849        | 1.07269  | 1.05857  | 1.06121  |   |
| July 26 2018   | 251.38632         | 1.07864        | 1.07283  | 1.05871  | 1.06136  |   |
| July 27 2018   | 251.41994         | 1.07878        | 1.07298  | 1.05885  | 1.06150  |   |
| July 28 2018   | 251.45355         | 1.07893        | 1.07312  | 1.05899  | 1.06164  |   |
| July 29 2018   | 251.48716         | 1.07907        | 1.07327  | 1.05913  | 1.06178  |   |
| July 30 2018   | 251.52077         | 1.07922        | 1.07341  | 1.05928  | 1.06192  |   |
| July 31 2018   | 251.55439         | 1.07936        | 1.07355  | 1.05942  | 1.06207  |   |
| <b>CPI-U (NSA) for:</b>  | <b>March 2018</b> | <b>249.554</b> | <b>April 2018</b>  | <b>250.546</b>   | <b>May 2018</b>  | <b>251.588</b>  |

**TREASURY INFLATION-PROTECTED SECURITIES (TIPS)**  
**Ref CPI and Index Ratios for**  
**July 2018**

| Security:<br>Description:<br>CUSIP Number:<br>Dated Date:<br>Original Issue Date:<br>Additional Issue Date(s): |                   |                | 0-3/4% 30-Year TIPS<br>TIPS of February 2045<br>912810RL4<br>February 15, 2015<br>February 27, 2015<br>June 30, 2015<br>October 30, 2015 | 0-1/8% 5-Year TIPS<br>Series X-2020<br>912828K33<br>April 15, 2015<br>April 30, 2015<br>August 31, 2015<br>December 31, 2015 | 0-3/8% 10-Year TIPS<br>Series D-2025<br>912828XL9<br>July 15, 2015<br>July 31, 2015<br>September 30, 2015<br>November 30, 2015 | 0-5/8% 10-Year TIPS<br>Series A-2026<br>912828N71<br>January 15, 2016<br>January 29, 2016<br>March 31, 2016<br>May 31, 2016 |
|--|-------------------|----------------|--|--|--|---|
| Maturity Date:<br>Ref CPI on Dated Date:   |                   |                | February 15, 2045<br>235.48150   | April 15, 2020<br>234.18067  | July 15, 2025<br>237.14365   | January 15, 2026<br>237.61129   |
| Date   | Ref CPI           | Index Ratio    | Index Ratio  | Index Ratio  | Index Ratio  |   |
| July 1 2018  | 250.54600         | 1.06397        | 1.06988  | 1.05652  | 1.05444  |   |
| July 2 2018  | 250.57961         | 1.06412        | 1.07003  | 1.05666  | 1.05458  |   |
| July 3 2018  | 250.61323         | 1.06426        | 1.07017  | 1.05680  | 1.05472  |   |
| July 4 2018  | 250.64684         | 1.06440        | 1.07031  | 1.05694  | 1.05486  |   |
| July 5 2018  | 250.68045         | 1.06454        | 1.07046  | 1.05708  | 1.05500  |   |
| July 6 2018  | 250.71406         | 1.06469        | 1.07060  | 1.05722  | 1.05514  |   |
| July 7 2018  | 250.74768         | 1.06483        | 1.07074  | 1.05737  | 1.05529  |   |
| July 8 2018  | 250.78129         | 1.06497        | 1.07089  | 1.05751  | 1.05543  |   |
| July 9 2018  | 250.81490         | 1.06512        | 1.07103  | 1.05765  | 1.05557  |   |
| July 10 2018   | 250.84852         | 1.06526        | 1.07118  | 1.05779  | 1.05571  |   |
| July 11 2018   | 250.88213         | 1.06540        | 1.07132  | 1.05793  | 1.05585  |   |
| July 12 2018   | 250.91574         | 1.06554        | 1.07146  | 1.05807  | 1.05599  |   |
| July 13 2018   | 250.94935         | 1.06569        | 1.07161  | 1.05822  | 1.05613  |   |
| July 14 2018   | 250.98297         | 1.06583        | 1.07175  | 1.05836  | 1.05628  |   |
| July 15 2018   | 251.01658         | 1.06597        | 1.07189  | 1.05850  | 1.05642  |   |
| July 16 2018   | 251.05019         | 1.06611        | 1.07204  | 1.05864  | 1.05656  |   |
| July 17 2018   | 251.08381         | 1.06626        | 1.07218  | 1.05878  | 1.05670  |   |
| July 18 2018   | 251.11742         | 1.06640        | 1.07232  | 1.05893  | 1.05684  |   |
| July 19 2018   | 251.15103         | 1.06654        | 1.07247  | 1.05907  | 1.05698  |   |
| July 20 2018   | 251.18465         | 1.06669        | 1.07261  | 1.05921  | 1.05712  |   |
| July 21 2018   | 251.21826         | 1.06683        | 1.07275  | 1.05935  | 1.05727  |   |
| July 22 2018   | 251.25187         | 1.06697        | 1.07290  | 1.05949  | 1.05741  |   |
| July 23 2018   | 251.28548         | 1.06711        | 1.07304  | 1.05963  | 1.05755  |   |
| July 24 2018   | 251.31910         | 1.06726        | 1.07318  | 1.05978  | 1.05769  |   |
| July 25 2018   | 251.35271         | 1.06740        | 1.07333  | 1.05992  | 1.05783  |   |
| July 26 2018   | 251.38632         | 1.06754        | 1.07347  | 1.06006  | 1.05797  |   |
| July 27 2018   | 251.41994         | 1.06768        | 1.07362  | 1.06020  | 1.05811  |   |
| July 28 2018   | 251.45355         | 1.06783        | 1.07376  | 1.06034  | 1.05826  |   |
| July 29 2018   | 251.48716         | 1.06797        | 1.07390  | 1.06048  | 1.05840  |   |
| July 30 2018   | 251.52077         | 1.06811        | 1.07405  | 1.06063  | 1.05854  |   |
| July 31 2018   | 251.55439         | 1.06826        | 1.07419  | 1.06077  | 1.05868  |   |
| <b>CPI-U (NSA) for:</b>  | <b>March 2018</b> | <b>249.554</b> | <b>April 2018</b>  | <b>250.546</b>   | <b>May 2018</b>  | <b>251.588</b>  |



**TREASURY INFLATION-PROTECTED SECURITIES (TIPS)**  
**Ref CPI and Index Ratios for**  
**July 2018**

| Security:<br>Description:<br>CUSIP Number:<br>Dated Date:<br>Original Issue Date:<br>Additional Issue Date(s): |                   |                | 1% 30-Year TIPS<br>TIPS of February 2046<br>912810RR1<br>February 15, 2016<br>February 29, 2016<br>June 30, 2016<br>October 31, 2016 | 0-1/8% 5-Year TIPS<br>Series X-2021<br>912828Q60<br>April 15, 2016<br>April 29, 2016<br>August 31, 2016<br>December 30, 2016 | 0-1/8% 10-Year TIPS<br>Series D-2026<br>912828S50<br>July 15, 2016<br>July 29, 2016<br>September 30, 2016<br>November 30, 2016 | 0-3/8% 10-Year TIPS<br>Series A-2027<br>912828V49<br>January 15, 2017<br>January 31, 2017<br>March 31, 2017<br>May 31, 2017 |
|--|-------------------|----------------|--|--|--|---|
| Maturity Date:<br>Ref CPI on Dated Date:   |                   |                | February 15, 2046<br>236.94448   | April 15, 2021<br>237.00700  | July 15, 2026<br>239.70132   | January 15, 2027<br>241.55919   |
| Date   | Ref CPI           | Index Ratio    | Index Ratio  | Index Ratio  | Index Ratio  |   |
| July 1 2018  | 250.54600         | 1.05740        | 1.05712  | 1.04524  | 1.03720  |   |
| July 2 2018  | 250.57961         | 1.05755        | 1.05727  | 1.04538  | 1.03734  |   |
| July 3 2018  | 250.61323         | 1.05769        | 1.05741  | 1.04552  | 1.03748  |   |
| July 4 2018  | 250.64684         | 1.05783        | 1.05755  | 1.04566  | 1.03762  |   |
| July 5 2018  | 250.68045         | 1.05797        | 1.05769  | 1.04580  | 1.03776  |   |
| July 6 2018  | 250.71406         | 1.05811        | 1.05783  | 1.04594  | 1.03790  |   |
| July 7 2018  | 250.74768         | 1.05825        | 1.05798  | 1.04608  | 1.03804  |   |
| July 8 2018  | 250.78129         | 1.05840        | 1.05812  | 1.04622  | 1.03818  |   |
| July 9 2018  | 250.81490         | 1.05854        | 1.05826  | 1.04636  | 1.03832  |   |
| July 10 2018   | 250.84852         | 1.05868        | 1.05840  | 1.04650  | 1.03846  |   |
| July 11 2018   | 250.88213         | 1.05882        | 1.05854  | 1.04664  | 1.03859  |   |
| July 12 2018   | 250.91574         | 1.05896        | 1.05868  | 1.04678  | 1.03873  |   |
| July 13 2018   | 250.94935         | 1.05911        | 1.05883  | 1.04693  | 1.03887  |   |
| July 14 2018   | 250.98297         | 1.05925        | 1.05897  | 1.04707  | 1.03901  |   |
| July 15 2018   | 251.01658         | 1.05939        | 1.05911  | 1.04721  | 1.03915  |   |
| July 16 2018   | 251.05019         | 1.05953        | 1.05925  | 1.04735  | 1.03929  |   |
| July 17 2018   | 251.08381         | 1.05967        | 1.05939  | 1.04749  | 1.03943  |   |
| July 18 2018   | 251.11742         | 1.05982        | 1.05954  | 1.04763  | 1.03957  |   |
| July 19 2018   | 251.15103         | 1.05996        | 1.05968  | 1.04777  | 1.03971  |   |
| July 20 2018   | 251.18465         | 1.06010        | 1.05982  | 1.04791  | 1.03985  |   |
| July 21 2018   | 251.21826         | 1.06024        | 1.05996  | 1.04805  | 1.03999  |   |
| July 22 2018   | 251.25187         | 1.06038        | 1.06010  | 1.04819  | 1.04013  |   |
| July 23 2018   | 251.28548         | 1.06052        | 1.06024  | 1.04833  | 1.04026  |   |
| July 24 2018   | 251.31910         | 1.06067        | 1.06039  | 1.04847  | 1.04040  |   |
| July 25 2018   | 251.35271         | 1.06081        | 1.06053  | 1.04861  | 1.04054  |   |
| July 26 2018   | 251.38632         | 1.06095        | 1.06067  | 1.04875  | 1.04068  |   |
| July 27 2018   | 251.41994         | 1.06109        | 1.06081  | 1.04889  | 1.04082  |   |
| July 28 2018   | 251.45355         | 1.06123        | 1.06095  | 1.04903  | 1.04096  |   |
| July 29 2018   | 251.48716         | 1.06138        | 1.06110  | 1.04917  | 1.04110  |   |
| July 30 2018   | 251.52077         | 1.06152        | 1.06124  | 1.04931  | 1.04124  |   |
| July 31 2018   | 251.55439         | 1.06166        | 1.06138  | 1.04945  | 1.04138  |   |
| <b>CPI-U (NSA) for:</b>  | <b>March 2018</b> | <b>249.554</b> | <b>April 2018</b>  | <b>250.546</b>   | <b>May 2018</b>  | <b>251.588</b>  |

**TREASURY INFLATION-PROTECTED SECURITIES (TIPS)**  
**Ref CPI and Index Ratios for**  
**July 2018**

| Security:<br>Description:<br>CUSIP Number:<br>Dated Date:<br>Original Issue Date:<br>Additional Issue Date(s): |                   |                | 0-7/8% 30-Year TIPS<br>TIPS of February 2047<br>912810RW0<br>February 15, 2017<br>February 28, 2017<br>June 30, 2017<br>October 31, 2017 | 0-1/8% 5-Year TIPS<br>Series X-2022<br>912828X39<br>April 15, 2017<br>April 28, 2017<br>August 31, 2017<br>December 29, 2017 | 0-3/8% 10-Year TIPS<br>Series D-2027<br>9128282L3<br>July 15, 2017<br>July 31, 2017<br>September 29, 2017<br>November 30, 2017 | 0-1/2% 10-Year TIPS<br>Series A-2028<br>9128283R9<br>January 15, 2018<br>January 31, 2018<br>March 29, 2018<br>May 31, 2018 |
|--|-------------------|----------------|--|--|--|---|
| Maturity Date:<br>Ref CPI on Dated Date:   |                   |                | February 15, 2047<br>241.39250   | April 15, 2022<br>243.19553  | July 15, 2027<br>244.61839   | January 15, 2028<br>246.66571   |
| Date   | Ref CPI           | Index Ratio    | Index Ratio  | Index Ratio  | Index Ratio  |   |
| July 1 2018  | 250.54600         | 1.03792        | 1.03022  | 1.02423  | 1.01573  |   |
| July 2 2018  | 250.57961         | 1.03806        | 1.03036  | 1.02437  | 1.01587  |   |
| July 3 2018  | 250.61323         | 1.03820        | 1.03050  | 1.02451  | 1.01600  |   |
| July 4 2018  | 250.64684         | 1.03834        | 1.03064  | 1.02464  | 1.01614  |   |
| July 5 2018  | 250.68045         | 1.03848        | 1.03078  | 1.02478  | 1.01628  |   |
| July 6 2018  | 250.71406         | 1.03862        | 1.03092  | 1.02492  | 1.01641  |   |
| July 7 2018  | 250.74768         | 1.03876        | 1.03105  | 1.02506  | 1.01655  |   |
| July 8 2018  | 250.78129         | 1.03889        | 1.03119  | 1.02519  | 1.01668  |   |
| July 9 2018  | 250.81490         | 1.03903        | 1.03133  | 1.02533  | 1.01682  |   |
| July 10 2018   | 250.84852         | 1.03917        | 1.03147  | 1.02547  | 1.01696  |   |
| July 11 2018   | 250.88213         | 1.03931        | 1.03161  | 1.02561  | 1.01709  |   |
| July 12 2018   | 250.91574         | 1.03945        | 1.03174  | 1.02574  | 1.01723  |   |
| July 13 2018   | 250.94935         | 1.03959        | 1.03188  | 1.02588  | 1.01737  |   |
| July 14 2018   | 250.98297         | 1.03973        | 1.03202  | 1.02602  | 1.01750  |   |
| July 15 2018   | 251.01658         | 1.03987        | 1.03216  | 1.02616  | 1.01764  |   |
| July 16 2018   | 251.05019         | 1.04001        | 1.03230  | 1.02629  | 1.01777  |   |
| July 17 2018   | 251.08381         | 1.04015        | 1.03244  | 1.02643  | 1.01791  |   |
| July 18 2018   | 251.11742         | 1.04029        | 1.03257  | 1.02657  | 1.01805  |   |
| July 19 2018   | 251.15103         | 1.04043        | 1.03271  | 1.02671  | 1.01818  |   |
| July 20 2018   | 251.18465         | 1.04057        | 1.03285  | 1.02684  | 1.01832  |   |
| July 21 2018   | 251.21826         | 1.04070        | 1.03299  | 1.02698  | 1.01846  |   |
| July 22 2018   | 251.25187         | 1.04084        | 1.03313  | 1.02712  | 1.01859  |   |
| July 23 2018   | 251.28548         | 1.04098        | 1.03327  | 1.02726  | 1.01873  |   |
| July 24 2018   | 251.31910         | 1.04112        | 1.03340  | 1.02739  | 1.01887  |   |
| July 25 2018   | 251.35271         | 1.04126        | 1.03354  | 1.02753  | 1.01900  |   |
| July 26 2018   | 251.38632         | 1.04140        | 1.03368  | 1.02767  | 1.01914  |   |
| July 27 2018   | 251.41994         | 1.04154        | 1.03382  | 1.02780  | 1.01927  |   |
| July 28 2018   | 251.45355         | 1.04168        | 1.03396  | 1.02794  | 1.01941  |   |
| July 29 2018   | 251.48716         | 1.04182        | 1.03409  | 1.02808  | 1.01955  |   |
| July 30 2018   | 251.52077         | 1.04196        | 1.03423  | 1.02822  | 1.01968  |   |
| July 31 2018   | 251.55439         | 1.04210        | 1.03437  | 1.02835  | 1.01982  |   |
| <b>CPI-U (NSA) for:</b>  | <b>March 2018</b> | <b>249.554</b> | <b>April 2018</b>  | <b>250.546</b>   | <b>May 2018</b>  | <b>251.588</b>  |

**TREASURY INFLATION-PROTECTED SECURITIES (TIPS)**  
**Ref CPI and Index Ratios for**  
**July 2018**

| Security:<br>Description:<br>CUSIP Number:<br>Dated Date:<br>Original Issue Date:<br>Additional Issue Date(s): |    |      | 1% 30-Year TIPS<br>TIPS of February 2048<br>912810SB5<br>February 15, 2018<br>February 28, 2018 | 0-5/8% 5-Year TIPS<br>Series X-2023<br>9128284H0<br>April 15, 2018<br>April 30, 2018 |                   |                |                 |                |
|--|----|------|---|--|-------------------|----------------|-----------------|----------------|
| Maturity Date:<br>Ref CPI on Dated Date:   |    |      | February 15, 2048<br>246.59650  | April 15, 2023<br>248.39153  |                   |                |                 |                |
| Date   |    |      | Ref CPI   | Index Ratio  | Index Ratio       |                |                 |                |
| July   | 1  | 2018 | 250.54600   | 1.01602  | 1.00867           |                |                 |                |
| July   | 2  | 2018 | 250.57961   | 1.01615  | 1.00881           |                |                 |                |
| July   | 3  | 2018 | 250.61323   | 1.01629  | 1.00894           |                |                 |                |
| July   | 4  | 2018 | 250.64684   | 1.01642  | 1.00908           |                |                 |                |
| July   | 5  | 2018 | 250.68045   | 1.01656  | 1.00921           |                |                 |                |
| July   | 6  | 2018 | 250.71406   | 1.01670  | 1.00935           |                |                 |                |
| July   | 7  | 2018 | 250.74768   | 1.01683  | 1.00949           |                |                 |                |
| July   | 8  | 2018 | 250.78129   | 1.01697  | 1.00962           |                |                 |                |
| July   | 9  | 2018 | 250.81490   | 1.01711  | 1.00976           |                |                 |                |
| July   | 10 | 2018 | 250.84852   | 1.01724  | 1.00989           |                |                 |                |
| July   | 11 | 2018 | 250.88213   | 1.01738  | 1.01003           |                |                 |                |
| July   | 12 | 2018 | 250.91574   | 1.01752  | 1.01016           |                |                 |                |
| July   | 13 | 2018 | 250.94935   | 1.01765  | 1.01030           |                |                 |                |
| July   | 14 | 2018 | 250.98297   | 1.01779  | 1.01043           |                |                 |                |
| July   | 15 | 2018 | 251.01658   | 1.01792  | 1.01057           |                |                 |                |
| July   | 16 | 2018 | 251.05019   | 1.01806  | 1.01070           |                |                 |                |
| July   | 17 | 2018 | 251.08381   | 1.01820  | 1.01084           |                |                 |                |
| July   | 18 | 2018 | 251.11742   | 1.01833  | 1.01097           |                |                 |                |
| July   | 19 | 2018 | 251.15103   | 1.01847  | 1.01111           |                |                 |                |
| July   | 20 | 2018 | 251.18465   | 1.01861  | 1.01124           |                |                 |                |
| July   | 21 | 2018 | 251.21826   | 1.01874  | 1.01138           |                |                 |                |
| July   | 22 | 2018 | 251.25187   | 1.01888  | 1.01152           |                |                 |                |
| July   | 23 | 2018 | 251.28548   | 1.01901  | 1.01165           |                |                 |                |
| July   | 24 | 2018 | 251.31910   | 1.01915  | 1.01179           |                |                 |                |
| July   | 25 | 2018 | 251.35271   | 1.01929  | 1.01192           |                |                 |                |
| July   | 26 | 2018 | 251.38632   | 1.01942  | 1.01206           |                |                 |                |
| July   | 27 | 2018 | 251.41994   | 1.01956  | 1.01219           |                |                 |                |
| July   | 28 | 2018 | 251.45355   | 1.01970  | 1.01233           |                |                 |                |
| July   | 29 | 2018 | 251.48716   | 1.01983  | 1.01246           |                |                 |                |
| July   | 30 | 2018 | 251.52077   | 1.01997  | 1.01260           |                |                 |                |
| July   | 31 | 2018 | 251.55439   | 1.02011  | 1.01273           |                |                 |                |
| <b>CPI-U (NSA) for:</b>  |    |      | <b>March 2018</b>   | <b>249.554</b>   | <b>April 2018</b> | <b>250.546</b> | <b>May 2018</b> | <b>251.588</b> |