

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

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 October 16, 2000		January 31, 2005 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	
October 1 2019	256.57100	1.58632	1.56071	1.44547	1.36114	
October 2 2019	256.57058	1.58631	1.56071	1.44547	1.36114	
October 3 2019	256.57016	1.58631	1.56071	1.44547	1.36114	
October 4 2019	256.56974	1.58631	1.56071	1.44546	1.36114	
October 5 2019	256.56932	1.58631	1.56070	1.44546	1.36113	
October 6 2019	256.56890	1.58630	1.56070	1.44546	1.36113	
October 7 2019	256.56848	1.58630	1.56070	1.44546	1.36113	
October 8 2019	256.56806	1.58630	1.56070	1.44545	1.36113	
October 9 2019	256.56765	1.58630	1.56069	1.44545	1.36112	
October 10 2019	256.56723	1.58629	1.56069	1.44545	1.36112	
October 11 2019	256.56681	1.58629	1.56069	1.44545	1.36112	
October 12 2019	256.56639	1.58629	1.56069	1.44544	1.36112	
October 13 2019	256.56597	1.58629	1.56068	1.44544	1.36112	
October 14 2019	256.56555	1.58628	1.56068	1.44544	1.36111	
October 15 2019	256.56513	1.58628	1.56068	1.44544	1.36111	
October 16 2019	256.56471	1.58628	1.56068	1.44543	1.36111	
October 17 2019	256.56429	1.58628	1.56067	1.44543	1.36111	
October 18 2019	256.56387	1.58627	1.56067	1.44543	1.36110	
October 19 2019	256.56345	1.58627	1.56067	1.44543	1.36110	
October 20 2019	256.56303	1.58627	1.56067	1.44543	1.36110	
October 21 2019	256.56261	1.58627	1.56066	1.44542	1.36110	
October 22 2019	256.56219	1.58626	1.56066	1.44542	1.36110	
October 23 2019	256.56177	1.58626	1.56066	1.44542	1.36109	
October 24 2019	256.56135	1.58626	1.56066	1.44542	1.36109	
October 25 2019	256.56094	1.58626	1.56065	1.44541	1.36109	
October 26 2019	256.56052	1.58625	1.56065	1.44541	1.36109	
October 27 2019	256.56010	1.58625	1.56065	1.44541	1.36108	
October 28 2019	256.55968	1.58625	1.56065	1.44541	1.36108	
October 29 2019	256.55926	1.58624	1.56064	1.44540	1.36108	
October 30 2019	256.55884	1.58624	1.56064	1.44540	1.36108	
October 31 2019	256.55842	1.58624	1.56064	1.44540	1.36108	
CPI-U (NSA) for:			June 2019 256.143	July 2019 256.571	August 2019 256.558	

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			2% 20-Year TIPS TIPS of January 2026 912810FS2 January 15, 2006 January 31, 2006 July 31, 2006	2-3/8% 20-Year TIPS TIPS of January 2027 912810PS1 January 15, 2007 January 31, 2007 July 31, 2007	1-3/4% 20-Year TIPS TIPS of January 2028 912810PV4 January 15, 2008 January 31, 2008 July 31, 2008	2-1/2% 20-Year TIPS TIPS of January 2029 912810PZ5 January 15, 2009 January 30, 2009 July 31, 2009
Maturity Date: Ref CPI on Dated Date:			January 15, 2026 198.47742	January 15, 2027 201.66452	January 15, 2028 209.49645	January 15, 2029 214.69971
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
October 1 2019	256.57100	1.29270	1.27227	1.22470	1.19502	
October 2 2019	256.57058	1.29269	1.27226	1.22470	1.19502	
October 3 2019	256.57016	1.29269	1.27226	1.22470	1.19502	
October 4 2019	256.56974	1.29269	1.27226	1.22470	1.19502	
October 5 2019	256.56932	1.29269	1.27226	1.22470	1.19501	
October 6 2019	256.56890	1.29269	1.27226	1.22469	1.19501	
October 7 2019	256.56848	1.29268	1.27225	1.22469	1.19501	
October 8 2019	256.56806	1.29268	1.27225	1.22469	1.19501	
October 9 2019	256.56765	1.29268	1.27225	1.22469	1.19501	
October 10 2019	256.56723	1.29268	1.27225	1.22469	1.19501	
October 11 2019	256.56681	1.29268	1.27225	1.22468	1.19500	
October 12 2019	256.56639	1.29267	1.27224	1.22468	1.19500	
October 13 2019	256.56597	1.29267	1.27224	1.22468	1.19500	
October 14 2019	256.56555	1.29267	1.27224	1.22468	1.19500	
October 15 2019	256.56513	1.29267	1.27224	1.22468	1.19500	
October 16 2019	256.56471	1.29266	1.27224	1.22467	1.19499	
October 17 2019	256.56429	1.29266	1.27223	1.22467	1.19499	
October 18 2019	256.56387	1.29266	1.27223	1.22467	1.19499	
October 19 2019	256.56345	1.29266	1.27223	1.22467	1.19499	
October 20 2019	256.56303	1.29266	1.27223	1.22467	1.19499	
October 21 2019	256.56261	1.29265	1.27222	1.22466	1.19498	
October 22 2019	256.56219	1.29265	1.27222	1.22466	1.19498	
October 23 2019	256.56177	1.29265	1.27222	1.22466	1.19498	
October 24 2019	256.56135	1.29265	1.27222	1.22466	1.19498	
October 25 2019	256.56094	1.29265	1.27222	1.22466	1.19498	
October 26 2019	256.56052	1.29264	1.27221	1.22465	1.19497	
October 27 2019	256.56010	1.29264	1.27221	1.22465	1.19497	
October 28 2019	256.55968	1.29264	1.27221	1.22465	1.19497	
October 29 2019	256.55926	1.29264	1.27221	1.22465	1.19497	
October 30 2019	256.55884	1.29263	1.27221	1.22465	1.19497	
October 31 2019	256.55842	1.29263	1.27220	1.22464	1.19496	
CPI-U (NSA) for:			June 2019 256.143	July 2019 256.571	August 2019 256.558	

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

Date			Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
October	1	2019	256.57100	1.18648	1.18706	1.17647	1.17288	
October	2	2019	256.57058	1.18647	1.18706	1.17647	1.17288	
October	3	2019	256.57016	1.18647	1.18706	1.17647	1.17288	
October	4	2019	256.56974	1.18647	1.18706	1.17646	1.17288	
October	5	2019	256.56932	1.18647	1.18705	1.17646	1.17287	
October	6	2019	256.56890	1.18647	1.18705	1.17646	1.17287	
October	7	2019	256.56848	1.18647	1.18705	1.17646	1.17287	
October	8	2019	256.56806	1.18646	1.18705	1.17646	1.17287	
October	9	2019	256.56765	1.18646	1.18705	1.17646	1.17287	
October	10	2019	256.56723	1.18646	1.18704	1.17645	1.17287	
October	11	2019	256.56681	1.18646	1.18704	1.17645	1.17286	
October	12	2019	256.56639	1.18646	1.18704	1.17645	1.17286	
October	13	2019	256.56597	1.18645	1.18704	1.17645	1.17286	
October	14	2019	256.56555	1.18645	1.18704	1.17645	1.17286	
October	15	2019	256.56513	1.18645	1.18703	1.17644	1.17286	
October	16	2019	256.56471	1.18645	1.18703	1.17644	1.17285	
October	17	2019	256.56429	1.18645	1.18703	1.17644	1.17285	
October	18	2019	256.56387	1.18644	1.18703	1.17644	1.17285	
October	19	2019	256.56345	1.18644	1.18703	1.17644	1.17285	
October	20	2019	256.56303	1.18644	1.18703	1.17643	1.17285	
October	21	2019	256.56261	1.18644	1.18702	1.17643	1.17284	
October	22	2019	256.56219	1.18644	1.18702	1.17643	1.17284	
October	23	2019	256.56177	1.18643	1.18702	1.17643	1.17284	
October	24	2019	256.56135	1.18643	1.18702	1.17643	1.17284	
October	25	2019	256.56094	1.18643	1.18702	1.17642	1.17284	
October	26	2019	256.56052	1.18643	1.18701	1.17642	1.17283	
October	27	2019	256.56010	1.18643	1.18701	1.17642	1.17283	
October	28	2019	256.55968	1.18642	1.18701	1.17642	1.17283	
October	29	2019	256.55926	1.18642	1.18701	1.17642	1.17283	
October	30	2019	256.55884	1.18642	1.18701	1.17641	1.17283	
October	31	2019	256.55842	1.18642	1.18700	1.17641	1.17282	
CPI-U (NSA) for:			June 2019	256.143	July 2019	256.571	August 2019	256.558

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			2-1/8% 30-Year TIPS TIPS of February 2041 912810QP6 February 15, 2011 February 28, 2011 June 30, 2011 October 31, 2011	0-5/8% 10-Year TIPS Series D-2021 912828QV5 July 15, 2011 July 29, 2011 September 30, 2011 November 30, 2011	0-1/8% 10-Year TIPS Series A-2022 912828SA9 January 15, 2012 January 31, 2012 March 30, 2012 May 31, 2012	0-3/4% 30-Year TIPS TIPS of February 2042 912810QV3 February 15, 2012 February 29, 2012 June 29, 2012 October 31, 2012
Maturity Date: Ref CPI on Dated Date:			February 15, 2041 218.99100	July 15, 2021 225.38381	January 15, 2022 226.33474	February 15, 2042 225.96062
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
October 1 2019	256.57100	1.17161	1.13837	1.13359	1.13547	
October 2 2019	256.57058	1.17160	1.13837	1.13359	1.13547	
October 3 2019	256.57016	1.17160	1.13837	1.13359	1.13546	
October 4 2019	256.56974	1.17160	1.13837	1.13359	1.13546	
October 5 2019	256.56932	1.17160	1.13837	1.13358	1.13546	
October 6 2019	256.56890	1.17160	1.13836	1.13358	1.13546	
October 7 2019	256.56848	1.17159	1.13836	1.13358	1.13546	
October 8 2019	256.56806	1.17159	1.13836	1.13358	1.13545	
October 9 2019	256.56765	1.17159	1.13836	1.13358	1.13545	
October 10 2019	256.56723	1.17159	1.13836	1.13357	1.13545	
October 11 2019	256.56681	1.17159	1.13836	1.13357	1.13545	
October 12 2019	256.56639	1.17158	1.13835	1.13357	1.13545	
October 13 2019	256.56597	1.17158	1.13835	1.13357	1.13545	
October 14 2019	256.56555	1.17158	1.13835	1.13357	1.13544	
October 15 2019	256.56513	1.17158	1.13835	1.13356	1.13544	
October 16 2019	256.56471	1.17158	1.13835	1.13356	1.13544	
October 17 2019	256.56429	1.17157	1.13834	1.13356	1.13544	
October 18 2019	256.56387	1.17157	1.13834	1.13356	1.13544	
October 19 2019	256.56345	1.17157	1.13834	1.13356	1.13543	
October 20 2019	256.56303	1.17157	1.13834	1.13356	1.13543	
October 21 2019	256.56261	1.17157	1.13834	1.13355	1.13543	
October 22 2019	256.56219	1.17156	1.13833	1.13355	1.13543	
October 23 2019	256.56177	1.17156	1.13833	1.13355	1.13543	
October 24 2019	256.56135	1.17156	1.13833	1.13355	1.13543	
October 25 2019	256.56094	1.17156	1.13833	1.13355	1.13542	
October 26 2019	256.56052	1.17156	1.13833	1.13354	1.13542	
October 27 2019	256.56010	1.17156	1.13833	1.13354	1.13542	
October 28 2019	256.55968	1.17155	1.13832	1.13354	1.13542	
October 29 2019	256.55926	1.17155	1.13832	1.13354	1.13542	
October 30 2019	256.55884	1.17155	1.13832	1.13354	1.13541	
October 31 2019	256.55842	1.17155	1.13832	1.13354	1.13541	
CPI-U (NSA) for:	June 2019	256.143	July 2019	256.571	August 2019	256.558

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-1/8% 10-Year TIPS Series D-2022 912828TE0 July 15, 2012 July 31, 2012 September 28, 2012 November 30, 2012	0-1/8% 10-Year TIPS Series A-2023 912828UH1 January 15, 2013 January 31, 2013 March 28, 2013 May 31, 2013	0-5/8% 30-Year TIPS TIPS of February 2043 912810RA8 February 15, 2013 February 28, 2013 June 28, 2013 October 31, 2013	0-3/8% 10-Year TIPS Series D-2023 912828VM9 July 15, 2013 July 31, 2013 September 30, 2013 November 29, 2013
Maturity Date: Ref CPI on Dated Date:			July 15, 2022 229.96306	January 15, 2023 230.82203	February 15, 2043 229.91100	July 15, 2023 232.71797
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
October 1 2019	256.57100	1.11571	1.11155	1.11596	1.10250	
October 2 2019	256.57058	1.11570	1.11155	1.11596	1.10250	
October 3 2019	256.57016	1.11570	1.11155	1.11595	1.10249	
October 4 2019	256.56974	1.11570	1.11155	1.11595	1.10249	
October 5 2019	256.56932	1.11570	1.11155	1.11595	1.10249	
October 6 2019	256.56890	1.11570	1.11154	1.11595	1.10249	
October 7 2019	256.56848	1.11569	1.11154	1.11595	1.10249	
October 8 2019	256.56806	1.11569	1.11154	1.11595	1.10248	
October 9 2019	256.56765	1.11569	1.11154	1.11594	1.10248	
October 10 2019	256.56723	1.11569	1.11154	1.11594	1.10248	
October 11 2019	256.56681	1.11569	1.11154	1.11594	1.10248	
October 12 2019	256.56639	1.11569	1.11153	1.11594	1.10248	
October 13 2019	256.56597	1.11568	1.11153	1.11594	1.10248	
October 14 2019	256.56555	1.11568	1.11153	1.11593	1.10247	
October 15 2019	256.56513	1.11568	1.11153	1.11593	1.10247	
October 16 2019	256.56471	1.11568	1.11153	1.11593	1.10247	
October 17 2019	256.56429	1.11568	1.11152	1.11593	1.10247	
October 18 2019	256.56387	1.11567	1.11152	1.11593	1.10247	
October 19 2019	256.56345	1.11567	1.11152	1.11593	1.10247	
October 20 2019	256.56303	1.11567	1.11152	1.11592	1.10246	
October 21 2019	256.56261	1.11567	1.11152	1.11592	1.10246	
October 22 2019	256.56219	1.11567	1.11152	1.11592	1.10246	
October 23 2019	256.56177	1.11567	1.11151	1.11592	1.10246	
October 24 2019	256.56135	1.11566	1.11151	1.11592	1.10246	
October 25 2019	256.56094	1.11566	1.11151	1.11591	1.10245	
October 26 2019	256.56052	1.11566	1.11151	1.11591	1.10245	
October 27 2019	256.56010	1.11566	1.11151	1.11591	1.10245	
October 28 2019	256.55968	1.11566	1.11150	1.11591	1.10245	
October 29 2019	256.55926	1.11565	1.11150	1.11591	1.10245	
October 30 2019	256.55884	1.11565	1.11150	1.11591	1.10245	
October 31 2019	256.55842	1.11565	1.11150	1.11590	1.10244	
CPI-U (NSA) for:			June 2019 256.143	July 2019 256.571	August 2019 256.558	

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-5/8% 10-Year TIPS Series A-2024 912828B25 January 15, 2014 January 31, 2014 March 31, 2014 May 30, 2014	1-3/8% 30-Year TIPS TIPS of February 2044 912810RF7 February 15, 2014 February 28, 2014 June 30, 2014 October 31, 2014	0-1/8% 10-Year TIPS Series D-2024 912828WU0 July 15, 2014 July 31, 2014 September 30, 2014 November 28, 2014	0-1/4% 10-Year TIPS Series A-2025 912828H45 January 15, 2015 January 30, 2015 March 31, 2015 May 29, 2015
Maturity Date: Ref CPI on Dated Date:			January 15, 2024 233.33058	February 15, 2044 233.05900	July 15, 2024 237.44594	January 15, 2025 236.85403
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
October 1 2019	256.57100	1.09960	1.10088	1.08054	1.08325	
October 2 2019	256.57058	1.09960	1.10088	1.08054	1.08324	
October 3 2019	256.57016	1.09960	1.10088	1.08054	1.08324	
October 4 2019	256.56974	1.09960	1.10088	1.08054	1.08324	
October 5 2019	256.56932	1.09960	1.10088	1.08054	1.08324	
October 6 2019	256.56890	1.09959	1.10088	1.08054	1.08324	
October 7 2019	256.56848	1.09959	1.10087	1.08053	1.08323	
October 8 2019	256.56806	1.09959	1.10087	1.08053	1.08323	
October 9 2019	256.56765	1.09959	1.10087	1.08053	1.08323	
October 10 2019	256.56723	1.09959	1.10087	1.08053	1.08323	
October 11 2019	256.56681	1.09959	1.10087	1.08053	1.08323	
October 12 2019	256.56639	1.09958	1.10086	1.08053	1.08323	
October 13 2019	256.56597	1.09958	1.10086	1.08052	1.08322	
October 14 2019	256.56555	1.09958	1.10086	1.08052	1.08322	
October 15 2019	256.56513	1.09958	1.10086	1.08052	1.08322	
October 16 2019	256.56471	1.09958	1.10086	1.08052	1.08322	
October 17 2019	256.56429	1.09957	1.10086	1.08052	1.08322	
October 18 2019	256.56387	1.09957	1.10085	1.08051	1.08322	
October 19 2019	256.56345	1.09957	1.10085	1.08051	1.08321	
October 20 2019	256.56303	1.09957	1.10085	1.08051	1.08321	
October 21 2019	256.56261	1.09957	1.10085	1.08051	1.08321	
October 22 2019	256.56219	1.09957	1.10085	1.08051	1.08321	
October 23 2019	256.56177	1.09956	1.10084	1.08051	1.08321	
October 24 2019	256.56135	1.09956	1.10084	1.08050	1.08320	
October 25 2019	256.56094	1.09956	1.10084	1.08050	1.08320	
October 26 2019	256.56052	1.09956	1.10084	1.08050	1.08320	
October 27 2019	256.56010	1.09956	1.10084	1.08050	1.08320	
October 28 2019	256.55968	1.09955	1.10084	1.08050	1.08320	
October 29 2019	256.55926	1.09955	1.10083	1.08050	1.08320	
October 30 2019	256.55884	1.09955	1.10083	1.08049	1.08319	
October 31 2019	256.55842	1.09955	1.10083	1.08049	1.08319	
CPI-U (NSA) for:	June 2019	256.143	July 2019	256.571	August 2019	256.558

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-3/4% 30-Year TIPS TIPS of February 2045 912810RL4 February 15, 2015 February 27, 2015 June 30, 2015 October 30, 2015	0-1/8% 5-Year TIPS Series X-2020 912828K33 April 15, 2015 April 30, 2015 August 31, 2015 December 31, 2015	0-3/8% 10-Year TIPS Series D-2025 912828XL9 July 15, 2015 July 31, 2015 September 30, 2015 November 30, 2015	0-5/8% 10-Year TIPS Series A-2026 912828N71 January 15, 2016 January 29, 2016 March 31, 2016 May 31, 2016
Maturity Date: Ref CPI on Dated Date:			February 15, 2045 235.48150	April 15, 2020 234.18067	July 15, 2025 237.14365	January 15, 2026 237.61129
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
October 1 2019	256.57100	1.08956	1.09561	1.08192	1.07979	
October 2 2019	256.57058	1.08956	1.09561	1.08192	1.07979	
October 3 2019	256.57016	1.08956	1.09561	1.08192	1.07979	
October 4 2019	256.56974	1.08955	1.09561	1.08192	1.07979	
October 5 2019	256.56932	1.08955	1.09560	1.08192	1.07979	
October 6 2019	256.56890	1.08955	1.09560	1.08191	1.07978	
October 7 2019	256.56848	1.08955	1.09560	1.08191	1.07978	
October 8 2019	256.56806	1.08955	1.09560	1.08191	1.07978	
October 9 2019	256.56765	1.08954	1.09560	1.08191	1.07978	
October 10 2019	256.56723	1.08954	1.09560	1.08191	1.07978	
October 11 2019	256.56681	1.08954	1.09559	1.08190	1.07978	
October 12 2019	256.56639	1.08954	1.09559	1.08190	1.07977	
October 13 2019	256.56597	1.08954	1.09559	1.08190	1.07977	
October 14 2019	256.56555	1.08954	1.09559	1.08190	1.07977	
October 15 2019	256.56513	1.08953	1.09559	1.08190	1.07977	
October 16 2019	256.56471	1.08953	1.09558	1.08190	1.07977	
October 17 2019	256.56429	1.08953	1.09558	1.08189	1.07976	
October 18 2019	256.56387	1.08953	1.09558	1.08189	1.07976	
October 19 2019	256.56345	1.08953	1.09558	1.08189	1.07976	
October 20 2019	256.56303	1.08953	1.09558	1.08189	1.07976	
October 21 2019	256.56261	1.08952	1.09558	1.08189	1.07976	
October 22 2019	256.56219	1.08952	1.09557	1.08189	1.07976	
October 23 2019	256.56177	1.08952	1.09557	1.08188	1.07975	
October 24 2019	256.56135	1.08952	1.09557	1.08188	1.07975	
October 25 2019	256.56094	1.08952	1.09557	1.08188	1.07975	
October 26 2019	256.56052	1.08951	1.09557	1.08188	1.07975	
October 27 2019	256.56010	1.08951	1.09556	1.08188	1.07975	
October 28 2019	256.55968	1.08951	1.09556	1.08187	1.07975	
October 29 2019	256.55926	1.08951	1.09556	1.08187	1.07974	
October 30 2019	256.55884	1.08951	1.09556	1.08187	1.07974	
October 31 2019	256.55842	1.08951	1.09556	1.08187	1.07974	
CPI-U (NSA) for:			June 2019 256.143	July 2019 256.571	August 2019 256.558	

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			1% 30-Year TIPS TIPS of February 2046 912810RR1 February 15, 2016 February 29, 2016 June 30, 2016 October 31, 2016	0-1/8% 5-Year TIPS Series X-2021 912828Q60 April 15, 2016 April 29, 2016 August 31, 2016 December 30, 2016	0-1/8% 10-Year TIPS Series D-2026 912828S50 July 15, 2016 July 29, 2016 September 30, 2016 November 30, 2016	0-3/8% 10-Year TIPS Series A-2027 912828V49 January 15, 2017 January 31, 2017 March 31, 2017 May 31, 2017
Maturity Date: Ref CPI on Dated Date:			February 15, 2046 236.94448	April 15, 2021 237.00700	July 15, 2026 239.70132	January 15, 2027 241.55919
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
October 1 2019	256.57100	1.08283	1.08255	1.07038	1.06215	
October 2 2019	256.57058	1.08283	1.08254	1.07038	1.06214	
October 3 2019	256.57016	1.08283	1.08254	1.07037	1.06214	
October 4 2019	256.56974	1.08283	1.08254	1.07037	1.06214	
October 5 2019	256.56932	1.08282	1.08254	1.07037	1.06214	
October 6 2019	256.56890	1.08282	1.08254	1.07037	1.06214	
October 7 2019	256.56848	1.08282	1.08254	1.07037	1.06214	
October 8 2019	256.56806	1.08282	1.08253	1.07037	1.06213	
October 9 2019	256.56765	1.08282	1.08253	1.07036	1.06213	
October 10 2019	256.56723	1.08282	1.08253	1.07036	1.06213	
October 11 2019	256.56681	1.08281	1.08253	1.07036	1.06213	
October 12 2019	256.56639	1.08281	1.08253	1.07036	1.06213	
October 13 2019	256.56597	1.08281	1.08252	1.07036	1.06212	
October 14 2019	256.56555	1.08281	1.08252	1.07036	1.06212	
October 15 2019	256.56513	1.08281	1.08252	1.07035	1.06212	
October 16 2019	256.56471	1.08281	1.08252	1.07035	1.06212	
October 17 2019	256.56429	1.08280	1.08252	1.07035	1.06212	
October 18 2019	256.56387	1.08280	1.08252	1.07035	1.06212	
October 19 2019	256.56345	1.08280	1.08251	1.07035	1.06211	
October 20 2019	256.56303	1.08280	1.08251	1.07034	1.06211	
October 21 2019	256.56261	1.08280	1.08251	1.07034	1.06211	
October 22 2019	256.56219	1.08279	1.08251	1.07034	1.06211	
October 23 2019	256.56177	1.08279	1.08251	1.07034	1.06211	
October 24 2019	256.56135	1.08279	1.08251	1.07034	1.06211	
October 25 2019	256.56094	1.08279	1.08250	1.07034	1.06210	
October 26 2019	256.56052	1.08279	1.08250	1.07033	1.06210	
October 27 2019	256.56010	1.08279	1.08250	1.07033	1.06210	
October 28 2019	256.55968	1.08278	1.08250	1.07033	1.06210	
October 29 2019	256.55926	1.08278	1.08250	1.07033	1.06210	
October 30 2019	256.55884	1.08278	1.08249	1.07033	1.06210	
October 31 2019	256.55842	1.08278	1.08249	1.07033	1.06209	
CPI-U (NSA) for:	June 2019	256.143	July 2019	256.571	August 2019	256.558

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-7/8% 30-Year TIPS TIPS of February 2047 912810RW0 February 15, 2017 February 28, 2017 June 30, 2017 October 31, 2017	0-1/8% 5-Year TIPS Series X-2022 912828X39 April 15, 2017 April 28, 2017 August 31, 2017 December 29, 2017	0-3/8% 10-Year TIPS Series D-2027 9128282L3 July 15, 2017 July 31, 2017 September 29, 2017 November 30, 2017	0-1/2% 10-Year TIPS Series A-2028 9128283R9 January 15, 2018 January 31, 2018 March 29, 2018 May 31, 2018
Maturity Date: Ref CPI on Dated Date:			February 15, 2047 241.39250	April 15, 2022 243.19553	July 15, 2027 244.61839	January 15, 2028 246.66571
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
October 1 2019	256.57100	1.06288	1.05500	1.04886	1.04016	
October 2 2019	256.57058	1.06288	1.05500	1.04886	1.04016	
October 3 2019	256.57016	1.06288	1.05500	1.04886	1.04015	
October 4 2019	256.56974	1.06287	1.05499	1.04886	1.04015	
October 5 2019	256.56932	1.06287	1.05499	1.04886	1.04015	
October 6 2019	256.56890	1.06287	1.05499	1.04885	1.04015	
October 7 2019	256.56848	1.06287	1.05499	1.04885	1.04015	
October 8 2019	256.56806	1.06287	1.05499	1.04885	1.04014	
October 9 2019	256.56765	1.06287	1.05499	1.04885	1.04014	
October 10 2019	256.56723	1.06286	1.05498	1.04885	1.04014	
October 11 2019	256.56681	1.06286	1.05498	1.04885	1.04014	
October 12 2019	256.56639	1.06286	1.05498	1.04884	1.04014	
October 13 2019	256.56597	1.06286	1.05498	1.04884	1.04014	
October 14 2019	256.56555	1.06286	1.05498	1.04884	1.04013	
October 15 2019	256.56513	1.06285	1.05497	1.04884	1.04013	
October 16 2019	256.56471	1.06285	1.05497	1.04884	1.04013	
October 17 2019	256.56429	1.06285	1.05497	1.04883	1.04013	
October 18 2019	256.56387	1.06285	1.05497	1.04883	1.04013	
October 19 2019	256.56345	1.06285	1.05497	1.04883	1.04013	
October 20 2019	256.56303	1.06285	1.05497	1.04883	1.04012	
October 21 2019	256.56261	1.06284	1.05496	1.04883	1.04012	
October 22 2019	256.56219	1.06284	1.05496	1.04883	1.04012	
October 23 2019	256.56177	1.06284	1.05496	1.04882	1.04012	
October 24 2019	256.56135	1.06284	1.05496	1.04882	1.04012	
October 25 2019	256.56094	1.06284	1.05496	1.04882	1.04012	
October 26 2019	256.56052	1.06284	1.05496	1.04882	1.04011	
October 27 2019	256.56010	1.06283	1.05495	1.04882	1.04011	
October 28 2019	256.55968	1.06283	1.05495	1.04882	1.04011	
October 29 2019	256.55926	1.06283	1.05495	1.04881	1.04011	
October 30 2019	256.55884	1.06283	1.05495	1.04881	1.04011	
October 31 2019	256.55842	1.06283	1.05495	1.04881	1.04011	
CPI-U (NSA) for:	June 2019	256.143	July 2019	256.571	August 2019	256.558

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			1% 30-Year TIPS TIPS of February 2048 912810SB5 February 15, 2018 February 28, 2018 June 29, 2018 October 31, 2018	0-5/8% 5-Year TIPS Series X-2023 9128284H0 April 15, 2018 April 30, 2018 August 31, 2018 December 31, 2018	0-3/4% 10-Year TIPS Series D-2028 912828Y38 July 15, 2018 July 31, 2018 September 28, 2018 November 30, 2018	0-7/8% 10-Year TIPS Series A-2029 9128285W6 January 15, 2019 January 31, 2019 March 29, 2019 May 31, 2019
Maturity Date: Ref CPI on Dated Date:			February 15, 2048 246.59650	April 15, 2023 248.39153	July 15, 2028 251.01658	January 15, 2029 252.50248
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
October 1 2019	256.57100	1.04045	1.03293	1.02213	1.01611	
October 2 2019	256.57058	1.04045	1.03293	1.02213	1.01611	
October 3 2019	256.57016	1.04045	1.03293	1.02212	1.01611	
October 4 2019	256.56974	1.04044	1.03292	1.02212	1.01611	
October 5 2019	256.56932	1.04044	1.03292	1.02212	1.01611	
October 6 2019	256.56890	1.04044	1.03292	1.02212	1.01610	
October 7 2019	256.56848	1.04044	1.03292	1.02212	1.01610	
October 8 2019	256.56806	1.04044	1.03292	1.02212	1.01610	
October 9 2019	256.56765	1.04044	1.03292	1.02211	1.01610	
October 10 2019	256.56723	1.04043	1.03291	1.02211	1.01610	
October 11 2019	256.56681	1.04043	1.03291	1.02211	1.01610	
October 12 2019	256.56639	1.04043	1.03291	1.02211	1.01609	
October 13 2019	256.56597	1.04043	1.03291	1.02211	1.01609	
October 14 2019	256.56555	1.04043	1.03291	1.02211	1.01609	
October 15 2019	256.56513	1.04042	1.03291	1.02210	1.01609	
October 16 2019	256.56471	1.04042	1.03290	1.02210	1.01609	
October 17 2019	256.56429	1.04042	1.03290	1.02210	1.01609	
October 18 2019	256.56387	1.04042	1.03290	1.02210	1.01608	
October 19 2019	256.56345	1.04042	1.03290	1.02210	1.01608	
October 20 2019	256.56303	1.04042	1.03290	1.02210	1.01608	
October 21 2019	256.56261	1.04041	1.03290	1.02209	1.01608	
October 22 2019	256.56219	1.04041	1.03289	1.02209	1.01608	
October 23 2019	256.56177	1.04041	1.03289	1.02209	1.01608	
October 24 2019	256.56135	1.04041	1.03289	1.02209	1.01607	
October 25 2019	256.56094	1.04041	1.03289	1.02209	1.01607	
October 26 2019	256.56052	1.04041	1.03289	1.02209	1.01607	
October 27 2019	256.56010	1.04040	1.03289	1.02208	1.01607	
October 28 2019	256.55968	1.04040	1.03288	1.02208	1.01607	
October 29 2019	256.55926	1.04040	1.03288	1.02208	1.01607	
October 30 2019	256.55884	1.04040	1.03288	1.02208	1.01606	
October 31 2019	256.55842	1.04040	1.03288	1.02208	1.01606	
CPI-U (NSA) for:	June 2019	256.143	July 2019	256.571	August 2019	256.558

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
October 2019

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			1% 30-Year TIPS TIPS of February 2049 912810SG4 February 15, 2019 February 28, 2019 August 30, 2019	0-1/2% 5-Year TIPS Series X-2024 9128286N5 April 15, 2019 April 30, 2019 June 28, 2019	0-1/4% 10-Year TIPS Series D-2029 9128287D6 July 15, 2019 July 31, 2019	
Maturity Date: Ref CPI on Dated Date:			February 15, 2049 251.63550	April 15, 2024 252.20853	July 15, 2029 255.79368	
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio		
October 1 2019	256.57100	1.01961	1.01730	1.00304		
October 2 2019	256.57058	1.01961	1.01730	1.00304		
October 3 2019	256.57016	1.01961	1.01729	1.00304		
October 4 2019	256.56974	1.01961	1.01729	1.00303		
October 5 2019	256.56932	1.01961	1.01729	1.00303		
October 6 2019	256.56890	1.01961	1.01729	1.00303		
October 7 2019	256.56848	1.01960	1.01729	1.00303		
October 8 2019	256.56806	1.01960	1.01729	1.00303		
October 9 2019	256.56765	1.01960	1.01728	1.00303		
October 10 2019	256.56723	1.01960	1.01728	1.00302		
October 11 2019	256.56681	1.01960	1.01728	1.00302		
October 12 2019	256.56639	1.01960	1.01728	1.00302		
October 13 2019	256.56597	1.01959	1.01728	1.00302		
October 14 2019	256.56555	1.01959	1.01728	1.00302		
October 15 2019	256.56513	1.01959	1.01727	1.00302		
October 16 2019	256.56471	1.01959	1.01727	1.00301		
October 17 2019	256.56429	1.01959	1.01727	1.00301		
October 18 2019	256.56387	1.01959	1.01727	1.00301		
October 19 2019	256.56345	1.01958	1.01727	1.00301		
October 20 2019	256.56303	1.01958	1.01727	1.00301		
October 21 2019	256.56261	1.01958	1.01726	1.00301		
October 22 2019	256.56219	1.01958	1.01726	1.00300		
October 23 2019	256.56177	1.01958	1.01726	1.00300		
October 24 2019	256.56135	1.01958	1.01726	1.00300		
October 25 2019	256.56094	1.01957	1.01726	1.00300		
October 26 2019	256.56052	1.01957	1.01726	1.00300		
October 27 2019	256.56010	1.01957	1.01725	1.00300		
October 28 2019	256.55968	1.01957	1.01725	1.00299		
October 29 2019	256.55926	1.01957	1.01725	1.00299		
October 30 2019	256.55884	1.01957	1.01725	1.00299		
October 31 2019	256.55842	1.01956	1.01725	1.00299		
CPI-U (NSA) for:	June 2019	256.143	July 2019	256.571	August 2019	256.558