

**TREASURY INFLATION-PROTECTED SECURITIES (TIPS)**  
**Ref CPI and Index Ratios for**  
**April 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	
April 1 2019	251.71200	1.55628	1.53116	1.41810	1.33537	
April 2 2019	251.74747	1.55649	1.53137	1.41830	1.33555	
April 3 2019	251.78293	1.55671	1.53159	1.41850	1.33574	
April 4 2019	251.81840	1.55693	1.53180	1.41870	1.33593	
April 5 2019	251.85387	1.55715	1.53202	1.41890	1.33612	
April 6 2019	251.88933	1.55737	1.53224	1.41909	1.33631	
April 7 2019	251.92480	1.55759	1.53245	1.41929	1.33649	
April 8 2019	251.96027	1.55781	1.53267	1.41949	1.33668	
April 9 2019	251.99573	1.55803	1.53288	1.41969	1.33687	
April 10 2019	252.03120	1.55825	1.53310	1.41989	1.33706	
April 11 2019	252.06667	1.55847	1.53331	1.42009	1.33725	
April 12 2019	252.10213	1.55869	1.53353	1.42029	1.33743	
April 13 2019	252.13760	1.55891	1.53375	1.42049	1.33762	
April 14 2019	252.17307	1.55913	1.53396	1.42069	1.33781	
April 15 2019	252.20853	1.55935	1.53418	1.42089	1.33800	
April 16 2019	252.24400	1.55956	1.53439	1.42109	1.33819	
April 17 2019	252.27947	1.55978	1.53461	1.42129	1.33838	
April 18 2019	252.31493	1.56000	1.53482	1.42149	1.33856	
April 19 2019	252.35040	1.56022	1.53504	1.42169	1.33875	
April 20 2019	252.38587	1.56044	1.53526	1.42189	1.33894	
April 21 2019	252.42133	1.56066	1.53547	1.42209	1.33913	
April 22 2019	252.45680	1.56088	1.53569	1.42229	1.33932	
April 23 2019	252.49227	1.56110	1.53590	1.42249	1.33950	
April 24 2019	252.52773	1.56132	1.53612	1.42269	1.33969	
April 25 2019	252.56320	1.56154	1.53633	1.42289	1.33988	
April 26 2019	252.59867	1.56176	1.53655	1.42309	1.34007	
April 27 2019	252.63413	1.56198	1.53677	1.42329	1.34026	
April 28 2019	252.66960	1.56220	1.53698	1.42349	1.34045	
April 29 2019	252.70507	1.56242	1.53720	1.42369	1.34063	
April 30 2019	252.74053	1.56263	1.53741	1.42389	1.34082	
CPI-U (NSA) for:			December 2018 251.233	January 2019 251.712	February 2019 252.776	

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

<b>Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):</b>			<b>2% 20-Year TIPS TIPS of January 2026 912810FS2 January 15, 2006 January 31, 2006 July 31, 2006</b>	<b>2-3/8% 20-Year TIPS TIPS of January 2027 912810PS1 January 15, 2007 January 31, 2007 July 31, 2007</b>	<b>1-3/4% 20-Year TIPS TIPS of January 2028 912810PV4 January 15, 2008 January 31, 2008 July 31, 2008</b>	<b>2-1/2% 20-Year TIPS TIPS of January 2029 912810PZ5 January 15, 2009 January 30, 2009 July 31, 2009</b>	
<b>Maturity Date: Ref CPI on Dated Date:</b>			<b>January 15, 2026 198.47742</b>	<b>January 15, 2027 201.66452</b>	<b>January 15, 2028 209.49645</b>	<b>January 15, 2029 214.69971</b>	
<b>Date</b>			<b>Ref CPI</b>	<b>Index Ratio</b>	<b>Index Ratio</b>	<b>Index Ratio</b>	<b>Index Ratio</b>
April	1	2019	251.71200	1.26821	1.24817	1.20151	1.17239
April	2	2019	251.74747	1.26839	1.24835	1.20168	1.17256
April	3	2019	251.78293	1.26857	1.24852	1.20185	1.17272
April	4	2019	251.81840	1.26875	1.24870	1.20202	1.17289
April	5	2019	251.85387	1.26893	1.24888	1.20219	1.17305
April	6	2019	251.88933	1.26911	1.24905	1.20236	1.17322
April	7	2019	251.92480	1.26929	1.24923	1.20253	1.17338
April	8	2019	251.96027	1.26947	1.24940	1.20269	1.17355
April	9	2019	251.99573	1.26964	1.24958	1.20286	1.17371
April	10	2019	252.03120	1.26982	1.24975	1.20303	1.17388
April	11	2019	252.06667	1.27000	1.24993	1.20320	1.17404
April	12	2019	252.10213	1.27018	1.25011	1.20337	1.17421
April	13	2019	252.13760	1.27036	1.25028	1.20354	1.17437
April	14	2019	252.17307	1.27054	1.25046	1.20371	1.17454
April	15	2019	252.20853	1.27072	1.25063	1.20388	1.17470
April	16	2019	252.24400	1.27090	1.25081	1.20405	1.17487
April	17	2019	252.27947	1.27107	1.25099	1.20422	1.17503
April	18	2019	252.31493	1.27125	1.25116	1.20439	1.17520
April	19	2019	252.35040	1.27143	1.25134	1.20456	1.17536
April	20	2019	252.38587	1.27161	1.25151	1.20473	1.17553
April	21	2019	252.42133	1.27179	1.25169	1.20490	1.17569
April	22	2019	252.45680	1.27197	1.25187	1.20506	1.17586
April	23	2019	252.49227	1.27215	1.25204	1.20523	1.17603
April	24	2019	252.52773	1.27232	1.25222	1.20540	1.17619
April	25	2019	252.56320	1.27250	1.25239	1.20557	1.17636
April	26	2019	252.59867	1.27268	1.25257	1.20574	1.17652
April	27	2019	252.63413	1.27286	1.25274	1.20591	1.17669
April	28	2019	252.66960	1.27304	1.25292	1.20608	1.17685
April	29	2019	252.70507	1.27322	1.25310	1.20625	1.17702
April	30	2019	252.74053	1.27340	1.25327	1.20642	1.17718
<b>CPI-U (NSA) for:</b>			<b>December 2018 251.233</b>	<b>January 2019 251.712</b>	<b>February 2019 252.776</b>		

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

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			1-7/8% 10-Year TIPS Series D-2019 912828LA6 July 15, 2009 July 15, 2009 October 15, 2009	1-3/8% 10-Year TIPS Series A-2020 912828MF4 January 15, 2010 January 15, 2010 April 15, 2010	2-1/8% 30-Year TIPS TIPS of February 2040 912810QF8 February 15, 2010 February 26, 2010 August 31, 2010	1-1/4% 10-Year TIPS Series D-2020 912828NM8 July 15, 2010 July 15, 2010 September 15, 2010 November 15, 2010
Maturity Date: Ref CPI on Dated Date:			July 15, 2019 213.51819	January 15, 2020 216.24610	February 15, 2040 216.13950	July 15, 2020 218.08532
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
April 1 2019	251.71200	1.17888	1.16401	1.16458	1.15419	
April 2 2019	251.74747	1.17904	1.16417	1.16475	1.15435	
April 3 2019	251.78293	1.17921	1.16434	1.16491	1.15452	
April 4 2019	251.81840	1.17938	1.16450	1.16507	1.15468	
April 5 2019	251.85387	1.17954	1.16466	1.16524	1.15484	
April 6 2019	251.88933	1.17971	1.16483	1.16540	1.15500	
April 7 2019	251.92480	1.17988	1.16499	1.16557	1.15517	
April 8 2019	251.96027	1.18004	1.16516	1.16573	1.15533	
April 9 2019	251.99573	1.18021	1.16532	1.16589	1.15549	
April 10 2019	252.03120	1.18037	1.16548	1.16606	1.15565	
April 11 2019	252.06667	1.18054	1.16565	1.16622	1.15582	
April 12 2019	252.10213	1.18071	1.16581	1.16639	1.15598	
April 13 2019	252.13760	1.18087	1.16598	1.16655	1.15614	
April 14 2019	252.17307	1.18104	1.16614	1.16671	1.15630	
April 15 2019	252.20853	1.18120	1.16630	1.16688	1.15647	
April 16 2019	252.24400	1.18137	1.16647	1.16704	1.15663	
April 17 2019	252.27947	1.18154	1.16663	1.16721	1.15679	
April 18 2019	252.31493	1.18170	1.16680	1.16737	1.15696	
April 19 2019	252.35040	1.18187	1.16696	1.16753	1.15712	
April 20 2019	252.38587	1.18203	1.16712	1.16770	1.15728	
April 21 2019	252.42133	1.18220	1.16729	1.16786	1.15744	
April 22 2019	252.45680	1.18237	1.16745	1.16803	1.15761	
April 23 2019	252.49227	1.18253	1.16762	1.16819	1.15777	
April 24 2019	252.52773	1.18270	1.16778	1.16836	1.15793	
April 25 2019	252.56320	1.18287	1.16794	1.16852	1.15809	
April 26 2019	252.59867	1.18303	1.16811	1.16868	1.15826	
April 27 2019	252.63413	1.18320	1.16827	1.16885	1.15842	
April 28 2019	252.66960	1.18336	1.16844	1.16901	1.15858	
April 29 2019	252.70507	1.18353	1.16860	1.16918	1.15874	
April 30 2019	252.74053	1.18370	1.16876	1.16934	1.15891	
<b>CPI-U (NSA) for:</b>	<b>December 2018</b>	<b>251.233</b>	<b>January 2019</b>	<b>251.712</b>	<b>February 2019</b>	<b>252.776</b>

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

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			1-1/8% 10-Year TIPS Series A-2021 912828PP9 January 15, 2011 January 31, 2011 March 31, 2011 May 31, 2011	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
Maturity Date: Ref CPI on Dated Date:			January 15, 2021 218.75255	February 15, 2041 218.99100	July 15, 2021 225.38381	January 15, 2022 226.33474
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
April 1 2019	251.71200	1.15067	1.14942	1.11681	1.11212	
April 2 2019	251.74747	1.15083	1.14958	1.11697	1.11228	
April 3 2019	251.78293	1.15099	1.14974	1.11713	1.11244	
April 4 2019	251.81840	1.15116	1.14990	1.11729	1.11259	
April 5 2019	251.85387	1.15132	1.15006	1.11744	1.11275	
April 6 2019	251.88933	1.15148	1.15023	1.11760	1.11291	
April 7 2019	251.92480	1.15164	1.15039	1.11776	1.11306	
April 8 2019	251.96027	1.15180	1.15055	1.11792	1.11322	
April 9 2019	251.99573	1.15197	1.15071	1.11807	1.11338	
April 10 2019	252.03120	1.15213	1.15087	1.11823	1.11353	
April 11 2019	252.06667	1.15229	1.15104	1.11839	1.11369	
April 12 2019	252.10213	1.15245	1.15120	1.11855	1.11385	
April 13 2019	252.13760	1.15262	1.15136	1.11870	1.11400	
April 14 2019	252.17307	1.15278	1.15152	1.11886	1.11416	
April 15 2019	252.20853	1.15294	1.15168	1.11902	1.11432	
April 16 2019	252.24400	1.15310	1.15185	1.11918	1.11447	
April 17 2019	252.27947	1.15326	1.15201	1.11933	1.11463	
April 18 2019	252.31493	1.15343	1.15217	1.11949	1.11479	
April 19 2019	252.35040	1.15359	1.15233	1.11965	1.11494	
April 20 2019	252.38587	1.15375	1.15249	1.11980	1.11510	
April 21 2019	252.42133	1.15391	1.15266	1.11996	1.11526	
April 22 2019	252.45680	1.15407	1.15282	1.12012	1.11541	
April 23 2019	252.49227	1.15424	1.15298	1.12028	1.11557	
April 24 2019	252.52773	1.15440	1.15314	1.12043	1.11573	
April 25 2019	252.56320	1.15456	1.15330	1.12059	1.11588	
April 26 2019	252.59867	1.15472	1.15347	1.12075	1.11604	
April 27 2019	252.63413	1.15489	1.15363	1.12091	1.11620	
April 28 2019	252.66960	1.15505	1.15379	1.12106	1.11635	
April 29 2019	252.70507	1.15521	1.15395	1.12122	1.11651	
April 30 2019	252.74053	1.15537	1.15411	1.12138	1.11667	
<b>CPI-U (NSA) for:</b>	<b>December 2018</b>	<b>251.233</b>	<b>January 2019</b>	<b>251.712</b>	<b>February 2019</b>	<b>252.776</b>

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

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-3/4% 30-Year TIPS TIPS of February 2042 912810QV3 February 15, 2012 February 29, 2012 June 29, 2012 October 31, 2012	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
Maturity Date: Ref CPI on Dated Date:			February 15, 2042 225.96062	July 15, 2022 229.96306	January 15, 2023 230.82203	February 15, 2043 229.91100
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
April 1 2019	251.71200	1.11396	1.09458	1.09050	1.09482	
April 2 2019	251.74747	1.11412	1.09473	1.09066	1.09498	
April 3 2019	251.78293	1.11428	1.09488	1.09081	1.09513	
April 4 2019	251.81840	1.11443	1.09504	1.09096	1.09529	
April 5 2019	251.85387	1.11459	1.09519	1.09112	1.09544	
April 6 2019	251.88933	1.11475	1.09535	1.09127	1.09559	
April 7 2019	251.92480	1.11491	1.09550	1.09142	1.09575	
April 8 2019	251.96027	1.11506	1.09566	1.09158	1.09590	
April 9 2019	251.99573	1.11522	1.09581	1.09173	1.09606	
April 10 2019	252.03120	1.11538	1.09596	1.09189	1.09621	
April 11 2019	252.06667	1.11553	1.09612	1.09204	1.09637	
April 12 2019	252.10213	1.11569	1.09627	1.09219	1.09652	
April 13 2019	252.13760	1.11585	1.09643	1.09235	1.09667	
April 14 2019	252.17307	1.11600	1.09658	1.09250	1.09683	
April 15 2019	252.20853	1.11616	1.09673	1.09265	1.09698	
April 16 2019	252.24400	1.11632	1.09689	1.09281	1.09714	
April 17 2019	252.27947	1.11648	1.09704	1.09296	1.09729	
April 18 2019	252.31493	1.11663	1.09720	1.09311	1.09745	
April 19 2019	252.35040	1.11679	1.09735	1.09327	1.09760	
April 20 2019	252.38587	1.11695	1.09751	1.09342	1.09775	
April 21 2019	252.42133	1.11710	1.09766	1.09358	1.09791	
April 22 2019	252.45680	1.11726	1.09781	1.09373	1.09806	
April 23 2019	252.49227	1.11742	1.09797	1.09388	1.09822	
April 24 2019	252.52773	1.11757	1.09812	1.09404	1.09837	
April 25 2019	252.56320	1.11773	1.09828	1.09419	1.09853	
April 26 2019	252.59867	1.11789	1.09843	1.09434	1.09868	
April 27 2019	252.63413	1.11804	1.09859	1.09450	1.09883	
April 28 2019	252.66960	1.11820	1.09874	1.09465	1.09899	
April 29 2019	252.70507	1.11836	1.09889	1.09480	1.09914	
April 30 2019	252.74053	1.11852	1.09905	1.09496	1.09930	
<b>CPI-U (NSA) for:</b>	<b>December 2018</b>	<b>251.233</b>	<b>January 2019</b>	<b>251.712</b>	<b>February 2019</b>	<b>252.776</b>

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

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-3/8% 10-Year TIPS Series D-2023 912828VM9 July 15, 2013 July 31, 2013 September 30, 2013 November 29, 2013	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% 5-Year TIPS Series X-2019 912828C99 April 15, 2014 April 30, 2014 August 29, 2014 December 31, 2014
Maturity Date: Ref CPI on Dated Date:			July 15, 2023 232.71797	January 15, 2024 233.33058	February 15, 2044 233.05900	April 15, 2019 234.31967
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
April 1 2019	251.71200	1.08162	1.07878	1.08004	1.07422	
April 2 2019	251.74747	1.08177	1.07893	1.08019	1.07438	
April 3 2019	251.78293	1.08192	1.07908	1.08034	1.07453	
April 4 2019	251.81840	1.08208	1.07923	1.08049	1.07468	
April 5 2019	251.85387	1.08223	1.07939	1.08064	1.07483	
April 6 2019	251.88933	1.08238	1.07954	1.08080	1.07498	
April 7 2019	251.92480	1.08253	1.07969	1.08095	1.07513	
April 8 2019	251.96027	1.08269	1.07984	1.08110	1.07528	
April 9 2019	251.99573	1.08284	1.07999	1.08125	1.07544	
April 10 2019	252.03120	1.08299	1.08015	1.08141	1.07559	
April 11 2019	252.06667	1.08314	1.08030	1.08156	1.07574	
April 12 2019	252.10213	1.08329	1.08045	1.08171	1.07589	
April 13 2019	252.13760	1.08345	1.08060	1.08186	1.07604	
April 14 2019	252.17307	1.08360	1.08075	1.08201	1.07619	
April 15 2019	252.20853	1.08375	1.08091	1.08217	1.07634	
April 16 2019	252.24400	1.08390	1.08106	1.08232		
April 17 2019	252.27947	1.08406	1.08121	1.08247		
April 18 2019	252.31493	1.08421	1.08136	1.08262		
April 19 2019	252.35040	1.08436	1.08151	1.08277		
April 20 2019	252.38587	1.08451	1.08167	1.08293		
April 21 2019	252.42133	1.08467	1.08182	1.08308		
April 22 2019	252.45680	1.08482	1.08197	1.08323		
April 23 2019	252.49227	1.08497	1.08212	1.08338		
April 24 2019	252.52773	1.08512	1.08227	1.08354		
April 25 2019	252.56320	1.08528	1.08243	1.08369		
April 26 2019	252.59867	1.08543	1.08258	1.08384		
April 27 2019	252.63413	1.08558	1.08273	1.08399		
April 28 2019	252.66960	1.08573	1.08288	1.08414		
April 29 2019	252.70507	1.08589	1.08303	1.08430		
April 30 2019	252.74053	1.08604	1.08319	1.08445		
<b>CPI-U (NSA) for:</b>	<b>December 2018</b>	<b>251.233</b>	<b>January 2019</b>	<b>251.712</b>	<b>February 2019</b>	<b>252.776</b>

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

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			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	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
Maturity Date: Ref CPI on Dated Date:			July 15, 2024 237.44594	January 15, 2025 236.85403	February 15, 2045 235.48150	April 15, 2020 234.18067
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
April 1 2019	251.71200	1.06008	1.06273	1.06892	1.07486	
April 2 2019	251.74747	1.06023	1.06288	1.06908	1.07501	
April 3 2019	251.78293	1.06038	1.06303	1.06923	1.07517	
April 4 2019	251.81840	1.06053	1.06318	1.06938	1.07532	
April 5 2019	251.85387	1.06068	1.06333	1.06953	1.07547	
April 6 2019	251.88933	1.06083	1.06348	1.06968	1.07562	
April 7 2019	251.92480	1.06098	1.06363	1.06983	1.07577	
April 8 2019	251.96027	1.06113	1.06378	1.06998	1.07592	
April 9 2019	251.99573	1.06128	1.06393	1.07013	1.07607	
April 10 2019	252.03120	1.06143	1.06408	1.07028	1.07623	
April 11 2019	252.06667	1.06157	1.06423	1.07043	1.07638	
April 12 2019	252.10213	1.06172	1.06438	1.07058	1.07653	
April 13 2019	252.13760	1.06187	1.06453	1.07073	1.07668	
April 14 2019	252.17307	1.06202	1.06468	1.07088	1.07683	
April 15 2019	252.20853	1.06217	1.06483	1.07103	1.07698	
April 16 2019	252.24400	1.06232	1.06498	1.07118	1.07713	
April 17 2019	252.27947	1.06247	1.06513	1.07133	1.07729	
April 18 2019	252.31493	1.06262	1.06528	1.07149	1.07744	
April 19 2019	252.35040	1.06277	1.06543	1.07164	1.07759	
April 20 2019	252.38587	1.06292	1.06558	1.07179	1.07774	
April 21 2019	252.42133	1.06307	1.06573	1.07194	1.07789	
April 22 2019	252.45680	1.06322	1.06588	1.07209	1.07804	
April 23 2019	252.49227	1.06337	1.06603	1.07224	1.07819	
April 24 2019	252.52773	1.06352	1.06617	1.07239	1.07835	
April 25 2019	252.56320	1.06367	1.06632	1.07254	1.07850	
April 26 2019	252.59867	1.06382	1.06647	1.07269	1.07865	
April 27 2019	252.63413	1.06396	1.06662	1.07284	1.07880	
April 28 2019	252.66960	1.06411	1.06677	1.07299	1.07895	
April 29 2019	252.70507	1.06426	1.06692	1.07314	1.07910	
April 30 2019	252.74053	1.06441	1.06707	1.07329	1.07925	
<b>CPI-U (NSA) for:</b>	<b>December 2018</b>	<b>251.233</b>	<b>January 2019</b>	<b>251.712</b>	<b>February 2019</b>	<b>252.776</b>

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

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			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	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
Maturity Date: Ref CPI on Dated Date:			July 15, 2025 237.14365	January 15, 2026 237.61129	February 15, 2046 236.94448	April 15, 2021 237.00700
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
April 1 2019	251.71200	1.06143	1.05934	1.06232	1.06204	
April 2 2019	251.74747	1.06158	1.05949	1.06247	1.06219	
April 3 2019	251.78293	1.06173	1.05964	1.06262	1.06234	
April 4 2019	251.81840	1.06188	1.05979	1.06277	1.06249	
April 5 2019	251.85387	1.06203	1.05994	1.06292	1.06264	
April 6 2019	251.88933	1.06218	1.06009	1.06307	1.06279	
April 7 2019	251.92480	1.06233	1.06024	1.06322	1.06294	
April 8 2019	251.96027	1.06248	1.06039	1.06337	1.06309	
April 9 2019	251.99573	1.06263	1.06054	1.06352	1.06324	
April 10 2019	252.03120	1.06278	1.06069	1.06367	1.06339	
April 11 2019	252.06667	1.06293	1.06084	1.06382	1.06354	
April 12 2019	252.10213	1.06308	1.06099	1.06397	1.06369	
April 13 2019	252.13760	1.06323	1.06113	1.06412	1.06384	
April 14 2019	252.17307	1.06338	1.06128	1.06427	1.06399	
April 15 2019	252.20853	1.06353	1.06143	1.06442	1.06414	
April 16 2019	252.24400	1.06368	1.06158	1.06457	1.06429	
April 17 2019	252.27947	1.06383	1.06173	1.06472	1.06444	
April 18 2019	252.31493	1.06398	1.06188	1.06487	1.06459	
April 19 2019	252.35040	1.06412	1.06203	1.06502	1.06474	
April 20 2019	252.38587	1.06427	1.06218	1.06517	1.06489	
April 21 2019	252.42133	1.06442	1.06233	1.06532	1.06504	
April 22 2019	252.45680	1.06457	1.06248	1.06547	1.06519	
April 23 2019	252.49227	1.06472	1.06263	1.06562	1.06534	
April 24 2019	252.52773	1.06487	1.06278	1.06577	1.06549	
April 25 2019	252.56320	1.06502	1.06293	1.06592	1.06564	
April 26 2019	252.59867	1.06517	1.06308	1.06607	1.06579	
April 27 2019	252.63413	1.06532	1.06322	1.06622	1.06594	
April 28 2019	252.66960	1.06547	1.06337	1.06637	1.06608	
April 29 2019	252.70507	1.06562	1.06352	1.06652	1.06623	
April 30 2019	252.74053	1.06577	1.06367	1.06667	1.06638	
<b>CPI-U (NSA) for:</b>	<b>December 2018</b>	<b>251.233</b>	<b>January 2019</b>	<b>251.712</b>	<b>February 2019</b>	<b>252.776</b>



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

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			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	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
Maturity Date: Ref CPI on Dated Date:			July 15, 2026 239.70132	January 15, 2027 241.55919	February 15, 2047 241.39250	April 15, 2022 243.19553
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
April 1 2019	251.71200	1.05011	1.04203	1.04275	1.03502	
April 2 2019	251.74747	1.05025	1.04218	1.04290	1.03516	
April 3 2019	251.78293	1.05040	1.04232	1.04304	1.03531	
April 4 2019	251.81840	1.05055	1.04247	1.04319	1.03546	
April 5 2019	251.85387	1.05070	1.04262	1.04334	1.03560	
April 6 2019	251.88933	1.05085	1.04276	1.04348	1.03575	
April 7 2019	251.92480	1.05099	1.04291	1.04363	1.03589	
April 8 2019	251.96027	1.05114	1.04306	1.04378	1.03604	
April 9 2019	251.99573	1.05129	1.04320	1.04393	1.03619	
April 10 2019	252.03120	1.05144	1.04335	1.04407	1.03633	
April 11 2019	252.06667	1.05159	1.04350	1.04422	1.03648	
April 12 2019	252.10213	1.05173	1.04365	1.04437	1.03662	
April 13 2019	252.13760	1.05188	1.04379	1.04451	1.03677	
April 14 2019	252.17307	1.05203	1.04394	1.04466	1.03691	
April 15 2019	252.20853	1.05218	1.04409	1.04481	1.03706	
April 16 2019	252.24400	1.05233	1.04423	1.04495	1.03721	
April 17 2019	252.27947	1.05247	1.04438	1.04510	1.03735	
April 18 2019	252.31493	1.05262	1.04453	1.04525	1.03750	
April 19 2019	252.35040	1.05277	1.04467	1.04539	1.03764	
April 20 2019	252.38587	1.05292	1.04482	1.04554	1.03779	
April 21 2019	252.42133	1.05307	1.04497	1.04569	1.03794	
April 22 2019	252.45680	1.05321	1.04511	1.04584	1.03808	
April 23 2019	252.49227	1.05336	1.04526	1.04598	1.03823	
April 24 2019	252.52773	1.05351	1.04541	1.04613	1.03837	
April 25 2019	252.56320	1.05366	1.04555	1.04628	1.03852	
April 26 2019	252.59867	1.05381	1.04570	1.04642	1.03866	
April 27 2019	252.63413	1.05395	1.04585	1.04657	1.03881	
April 28 2019	252.66960	1.05410	1.04599	1.04672	1.03896	
April 29 2019	252.70507	1.05425	1.04614	1.04686	1.03910	
April 30 2019	252.74053	1.05440	1.04629	1.04701	1.03925	
<b>CPI-U (NSA) for:</b>	<b>December 2018</b>	<b>251.233</b>	<b>January 2019</b>	<b>251.712</b>	<b>February 2019</b>	<b>252.776</b>

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

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			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	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
Maturity Date: Ref CPI on Dated Date:			July 15, 2027 244.61839	January 15, 2028 246.66571	February 15, 2048 246.59650	April 15, 2023 248.39153
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
April 1 2019	251.71200	1.02900	1.02046	1.02074	1.01337	
April 2 2019	251.74747	1.02914	1.02060	1.02089	1.01351	
April 3 2019	251.78293	1.02929	1.02075	1.02103	1.01365	
April 4 2019	251.81840	1.02943	1.02089	1.02118	1.01380	
April 5 2019	251.85387	1.02958	1.02103	1.02132	1.01394	
April 6 2019	251.88933	1.02972	1.02118	1.02146	1.01408	
April 7 2019	251.92480	1.02987	1.02132	1.02161	1.01422	
April 8 2019	251.96027	1.03001	1.02146	1.02175	1.01437	
April 9 2019	251.99573	1.03016	1.02161	1.02189	1.01451	
April 10 2019	252.03120	1.03030	1.02175	1.02204	1.01465	
April 11 2019	252.06667	1.03045	1.02190	1.02218	1.01480	
April 12 2019	252.10213	1.03059	1.02204	1.02233	1.01494	
April 13 2019	252.13760	1.03074	1.02218	1.02247	1.01508	
April 14 2019	252.17307	1.03088	1.02233	1.02261	1.01522	
April 15 2019	252.20853	1.03103	1.02247	1.02276	1.01537	
April 16 2019	252.24400	1.03117	1.02261	1.02290	1.01551	
April 17 2019	252.27947	1.03132	1.02276	1.02305	1.01565	
April 18 2019	252.31493	1.03146	1.02290	1.02319	1.01580	
April 19 2019	252.35040	1.03161	1.02305	1.02333	1.01594	
April 20 2019	252.38587	1.03175	1.02319	1.02348	1.01608	
April 21 2019	252.42133	1.03190	1.02333	1.02362	1.01622	
April 22 2019	252.45680	1.03204	1.02348	1.02376	1.01637	
April 23 2019	252.49227	1.03219	1.02362	1.02391	1.01651	
April 24 2019	252.52773	1.03233	1.02377	1.02405	1.01665	
April 25 2019	252.56320	1.03248	1.02391	1.02420	1.01679	
April 26 2019	252.59867	1.03262	1.02405	1.02434	1.01694	
April 27 2019	252.63413	1.03277	1.02420	1.02448	1.01708	
April 28 2019	252.66960	1.03291	1.02434	1.02463	1.01722	
April 29 2019	252.70507	1.03306	1.02448	1.02477	1.01737	
April 30 2019	252.74053	1.03320	1.02463	1.02492	1.01751	
<b>CPI-U (NSA) for:</b>	<b>December 2018</b>	<b>251.233</b>	<b>January 2019</b>	<b>251.712</b>	<b>February 2019</b>	<b>252.776</b>

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

Date			Ref CPI	Index Ratio	Index Ratio	Index Ratio		
April	1	2019	251.71200	1.00277	0.99687	1.00030		
April	2	2019	251.74747	1.00291	0.99701	1.00044		
April	3	2019	251.78293	1.00305	0.99715	1.00059		
April	4	2019	251.81840	1.00319	0.99729	1.00073		
April	5	2019	251.85387	1.00334	0.99743	1.00087		
April	6	2019	251.88933	1.00348	0.99757	1.00101		
April	7	2019	251.92480	1.00362	0.99771	1.00115		
April	8	2019	251.96027	1.00376	0.99785	1.00129		
April	9	2019	251.99573	1.00390	0.99799	1.00143		
April	10	2019	252.03120	1.00404	0.99813	1.00157		
April	11	2019	252.06667	1.00418	0.99827	1.00171		
April	12	2019	252.10213	1.00432	0.99841	1.00185		
April	13	2019	252.13760	1.00447	0.99855	1.00200		
April	14	2019	252.17307	1.00461	0.99870	1.00214		
April	15	2019	252.20853	1.00475	0.99884	1.00228		
April	16	2019	252.24400	1.00489	0.99898	1.00242		
April	17	2019	252.27947	1.00503	0.99912	1.00256		
April	18	2019	252.31493	1.00517	0.99926	1.00270		
April	19	2019	252.35040	1.00531	0.99940	1.00284		
April	20	2019	252.38587	1.00545	0.99954	1.00298		
April	21	2019	252.42133	1.00560	0.99968	1.00312		
April	22	2019	252.45680	1.00574	0.99982	1.00326		
April	23	2019	252.49227	1.00588	0.99996	1.00340		
April	24	2019	252.52773	1.00602	1.00010	1.00355		
April	25	2019	252.56320	1.00616	1.00024	1.00369		
April	26	2019	252.59867	1.00630	1.00038	1.00383		
April	27	2019	252.63413	1.00644	1.00052	1.00397		
April	28	2019	252.66960	1.00659	1.00066	1.00411		
April	29	2019	252.70507	1.00673	1.00080	1.00425		
April	30	2019	252.74053	1.00687	1.00094	1.00439		
<b>CPI-U (NSA) for:</b>			<b>December 2018</b>	<b>251.233</b>	<b>January 2019</b>	<b>251.712</b>	<b>February 2019</b>	<b>252.776</b>

**Security:**  
**Description:**  
**CUSIP Number:**  
**Dated Date:**  
**Original Issue Date:**  
**Additional Issue Date(s):**

**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**

**1% 30-Year TIPS**  
**TIPS of February 2049**  
**912810SG4**  
**February 15, 2019**  
**February 28, 2019**

**Maturity Date:**  
**Ref CPI on Dated Date:**

**July 15, 2028**  
**251.01658**

**January 15, 2029**  
**252.50248**

**February 15, 2049**  
**251.63550**