

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
July 2023

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	
July 1 2023	303.36300	1.87562	1.84535	1.70909	1.60938	
July 2 2023	303.38765	1.87577	1.84550	1.70923	1.60951	
July 3 2023	303.41229	1.87593	1.84565	1.70937	1.60964	
July 4 2023	303.43694	1.87608	1.84580	1.70950	1.60977	
July 5 2023	303.46158	1.87623	1.84595	1.70964	1.60990	
July 6 2023	303.48623	1.87638	1.84610	1.70978	1.61003	
July 7 2023	303.51087	1.87654	1.84625	1.70992	1.61016	
July 8 2023	303.53552	1.87669	1.84640	1.71006	1.61030	
July 9 2023	303.56016	1.87684	1.84655	1.71020	1.61043	
July 10 2023	303.58481	1.87699	1.84670	1.71034	1.61056	
July 11 2023	303.60945	1.87715	1.84685	1.71048	1.61069	
July 12 2023	303.63410	1.87730	1.84700	1.71061	1.61082	
July 13 2023	303.65874	1.87745	1.84715	1.71075	1.61095	
July 14 2023	303.68339	1.87760	1.84730	1.71089	1.61108	
July 15 2023	303.70803	1.87775	1.84745	1.71103	1.61121	
July 16 2023	303.73268	1.87791	1.84760	1.71117	1.61134	
July 17 2023	303.75732	1.87806	1.84775	1.71131	1.61147	
July 18 2023	303.78197	1.87821	1.84790	1.71145	1.61160	
July 19 2023	303.80661	1.87836	1.84805	1.71159	1.61173	
July 20 2023	303.83126	1.87852	1.84820	1.71173	1.61186	
July 21 2023	303.85590	1.87867	1.84835	1.71186	1.61200	
July 22 2023	303.88055	1.87882	1.84850	1.71200	1.61213	
July 23 2023	303.90519	1.87897	1.84865	1.71214	1.61226	
July 24 2023	303.92984	1.87913	1.84880	1.71228	1.61239	
July 25 2023	303.95448	1.87928	1.84895	1.71242	1.61252	
July 26 2023	303.97913	1.87943	1.84910	1.71256	1.61265	
July 27 2023	304.00377	1.87958	1.84925	1.71270	1.61278	
July 28 2023	304.02842	1.87974	1.84940	1.71284	1.61291	
July 29 2023	304.05306	1.87989	1.84955	1.71297	1.61304	
July 30 2023	304.07771	1.88004	1.84970	1.71311	1.61317	
July 31 2023	304.10235	1.88019	1.84985	1.71325	1.61330	
CPI-U (NSA) for:			March 2023 301.836	April 2023 303.363	May 2023 304.127	

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
July 2023

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
July	1	2023	303.36300	1.52845	1.50430	1.44806	1.41296
July	2	2023	303.38765	1.52858	1.50442	1.44818	1.41308
July	3	2023	303.41229	1.52870	1.50454	1.44829	1.41319
July	4	2023	303.43694	1.52882	1.50466	1.44841	1.41331
July	5	2023	303.46158	1.52895	1.50478	1.44853	1.41342
July	6	2023	303.48623	1.52907	1.50491	1.44865	1.41354
July	7	2023	303.51087	1.52920	1.50503	1.44876	1.41365
July	8	2023	303.53552	1.52932	1.50515	1.44888	1.41377
July	9	2023	303.56016	1.52944	1.50527	1.44900	1.41388
July	10	2023	303.58481	1.52957	1.50540	1.44912	1.41400
July	11	2023	303.60945	1.52969	1.50552	1.44923	1.41411
July	12	2023	303.63410	1.52982	1.50564	1.44935	1.41423
July	13	2023	303.65874	1.52994	1.50576	1.44947	1.41434
July	14	2023	303.68339	1.53007	1.50588	1.44959	1.41446
July	15	2023	303.70803	1.53019	1.50601	1.44970	1.41457
July	16	2023	303.73268	1.53031	1.50613	1.44982	1.41469
July	17	2023	303.75732	1.53044	1.50625	1.44994	1.41480
July	18	2023	303.78197	1.53056	1.50637	1.45006	1.41492
July	19	2023	303.80661	1.53069	1.50650	1.45018	1.41503
July	20	2023	303.83126	1.53081	1.50662	1.45029	1.41515
July	21	2023	303.85590	1.53093	1.50674	1.45041	1.41526
July	22	2023	303.88055	1.53106	1.50686	1.45053	1.41537
July	23	2023	303.90519	1.53118	1.50698	1.45065	1.41549
July	24	2023	303.92984	1.53131	1.50711	1.45076	1.41560
July	25	2023	303.95448	1.53143	1.50723	1.45088	1.41572
July	26	2023	303.97913	1.53156	1.50735	1.45100	1.41583
July	27	2023	304.00377	1.53168	1.50747	1.45112	1.41595
July	28	2023	304.02842	1.53180	1.50759	1.45123	1.41606
July	29	2023	304.05306	1.53193	1.50772	1.45135	1.41618
July	30	2023	304.07771	1.53205	1.50784	1.45147	1.41629
July	31	2023	304.10235	1.53218	1.50796	1.45159	1.41641
CPI-U (NSA) for:			March 2023 301.836	April 2023 303.363	May 2023 304.127		

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July 2023

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			2-1/8% 30-Year TIPS TIPS of February 2040 912810QF8 February 15, 2010 February 26, 2010 August 31, 2010	2-1/8% 30-Year TIPS TIPS of February 2041 912810QP6 February 15, 2011 February 28, 2011 June 30, 2011 October 31, 2011	0-3/4% 30-Year TIPS TIPS of February 2042 912810QV3 February 15, 2012 February 29, 2012 June 29, 2012 October 31, 2012	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, 2040 216.13950	February 15, 2041 218.99100	February 15, 2042 225.96062	February 15, 2043 229.91100
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
July 1 2023	303.36300	1.40355	1.38528	1.34255	1.31948	
July 2 2023	303.38765	1.40367	1.38539	1.34266	1.31959	
July 3 2023	303.41229	1.40378	1.38550	1.34277	1.31969	
July 4 2023	303.43694	1.40389	1.38561	1.34288	1.31980	
July 5 2023	303.46158	1.40401	1.38573	1.34298	1.31991	
July 6 2023	303.48623	1.40412	1.38584	1.34309	1.32002	
July 7 2023	303.51087	1.40424	1.38595	1.34320	1.32012	
July 8 2023	303.53552	1.40435	1.38606	1.34331	1.32023	
July 9 2023	303.56016	1.40446	1.38618	1.34342	1.32034	
July 10 2023	303.58481	1.40458	1.38629	1.34353	1.32044	
July 11 2023	303.60945	1.40469	1.38640	1.34364	1.32055	
July 12 2023	303.63410	1.40481	1.38651	1.34375	1.32066	
July 13 2023	303.65874	1.40492	1.38663	1.34386	1.32077	
July 14 2023	303.68339	1.40503	1.38674	1.34397	1.32087	
July 15 2023	303.70803	1.40515	1.38685	1.34408	1.32098	
July 16 2023	303.73268	1.40526	1.38696	1.34418	1.32109	
July 17 2023	303.75732	1.40538	1.38708	1.34429	1.32120	
July 18 2023	303.78197	1.40549	1.38719	1.34440	1.32130	
July 19 2023	303.80661	1.40560	1.38730	1.34451	1.32141	
July 20 2023	303.83126	1.40572	1.38741	1.34462	1.32152	
July 21 2023	303.85590	1.40583	1.38753	1.34473	1.32162	
July 22 2023	303.88055	1.40595	1.38764	1.34484	1.32173	
July 23 2023	303.90519	1.40606	1.38775	1.34495	1.32184	
July 24 2023	303.92984	1.40617	1.38786	1.34506	1.32195	
July 25 2023	303.95448	1.40629	1.38798	1.34517	1.32205	
July 26 2023	303.97913	1.40640	1.38809	1.34527	1.32216	
July 27 2023	304.00377	1.40652	1.38820	1.34538	1.32227	
July 28 2023	304.02842	1.40663	1.38831	1.34549	1.32237	
July 29 2023	304.05306	1.40674	1.38843	1.34560	1.32248	
July 30 2023	304.07771	1.40686	1.38854	1.34571	1.32259	
July 31 2023	304.10235	1.40697	1.38865	1.34582	1.32270	
CPI-U (NSA) for:	March 2023	301.836	April 2023	303.363	May 2023	304.127

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July 2023

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% 10-Year TIPS Series D-2024 912828WU0 July 15, 2014 July 31, 2014 September 30, 2014 November 28, 2014
Maturity Date: Ref CPI on Dated Date:			July 15, 2023 232.71797	January 15, 2024 233.33058	February 15, 2044 233.05900	July 15, 2024 237.44594
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
July 1 2023	303.36300	1.30356	1.30014	1.30166	1.27761	
July 2 2023	303.38765	1.30367	1.30025	1.30176	1.27771	
July 3 2023	303.41229	1.30378	1.30035	1.30187	1.27782	
July 4 2023	303.43694	1.30388	1.30046	1.30197	1.27792	
July 5 2023	303.46158	1.30399	1.30056	1.30208	1.27802	
July 6 2023	303.48623	1.30409	1.30067	1.30219	1.27813	
July 7 2023	303.51087	1.30420	1.30078	1.30229	1.27823	
July 8 2023	303.53552	1.30431	1.30088	1.30240	1.27834	
July 9 2023	303.56016	1.30441	1.30099	1.30250	1.27844	
July 10 2023	303.58481	1.30452	1.30109	1.30261	1.27854	
July 11 2023	303.60945	1.30462	1.30120	1.30271	1.27865	
July 12 2023	303.63410	1.30473	1.30130	1.30282	1.27875	
July 13 2023	303.65874	1.30484	1.30141	1.30293	1.27885	
July 14 2023	303.68339	1.30494	1.30152	1.30303	1.27896	
July 15 2023	303.70803	1.30505	1.30162	1.30314	1.27906	
July 16 2023	303.73268		1.30173	1.30324	1.27917	
July 17 2023	303.75732		1.30183	1.30335	1.27927	
July 18 2023	303.78197		1.30194	1.30346	1.27937	
July 19 2023	303.80661		1.30204	1.30356	1.27948	
July 20 2023	303.83126		1.30215	1.30367	1.27958	
July 21 2023	303.85590		1.30225	1.30377	1.27968	
July 22 2023	303.88055		1.30236	1.30388	1.27979	
July 23 2023	303.90519		1.30247	1.30398	1.27989	
July 24 2023	303.92984		1.30257	1.30409	1.28000	
July 25 2023	303.95448		1.30268	1.30420	1.28010	
July 26 2023	303.97913		1.30278	1.30430	1.28020	
July 27 2023	304.00377		1.30289	1.30441	1.28031	
July 28 2023	304.02842		1.30299	1.30451	1.28041	
July 29 2023	304.05306		1.30310	1.30462	1.28051	
July 30 2023	304.07771		1.30321	1.30472	1.28062	
July 31 2023	304.10235		1.30331	1.30483	1.28072	
CPI-U (NSA) for:	March 2023	301.836	April 2023	303.363	May 2023	304.127

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
July 2023

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			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	0-3/8% 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:			January 15, 2025 236.85403	February 15, 2045 235.48150	July 15, 2025 237.14365	January 15, 2026 237.61129
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
July 1 2023	303.36300	1.28080	1.28827	1.27924	1.27672	
July 2 2023	303.38765	1.28091	1.28837	1.27934	1.27682	
July 3 2023	303.41229	1.28101	1.28848	1.27945	1.27693	
July 4 2023	303.43694	1.28111	1.28858	1.27955	1.27703	
July 5 2023	303.46158	1.28122	1.28869	1.27965	1.27713	
July 6 2023	303.48623	1.28132	1.28879	1.27976	1.27724	
July 7 2023	303.51087	1.28143	1.28889	1.27986	1.27734	
July 8 2023	303.53552	1.28153	1.28900	1.27996	1.27745	
July 9 2023	303.56016	1.28163	1.28910	1.28007	1.27755	
July 10 2023	303.58481	1.28174	1.28921	1.28017	1.27765	
July 11 2023	303.60945	1.28184	1.28931	1.28028	1.27776	
July 12 2023	303.63410	1.28195	1.28942	1.28038	1.27786	
July 13 2023	303.65874	1.28205	1.28952	1.28048	1.27796	
July 14 2023	303.68339	1.28215	1.28963	1.28059	1.27807	
July 15 2023	303.70803	1.28226	1.28973	1.28069	1.27817	
July 16 2023	303.73268	1.28236	1.28984	1.28080	1.27828	
July 17 2023	303.75732	1.28247	1.28994	1.28090	1.27838	
July 18 2023	303.78197	1.28257	1.29005	1.28100	1.27848	
July 19 2023	303.80661	1.28267	1.29015	1.28111	1.27859	
July 20 2023	303.83126	1.28278	1.29026	1.28121	1.27869	
July 21 2023	303.85590	1.28288	1.29036	1.28132	1.27879	
July 22 2023	303.88055	1.28299	1.29046	1.28142	1.27890	
July 23 2023	303.90519	1.28309	1.29057	1.28152	1.27900	
July 24 2023	303.92984	1.28319	1.29067	1.28163	1.27911	
July 25 2023	303.95448	1.28330	1.29078	1.28173	1.27921	
July 26 2023	303.97913	1.28340	1.29088	1.28184	1.27931	
July 27 2023	304.00377	1.28351	1.29099	1.28194	1.27942	
July 28 2023	304.02842	1.28361	1.29109	1.28204	1.27952	
July 29 2023	304.05306	1.28371	1.29120	1.28215	1.27962	
July 30 2023	304.07771	1.28382	1.29130	1.28225	1.27973	
July 31 2023	304.10235	1.28392	1.29141	1.28236	1.27983	
CPI-U (NSA) for:	March 2023	301.836	April 2023	303.363	May 2023	304.127

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
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July 2023

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% 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
Maturity Date: Ref CPI on Dated Date:			February 15, 2046 236.94448	July 15, 2026 239.70132	January 15, 2027 241.55919	February 15, 2047 241.39250
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
July 1 2023	303.36300	1.28031	1.26559	1.25585	1.25672	
July 2 2023	303.38765	1.28042	1.26569	1.25596	1.25682	
July 3 2023	303.41229	1.28052	1.26579	1.25606	1.25693	
July 4 2023	303.43694	1.28062	1.26590	1.25616	1.25703	
July 5 2023	303.46158	1.28073	1.26600	1.25626	1.25713	
July 6 2023	303.48623	1.28083	1.26610	1.25636	1.25723	
July 7 2023	303.51087	1.28094	1.26620	1.25647	1.25733	
July 8 2023	303.53552	1.28104	1.26631	1.25657	1.25744	
July 9 2023	303.56016	1.28114	1.26641	1.25667	1.25754	
July 10 2023	303.58481	1.28125	1.26651	1.25677	1.25764	
July 11 2023	303.60945	1.28135	1.26662	1.25687	1.25774	
July 12 2023	303.63410	1.28146	1.26672	1.25698	1.25784	
July 13 2023	303.65874	1.28156	1.26682	1.25708	1.25795	
July 14 2023	303.68339	1.28166	1.26692	1.25718	1.25805	
July 15 2023	303.70803	1.28177	1.26703	1.25728	1.25815	
July 16 2023	303.73268	1.28187	1.26713	1.25738	1.25825	
July 17 2023	303.75732	1.28198	1.26723	1.25749	1.25835	
July 18 2023	303.78197	1.28208	1.26734	1.25759	1.25846	
July 19 2023	303.80661	1.28218	1.26744	1.25769	1.25856	
July 20 2023	303.83126	1.28229	1.26754	1.25779	1.25866	
July 21 2023	303.85590	1.28239	1.26764	1.25789	1.25876	
July 22 2023	303.88055	1.28250	1.26775	1.25800	1.25886	
July 23 2023	303.90519	1.28260	1.26785	1.25810	1.25897	
July 24 2023	303.92984	1.28270	1.26795	1.25820	1.25907	
July 25 2023	303.95448	1.28281	1.26806	1.25830	1.25917	
July 26 2023	303.97913	1.28291	1.26816	1.25840	1.25927	
July 27 2023	304.00377	1.28302	1.26826	1.25851	1.25938	
July 28 2023	304.02842	1.28312	1.26836	1.25861	1.25948	
July 29 2023	304.05306	1.28322	1.26847	1.25871	1.25958	
July 30 2023	304.07771	1.28333	1.26857	1.25881	1.25968	
July 31 2023	304.10235	1.28343	1.26867	1.25891	1.25978	
CPI-U (NSA) for:	March 2023	301.836	April 2023	303.363	May 2023	304.127

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
July 2023

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	0-3/4% 10-Year TIPS Series D-2028 912828Y38 July 15, 2018 July 31, 2018 September 28, 2018 November 30, 2018
Maturity Date: Ref CPI on Dated Date:			July 15, 2027 244.61839	January 15, 2028 246.66571	February 15, 2048 246.59650	July 15, 2028 251.01658
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
July 1 2023	303.36300	1.24015	1.22985	1.23020	1.20854	
July 2 2023	303.38765	1.24025	1.22995	1.23030	1.20864	
July 3 2023	303.41229	1.24035	1.23005	1.23040	1.20873	
July 4 2023	303.43694	1.24045	1.23015	1.23050	1.20883	
July 5 2023	303.46158	1.24055	1.23025	1.23060	1.20893	
July 6 2023	303.48623	1.24065	1.23035	1.23070	1.20903	
July 7 2023	303.51087	1.24075	1.23045	1.23080	1.20913	
July 8 2023	303.53552	1.24085	1.23055	1.23090	1.20922	
July 9 2023	303.56016	1.24095	1.23065	1.23100	1.20932	
July 10 2023	303.58481	1.24105	1.23075	1.23110	1.20942	
July 11 2023	303.60945	1.24116	1.23085	1.23120	1.20952	
July 12 2023	303.63410	1.24126	1.23095	1.23130	1.20962	
July 13 2023	303.65874	1.24136	1.23105	1.23140	1.20972	
July 14 2023	303.68339	1.24146	1.23115	1.23150	1.20981	
July 15 2023	303.70803	1.24156	1.23125	1.23160	1.20991	
July 16 2023	303.73268	1.24166	1.23135	1.23170	1.21001	
July 17 2023	303.75732	1.24176	1.23145	1.23180	1.21011	
July 18 2023	303.78197	1.24186	1.23155	1.23190	1.21021	
July 19 2023	303.80661	1.24196	1.23165	1.23200	1.21030	
July 20 2023	303.83126	1.24206	1.23175	1.23210	1.21040	
July 21 2023	303.85590	1.24216	1.23185	1.23220	1.21050	
July 22 2023	303.88055	1.24226	1.23195	1.23230	1.21060	
July 23 2023	303.90519	1.24236	1.23205	1.23240	1.21070	
July 24 2023	303.92984	1.24247	1.23215	1.23250	1.21080	
July 25 2023	303.95448	1.24257	1.23225	1.23260	1.21089	
July 26 2023	303.97913	1.24267	1.23235	1.23270	1.21099	
July 27 2023	304.00377	1.24277	1.23245	1.23280	1.21109	
July 28 2023	304.02842	1.24287	1.23255	1.23290	1.21119	
July 29 2023	304.05306	1.24297	1.23265	1.23300	1.21129	
July 30 2023	304.07771	1.24307	1.23275	1.23310	1.21138	
July 31 2023	304.10235	1.24317	1.23285	1.23320	1.21148	
CPI-U (NSA) for:	March 2023	301.836	April 2023	303.363	May 2023	304.127

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
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Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-7/8% 10-Year TIPS Series A-2029 9128285W6 January 15, 2019 January 31, 2019 March 29, 2019 May 31, 2019	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 September 30, 2019 November 29, 2019
Maturity Date: Ref CPI on Dated Date:			January 15, 2029 252.50248	February 15, 2049 251.63550	April 15, 2024 252.20853	July 15, 2029 255.79368
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
July 1 2023	303.36300	1.20143	1.20557	1.20283	1.18597	
July 2 2023	303.38765	1.20152	1.20566	1.20292	1.18606	
July 3 2023	303.41229	1.20162	1.20576	1.20302	1.18616	
July 4 2023	303.43694	1.20172	1.20586	1.20312	1.18626	
July 5 2023	303.46158	1.20182	1.20596	1.20322	1.18635	
July 6 2023	303.48623	1.20191	1.20605	1.20331	1.18645	
July 7 2023	303.51087	1.20201	1.20615	1.20341	1.18655	
July 8 2023	303.53552	1.20211	1.20625	1.20351	1.18664	
July 9 2023	303.56016	1.20221	1.20635	1.20361	1.18674	
July 10 2023	303.58481	1.20230	1.20645	1.20371	1.18683	
July 11 2023	303.60945	1.20240	1.20654	1.20380	1.18693	
July 12 2023	303.63410	1.20250	1.20664	1.20390	1.18703	
July 13 2023	303.65874	1.20260	1.20674	1.20400	1.18712	
July 14 2023	303.68339	1.20269	1.20684	1.20410	1.18722	
July 15 2023	303.70803	1.20279	1.20694	1.20419	1.18732	
July 16 2023	303.73268	1.20289	1.20703	1.20429	1.18741	
July 17 2023	303.75732	1.20299	1.20713	1.20439	1.18751	
July 18 2023	303.78197	1.20309	1.20723	1.20449	1.18761	
July 19 2023	303.80661	1.20318	1.20733	1.20458	1.18770	
July 20 2023	303.83126	1.20328	1.20743	1.20468	1.18780	
July 21 2023	303.85590	1.20338	1.20752	1.20478	1.18789	
July 22 2023	303.88055	1.20348	1.20762	1.20488	1.18799	
July 23 2023	303.90519	1.20357	1.20772	1.20498	1.18809	
July 24 2023	303.92984	1.20367	1.20782	1.20507	1.18818	
July 25 2023	303.95448	1.20377	1.20792	1.20517	1.18828	
July 26 2023	303.97913	1.20387	1.20801	1.20527	1.18838	
July 27 2023	304.00377	1.20396	1.20811	1.20537	1.18847	
July 28 2023	304.02842	1.20406	1.20821	1.20546	1.18857	
July 29 2023	304.05306	1.20416	1.20831	1.20556	1.18867	
July 30 2023	304.07771	1.20426	1.20841	1.20566	1.18876	
July 31 2023	304.10235	1.20435	1.20850	1.20576	1.18886	
CPI-U (NSA) for:	March 2023	301.836	April 2023	303.363	May 2023	304.127

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
July 2023

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-1/8% 5-Year TIPS Series AE-2024 912828YL8 October 15, 2019 October 31, 2019 December 31, 2019	0-1/8% 10-Year TIPS Series A-2030 912828ZJ7 January 15, 2020 January 31, 2020 March 31, 2020 May 29, 2020	0-1/4% 30-Year TIPS TIPS of February 2050 912810SM1 February 15, 2020 February 28, 2020 August 31, 2020	0-1/8% 5-Year TIPS Series X-2025 912828ZJ2 April 15, 2020 April 30, 2020 June 30, 2020 July 13, 2020
Maturity Date: Ref CPI on Dated Date:			October 15, 2024 256.56513	January 15, 2030 257.28368	February 15, 2050 257.09503	April 15, 2025 258.30093
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
July 1 2023	303.36300	1.18240	1.17910	1.17996	1.17446	
July 2 2023	303.38765	1.18250	1.17920	1.18006	1.17455	
July 3 2023	303.41229	1.18259	1.17929	1.18016	1.17465	
July 4 2023	303.43694	1.18269	1.17939	1.18025	1.17474	
July 5 2023	303.46158	1.18279	1.17948	1.18035	1.17484	
July 6 2023	303.48623	1.18288	1.17958	1.18044	1.17493	
July 7 2023	303.51087	1.18298	1.17967	1.18054	1.17503	
July 8 2023	303.53552	1.18307	1.17977	1.18064	1.17512	
July 9 2023	303.56016	1.18317	1.17987	1.18073	1.17522	
July 10 2023	303.58481	1.18327	1.17996	1.18083	1.17531	
July 11 2023	303.60945	1.18336	1.18006	1.18092	1.17541	
July 12 2023	303.63410	1.18346	1.18015	1.18102	1.17551	
July 13 2023	303.65874	1.18355	1.18025	1.18111	1.17560	
July 14 2023	303.68339	1.18365	1.18034	1.18121	1.17570	
July 15 2023	303.70803	1.18375	1.18044	1.18131	1.17579	
July 16 2023	303.73268	1.18384	1.18054	1.18140	1.17589	
July 17 2023	303.75732	1.18394	1.18063	1.18150	1.17598	
July 18 2023	303.78197	1.18403	1.18073	1.18159	1.17608	
July 19 2023	303.80661	1.18413	1.18082	1.18169	1.17617	
July 20 2023	303.83126	1.18423	1.18092	1.18179	1.17627	
July 21 2023	303.85590	1.18432	1.18102	1.18188	1.17636	
July 22 2023	303.88055	1.18442	1.18111	1.18198	1.17646	
July 23 2023	303.90519	1.18451	1.18121	1.18207	1.17655	
July 24 2023	303.92984	1.18461	1.18130	1.18217	1.17665	
July 25 2023	303.95448	1.18471	1.18140	1.18227	1.17675	
July 26 2023	303.97913	1.18480	1.18149	1.18236	1.17684	
July 27 2023	304.00377	1.18490	1.18159	1.18246	1.17694	
July 28 2023	304.02842	1.18500	1.18169	1.18255	1.17703	
July 29 2023	304.05306	1.18509	1.18178	1.18265	1.17713	
July 30 2023	304.07771	1.18519	1.18188	1.18274	1.17722	
July 31 2023	304.10235	1.18528	1.18197	1.18284	1.17732	
CPI-U (NSA) for:	March 2023	301.836	April 2023	303.363	May 2023	304.127

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
July 2023

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-1/8% 10-Year TIPS Series D-2030 912828ZZ6 July 15, 2020 July 31, 2020 September 30, 2020 November 30, 2020	0-1/8% 5-Year TIPS Series AE-2025 91282CAQ4 October 15, 2020 October 30, 2020 December 31, 2020	0-1/8% 10-Year TIPS Series A-2031 91282CBF7 January 15, 2021 January 29, 2021 March 31, 2021 May 28, 2021	0-1/8% 30-Year TIPS TIPS of February 2051 912810SV1 February 15, 2021 February 26, 2021 August 31, 2021
Maturity Date: Ref CPI on Dated Date:			July 15, 2030 256.39126	October 15, 2025 259.46997	January 15, 2031 260.31619	February 15, 2051 260.35150
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
July 1 2023	303.36300	1.18320	1.16916	1.16536	1.16521	
July 2 2023	303.38765	1.18330	1.16926	1.16546	1.16530	
July 3 2023	303.41229	1.18340	1.16935	1.16555	1.16539	
July 4 2023	303.43694	1.18349	1.16945	1.16565	1.16549	
July 5 2023	303.46158	1.18359	1.16954	1.16574	1.16558	
July 6 2023	303.48623	1.18368	1.16964	1.16584	1.16568	
July 7 2023	303.51087	1.18378	1.16973	1.16593	1.16577	
July 8 2023	303.53552	1.18388	1.16983	1.16603	1.16587	
July 9 2023	303.56016	1.18397	1.16992	1.16612	1.16596	
July 10 2023	303.58481	1.18407	1.17002	1.16622	1.16606	
July 11 2023	303.60945	1.18416	1.17011	1.16631	1.16615	
July 12 2023	303.63410	1.18426	1.17021	1.16640	1.16625	
July 13 2023	303.65874	1.18436	1.17030	1.16650	1.16634	
July 14 2023	303.68339	1.18445	1.17040	1.16659	1.16644	
July 15 2023	303.70803	1.18455	1.17049	1.16669	1.16653	
July 16 2023	303.73268	1.18465	1.17059	1.16678	1.16663	
July 17 2023	303.75732	1.18474	1.17068	1.16688	1.16672	
July 18 2023	303.78197	1.18484	1.17078	1.16697	1.16681	
July 19 2023	303.80661	1.18493	1.17087	1.16707	1.16691	
July 20 2023	303.83126	1.18503	1.17097	1.16716	1.16700	
July 21 2023	303.85590	1.18513	1.17106	1.16726	1.16710	
July 22 2023	303.88055	1.18522	1.17116	1.16735	1.16719	
July 23 2023	303.90519	1.18532	1.17125	1.16745	1.16729	
July 24 2023	303.92984	1.18541	1.17135	1.16754	1.16738	
July 25 2023	303.95448	1.18551	1.17144	1.16764	1.16748	
July 26 2023	303.97913	1.18561	1.17154	1.16773	1.16757	
July 27 2023	304.00377	1.18570	1.17163	1.16783	1.16767	
July 28 2023	304.02842	1.18580	1.17173	1.16792	1.16776	
July 29 2023	304.05306	1.18589	1.17182	1.16801	1.16786	
July 30 2023	304.07771	1.18599	1.17192	1.16811	1.16795	
July 31 2023	304.10235	1.18609	1.17201	1.16820	1.16805	
CPI-U (NSA) for:	March 2023	301.836	April 2023	303.363	May 2023	304.127

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
July 2023

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-1/8% 5-Year TIPS Series X-2026 91282CCA7 April 15, 2021 July 30, 2021 June 30, 2021	0-1/8% 10-Year TIPS Series D-2031 91282CCM1 July 15, 2021 July 30, 2021 September 30, 2021 November 30, 2021	0-1/8% 5-Year TIPS Series AE-2026 91282CDC2 October 15, 2021 October 29, 2021 December 31, 2021	0-1/8% 10-Year TIPS Series A-2032 91282CDX6 January 15, 2022 January 31, 2022 March 31, 2022 May 31, 2022
Maturity Date: Ref CPI on Dated Date:			April 15, 2026 262.25027	July 15, 2031 268.02090	October 15, 2026 273.25771	January 15, 2032 277.20274
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
July 1 2023	303.36300	1.15677	1.13186	1.11017	1.09437	
July 2 2023	303.38765	1.15686	1.13196	1.11026	1.09446	
July 3 2023	303.41229	1.15696	1.13205	1.11035	1.09455	
July 4 2023	303.43694	1.15705	1.13214	1.11044	1.09464	
July 5 2023	303.46158	1.15714	1.13223	1.11053	1.09473	
July 6 2023	303.48623	1.15724	1.13232	1.11062	1.09482	
July 7 2023	303.51087	1.15733	1.13241	1.11071	1.09491	
July 8 2023	303.53552	1.15743	1.13251	1.11080	1.09499	
July 9 2023	303.56016	1.15752	1.13260	1.11089	1.09508	
July 10 2023	303.58481	1.15761	1.13269	1.11098	1.09517	
July 11 2023	303.60945	1.15771	1.13278	1.11107	1.09526	
July 12 2023	303.63410	1.15780	1.13287	1.11116	1.09535	
July 13 2023	303.65874	1.15790	1.13297	1.11125	1.09544	
July 14 2023	303.68339	1.15799	1.13306	1.11134	1.09553	
July 15 2023	303.70803	1.15808	1.13315	1.11143	1.09562	
July 16 2023	303.73268	1.15818	1.13324	1.11152	1.09571	
July 17 2023	303.75732	1.15827	1.13333	1.11161	1.09579	
July 18 2023	303.78197	1.15837	1.13343	1.11171	1.09588	
July 19 2023	303.80661	1.15846	1.13352	1.11180	1.09597	
July 20 2023	303.83126	1.15855	1.13361	1.11189	1.09606	
July 21 2023	303.85590	1.15865	1.13370	1.11198	1.09615	
July 22 2023	303.88055	1.15874	1.13379	1.11207	1.09624	
July 23 2023	303.90519	1.15884	1.13389	1.11216	1.09633	
July 24 2023	303.92984	1.15893	1.13398	1.11225	1.09642	
July 25 2023	303.95448	1.15902	1.13407	1.11234	1.09651	
July 26 2023	303.97913	1.15912	1.13416	1.11243	1.09659	
July 27 2023	304.00377	1.15921	1.13425	1.11252	1.09668	
July 28 2023	304.02842	1.15931	1.13435	1.11261	1.09677	
July 29 2023	304.05306	1.15940	1.13444	1.11270	1.09686	
July 30 2023	304.07771	1.15949	1.13453	1.11279	1.09695	
July 31 2023	304.10235	1.15959	1.13462	1.11288	1.09704	
CPI-U (NSA) for:	March 2023	301.836	April 2023	303.363	May 2023	304.127

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
July 2023

Security: Description: CUSIP Number: Dated Date: Original Issue Date: Additional Issue Date(s):			0-1/8% 30-Year TIPS TIPS of February 2052 912810TE8 February 15, 2022 February 28, 2022 August 31, 2022	0-1/8% 5-Year TIPS Series X-2027 91282CEJ6 April 15, 2022 April 29, 2022 June 30, 2022	0-5/8% 10-Year TIPS Series D-2032 91282CEZ0 July 15, 2022 July 29, 2022 September 30, 2022 November 30, 2022	1-5/8% 5-Year TIPS Series AE-2027 91282CFR7 October 15, 2022 October 31, 2022 December 30, 2022
Maturity Date: Ref CPI on Dated Date:			February 15, 2052 278.37500	April 15, 2027 282.34640	July 15, 2032 290.54829	October 15, 2027 296.22858
Date	Ref CPI	Index Ratio	Index Ratio	Index Ratio	Index Ratio	
July 1 2023	303.36300	1.08976	1.07444	1.04411	1.02408	
July 2 2023	303.38765	1.08985	1.07452	1.04419	1.02417	
July 3 2023	303.41229	1.08994	1.07461	1.04427	1.02425	
July 4 2023	303.43694	1.09003	1.07470	1.04436	1.02433	
July 5 2023	303.46158	1.09012	1.07478	1.04444	1.02442	
July 6 2023	303.48623	1.09021	1.07487	1.04453	1.02450	
July 7 2023	303.51087	1.09029	1.07496	1.04461	1.02458	
July 8 2023	303.53552	1.09038	1.07505	1.04470	1.02467	
July 9 2023	303.56016	1.09047	1.07513	1.04478	1.02475	
July 10 2023	303.58481	1.09056	1.07522	1.04487	1.02483	
July 11 2023	303.60945	1.09065	1.07531	1.04495	1.02492	
July 12 2023	303.63410	1.09074	1.07540	1.04504	1.02500	
July 13 2023	303.65874	1.09083	1.07548	1.04512	1.02508	
July 14 2023	303.68339	1.09091	1.07557	1.04521	1.02517	
July 15 2023	303.70803	1.09100	1.07566	1.04529	1.02525	
July 16 2023	303.73268	1.09109	1.07574	1.04538	1.02533	
July 17 2023	303.75732	1.09118	1.07583	1.04546	1.02542	
July 18 2023	303.78197	1.09127	1.07592	1.04555	1.02550	
July 19 2023	303.80661	1.09136	1.07601	1.04563	1.02558	
July 20 2023	303.83126	1.09145	1.07609	1.04572	1.02566	
July 21 2023	303.85590	1.09153	1.07618	1.04580	1.02575	
July 22 2023	303.88055	1.09162	1.07627	1.04589	1.02583	
July 23 2023	303.90519	1.09171	1.07636	1.04597	1.02591	
July 24 2023	303.92984	1.09180	1.07644	1.04606	1.02600	
July 25 2023	303.95448	1.09189	1.07653	1.04614	1.02608	
July 26 2023	303.97913	1.09198	1.07662	1.04623	1.02616	
July 27 2023	304.00377	1.09207	1.07670	1.04631	1.02625	
July 28 2023	304.02842	1.09215	1.07679	1.04640	1.02633	
July 29 2023	304.05306	1.09224	1.07688	1.04648	1.02641	
July 30 2023	304.07771	1.09233	1.07697	1.04657	1.02650	
July 31 2023	304.10235	1.09242	1.07705	1.04665	1.02658	
CPI-U (NSA) for:	March 2023	301.836	April 2023	303.363	May 2023	304.127

TREASURY INFLATION-PROTECTED SECURITIES (TIPS)
Ref CPI and Index Ratios for
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Date			Ref CPI	Index Ratio	Index Ratio	Index Ratio		
July	1	2023	303.36300	1.01842	1.02055	1.01138		
July	2	2023	303.38765	1.01850	1.02063	1.01146		
July	3	2023	303.41229	1.01859	1.02072	1.01155		
July	4	2023	303.43694	1.01867	1.02080	1.01163		
July	5	2023	303.46158	1.01875	1.02088	1.01171		
July	6	2023	303.48623	1.01883	1.02097	1.01179		
July	7	2023	303.51087	1.01892	1.02105	1.01187		
July	8	2023	303.53552	1.01900	1.02113	1.01196		
July	9	2023	303.56016	1.01908	1.02121	1.01204		
July	10	2023	303.58481	1.01916	1.02130	1.01212		
July	11	2023	303.60945	1.01925	1.02138	1.01220		
July	12	2023	303.63410	1.01933	1.02146	1.01228		
July	13	2023	303.65874	1.01941	1.02155	1.01237		
July	14	2023	303.68339	1.01950	1.02163	1.01245		
July	15	2023	303.70803	1.01958	1.02171	1.01253		
July	16	2023	303.73268	1.01966	1.02180	1.01261		
July	17	2023	303.75732	1.01974	1.02188	1.01270		
July	18	2023	303.78197	1.01983	1.02196	1.01278		
July	19	2023	303.80661	1.01991	1.02204	1.01286		
July	20	2023	303.83126	1.01999	1.02213	1.01294		
July	21	2023	303.85590	1.02007	1.02221	1.01302		
July	22	2023	303.88055	1.02016	1.02229	1.01311		
July	23	2023	303.90519	1.02024	1.02238	1.01319		
July	24	2023	303.92984	1.02032	1.02246	1.01327		
July	25	2023	303.95448	1.02041	1.02254	1.01335		
July	26	2023	303.97913	1.02049	1.02262	1.01343		
July	27	2023	304.00377	1.02057	1.02271	1.01352		
July	28	2023	304.02842	1.02065	1.02279	1.01360		
July	29	2023	304.05306	1.02074	1.02287	1.01368		
July	30	2023	304.07771	1.02082	1.02296	1.01376		
July	31	2023	304.10235	1.02090	1.02304	1.01385		
CPI-U (NSA) for:			March 2023	301.836	April 2023	303.363	May 2023	304.127

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

Maturity Date:
Ref CPI on Dated Date:

1-1/8% 10-Year TIPS
Series A-2033
91282CGK1
January 15, 2023
January 31, 2023
March 31, 2023
May 31, 2023

January 15, 2033
297.87606

1-1/2% 30-Year TIPS
TIPS of February 2053
912810TP3
February 15, 2023
February 28, 2023

February 15, 2053
297.25400

1-1/4% 5-Year TIPS
Series X-2028
91282CGW5
April 15, 2023
April 28, 2023

April 15, 2028
299.94933