APPENDIX
(Revised November 9, 2023)

DEFAULT SOCIAL RATE OF TIME PREFERENCE ESTIMATES

1. Effective Dates

This Appendix is updated every three years. This version of the Appendix is valid until the release of a subsequent Appendix in 2026. Agencies may generally continue to refer to the discount rate estimate in the version of the Appendix in effect at the time that a regulatory analysis for a proposed regulation is received by OMB, even if the Appendix is updated before the regulation is finalized. However, if the Appendix has been updated more than once since the proposed regulation was received by OMB, agencies should refer to the most recent version of the Appendix.

A copy of the updated Appendix can be obtained in electronic form through the OMB home page at *https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-4Appendix.pdf*. The text of the Circular is found at *https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-4.pdf*, and a table of past years' rates is located at *https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-4DiscountHistory.pdf*.

2. Near-term Estimate of the Social Rate of Time Preference

OMB estimates the social rate of time preference (SRTP) over the next 30 years by considering the 30-year average (currently covering 1993 to 2022) of the yield on 10-year Treasury marketable securities:[1]

the yield on 10-year Treasury Inflation Protected Securities (TIPS)—which measure inflation using the consumer price index (CPI)—over the period they have been available (as of this writing, 2003 to 2022) and
the yield on 10-year Treasury notes minus the average annual rate of change in the CPI for years that 10-year TIPS were not available (as of this writing, 1993 to 2002).

OMB then adds a 0.3 percent rate to reflect inflation as measured by the personal consumption expenditure (PCE) inflation index rather than CPI.

30-year Securities Average	PCE Inflation Adjustment	SRTP Estimate
1.7 percent	0.3 percent	2.0 percent

---

[1] For more details on the selection of data and methodology, see Office of Management & Budget, *OMB Circular No. A-4: Explanation and Response to Public Input* (Nov. 9, 2023), *https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-4Explanation.pdf*.

Corresponding discount factors over the next 30 years (using 2.0 percent per year):

Year	Discount Factor	Year	Discount Factor
1	0.9804	16	0.7284
2	0.9612	17	0.7142
3	0.9423	18	0.7002
4	0.9238	19	0.6864
5	0.9057	20	0.6730
6	0.8880	21	0.6598
7	0.8706	22	0.6468
8	0.8535	23	0.6342
9	0.8368	24	0.6217
10	0.8203	25	0.6095
11	0.8043	26	0.5976
12	0.7885	27	0.5859
13	0.7730	28	0.5744
14	0.7579	29	0.5631
15	0.7430	30	0.5521

3. Long-term Estimate of the Social Rate of Time Preference

OMB estimates the social rate of time preference beyond the next 30 years by modeling the discount rate in each year as the sum of a slow-moving trend component, which is a random walk, and a cyclical component. OMB assumes innovations in the random walk are normally distributed with mean of zero and variance of 0.04; the cyclical component is an AR(1) process, with the AR parameter set to 0.7, and innovations are normally distributed with mean of zero and variance of 0.9. Rates are constrained to be non-negative in each year. OMB simulates 100,000 paths for the discount rate, calculates the expected discount factor across these paths, and computes the forward rates consistent with this path of expected discount factors.[2] OMB provides a schedule of rates over a 150-year horizon; rates extending beyond this time period are available from OMB upon agency request.

Years	Discount Rate
2023 – 2079	2.0%
2080 – 2094	1.9%
2095 – 2105	1.8%
2106 – 2115	1.7%
2116 – 2125	1.6%
2126 – 2134	1.5%
2135 – 2143	1.4%
2144 – 2153	1.3%
2154 – 2163	1.2%
2164 – 2172	1.1%

---

[2] See *OMB Circular No. A-4: Explanation and Response to Public Input*, *supra*, for more details on rationale and methodology for the default schedule of long-term rates.