See the real return advantage of municipal bonds

The adverse effects of taxes and inflation can erode the income offered by CDs. Municipal bonds may be an attractive alternative, particularly for higher income earners.

CD rates versus muni bond returns

Year	CD rate	Bloomberg Barclays Municipal Bond Index	Inflation	Maximum tax rate	Real returns of CDs*	Real returns of municipal bonds*
1990	8.49%	7.29%	6.25%	28.00%	-0.13%	0.98%
1991	6.06	12.14	2.98	31.00	1.17	8.89
1992	3.82	8.81	2.97	31.00	-0.32	5.67
1993	3.34	12.28	2.81	39.60	-0.77	9.21
1994	5.05	-5.17	2.60	39.60	0.44	-7.57
1995	6.16	17.45	2.53	39.60	1.16	14.55
1996	5.61	4.43	3.38	39.60	0.01	1.02
1997	5.87	9.19	1.70	39.60	1.81	7.36
1998	5.58	6.48	1.61	39.60	1.73	4.79
1999	5.59	-2.06	2.68	39.60	0.68	-4.62
2000	6.79	11.68	3.44	39.60	0.64	7.97
2001	3.69	5.13	1.60	39.10	0.64	3.47
2002	1.81	9.60	2.48	38.60	-1.34	6.95
2003	1.23	5.31	2.04	35.00	-1.22	3.20
2004	1.75	4.48	3.34	35.00	-2.13	1.10
2005	3.79	3.51	3.34	35.00	-0.85	0.16
2006	5.33	4.84	2.52	35.00	0.92	2.26
2007	5.35	3.36	4.11	35.00	-0.61	-0.72
2008	3.18	-2.47	-0.02	35.00	2.09	-2.45
2009	0.88	12.91	2.81	35.00	-2.18	9.82
2010	0.44	2.38	1.44	35.00	-1.14	0.93
2011	0.42	10.70	3.06	35.00	-2.70	7.41
2012	0.44	6.78	1.76	35.00	-1.45	4.93
2013	0.27	-2.55	1.51	43.40	-1.34	-4.00
2014	0.43	9.05	0.65	43.40	-0.40	8.35
2015	0.89	3.30	0.66	43.40	-0.16	2.62
2016	1.27	0.25	2.08	43.40	-1.33	-1.79
2017	1.82	5.45	2.11	43.40	-1.06	3.27
2018	2.82	1.28	1.95	43.40	-0.35	-0.66
2019	1.79	7.54	2.29	43.40	-1.25	5.13
Average as of 12/31/19	**3.31%**	**5.66%**	**2.42%**	**37.94%**	**-0.32%**	**3.16%**

While bonds incur more risk, certificates of deposit (CDs) offer a fixed rate of return, and the interest and principal on CDs will generally be insured by the FDIC up to $250,000. Municipal bonds may have a higher level of credit risk as compared with government bonds and CDs.

Source: Current data is from Bloomberg. Data prior to 2013 is from Lipper. CD performance is based on average historical interest rates from Lipper. The Consumer Price Index (CPI) measures inflation. The Bloomberg Barclays Municipal Bond Index is an unmanaged index of long-term fixed-rate investment-grade tax-exempt bonds. It is not possible to invest directly in an index. Past performance is not a guarantee of future results. Investments in mutual funds will fluctuate with market conditions, and you may have more or less than the original amount invested when you sell your shares.

* Real returns represent the asset's total return adjusted for inflation and, in the case of CDs, taxes.

Municipal bonds offer tax-free income and a low historical level of risk

The tax-free advantage

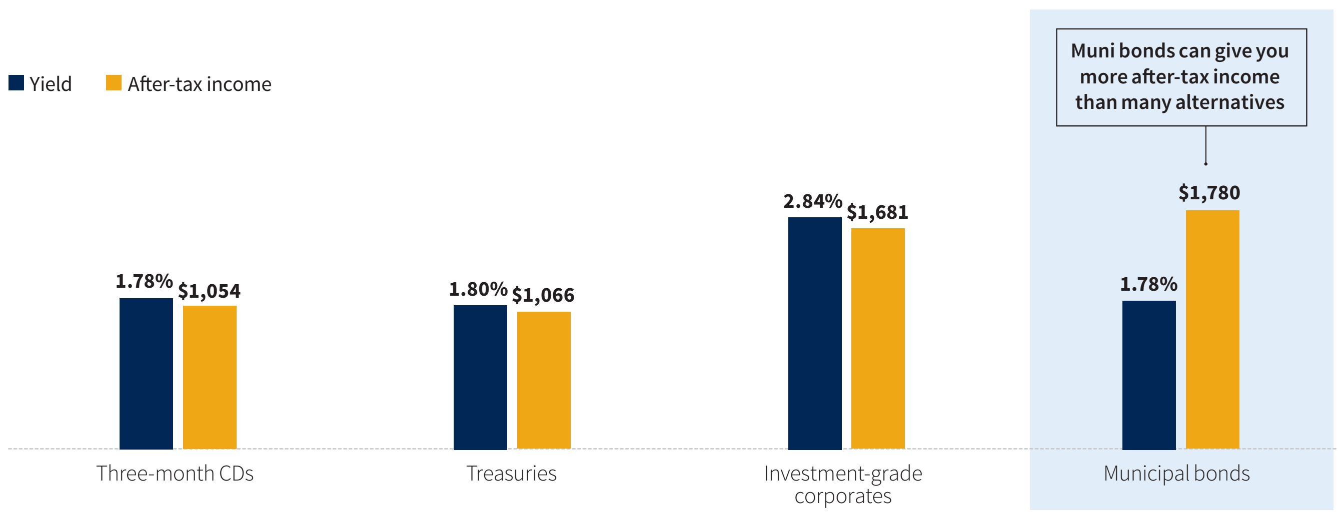
Unlike CDs, Treasuries, or corporate bonds, the interest paid on municipal bonds is free from federal and, in some cases, state and local income taxes. That can make municipal bonds particularly attractive to investors subject to higher personal income tax rates.

A low historical default rate

Municipal bonds have been an asset class with limited risk of default. Over the past five years, corporate bonds defaulted at a rate more than 80 times higher than municipal bonds.

Municipal bonds' tax benefits can make their income potential more attractive than other types of bonds

Yield and annual after-tax income generated by a hypothetical $100,000 investment as of 12/31/19



Source: Putnam, as of 12/31/19. Yields for Treasuries, investment-grade corporates, and municipal bonds are represented by the average "yield to worst" — a calculation of the lowest possible yield generated without defaulting — of the Bloomberg Barclays U.S. Treasury Index, the Bloomberg Barclays U.S. Corporate Bond Index, and the Bloomberg Barclays Municipal Bond Index, respectively. Yields on three-month CDs are the national average as reported by Bloomberg. Unlike other investments that incur more risk, the interest and principal value of CDs are fixed and are insured by the FDIC up to $250,000. Bonds incur investment risk; CDs do not. Income from municipal bonds may be subject to the alternative minimum tax. Taxable-equivalent yield and annual after-tax income are based on a 43.40% federal income tax rate. This rate reflects the American Taxpayer Relief Act of 2012 and includes the 3.80% Medicare surtax.

Treasury bills are guaranteed as to the timely payment of principal and interest and are exempt from state and local income taxes whereas municipal bonds are free from federal and, in some cases, state and local taxes.

This information is not meant as tax or legal advice. Please consult with the appropriate tax or legal professional regarding your particular circumstances before making any investment decisions. Putnam does not provide tax or legal advice.

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