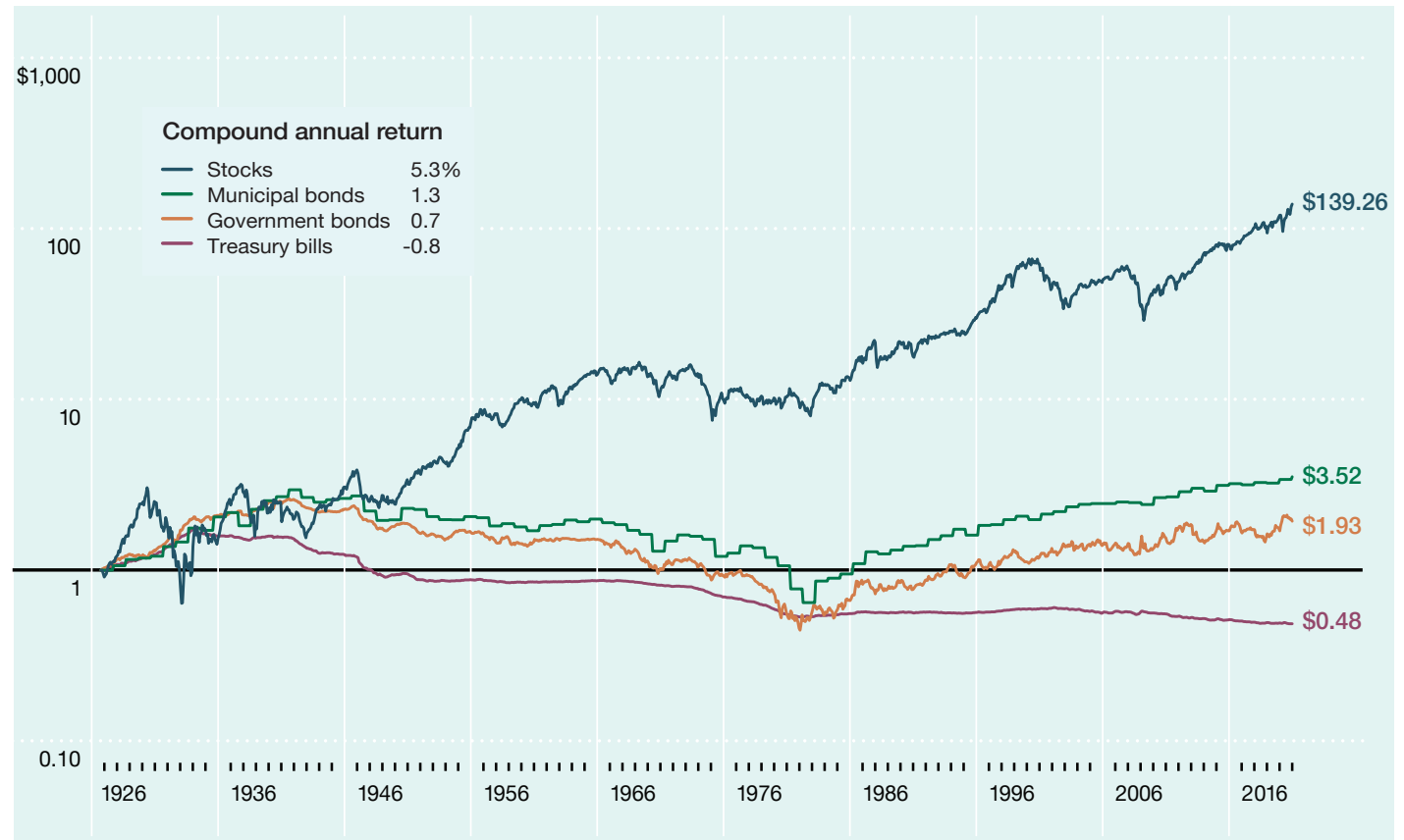


Ibbotson® SBBI® after taxes and inflation

Stocks, Bonds, Bills, and Inflation 1926–2020

Why invest?

If you have financial goals, such as a secure retirement or paying for a college education, investing makes sense. As you can see here in the growth of \$1 over the past 95 years, stocks have historically provided the best performance versus fixed-income securities (such as municipal bonds, government bonds, and Treasury bills) when taking into account both taxes and inflation.



Past performance is no guarantee of future results.

Hypothetical value of \$1 invested at the beginning of 1926, with taxes paid monthly. No capital gains taxes are assumed for municipal bonds. Assumes reinvestment of income and no transaction costs. This is for illustrative purposes only and not indicative of any investment. An investment cannot be made directly into an index. © 2021 Morningstar, Inc. All rights reserved.



Not FDIC/NCUA Insured	Not a Deposit	May Lose Value
No Bank Guarantee	Not Insured by Any Government Agency	

Ibbotson® SBBI® After Taxes and Inflation 1926–2020

The adverse effects of inflation and taxes on investment returns become especially pronounced over the long run. This image illustrates the hypothetical growth of a \$1 investment after considering the effects of both taxes and inflation on each asset class over the past 95 years.

Of the asset classes considered, stocks are the only asset class that provided significant growth. Municipal bonds, for which income is exempt from federal income taxes, barely provided enough total return to offset inflation. Government bonds closely kept pace with inflation. Treasury bills, however, fared the worst. After considering both taxes and inflation, the initial \$1 was reduced to approximately \$0.48.

If you wish to overcome the effects of taxes and inflation, you may want to consider a larger allocation to stocks. Another alternative, if you are able, is to consider tax-deferred investment vehicles.

Government bonds and Treasury bills are guaranteed by the full faith and credit of the U.S. government as to the timely payment of principal and interest, while stocks and municipal bonds are not guaranteed. Stocks have been more volatile than the other asset classes. Municipal bonds may be subject to the alternative minimum tax (AMT) and state or local taxes, and federal taxes would apply to any capital gains distributions.

About the Data

Federal income tax is calculated using the historical marginal and capital gains tax rates for a single taxpayer earning \$120,000 in 2015 dollars every year. This annual income is adjusted using the Consumer Price Index in order to obtain the corresponding income level for each year. Income is taxed at the appropriate federal income tax rate as it occurs. When realized, capital gains are calculated assuming the appropriate capital gains rates. The holding period for capital gains tax calculation is assumed to be five years for stocks, while government bonds are held until replaced in the index. No capital gains taxes on municipal bonds are assumed. No state income taxes are included.

Stocks are represented by the Ibbotson® Large Company Stock Index. Municipal bonds are represented by 20-year prime issues from Salomon Brothers' Analytical Record of Yields and Yield Spreads for 1926–1985 and Mergent's Bond Record thereafter. Government bonds are represented by the 20-year U.S. government bond, and Treasury bills by the 30-day U.S. Treasury bill. An investment cannot be made directly in an index.

Past performance is no guarantee of future results.

Note: This is for illustrative purposes only and not indicative of any investment. The data assumes reinvestment of all income and does not account for transaction costs. The average return represents a compound annual return. Government bonds and Treasury bills are guaranteed by the full faith and credit of the United States government as to the timely payment of principal and interest when held to maturity. Bonds in a portfolio are typically intended to provide income and/or diversification. U.S. Government bonds may be exempt from state and local taxes, and income is taxed as ordinary income in the year received. With government bonds, the investor is a creditor of the government. Stocks are not guaranteed and have been more volatile than the other asset classes. Stocks provide ownership in corporations that intend to provide growth and/or current income. Capital gains and dividends may be taxed in the year received. Underlying data is from the *Stocks, Bonds, Bills, and Inflation® (SBBI®) Yearbook* by Roger G. Ibbotson and Rex Sinquefeld, updated annually. An investment cannot be made directly into an index. Past performance is no guarantee of future results.

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