U.S. Capital Markets Performance
by Asset Class 1926–2019

# 2020
# SBBI® Yearbook
## Stocks, Bonds, Bills, and Inflation®

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DUFF & PHELPS

## 20-Year vs. 30-Year Treasuries

The U.S. Treasury periodically changes the maturities that it issues. For example, in April 1986 the U.S. Treasury stopped issuing 20-year Treasuries, and from October 2001 through January 2006 the U.S. Treasury did not issue 30-year bonds (it resumed issuing 30-year Treasury bonds in February 2006), making the 10-year bond the longest-term Treasury security issued over the October 2001–January 2006 period. Most recently, on January 16, 2020 the U.S. Department of the Treasury announced it plans to issue a 20-year nominal coupon bond in the first half of calendar year 2020, the first time a 20-year maturity will be offered since March 1986.[10.10,10.11]

Our methodology for estimating the long-horizon equity risk premium makes use of the income return on a 20-year Treasury bond. While a 30-year bond is theoretically more correct when dealing with the long-term nature of business valuation,[10.12] 30-year Treasury securities have an issuance history that is on-again-off-again. Ibbotson Associates creates a series of returns using bonds on the market with approximately 20 years to maturity because Treasury bonds of this maturity are available over a long history, while Treasury bonds of 30-years are not.

## Income Return

Another point to keep in mind when calculating the equity risk premium is that the income return on the appropriate-horizon Treasury security, rather than the total return, is used in the calculation.

The total return comprises three return components: the income return, the capital appreciation return, and the reinvestment return. The income return is defined as the portion of the total return that results from a periodic cash flow or, in this case, the bond coupon payment. The capital appreciation return results from the price change of a bond over a specific period. Bond prices generally change in reaction to unexpected fluctuations in yields. Reinvestment return is the return on a given month's investment income when reinvested into the same asset class in the subsequent months of the year. The income return is thus used in the estimation of the equity risk premium because it represents the truly riskless portion of the return.

## Arithmetic vs. Geometric Mean

The equity risk premium data presented in this book are arithmetic average risk premiums as opposed to geometric average risk premiums. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building-block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number.

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[10.10] To learn more, visit the U.S. Department of the Treasury website at: https://home.treasury.gov/news/press-releases/sm878.

[10.11] See Kate Davidson, "Treasury to Issue New 20-Year Bond in First Half of 2020", *The Wall Street Journal*, January 16, 2020 at: https://www.wsj.com/articles/treasury-to-issue-new-20-year-bond-in-first-half-of-2020-11579217450

[10.12] An equity risk premium is an input in developing cost of capital estimates (i.e., "expected return", "required return", or "discount rate") for use in a discounted cash flow model. **Note:** Three of the four Duff & Phelps *Valuation Handbooks* have been transitioned from print to a new online delivery platform, the "Cost of Capital Navigator". The Cost of Capital Navigator guides financial professionals through the process of estimating the cost of capital, a key component of any valuation analysis. The Cost of Capital Navigator can be used to estimate country-level cost of equity capital globally, for up to 188 countries, from the perspective of investors based in any one of up to 56 countries. For more information, visit dpcostofcapital.com.