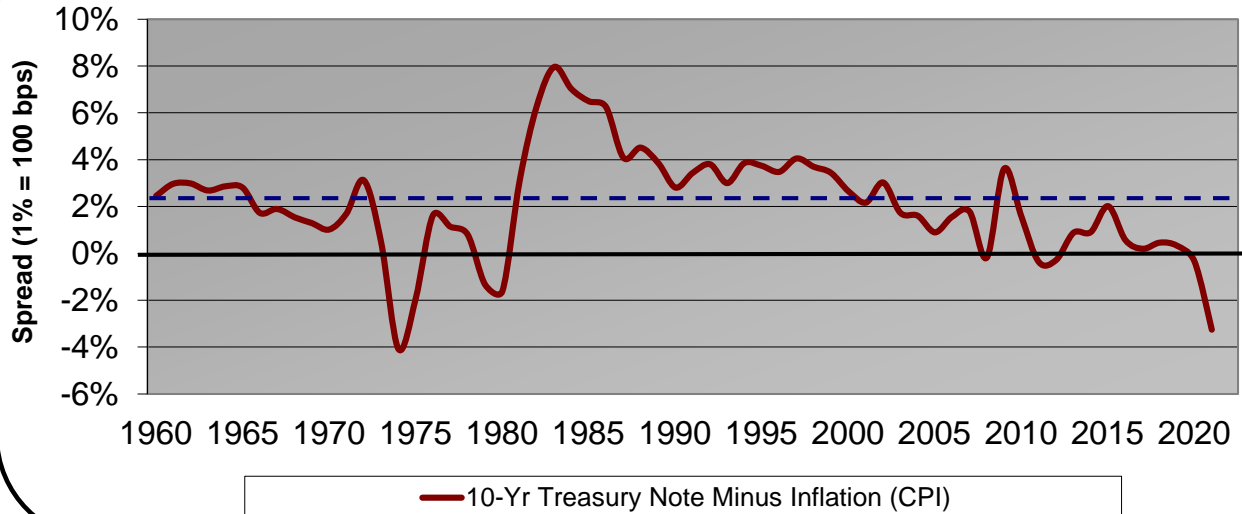


**TREASURY NOTE SPREAD OVER INFLATION (CPI)  
1960 – 2021**



| DECADE | SPREAD AVERAGE | INFLATION (CPI) AVERAGE |
|--------|----------------|-------------------------|
| 1960s  | 2.3%           | 2.4%                    |
| 1970s  | 0.3%           | 7.1%                    |
| 1980s  | 4.8%           | 5.6%                    |
| 1990s  | 3.5%           | 3.0%                    |
| 2000s  | 1.9%           | 2.6%                    |
| 2010s  | 0.6%           | 1.8%                    |

**BOND YIELDS: REASONABLE EXPECTATIONS**

Although the average spread for Treasury notes over the inflation rate has been 2.1%, the average consists of periods that were above the average and periods that were below the average. Specifically, the 1960s reflected fairly modest inflation and a spread of 2.3%. The inflation-infected 1970s surprised bond investors and they were slow to adjust their required returns. By the 1980s, much like a battered insurance company that raises premiums, the inflation spread rose to near 5.0% to adjust to the newly-realized inflation risks.

As Volker and Greenspan at the Fed maintained a campaign to tame and control inflation, the bond market began to calm its demand for an inflation-risk premium. By the 1990s, the inflation spread declined to 3.5%. For the 2000s, the spread averaged 1.9%. In 2011, the spread declined due to a rise in the reported inflation rate. In the longer-run, the Bernanke Fed appears to be targeting inflation between 1% and 2% (although that commitment is quite uncertain). By adding a 2% or so inflation-risk spread, a yield of 3% or so may be just about right for the 10-year note.

During the next few years, the Fed is expected to raise short-term interest rates. Watch for reports about Conundrum II...the redux of the period in 2005 when long-term interest rates (yields) remained low as the Fed raised short-term rates. As (and if) the Fed again demonstrates its conviction to control inflation, we should not be surprised to see bond yields increase much less than the change in short-term rates.