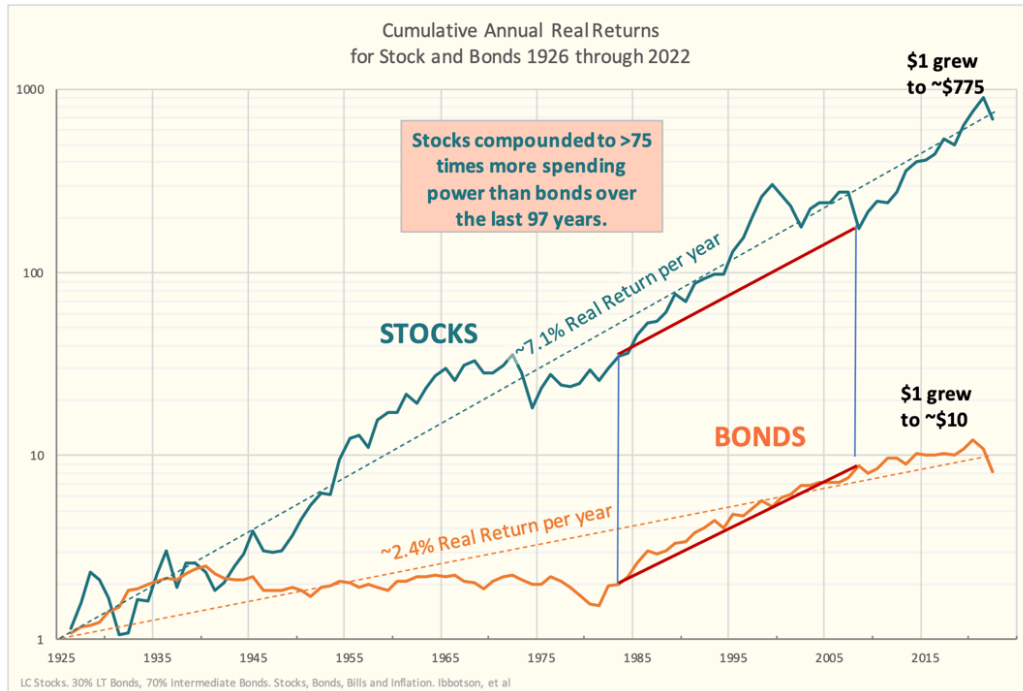


Cumulative Annual Real Returns for Stocks and Bonds from 1926 through 2022



I plot cumulative Real Returns for Stocks and Bonds on a semi-log graph. The Y (vertical) axis is a logarithmic scale. Each vertical distance on the Y-axis is the same percentage change. An annual rate of change over time plots as a straight line. A negative return slopes downward. A horizontal line between two points is 0% average return. A positive return slopes upward. The greater the rate of change, the steeper the straight line.

The graph shows the power of compound returns over time. My best drawing of a straight line that fits stocks averages about 7.1% real return in spending power. That means stocks have doubled in real spending power roughly every decade. A straight line for bonds doesn't quite fit as well as the one for bonds, but I show the line for bonds about 2.4% real return. That means bonds have doubled in real spending power roughly every 30 years. Since 1926, stocks have compounded to more than 75 times that of bonds.

Both stocks and bonds have varied from their long-run averages for many years. The cumulative real return for stocks was 0% for 17 years from 1965 through 1981. The cumulative return for bonds was 0% for 46 years from 1938 through 1983. Stock returns were well above average for 23 years from 1942 through 1964 and for 22 years from 1978 through 1999. Bond returns were well above average for 22 years from 1982 through 2003.

Stocks outperform bonds for all holding periods of 25 years or longer. I show two red lines for the 25-year period where bond and stock returns are the closest, 1984 through 2008. The vertical blue lines at 1984 and at the end 2008 are the same length and show the slope of the line for stocks is slightly steeper than the slope of the line for bonds: the cumulative return for stocks was 6.6% per year, and was 6.2% for bonds. Stock cumulated to 10% more than bonds for this period.