

# R-star and the Stock Market

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December 6, 2022

## What is R-star and Why Does it Matter?

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- R-star ( $R^*$ ) is the real or inflation-adjusted equilibrium rate of interest. In theory, the real equilibrium rate of interest that aligns supply and demand in the economy. When  $R^*$  is in equilibrium, the economy and inflation are in a steady state.  $R^*$ , the equilibrium rate of interest and the natural rate of interest are all interchangeable terms.
- Unfortunately,  $R^*$  is not directly observable. The Fed had regularly provided estimates of  $R^*$  but stopped soon after the onset of the pandemic. However, we can look at the trend in the bond market-derived real rate and then make some broad assumptions about whether today's "real rate" is too high or too low.
- This matters because the Fed wants to raise the real rate high enough to slow aggregate demand and cool inflation. The fact that  $R^*$  has become so central to the Fed's operating procedures may be why it is no longer published. According to our estimates, the real rate is currently in deeply restrictive territory which is a major negative for financial asset prices.

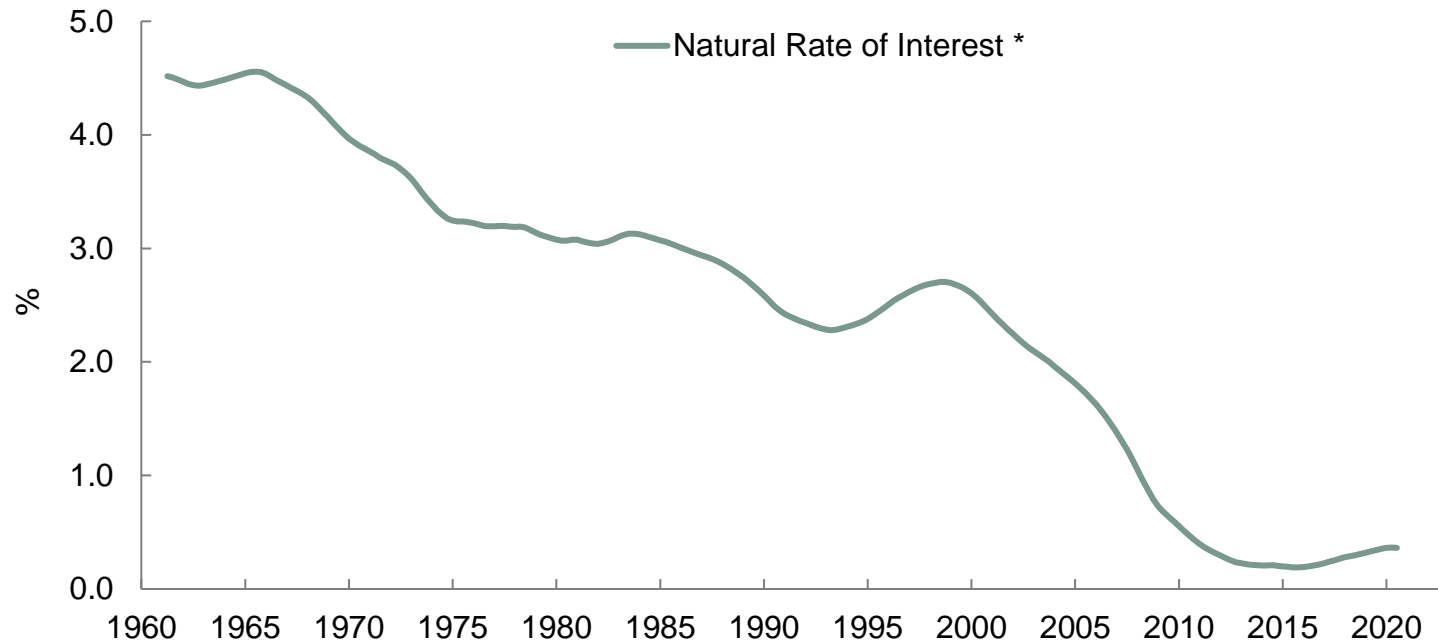
## A Falling R-star

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After peaking at 4.5% in 1965,  $R^*$  has been in an uninterrupted downtrend ever since. It bottomed at around just 20 basis points (bps) in 2015 and rose gradually to nearly 40 bps 2019. This is where the natural rate of interest was in Q2 2020 when the Fed stopped publishing estimates. We believe  $R^*$  has fallen since then.

### A long and durable decline

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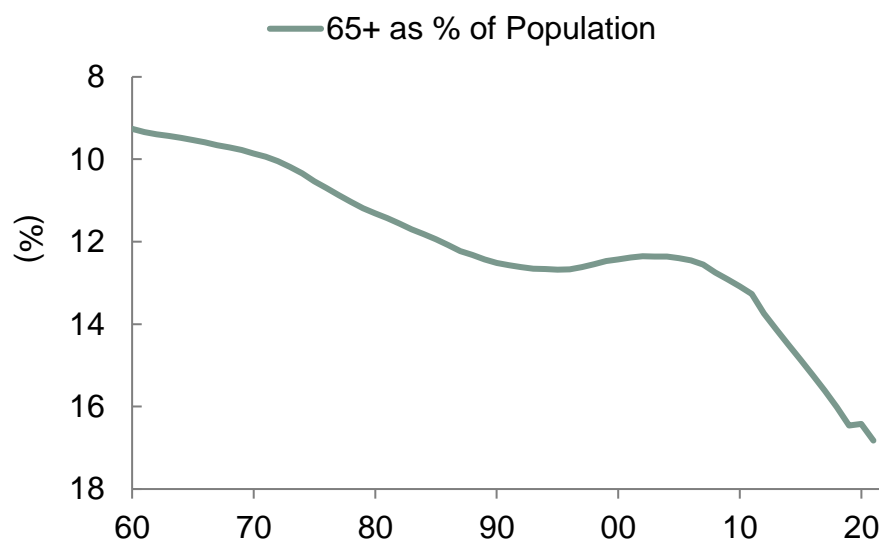
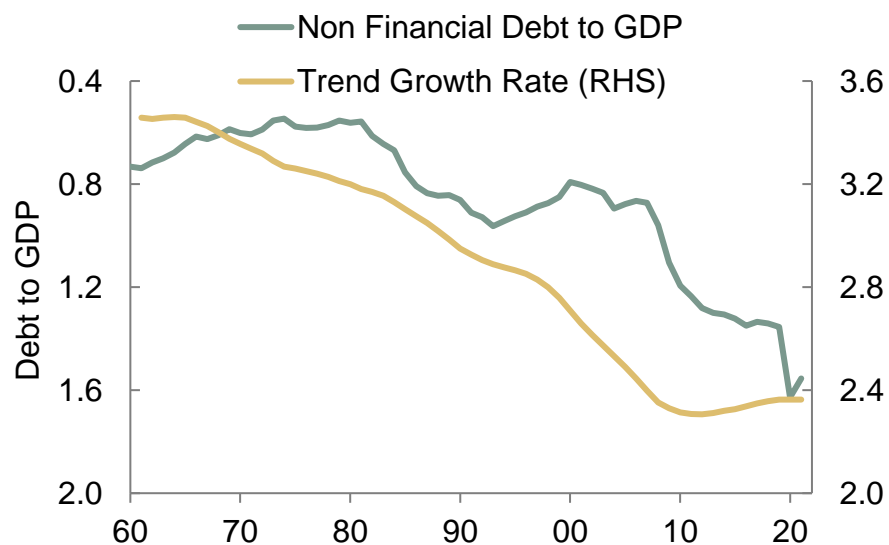


Source: \* Federal Reserve Estimates (Laubach and Williams); Bloomberg, Federal Reserve, SMBC Nikko

## What is Behind the Falling R-star?

Three factors account for the long-run decline in  $R^*$ . They are slowing productivity growth (i.e., trend real GDP), aging demographics and rising debt burdens. It is possible that the equilibrium rate of interest is negative.

### Powerful, sustained downtrends

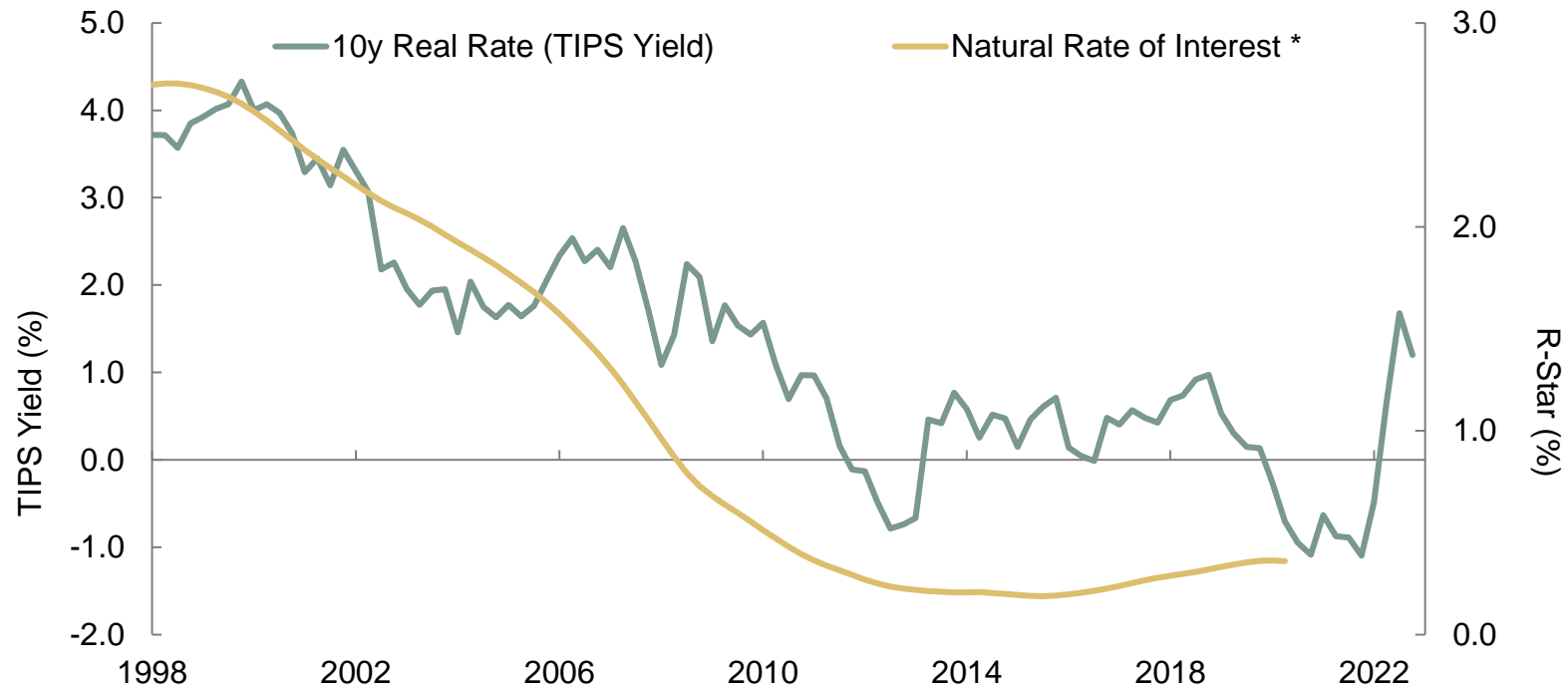


Source: \* Federal Reserve Estimates (Laubach and Williams); Bloomberg, Federal Reserve, SMBC Nikko

## Estimating R\*

The trend in Treasury Inflation Protected Securities (i.e., TIPS) has broadly followed the downtrend in R\*. Hence, we can use TIPS as a crude proxy for the equilibrium real rate. However, we must adjust for the persistent long-term downtrend in R\* which we do on the following page.

### The market-derived real rates and R\*

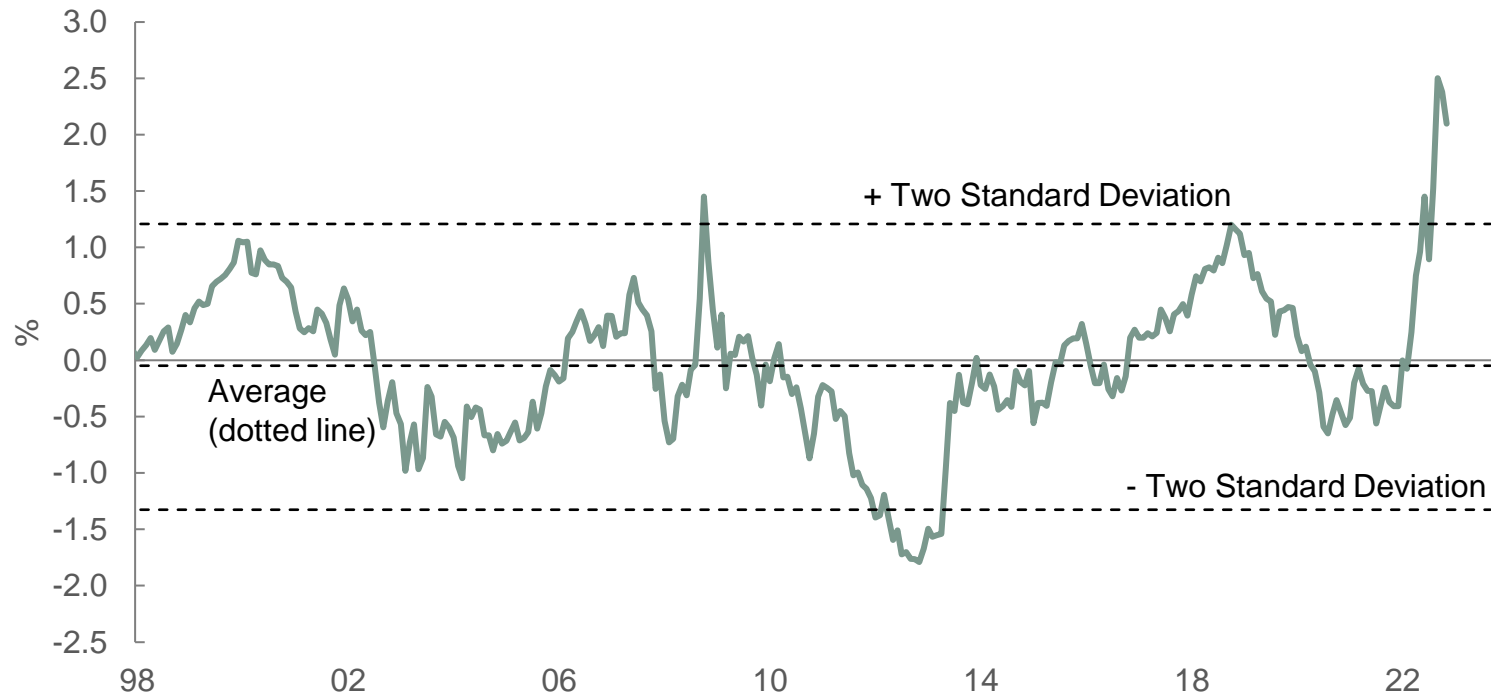


Source: \* Federal Reserve Estimates (Laubach and Williams); Bloomberg, Federal Reserve, SMBC Nikko

## A Record Rise in the Real Rate

The chart below shows the TIPS yield after adjusting for its secular downtrend. According to our calculations, the market-derived R\* is presently over 2% which is up 250 bps from its pandemic low and about four standard deviations above its long-term average. This means that monetary policy is already deeply restrictive. The Fed has already overtightened, which is negative for the economy and financial asset markets, in particular equities.

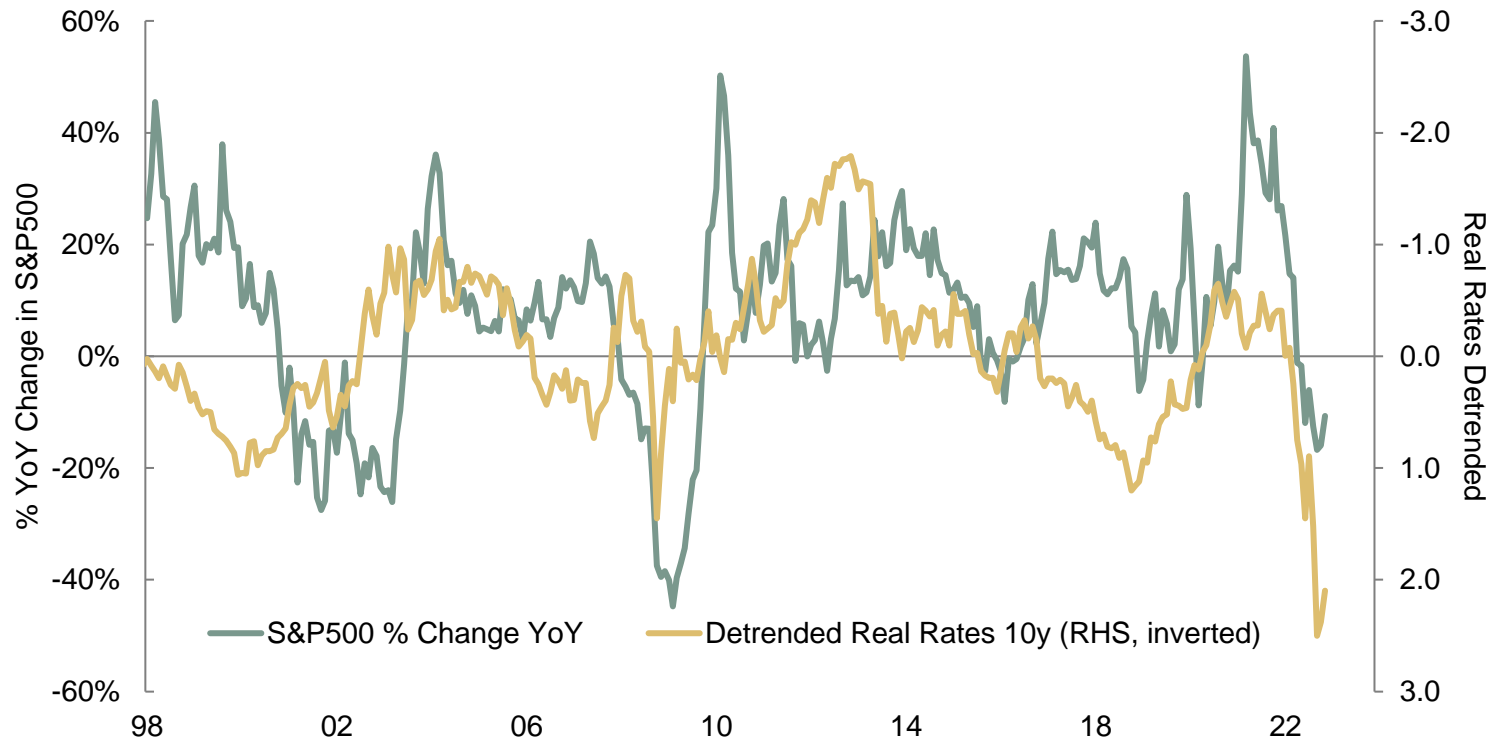
### Real rate still well above long-term average



Source: \* Federal Reserve Estimates (Laubach and Williams); Bloomberg, Federal Reserve, SMBC Nikko

## In Need of Lower Real Rates

**Stocks are down sharply over the past year in large part because of a significant rise in the real rate (inverted).** In the decade prior to the pandemic when equities were in a bull market, the market-derived  $R^*$  was slightly negative at -20 bps. Thus, we do not see how stocks can make a durable long-lasting recovery until the real rate is substantially lower. However, this is unlikely to happen until the Fed pivots, but policymakers are signaling their intention to raise rates further. **Could stocks retest their lows? Stay tuned.**



Source: \* Federal Reserve Estimates (Laubach and Williams); Bloomberg, Federal Reserve, SMBC Nikko

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