

# R-Star: A Global Perspective

ECB Forum on Central Banking 2024

John C. Williams, President, Federal Reserve Bank of New York

This presentation represents the views of the author and not necessarily those of the Federal Open Market Committee (FOMC) or anyone else in the Federal Reserve System.

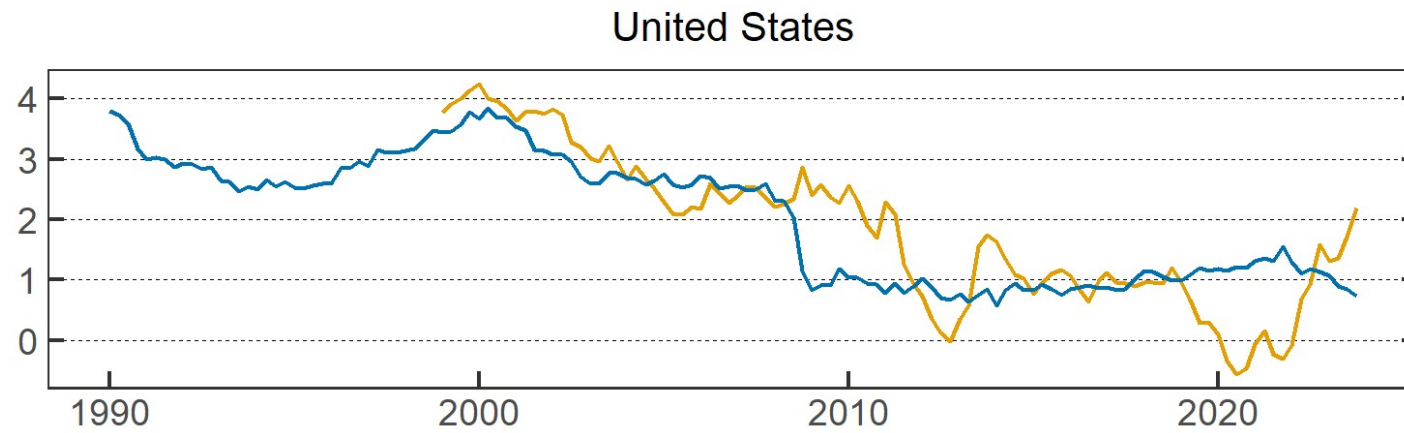
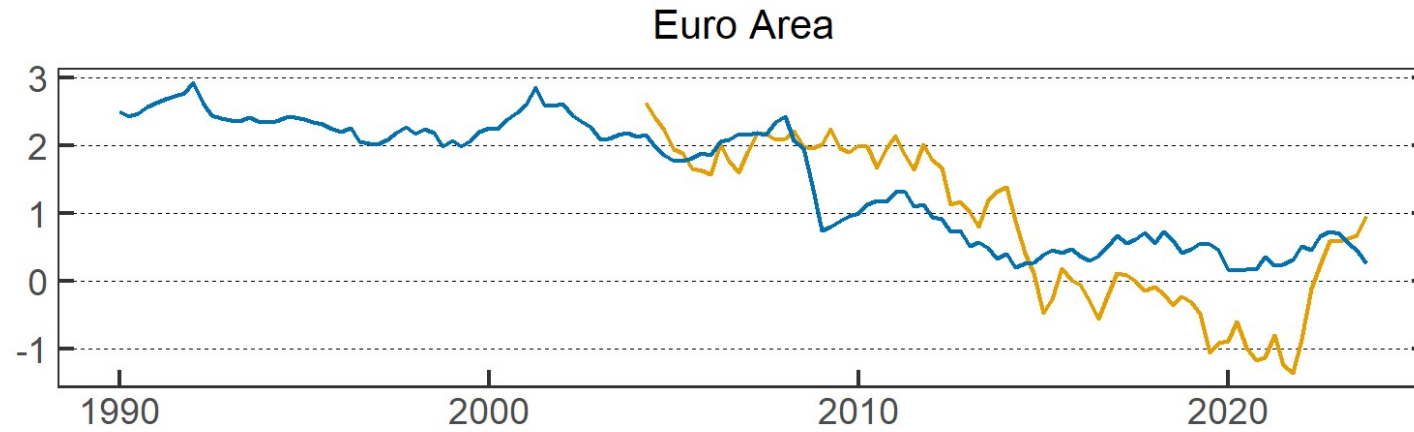
**Table 1: Quotations on the Natural Rate of Interest**

	<b>Source</b>
“There is a certain rate of interest on loans which is neutral in respect to commodity prices and tends neither to raise nor to lower them. ... the natural rate is not fixed or unalterable in magnitude.”	Knut Wicksell (1898)
“The Bank cannot know at a certain moment what is the equilibrium rate of interest of the capital market.”	Gustav Cassel (1928)
“The natural rate is an abstraction; like faith, it is seen by its works. One can only say that if the bank policy succeeds in stabilizing prices, the bank rate must have been brought into proper line with the natural rate, but if it does not, it must not have been.”	John H. Williams (1931)
“One problem is that [the policymaker] cannot know what the ‘natural’ rate is. Unfortunately, we have as yet devised no method to estimate accurately and readily the natural rate of either interest or unemployment. And the ‘natural’ rate will itself change from time to time.”	Milton Friedman (1968)
“Estimates of a time-varying natural rate of interest, like those of the natural rates of unemployment and output, are very imprecise and are subject to considerable real-time mismeasurement.”	Thomas Laubach and John C. Williams (2003)

**Figure 1: Holston-Laubach-Williams Estimates of R-Star**



Figure 2: Market-Based Measures of Real Interest Rates



— 5-year, 5-year forward real yield — HLW  $r^*$