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- **February 26, 2018**. Presentation. "Bullard on R-Star: The Natural Real Rate of Interest," 34th Annual National Association for Business Economics (NABE) Economic Policy Conference, Washington, D.C.
  Presentation (pdf) (bullard_nabe_washington_dc_26_february_2018pdf) | Press Release | Transcript (pdf) (bullard_nabe_washington_dc_26_feb_2018_transcriptpdf).
  Related article in *Business Economics*, (2018).

  Bullard on R-Star: The Natural Real Rate of Interest

  February 26, 2018

  [Presentation (pdf)](https://www.stlouisfed.org/-/media/project/frbstl/stlouisfed/files/pdfs/bullard/remarks/2018/bullard_nabe_washington_dc_26_february_2018.pdf)| [Press Release](https://www.stlouisfed.org/news-releases/2018/02/26/bullard-natural-real-rate-interest)| [Transcript (pdf)](https://www.stlouisfed.org/-/media/project/frbstl/stlouisfed/files/pdfs/bullard/remarks/2018/bullard_nabe_washington_dc_26_feb_2018_transcript.pdf)

  St. Louis Fed President James Bullard discussed the natural real rate of interest (commonly called r*) and its implications for the Fed's policy rate at the NABE Economic Policy Conference in Washington, D.C. He presented a regime-switching view of the issues around the natural real rate of interest, which he called r-dagger (r †) to emphasize that these estimates use an alternative methodology. Bullard considered three factors that can influence the natural rate and noted that the U.S. is currently in a regime (or state) of low productivity growth, appears to be in a low-growth state for the U.S. labor force, and is in a regime of a high desire for safe assets (the most important of the three factors). He concluded that the natural safe real rate of interest, and hence the appropriate policy rate, is relatively low and unlikely to change very much over the forecast horizon of two years.

  Related [article](https://doi.org/10.1057/s11369-018-0077-1)in Business

Economics, (2018).

St. Louis Fed's Bullard Discusses R-Star: The Natural Real Rate of Interest

WASHINGTON, D.C. – Federal Reserve Bank of St. Louis President James Bullard discussed the relatively low natural real rate of interest during a [presentation](https://www.stlouisfed.org/-/media/project/frbstl/stlouisfed/files/pdfs/bullard/remarks/2018/bullard_nabe_washington_dc_26_february_2018.pdf) Monday at the 34th Annual NABE Economic Policy Conference.

He examined the recent trends in a regime-switching context and discussed implications of the natural rate for the Fed's policy rate (i.e., the federal funds rate target). "According to the analysis presented here, the natural safe real rate of interest, and hence the appropriate policy rate, is relatively low and unlikely to change very much over the forecast horizon," he said.

The Natural Real Rate of Interest
In his talk, Bullard discussed the natural real rate of interest, or r* (r-star), as the underlying trend in short-term real interest rates. He explained that it is important for policymakers to know r* to determine whether the current policy rate setting is accommodative, neutral or restrictive. He noted that the Fed can influence the real rate of interest but not the trend in the real rate of interest, which is viewed as driven by fundamental factors.

The raw data that he used are one-year ex-post real interest rates on U.S. Treasury bills from 1984 to the present (which are constructed by subtracting the Dallas Fed trimmed-mean PCE inflation rate from the 1-year Treasury rate). He noted that there are many ways to estimate the underlying trend in the data and that most methods suggest a relatively low value for the natural rate of interest today.

A Regime-Switching View
Bullard presented a regime-switching view of the issues around the natural real rate of interest, which he called r† (r-dagger) in order to emphasize that

these estimates use an alternative methodology to commonly used ways of estimating the trend.

He considered three fundamental factors that can influence the natural rate: 1) the labor productivity growth rate, 2) the labor force growth rate, and 3) the investor desire for safe assets. He included the third factor because the declining trend appears to be on real returns to holding short-term government paper, not on capital.

He noted that these types of factors are typically characterized as having constant means but that there can be infrequent shifts in those means. Therefore, for each factor, he looked at two possible mean values, called regimes. “For example, relatively long eras of high productivity growth may be followed by relatively long eras of low productivity growth, and the natural real rate of interest would be different in the two regimes,” he explained.

He then delved into which of the three factors is most important in accounting for the trends in the natural interest rate.

Three Fundamental Factors

U.S. labor productivity appears to be in the low-growth regime, Bullard noted, citing a 2006 statistical model by James Kahn and Robert Rich that estimates the probability that the U.S. economy is in a low-productivity-growth regime. In terms of values in the two regimes, he noted that the most recent estimates from the Kahn and Rich model are for a growth rate of 1.33 percent in the low state and a growth rate of 2.9 percent in the high state.

Regarding the regimes for U.S. labor force growth, he noted that since the financial crisis, the growth rate has been 0.46 percent. This compares with a higher growth rate of 1.33 percent before the financial crisis. “It appears that the U.S. is in a low-growth state, but statistically the two regimes are not precisely estimated,” he said.

In regard to the third factor, Bullard noted that the U.S. is currently in a regime with a high desire for safe assets as opposed to a regime with a more normal desire. He noted that the estimated values for this factor are -3.06

percent in the high-desire-for-safe-assets regime and 0.57 percent in the normal-desire-for-safe-assets regime. “The difference between the two regimes is largest for this factor; in some sense, it is the ‘most important’ of the three,” he said.

He then calculated the natural real rate of interest by adding up the values for the three factors. According to this analysis, r† is either -127 basis points or -40 basis points, depending on whether one views the labor force as being in the low-growth regime or high-growth regime, respectively.

Implications for the Policy Rate
Turning to monetary policy implications, Bullard discussed this analysis in the context of a Taylor-type monetary policy rule. He noted that if the U.S. output gap and inflation gap were close to zero, a Taylor-type rule would simply recommend setting the policy rate equal to the value of r† plus 2 percent, which is the Federal Open Market Committee’s inflation target. Given that the gap variables are probably not exactly zero today, he used estimates of these gaps as well as of r† in two Taylor-type rules.

He noted the current target range for the federal funds rate is 125 to 150 basis points, and the federal funds rate is about 142 basis points. Bullard said this value is within the range of the recommendations from the Taylor-type rules he examined. “However, if the Committee raises the policy rate substantially from here without other changes in the data, the policy setting could become restrictive,” he said.

“The regime-switching approach suggests that the current setting of the policy rate is broadly appropriate,” he concluded, adding that it also suggests r† is unlikely to shift over a forecast horizon of two years. “This suggests forward guidance should be characterized by a relatively flat policy rate path, as opposed to an upward-sloping one that would be appropriate if r† has strong mean reversion,” he said.

- **February 22, 2018**. Article. "Economies of Scale in Terms of Regulatory Compliance," *The Arkansas Banker*, February 2018, p. 15 (offsite).
- **February 6, 2018**. Presentation. "Remarks on the 2018 U.S. Macroeconomic Outlook," 29th Annual Economic Outlook Conference, Gatton College of