Some Thoughts on r*: Why Did it Fall and Will it Rise?

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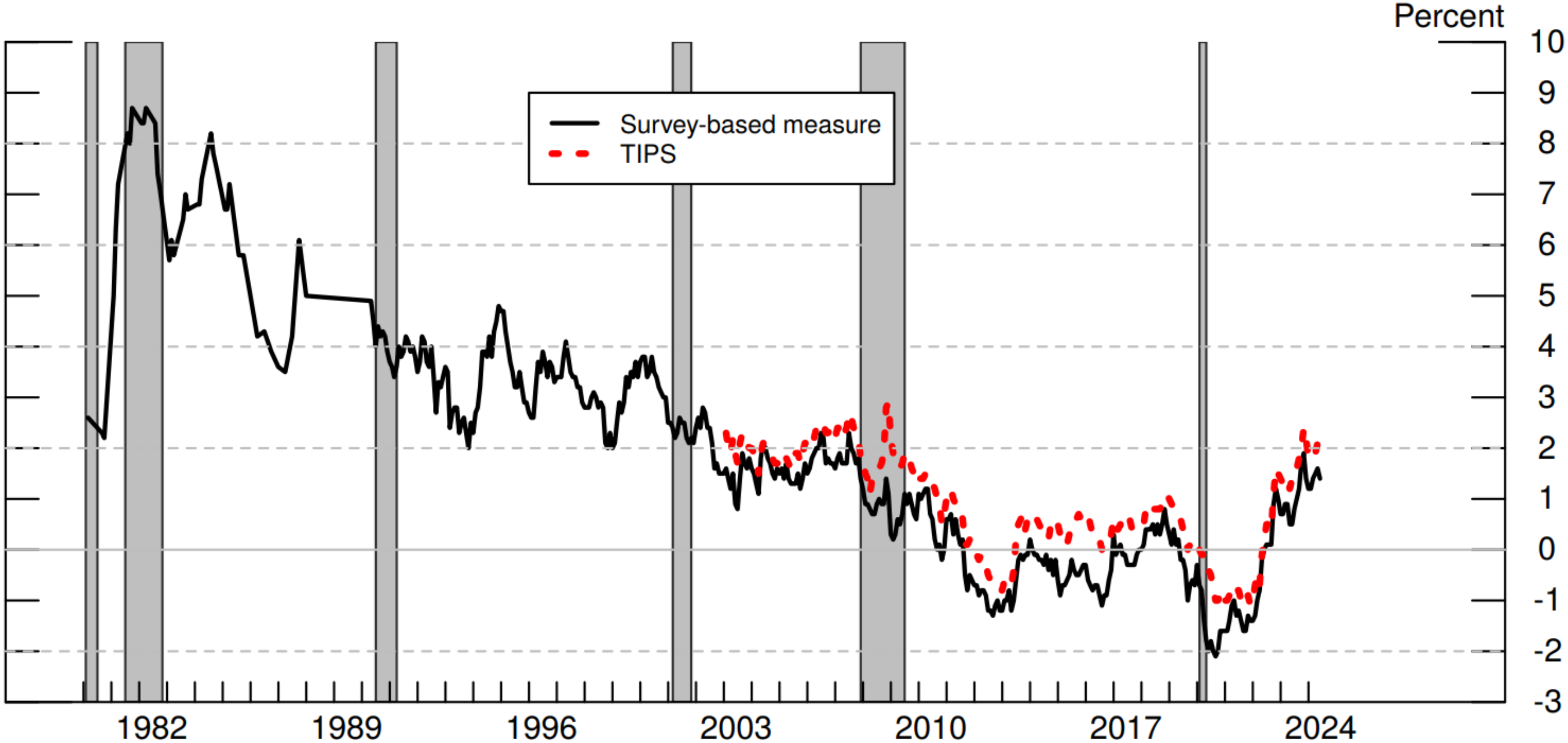
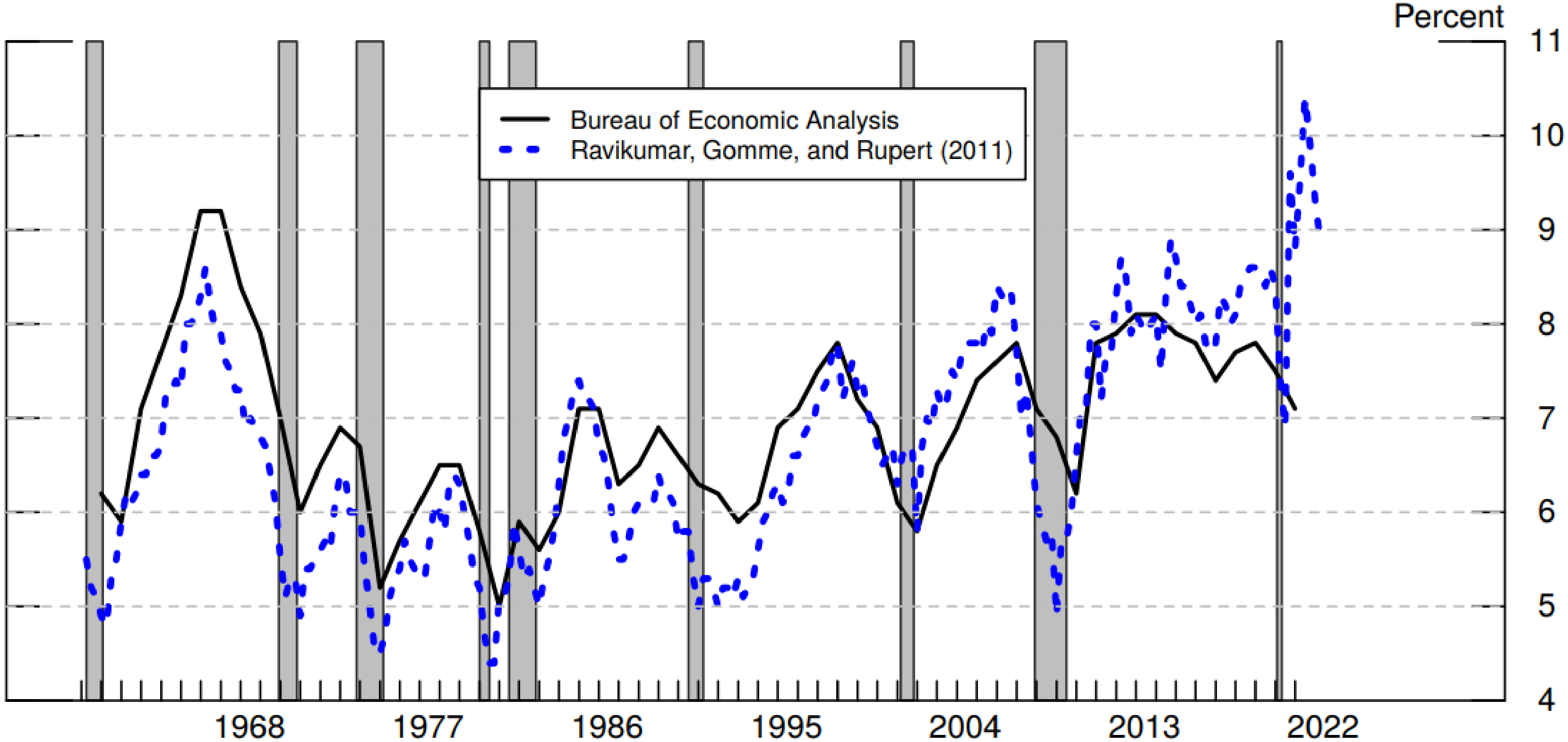
Figure 1. Real 10-year Treasury yield



Note: The survey-based real 10-year Treasury yield is calculated as the nominal 10-year minus the University of Michigan survey of inflation expectations over the next 5 to 10 years. TIPS is Treasury Inflation-Protected Securities. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research (NBER): February 1980 to July 1980, August 1981 to November 1982, August 1990 to March 1991, April 2001 to November 2001, January 2008 to June 2009, and March 2020 to May 2020.

Source: Department of the Treasury; University of Michigan, Survey Research Center, Surveys of Consumers.

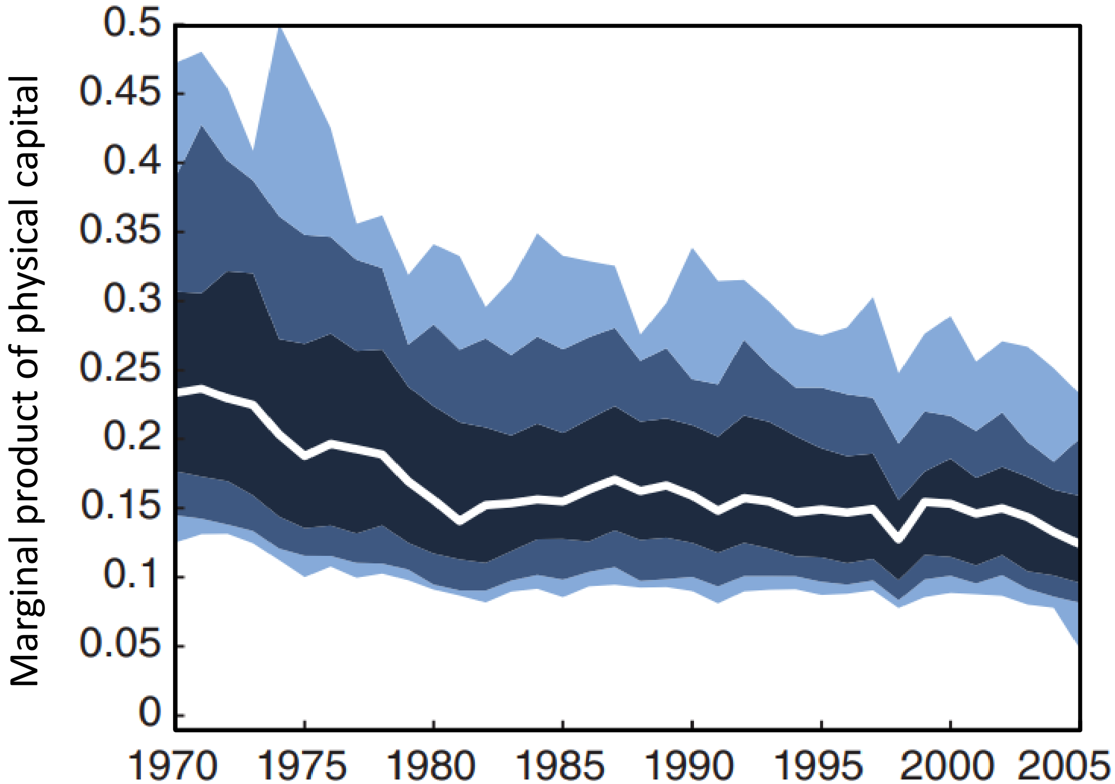
Figure 2. Real return on capital



Note: Both measures are the return on business capital, after tax. Ravikumar, Gomme, and Rupert (2011) includes a constant capital gain. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research (NBER): May 1960 to October 1960, January 1970 to November 1970, December 1973 to March 1975, February 1980 to July 1980, August 1981 to November 1982, August 1990 to March 1991, April 2001 to November 2001, January 2008 to June 2009, and March 2020 to May 2020.

Source: Bureau of Economic Analysis, Survey of Current Business; Paul Gomme, B. Ravikumar, and Peter Rupert (2011), “The Return to Capital and the Business Cycle,” Review of Economic Dynamics, vol. 14 (April), pp. 262–78.

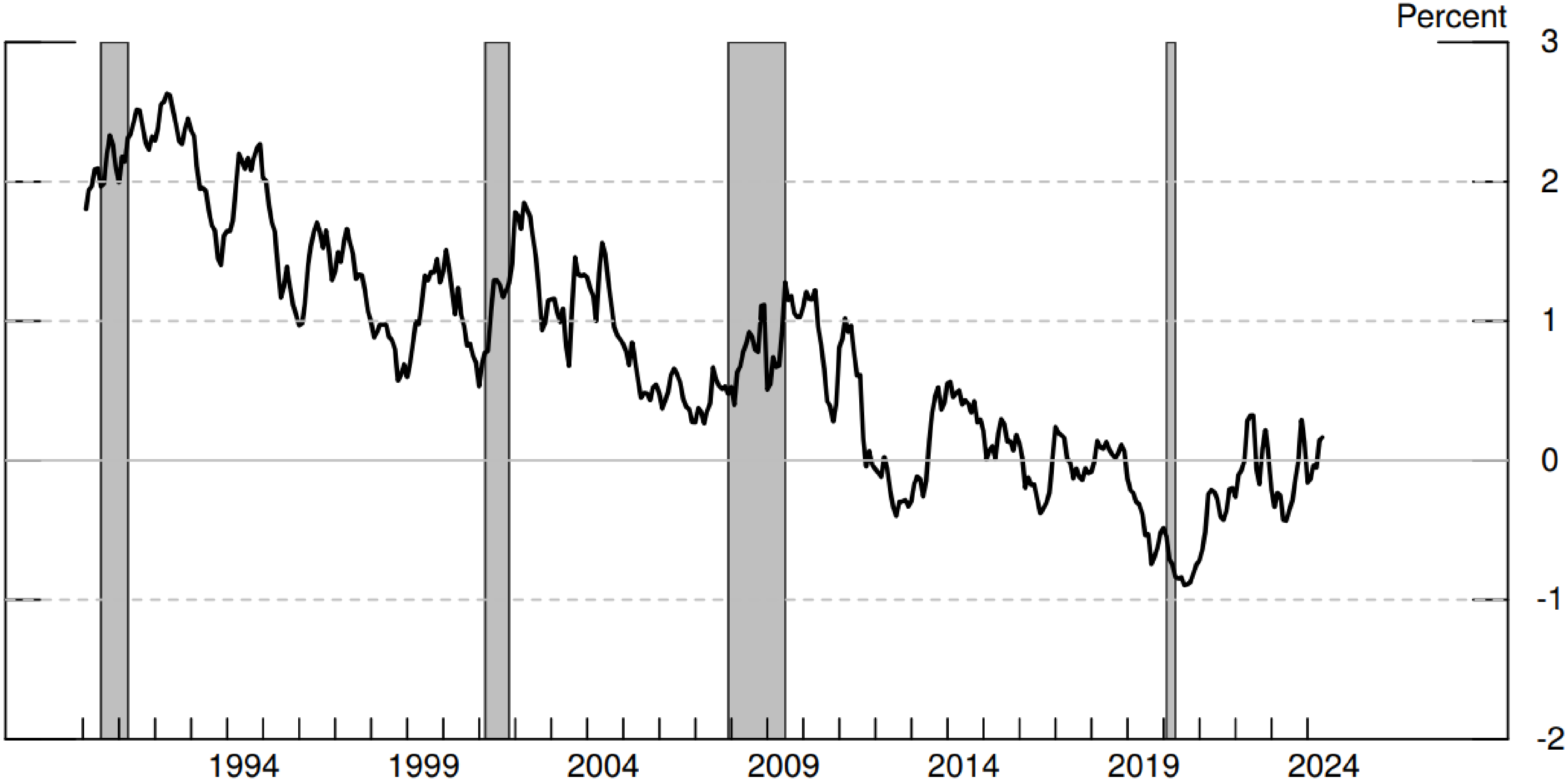
Figure 3. Marginal product of physical capital across countries



Note: White line represents the median; blue shaded areas from the proximity to the median out show the 25th to 75th percentile range, the 10th to 90th percentile range, and the 5th to 95th percentile range.

Source: Alexander Monge-Naranjo; Juan M. Sánchez; Raül Santaeulàlia-Llopis (2019), "Natural Resources and Global Misallocation," *American Economic Journal: Macroeconomics*, vol. 11 (April), pp. 79–126.

Figure 4. Term premium



Note: The term premium is calculated by fitting the Kim and Wright (2005) three-factor arbitrage-free term structure model to the 10-year U.S. Treasury yield. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research (NBER): August 1990 to March 1991, April 2001 to November 2001, January 2008 to June 2009, and March 2020 to May 2020.

Source: Board of Governors of the Federal Reserve System.