Economic Review

How You Say It Matters: Text Analysis of FOMC Statements Using Natural Language Processing

by: Taeyoung Doh, Sungil Kim and Shu-Kuei X. Yang

February 11, 2021

In FOMC statements, qualitative descriptions of economic conditions can affect bond prices as much as quantitative information.

The Federal Reserve has increasingly used public statements to shape expectations about future policy actions. After the Great Recession, when the nominal short-term interest rate reached its effective lower bound, the Federal Open Market Committee turned toward explicit forward guidance about the future path of the policy rate as well as the amount and composition of large-scale asset purchases in their post-meeting statements. Although these statements sometimes included quantitative information, they also included more nuanced, qualitative descriptions of economic conditions. However, measuring the effects of these qualitative communications is not straightforward.

Taeyoung Doh, Sungil Kim, and Shu-Kuei Yang use a natural language processing tool to provide a new measure of how changes in qualitative descriptions of the economy in post-meeting statements affect bond prices. They find that qualitative descriptions of economic conditions and the balance of risk can have as much of an effect on bond prices as quantitative information about the target policy rate. In some cases, the tone of the Committee's statement can affect financial market conditions even if no policy action is taken. Their new measure is generally correlated with alternative measures in prior research based solely on bond price data, and particularly well correlated with medium-term policy expectations.

Author

Taeyoung Doh

Senior Economist

Taeyoung Doh is a Senior Economist in the Economic Research Department of the Federal Reserve Bank of Kansas City. He joined the department in July 2007. He received a bachelor's degree in economics from Seoul National University in 1996, an M.A. degree from Seoul National University in 1998 and a Ph.D. in economics from the University of Pennsylvania in 2007. His current research interest include monetary policy and term structure of interest rates, estimation of dynamic stochastic general equilibrium models, and asset pricing based on long run macroeconomic risks.