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Bond Premiums and the Natural Real Rate of Interest

By Craig S. Hakkio and A. Lee Smith

The natural real rate of interest—the level of the real federal funds rate most consistent with the Federal Reserve's statutory mandates of maximum sustainable employment and stable prices—is a key guidepost for monetary policy decisions. But most approaches used to estimate the natural rate, also known as r^*, have not kept pace with the Federal Open Market Committee's rapidly expanding set of monetary policy tools.

Craig S. Hakkio and A. Lee Smith introduce two approaches to estimating the natural real rate that account for the broad state of U.S. financial conditions as well as the additional accommodation that unconventional policies provide. Their results suggest bond premiums are an important determinant of the natural real rate of interest. Specifically, their estimates of r^* from both approaches suggest a reduction in bond premiums increases the natural real rate.

Crowdedness, Centralized Employment, and Multifamily Home Construction

By Jordan Rappaport

After the 2007–08 financial crisis, both multifamily and single-family home construction collapsed. But multifamily construction, unlike single-family construction, has since rebounded strongly. This recent aggregate strength has varied considerably across metropolitan areas: multifamily construction boomed in metros such as Austin, TX, and Charlotte, NC, but remained weak in others such as Pittsburgh, PA, and Chicago, IL.

Jordan Rappaport examines potential drivers behind the recent variation in multifamily construction and finds that factors related to population, population density, and centralized employment played important roles. More specifically, he finds multifamily construction was stronger in metropolitan areas with larger populations, lower average population density, and more concentrated employment in the city center. These relationships appear to largely capture differences in metros' productivity, urban amenities, and availability of land for development.

Identifying State-Level Recessions

By Jason P. Brown

Although the U.S. economy is in its eighth consecutive year of expansion since the Great Recession, some states are nevertheless in recession. The timing of states entering recession often differs from the nation as a whole. States with higher concentrations in specific sectors may enter downturns earlier than other states—and may remain in them longer. For example, energy-producing states in the Tenth Federal Reserve District entered a recession in 2015 and 2016 following a 70 percent decline in the price of oil. Most non-energy-producing states experienced steady growth over the same period.

Jason P. Brown tests two approaches to determining whether the seven states of the Tenth District are in a recession: one approach is well suited for identifying state recession in retrospect, while the other is more helpful for identifying state recessions in real time. Both approaches suggest Oklahoma and Wyoming entered downturns in early to mid-2015, while only the second approach suggests Kansas and New Mexico entered recessions in late summer 2016. His results indicate that on average, recessions in energy-producing states occur more frequently but are typically shorter than recessions in non-energy-producing states.

Federal Reserve Bank of Kansas City Research Working Papers

A list of research working papers published by the Federal Reserve Bank of Kansas City over the past five years appears annually in the first quarter *Economic Review*. To print copies of working papers dating from 1998 and abstracts from 1995, visit the bank's website at *www.KansasCityFed.org*. To order earlier working papers, please send your name and address, along with the number of any paper you wish to receive, to: Public Affairs, Federal Reserve Bank of Kansas City, 1 Memorial Drive, Kansas City, Missouri 64198.

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