

Expectations and Risk Premia at 8:30am: Deciphering the Responses of Bond Yields to Macroeconomic Announcements

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Summary

At exactly 8:30am Eastern Standard Time, on the first Friday of the month, the U.S. Employment Report is released. The world's government bond markets react strongly and swiftly. The price reaction is as strong as it ever gets in these markets, and it is over in a few minutes. Something similar happens at the release times of other scheduled U.S. macroeconomic announcements. These times are evidently the most important information events in the bond markets. While several studies have recorded how the yield curve reacts during these events, little is known about why it reacts the way it does. What explains these strong reactions to macroeconomic news? What information about macroeconomic fundamentals is contained in the announcements? How does this information affect risk premia?

In this paper, we address these questions by fitting an arbitrage-free dynamic term structure model to high-frequency estimates of yield changes around the release times of major U.S. macroeconomic announcements. We find a number of interesting results: First, our estimates show a clear distinction between announcements that are relevant to output expectations and announcements that are relevant to inflation expectations. Indeed, announcements related to the labor market, production, the housing market and consumer behavior largely inform output expectations. Only the group of announcements about prices indices informs inflation expectations. Second, there is a consistent pattern across announcement groups in that changes in bond yields are caused mostly by revisions to the expected path of future short-term interest rates. Third, changes in risk premia are sizable but move largely in the opposite direction, thus partly offsetting the expectations effect on the yield curve. Hence, an announcement which surprises on the side of a stronger economy would reduce risk premia even as the yield curve steepens. Indeed, it is this countercyclical behavior of risk premia that resolves the expectations puzzle. Fourth, the strength of the expected short-rate's effect relative to that of risk premia changes with the maturity. At short maturities, the two effects reinforce each other, but the effect of risk premia becomes relatively stronger at longer maturities, thus helping to account for the common hump-shaped pattern of yield curve reactions to macroeconomic news.