

# Noise as Information for Illiquidity

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## Abstract

We propose a market-wide liquidity measure by exploiting the connection between the amount of arbitrage capital in the market and observed price deviations in U.S. Treasury bonds. During normal times, abundant arbitrage capital smoothes out the Treasury yield curve and keeps the deviations small. During market crises, however, the shortage of arbitrage capital leaves the yields to move more freely relative to the curve, resulting in more “noise” in prices. As such, “noise” in Treasury prices can be informative about the broad market liquidity conditions. Indeed, we find that our “noise” measure captures episodes of liquidity crises of different origins and magnitudes across the financial market, providing information above and beyond existing liquidity proxies. Moreover, using it as a priced risk factor, we show that it helps explain cross-sectional returns on hedge funds and currency carry trades, both known to be sensitive to the general liquidity conditions of the market.

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