

Dealer Capacity and US Treasury Market Functionality

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From Federal Reserve Bank of New York Staff Report 1070, by Darrell Duffie, Michael Fleming, Frank Keane, Claire Nelson, Or Shachar, and Peter Van Tassel.

When should illiquidity trigger central-bank purchases?

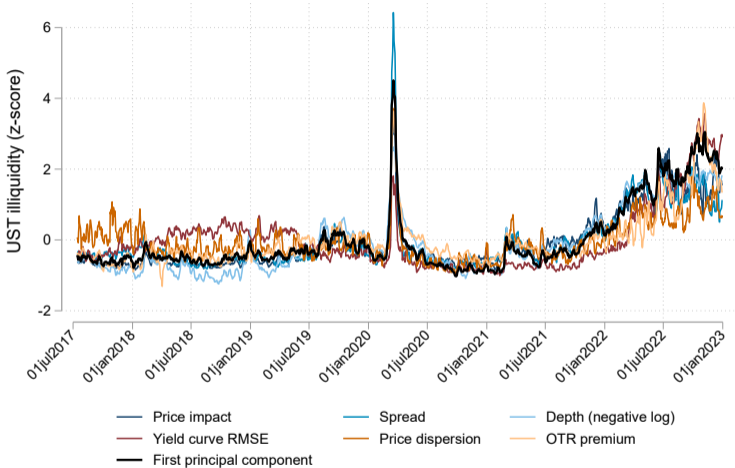
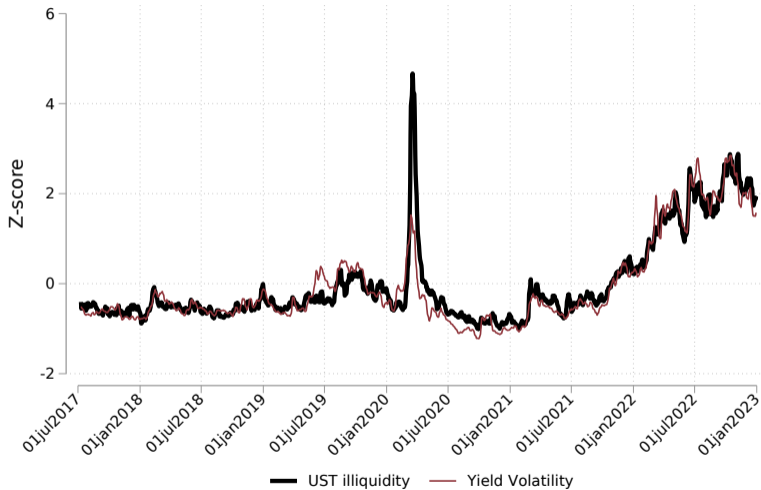


Figure: 5-day moving averages of Z-scores of six illiquidity metrics for Treasury market, and their first principal component.

UST illiquidity closely tracks yield volatility, except in March 2020



UST illiquidity is normally well explained by yield volatility, but not at the extreme levels of March 2020.

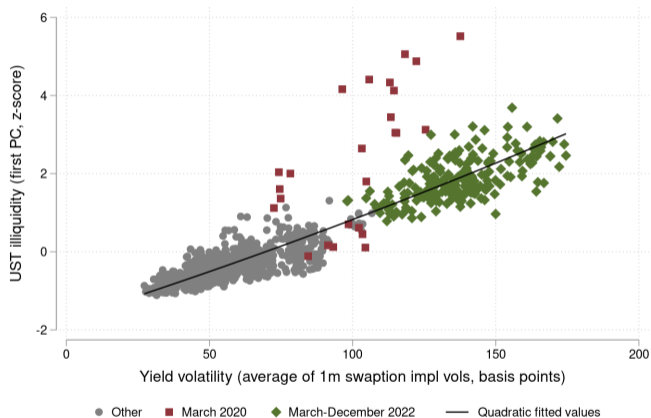
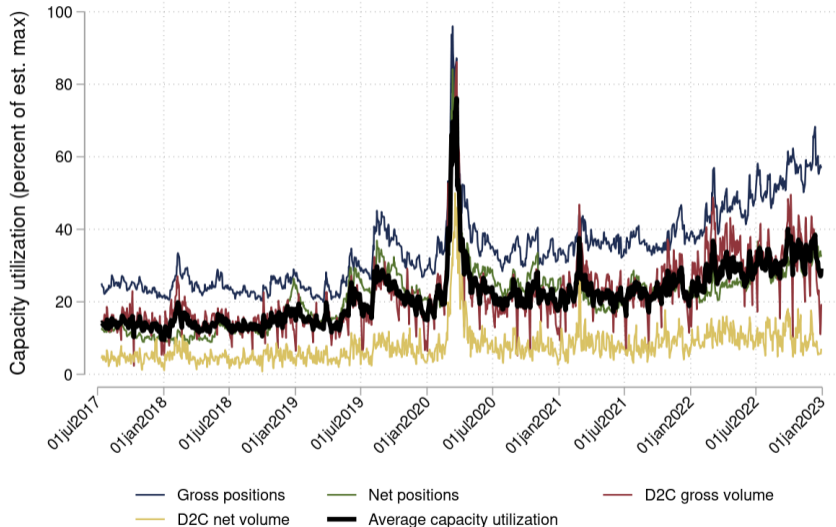


Figure: Predicted z-score of PC1 of Illiquidity: $y = -1.64 + 0.021x + 0.000037x^2$. Yield volatility x is in basis points. $N = 1,331$; $R^2 = 84.1\%$.

Estimated US Treasury market dealer capacity utilization



The component of UST illiquidity not explained by yield volatility is high when utilization of dealer intermediation capacity is high

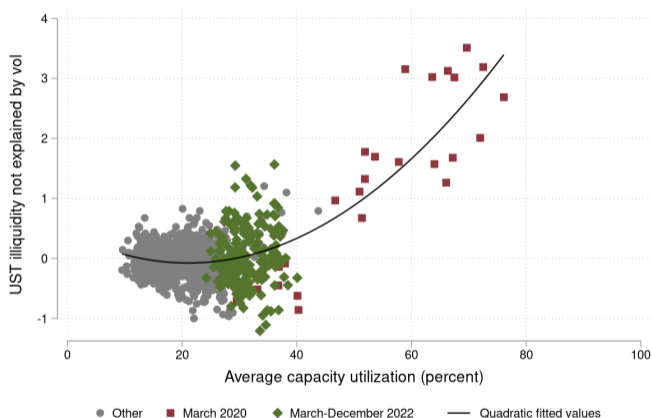


Figure: Predicted illiquidity z-score not explained by volatility is $y = 0.432 - 0.048x + 0.0011x^2$, with $R^2 = 38.1\%$. All three coefficient estimates have p -values of less than 1% (Newey-West).