Liquidity Crunch in Late 2008: High-Frequency Differentials between Forward-Implied Funding Costs and Money Market Rates

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Summary

The US Federal Reserve and the European Central Bank adopted a number of measures, including aggressive policy rate cuts, to ease the liquidity crunch in the financial markets following the collapse of Lehman Brothers. Using high frequency spot and forward foreign exchange and interest rate quotes that are potentially executable for the period surrounding the 2008 global financial turmoil, this study examines the variations of intraday funding liquidity across the global financial markets that span different time zones. In addition, the paper also tests how and to what extent policy actions undertaken by central banks affect the dynamics of market liquidity condition.

Similar to Hui et al. (2009), the paper uses the differential between the US dollar interest rate implied by the covered interest rate parity condition and the corresponding US dollar interest rate as a proxy for the liquidity (or the lack of it) in the US dollar money market. The study focuses on the EUR/USD exchange rate and compares the most stressful crisis period with other relatively less stressful periods.

The intraday funding liquidity condition during the most tumultuous period shows that the pressures in the demand for US dollars through foreign exchange and forward markets spilled over to the Asian markets.

The paper also examines how policy announcements by the central banks affect the dynamics of market liquidity. The study employs autoregressive models to capture the potential effects of monetary policy announcements on both the mean and volatility of the liquidity proxy. The empirical results show that the coordinated cuts of policy rates failed to stimulate lending in the short-term US money market, whereas the uncapped currency swap lines offered by the Federal Reserve to other central banks succeeded in easing the liquidity condition in the market. The policy is more effective and persistent for the very short end of the money market.