Prime Broker Exposures, Collateral, and Resilience in Hedge Fund Credit Networks*

Mathias S. Kruttli, Phillip J. Monin, and Sumudu W. Watugala†

Abstract

The collapse of Lehman Brothers illustrated the importance of managing prime broker counterparty risks for hedge funds. The central role of prime brokers and hedge funds in financial intermediation also makes understanding their credit dynamics a financial stability concern. While the hedge fund-prime broker credit network is highly concentrated, the average hedge fund in our sample borrows from three prime brokers and has a total credit exposure of $2.15 billion. We show that hedge fund borrowing tends to be overcollateralized and most of the collateral is allowed to be rehypothecated. Using a within fund-quarter empirical strategy, we identify the effects of an idiosyncratic liquidity shock to a major creditor. Such a shock results in significantly reduced borrowing due to the prime broker reducing credit supply instead of a precautionary reduction in credit demand from connected hedge funds. Borrowing by funds with more rehypothecable collateral is less affected because such collateral improves the constrained creditor's liquidity situation. Even large hedge funds simultaneously borrowing from multiple creditors see a significant reduction in their aggregate borrowing following the shock. Larger, more connected and better-performing hedge funds and those that do less OTC trading are better able to compensate for this loss.

*The analysis and conclusions set forth are those of the authors and do not indicate concurrence by the Board of Governors of the Federal Reserve System, its research staff, or the Office of Financial Research, U.S. Department of the Treasury.

†Kruttli: The Board of Governors of the Federal Reserve System and Oxford-Man Institute of Quantitative Finance. Email: mathias.s.kruttli@frb.gov. Monin: Office of Financial Research. Email: phillip.monin@ofr.treasury.gov. Watugala: Cornell University and Office of Financial Research. Email: sumudu@cornell.edu.