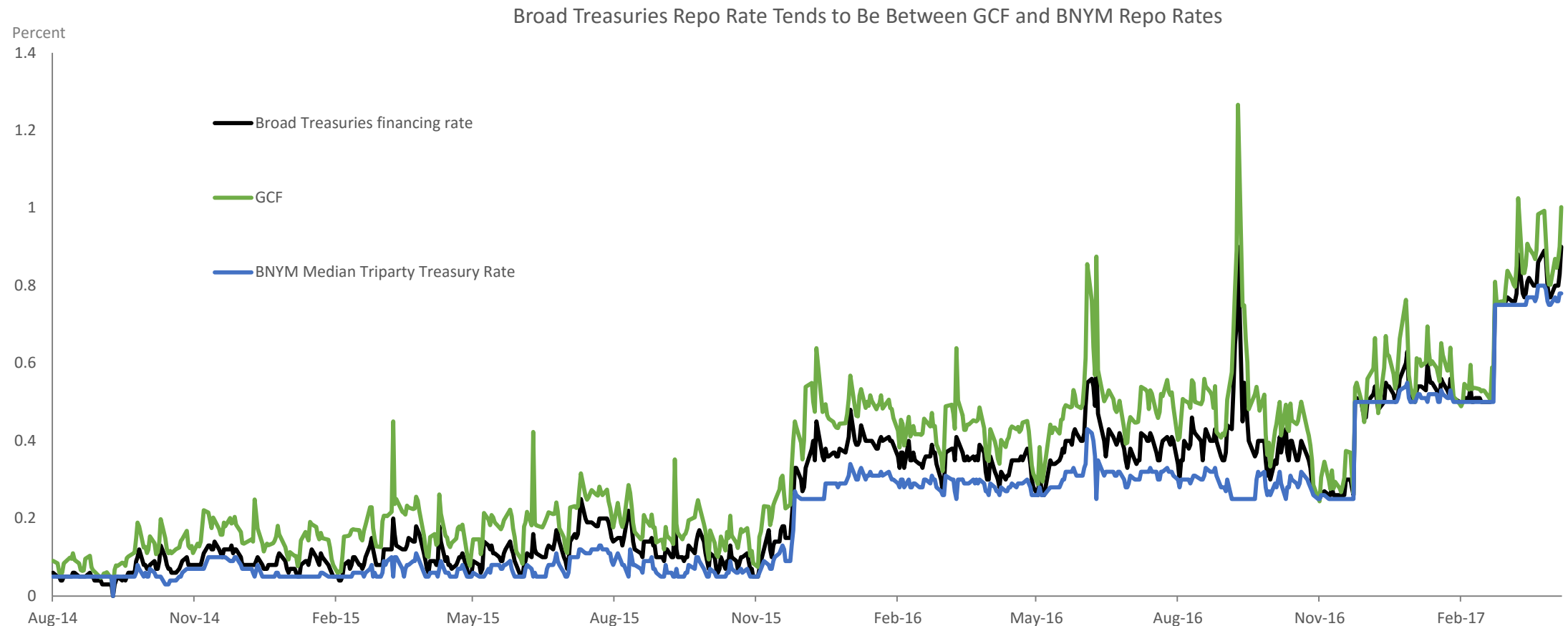


Presentation Materials

The Alternative Reference Rates Committee

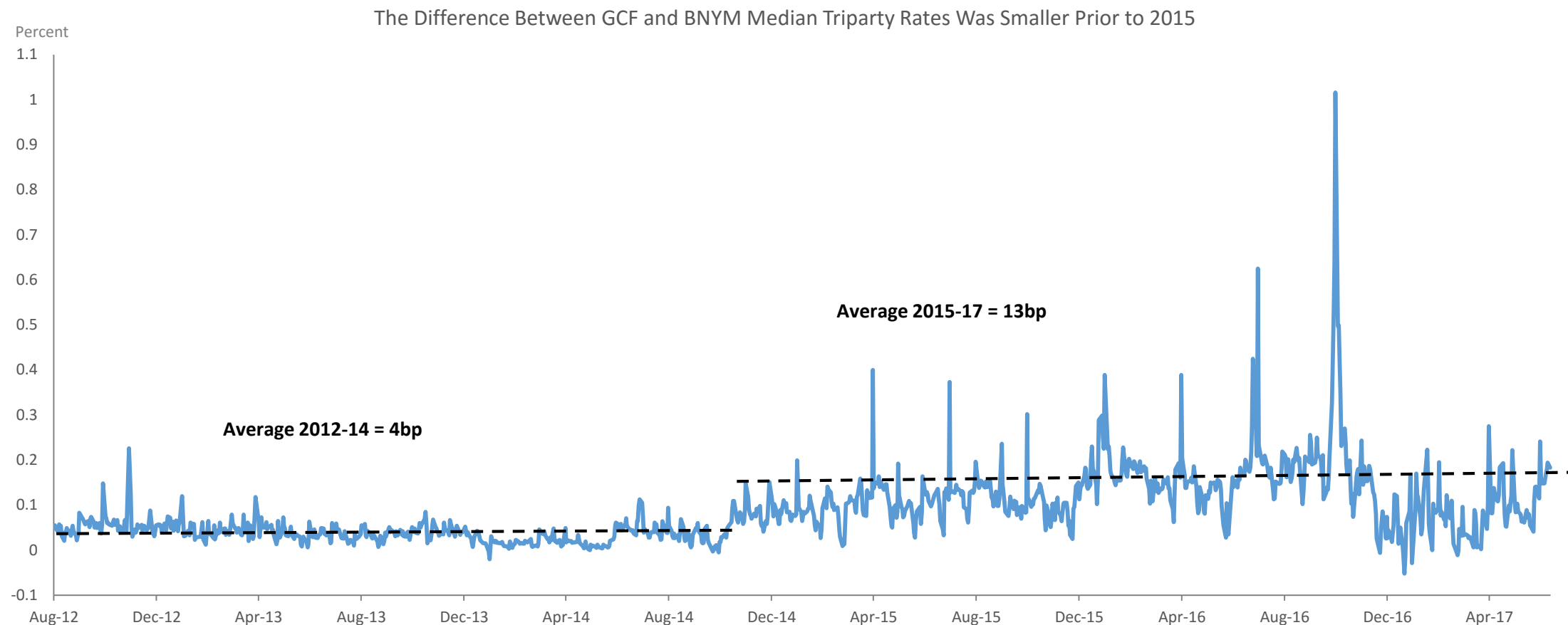
August 1, 2017

Data released by the Federal Reserve Bank of New York indicates that the broad Treasuries repo rate recommended by the ARRC has tended to lie between narrower GC rates, such as BNY Mellon's Treasury Tri-Party Rate, and DTCC's GCF Treasury Repo Rate.



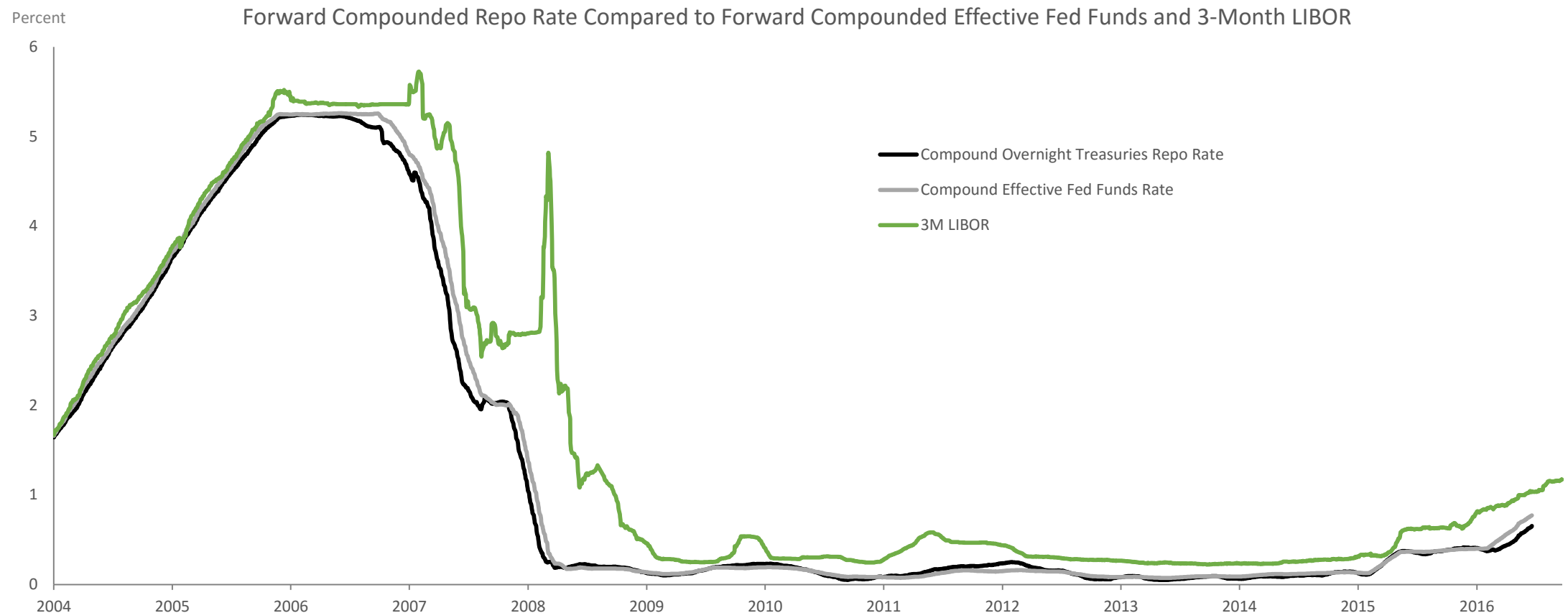
Source: Federal Reserve Bank of New York (http://www.newyorkfed.org/medialibrary/media/research/blog/2017/LSE_2017_Cipriani_broadfinancing_data.xlsx), Bank of New York Mellon, DTCC.

The difference between the GCF rate and narrower GC tri-party rates widened in 2015, but prior to that time this spread was narrower as the different segments of the repo market tended to trade at more homogenous rates. Internal data suggests that if anything this spread may have been even narrower prior to 2012. Thus, publicly available historical series on overnight Treasury repo rates appear to be reasonable proxies in modelling how a broad repo rate might have behaved prior to 2014.



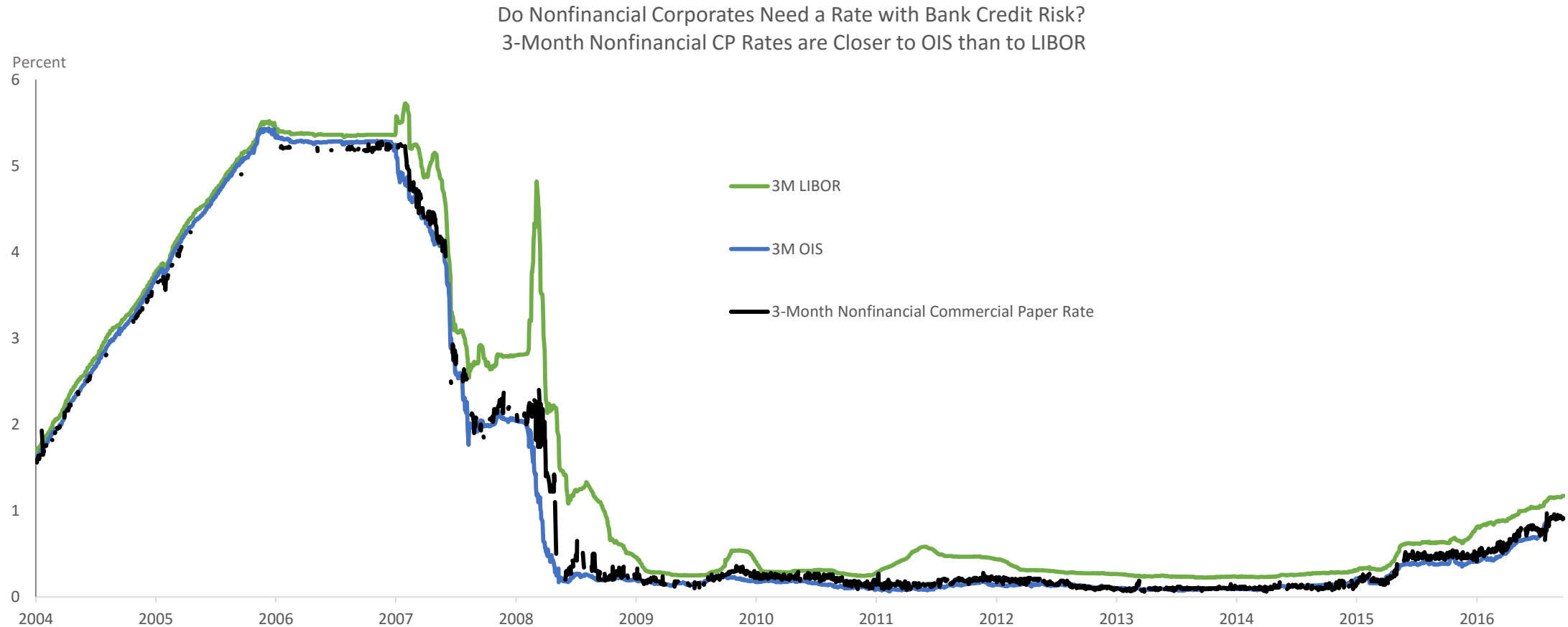
Source: Bank of New York Mellon, DTCC.

OIS contracts pay a compound average of the overnight rate index. The publicly available series can be used to compare historical movements in a compounded average overnight Treasury repo rates to the compounded average of the effective fed funds rate or to 3-Month LIBOR.



Forward Compounded Repo and Fed Funds Effective Rates are compound geometric averages of daily rates over the subsequent quarter. Repo rate data: Aug 2014-2017 from the Federal Reserve Bank of New York (http://www.newyorkfed.org/medialibrary/media/research/blog/2017/LSE_2017_Cipriani_broadfinancing_data.xlsx) prior data from ICAP/NEX (source: Bloomberg series IREPUSOP Index); Effective Fed Funds Rate: Federal Reserve Bank of New York; LIBOR: Ice Benchmarks Administration.

Some commentators argue that nonfinancial corporates use LIBOR because, as an unsecured funding rate, it helps to hedge nonfinancial corporates' own cost of unsecured funding. However, LIBOR has not historically been all that well correlated with measures of nonfinancial corporate funding costs – in fact, OIS rates have typically been closer.



Source: Bloomberg, ICE Benchmarks Administration, Board of Governors of the Federal Reserve (Nonfinancial Commercial Paper Rates).