

December 5, 2008

19. Targeting Term Funding Conditions in U.S. Depository Institutions

Olivier Armantier, Todd Keister, James McAndrews, and David Skeie¹

Executive Summary

This memo examines the possibility that the Federal Reserve could target term funding conditions for U.S. banks as a way to improve overall financial conditions. Under this proposal, the Fed shifts the focus of monetary policy away from the overnight federal funds rate and toward directly influencing the *term* funding conditions faced by banks, either at the one-month or three-month horizon. This is accomplished using a combination of a modified Term Auction Facility together with a new Term Deposit Facility. The Fed would not explicitly target a market interest rate; rather, the stance of monetary policy would then be indicated by the interest rates associated with these facilities. Once the crisis abates, the Fed could choose to return to focusing on an overnight interest rate.

Background:

In normal circumstances in recent years, the operation of monetary policy has led to a low and stable term premium in interbank money markets. The spread between the three-month U.S. dollar Libor rate and the three-month overnight index swap rate, for example, has typically averaged less than 10 basis points. This tight link between the expected overnight federal funds rate and the comparable term interest rate in the money market is important to the transmission of monetary policy, since it implies that expected changes in the target federal funds rate are quickly reflected in term interbank lending rates. These interbank rates represent the marginal cost of term funding for banks and, therefore, heavily influence the rates at which banks lend to their customers.

During the current period of financial turmoil, this tight link between the expected federal funds rate and term money market rates has broken down, as term premia in the interbank market have become persistently high and variable. This change is likely being driven by factors related to both the supply of funding and the demand for funding. Lenders in the money market might have restricted their supply of credit in the term market for two reasons. First, lenders may perceive that their counterparties are risky, leading to high credit risk premia, particularly beyond very short maturities. Second, lenders may be concerned about their own actual or expected liquidity position and thus restrict their supply of term credit, adding a large liquidity premium to any credit they extend for terms longer than a day.

¹ Federal Reserve Bank of New York.

On the other side of the market, borrowers may be willing to pay high term premia because doing so is more attractive than facing the risks associated with funding themselves daily in the overnight money market. Individual depositories may not be certain that the Federal Reserve will succeed in operating monetary policy in future weeks in a way that will allow that depository to fund itself at a rate near the target federal funds rate. A commitment to targeting the term funding conditions for depository institutions would allow the Federal Reserve to reassure depositories that it will succeed in achieving the desired funding conditions in future weeks. This reassurance, in turn, would decrease the demand for term funding and help reduce the term premium.

Instruments:

First, daily account balances in Federal Reserve Accounts would earn the deposit rate on excess reserves.

Second, the Term Auction Facility would be modified and a new Term Deposit Facility introduced. By offering to take both sides of the market, either lending to or borrowing from banks, the Fed will be able to affect term funding conditions in both directions.

- 1) **Modified Term Auction Facility (TAF):** The TAF structure would be changed to allow banks to borrow unlimited quantities at a 5 basis-point spread to the desired term funding rate.

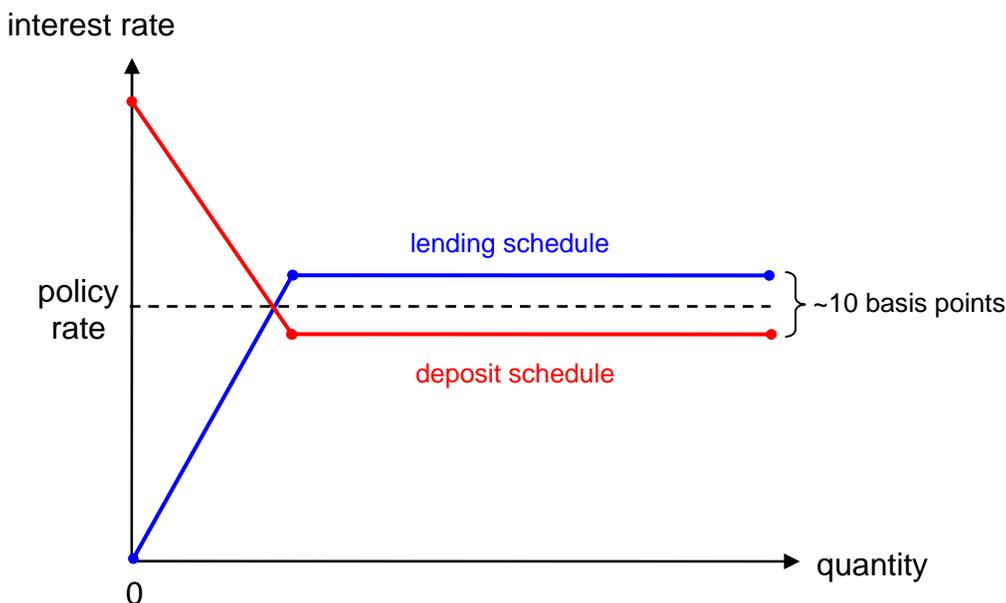
In order to encourage participation in the auction, the Fed could set an increasing supply schedule like the blue line in the graph below. If total bids are low, the auction would stop out at a low rate. This structure would give banks the additional incentive to participate in the auction of particularly cheap funding even if they expected that few other banks would. As with past TAF auctions, this incentive would continue to help offset any potential stigma of participation that may exist. The interest rate would increase as the dollar volume of bids increased. Banks would be permitted to borrow unlimited funds (only) at a pre-set maximum bid rate, which would be set at or slightly above the desired marginal cost of term funds (labeled the “policy rate” on the graph).²

- 2) **Term Deposit Facility (TDF):** On the same days as the TAF auctions, hold auctions in which banks bid to hold term deposits at the Fed. The Fed would accept term deposits in these auctions in unlimited quantities at a rate 5 basis points below the desired term funding rate.

In order to encourage participation in this auction, the Fed could set a decreasing schedule, as depicted by the red line in the graph above. If few banks participate in

² For stop-out rates below the maximum bid rate, concentration limits similar to those in the current TAF auctions would apply to amounts awarded to individual depository institutions; at the maximum bid rate, a depository institution would be constrained only by its collateral (a level of overcollateralization consistent with term borrowing would apply). A similar provision would hold in the term deposit auction; an unlimited amount would only be allowed at the minimum deposit rate.

the auction, the stop-out rate will be high and those banks that participate will receive an attractive rate for their deposits. The minimum bid rate would be set 5 basis points below the desired marginal cost of term funds.



Term deposits could be treated in one of three ways, arrayed here in order of increasing attractiveness to depository institutions.

- The term deposit could be withdrawn from the account of the depository institutions at the inception of the term, and returned at the conclusion of the term. In this way, the depository institution would not have use of the funds for the term of the deposit.
- The depository institution could be required to maintain the amount of its term deposit in its account at the end of each day, but the term deposits could be made available to it for use during the day. (Alternatively, the amount of the term deposit would serve as collateral supporting a free daylight overdraft for the depository institution.)
- The depository institution could be required to maintain the amount of its term deposit in its account on average over the term, or over each Reserve Maintenance Period within the term of the deposit.

These alternatives allow the funds deposited with the Fed to play increasing roles as a source of liquidity. In the first case, the term deposit does not serve as liquidity to the depository institution; in the second, the deposit allows the depository to access the funds during the day; in the third, it allows the depository to access the funds daily and to maintain its deposit equal to the term deposit on average over a period. To better distinguish between term and overnight deposits, but to recognize that funds on

deposit exist, the second alternative may be most appropriate. In that case, the amount of term deposits are segregated from influencing overnight interest rates.

Discussion:

We do not advocate adopting an explicit target for market interest rates for term interbank loans. There is substantial risk in announcing an explicit target and then failing to meet it. Instead, we advocate using the stop-out rate on the facilities as indicators of the stance of monetary policy. If the FOMC desires to ease monetary policy, for example, the stop-out rates on both auctions could be lowered, thus decreasing banks' cost of term funding.³

The Swiss National Bank follows a policy of influencing 3-month rates in the interbank market for Swiss Francs. Instead of tightly targeting the 3-month Swiss franc Libor rates, it announces a target range (of one percentage point) within which it aims to maintain that rate.⁴ It influences the 3-month rate by intervening in the one-week repo market on a daily basis. This approach relies on allowing the one week and overnight rates to fall far enough to accommodate the term premium in the 3-month rate. A limitation to this approach is the zero bound on the overnight rate, which the SNB is grappling with now. The Fed could not use this approach at this time because of this constraint.

The Danmarks Nationalbank targets a one-week rate (see the appendix) by intervening on a weekly basis in a fashion similar to that described in this memo: the Danmarks Nationalbank simultaneously offers one –week certificates of deposit and one-week collateralized loans. The certificates of deposit can be used as collateral by banks to obtain intraday credit from the Danmarks Nationalbank, but cannot function as current account balances. Current account balances earn a daily interest rate set at a discount to the one-week rate on certificates of deposit. On occasion, because of fluctuations in autonomous factors that affect the quantity of current account balances, the Danmarks Nationalbank will intervene during the week, outside of its weekly operation. An alternative suggested by the Danmarks Nationalbank example would be to eliminate the 5 basis point premium and discount in the two facilities and to “buy and sell” term funds at the same rate.

Correcting for term spreads by targeting a term rate is beneficial based on the work of Bernanke and Gertler (1989). Their work suggests that the overnight federal funds rate should be adjusted to compensate for an increase in the external finance premium, which is closely related to the credit and liquidity premiums in the federal funds rate. In fact, one of the rationales for the FOMC lowering the federal funds target since September 2007 has been the tightening of credit conditions, which was partly reflected in term

³ An especially difficult problem in targeting any currently-published term U.S. dollar interest rate, such as the Libor or NYFR, is that these rates include many participants other than U.S. depositories, and effectively measure Eurodollar, rather than federal funds rates. This measurement problem is another reason not to target a rate, but instead to target funding conditions for U.S. banks at the specific term.

⁴ See the memo by Alain Chaboud, September 26, 2008, “The Swiss National Bank’s 3-Month Libor Target,” Board of Governors of the Federal Reserve System.

Libor spreads. An advantage of the approach proposed here is that the stance of monetary policy could be more independent of financial disruptions because variations in the term premium caused by such disruptions are automatically stabilized. It is notable, for example, that the Swiss National Bank has maintained the 3-month Swiss franc Libor rate within its target range throughout the period 2007-2008, even as the 3-month Libor rates in other currencies rose well outside of previous trading ranges and historical spreads to the overnight rates in the currency.

The interest rate at the modified TAF auction would represent a secured lending rate and, as such, the facility may not directly decrease the unsecured term interbank lending rate. However, increasing the quantity of term lending should decrease the overall demand for term borrowing (both secured and unsecured), and so should decrease the equilibrium rate for unsecured term borrowing.

The modifications to the Term Auction Facility discussed here would make it more similar to the Discount Window in some ways, especially in offering unlimited funding (against collateral) at a fixed interest rate. However, several important distinctions would remain. The TAF auctions would continue to be conducted on a fixed schedule, rather than providing funding on demand, and the auctions would continue to settle with some delay. These features make the auction less attractive to institutions with an immediate need for funds and, therefore, minimize the “stigma” effect of borrowing from the facility.

It should be noted, however, that both the potential for stigma and the distinction between secured and unsecured borrowing may limit the ability of the facility to create a hard ceiling for the market interest rate. Similarly, the Term Deposit Facility may not create a hard floor for the market interest rate because not all lenders would be eligible to hold Fed deposits. Nevertheless, the facilities would be effective in influencing term funding conditions for depository institutions both directly, for those institutions that use the facilities, and indirectly by changing the supply of and demand for funds in the market.

Appendix: A description of the monetary policy implementation of the Danmarks Nationalbank⁵

Danmarks Nationalbank's monetary-policy counterparties comprise banks and mortgage-credit institutes. The monetary-policy counterparties have access to the monetary-policy instruments, i.e. they can place liquidity with Danmarks Nationalbank as overnight deposits (current-account deposits) and participate in Danmarks Nationalbank's weekly market operations. In the weekly market operations, counterparties can obtain 7-day loans against collateral in securities, or deposit liquidity for 7 days by purchasing certificates of deposit. Current-account deposits accrue interest at the current-account rate. Danmarks Nationalbank's monetary-policy loans bear interest at the lending rate, which is equivalent to the rate of interest on certificates of deposit.

The net positions of the monetary-policy counterparties are their portfolios of certificates of deposit and current-account deposits, less their loans from Danmarks Nationalbank. The net positions are primarily affected by fluctuations in government payments and Danmarks Nationalbank's purchase and sale of foreign exchange. In the weekly market operations, the monetary-policy counterparties normally structure their net positions so that the total current-account deposit covers the expected liquidity requirement for the next week. When major liquidity fluctuations are expected, Danmarks Nationalbank may announce in advance that it will buy back or sell certificates of deposit outside the fixed market operations. Danmarks Nationalbank may also buy back or sell certificates of deposit without prior announcement.

Limits have been set for the size of the monetary-policy counterparties' current-account deposits. The purpose of these limits is to prevent the build-up of large current-account deposits that may be used for speculation in interest-rate and/or exchange-rate changes. If the total limit for the counterparties is exceeded, current-account deposits in excess of the individual limits will be converted into certificates of deposit.

Access to and use of accounts at Danmarks Nationalbank are determined in Danmarks Nationalbank's terms and conditions for accounts (Documentation basis for the monetary-policy instruments).

⁵ This description is found on the website of the Danmarks Nationalbank, <http://www.nationalbanken.dk/DNUK/MonetaryPolicy.nsf/side/Instruments!OpenDocument>