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President

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Dear Colleagues:

The staff memorandum distributed by Brian Madigan last Friday describes a proposed Term Auction Facility, similar to the Auction Credit Facility we discussed in September. Staff have made some minor modifications to the program in light of that discussion and have also provided a much fuller treatment of the rationale. Nonetheless, I remain doubtful about the desirability of such a facility.

Interbank term funding markets have certainly behaved unusually in recent weeks. Spreads on term funding relative to the overnight funds rate have become quite elevated for many banks, differentiation in rates across institutions ("tiering") has become more pronounced, and the volume of term lending appears to have contracted. Some banks express concern about their ability to obtain funding at year-end, and are either reluctant to lend now at term or are willing to pay high term premia. Increases in year-end interbank interest rates have occurred in the past in connection with the century date change or with "window-dressing" concerns, that is, the willingness to pay a premium to alter the appearance of year-end financial statements. In recent years the Desk has supplied reserves generously at year end through repo operations, and market participants currently appear to expect fed funds to trade soft at the end of December. Thus elevated term funding spreads appear to go well beyond concerns that the funds rate will spike at year end.

A natural interpretation of these observations is that increased term funding spreads represent beliefs about the risks associated with various counterparties or underlying collateral. Banks concerned about their "access to liquidity" are paying for insurance against potential future increases in their risk premia. Granted, observers describe market conditions as "impaired," "distressed," "strained," or "lacking liquidity." But the operational meaning of the phrase "lack of liquidity" is that borrowers cannot find loans on terms they would accept. At the end of the day, "liquidity" comes down to what price, if any, lenders are willing to quote to a given borrower, and what price, if any, a borrower is willing to pay.

How will a discount window auction facility affect interbank term funding markets? Clearly the banks currently facing the highest term funding spreads will be willing to pay the most at auction. The implication is that an auction facility will be most beneficial to the banks judged riskiest by other market participants, and will constitute a subsidy, unless we have reason to believe that market risk assessments are systematically wrong.

Do we have reason to question the shift in assessments underlying the increase in term funding premia? The flow of information related to the continued deterioration in mortgage-related assets would seem to provide a plausible rationale for heightened risk premia. Admittedly, it might be difficult to estimate quantitatively the extent of the appropriate adjustment, and reasonable observers could disagree on the appropriateness of any given institution's current spread. But while many of us have often questioned asset market valuations– whether its equity values, housing prices or the slope of the yield curve – we have traditionally been very reluctant to intervene directly to attempt to correct what we perceived as mispricing. That principle reflects a healthy humility about our ability to second-guess market outcomes, and it leads me to doubt that the proposed auction facility will enhance efficiency rather than just subsidize the riskiest banks.

My views about the proposed auction facility reflect the normative perspective that observed conditions in interbank markets are, plausibly, efficient. This hypothesis could be wrong, however, so it is worth considering alternative hypotheses under which these markets are in some relevant sense inefficient and intervention could result in an improvement in efficiency. For example, Franklin Allen and Douglas Gale describe a model in which adverse news about asset returns combined with liquidity commitments to depositors leads to "distress" asset sales by banks. (*Understanding Financial Crises*, 2007, Chapter 9.) The only available buyers have insufficient cash to pay the fundamental value, and so the asset trades at an inefficient discount – this is their "cash-in-the-market pricing" feature, in which the asset price turns out to be just the ratio of investor cash to the quantity of assets for sale. Central bank lending against the asset alleviates the problem and restores prices to their "fundamental" value. I have a hard time relating this model to current market conditions, though. Banks do not seem to be facing forced asset sales, and there are widespread accounts of potential investors sitting on the sidelines waiting for more attractive prices. Moreover, the policy prescription of supplementing cash in the market is a prescription for *unsterilized* lending, and makes no meaningful distinction between discount window loans and open market operations. So its hard for me to see how it justifies the proposed auction credit facility.

Asymmetric information figures prominently in many other accounts of credit market phenomena, and in some cases can give rise to inefficient outcomes. In certain models some borrowers are inefficiently rationed out of the market and the corresponding informational imperfection – borrowers having private information on their creditworthiness – seems quite plausible. There are a wide variety of approaches to modeling asymmetric information environments, however, and the outcomes are quite sensitive to seemingly innocuous differences in how one envisions market participants interacting. But a common property of all such approaches is that intervention enhances efficiency only if it makes use of some capability that market participants themselves do not possess.

Would the Term Auction Facility do something that market participants can not do themselves? It would replace repo lending to broker-dealers on our balance sheet with discount window loans at an auction-determined rate, leaving the overall amount of bank reserves unchanged. Thus it would essentially reallocate funds from some banks to other banks. Does asymmetric information impede that reallocation now? Perhaps, but the proposed auction facility would not utilize much by way of any superior information we might have about a borrower, only the fact that it is not a problem bank. Market participants currently appear to be making much finer distinctions between borrowers. Moreover, the types of collateral we would accept, and that we do not accept in open market operations, are all assets that are or could be pledged or sold outright to market lenders. The allocation mechanism – single price auction – is certainly available and well-known to market participants. And the scale of lending is certainly well within their reach; in fact some individual banks routinely lend as much as $10 billion daily on an overnight basis now, and could easily lend that much at term if they found it attractive.

The one ability we have that banks are unable to replicate, however, is the capacity to subsidize borrowing costs, but even this capability is not unique to Reserve Banks. The Federal Home Loan Banks provide term funding to their members at rates that are arguably subsidized due to the perceived government backing they enjoy. In fact FHLB advances increased by 29% or about $180 billion in the third quarter, especially to institutions most affected by mortgage-market problems, and their rates are much closer to the expected overnight funds rate than to term LIBOR. (This may explain the relatively paltry amount of discount window borrowing we've seen since we reduced the discount rate spread to the target in August.) The staff paper points out that FHLB borrowings are callable, but nothing prevents them from making uncallable loans, and they presumably would if that were the preference of their borrowers. Besides, auction facility loans would be callable as well in the event that the condition of a borrowing bank deteriorated. The scale of FHLB lending since August, along with the fact that many banks maintain sizable FHLB capacity, suggests that an auction credit facility may not attract much interest unless the reservation rate is set quite low. Moreover, the availability of FHLB lending seems like fairly strong evidence that the unmet need for term funding is quite minimal.

The staff memorandum points out that auction facility credit is likely to increase risk to Reserve Banks and notes the difficulty that would be posed by a borrower whose condition deteriorates. The staff suggests that protocols could guide a Reserve Bank's response to such situations. Its worth bearing in mind that our policy objective here is broader than just the financial risk to the Reserve Banks. Discount window lending can allow uninsured creditors to withdraw funds and thereby result in increased costs to the FDIC, even if, as is usually the case, the Reserve Bank is made whole by the FDIC in exchange for the collateral. Overly liberal discount window lending therefore runs the risk of increasing costs to the deposit insurance fund and dampening market discipline.

There is, of course, a long literature on central banks' role as lender of last resort, including Bagehot's famous prescription to supply funds via collateralized lending in a crisis. Much of that tradition predates open market operations and pertains to settings in which unsterilized central bank lending was required to prevent spikes in short term interest rates. The discount window plays that role for us today, acting as a substitute for late-day reserve injections when demand forecast misses result in upward pressure on the funds rate or operational difficulties physically impede banks' access to funds, as in the days following September 11, 2001. This traditional rationale for central bank lending is irrelevant to the sterilized lending envisioned in the proposed auction facility.

The staff memorandum argues that a term auction facility may reduce the stigma that currently seems to be associated with borrowing at the discount window. The potential for stigma has to be a consideration whenever an entity obtains funding at disadvantageous terms. For example, a bank receiving a capital infusion at a relatively high interest rate will have to cope with the resulting inference of market participants, should the news get out, and that prospect undoubtedly affects their cost-benefit calculus. Similarly, term funding at current market rates would appear to convey adverse information by signaling the strength of a bank's willingness to pay for insurance against deterioration in their creditworthiness.

Stigma is based on the standard notion of a separating equilibrium; borrowing conveys information because institutions in poor health are willing to pay more than institutions in good health. It is not obvious, though, that we have a strong policy interest in alleviating stigma. After all, in other respects we try to enhance transparency and market discipline, and reducing stigma by inducing a pooling equilibrium, as we tried to do this summer, would only diminish the information available to market participants. It is true that superior allocations can be obtained in some special theoretical settings by scrambling information, but the point is that the trade-off is nontrivial.

But even if we do wish to reduce stigma, an auction credit facility does not appear to be designed to accomplish that aim. The auction winners will be those willing to pay the most, just as those that borrow now from the discount window are those willing to pay the most. The difference, of course, is that by forcing the rate down low enough to attract $8 billion in bids (or whatever amount we auction), winners are pooled together in a larger set of least creditworthy borrowers. But it seems likely that a large majority of banks will not participate, and so the winning bidders are still likely to be systematically different from banks in better condition, as market participants are likely to surmise. So its not clear that this facility will do much at all to reduce stigma.

It strikes me that the proposed auction facility involves at least some reputational risk. Introducing such a novel credit mechanism now would implicitly identify term funding pressures as a policy problem that we feel the need to address, and would signal that we think this facility will remedy the situation. I think it could be fairly embarrassing if bids are minimal or nonexistent, a significant possibility in view of the competition from the Home Loan Banks.

During times of financial turmoil, the urge is strong to take positive steps to alleviate the stress. Financial markets are coping, however, with a substantial deterioration in underlying economic fundamentals. How would one expect financial markets to behave in such circumstances? Uncertainty has genuinely increased, and market participants struggle every day to evaluate the relative risks posed by different counterparties. They may not get it exactly right in every case, but in evaluating potential interventions the natural benchmark is to view observed term lending spreads as reflecting an aggregation of market participants' assessments, consistent with our usual presumption that its difficult for policymakers to improve upon competitive financial markets outcomes. The complexity of the evolving condition of the interbank market makes it hard to have any confidence that an auction facility like the TAF will improve market efficiency, rather than merely subsidize the riskiest banks. This, as I have tried to explain, is the basis for my strong reservations about the proposal.

Sincerely yours,