Discussion

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Spence Hilton's paper provides a comprehensive overview of the Fed's mechanisms for the provision of liquidity for both monetary policy and financial system purposes.

In the monetary policy function, the Fed uses its powers as the ultimate supplier of liquidity to achieve the proximate target of monetary policy. Essentially, the Fed supplies a level of reserves to achieve the overnight Fed funds target rate, the first step in the transmission of monetary policy. The paper outlines this process and highlights the current challenges of achieving the target, particularly during periods of market turbulence. Required reserves are no longer sufficient to buffer large unanticipated payment flows, which means that there is greater potential for volatility in the overnight Fed funds rate. This is accentuated by the lack of appropriate price incentives to help ensure that Fed funds trade around target given that the rate is bounded by a floor of zero (with the Fed unable to pay interest until 2011) and by a ceiling rate on the discount rate (where access to the primary credit facility is affected by 'stigma').

The financial system function is linked to the traditional lending role of a central bank to the banking system through loans to solvent institutions facing liquidity problems (that is, the role of lender of last resort). The paper describes how, in the most recent episode, loans were also made to market participants facing liquidity problems, in order to – in the words of the paper – 'improve market liquidity and overall market functioning and thus support the stability of the financial system'.

In order to lend to market participants, the Fed enhanced existing liquidity facilities and created new ones. These in turn affected the management of the Fed's balance sheet as well as the Fed's monetary policy operations. The paper does an excellent job of describing the details of these effects and the associated challenges. The paper could benefit, however, from discussion of the analysis behind, and the motivation for, the creation of these new facilities.

The main focus of the following comments will be on describing a framework that would focus on the motivation for central bank actions (why intervene?) as well as address the policy considerations for when and how to intervene.[1]

1.1 Why intervene?

In a market-based financial system, liquid markets support economic efficiency as the channel through which scarce economic resources are allocated to the most productive uses. An efficient market-based system relies on the market price of an asset not deviating too far from the fundamental value of that asset. However, during the height of the market turmoil, market-makers – relied on to buy and sell assets at prices close to their fundamental value – did not have access to sufficient liquidity

1. For further context on these issues, see Engert, Selody and Wilkins (2008) and Carney (2008).

from the banking system to perform this function and market liquidity suffered, ultimately threatening the stability of the financial system. Altering liquidity using traditional monetary policy tools or through reallocations to banks was no longer sufficient to maintaining liquidity in the financial system.

In response, central banks, as the ultimate providers of the liquidity, responded by introducing new variants of traditional lending operations to markets as well as to institutions.

1.2 When is intervention appropriate?

More specifically, when does a policy-maker decide to take extraordinary action for the purpose of addressing financial system stresses that could have material macroeconomic consequences? That is, what constitutes 'exigent' circumstances in the terms of the Fed's legislative authority or 'exceptional' circumstances in the terms of the *Bank of Canada Act*?

To address this requires policy-makers to consider three further questions: Can the problem/market failure, be clearly identified? Will the instruments of the central bank be effective in addressing the market failure? Finally, do the benefits outweigh the costs?

Beginning in August 2007, the broad problem was easily identified. A lack of market liquidity in various sectors of international markets, particularly the interbank market and certain credit markets, was clearly evident and there was an associated flight to 'risk-free' assets.

Determining *ex ante* the effectiveness of central bank tools was more challenging. An important consideration for entering into transactions was to identify whether the problem was temporary or permanent. This reflects the fact that although a central bank can provide liquidity, it cannot create (or recreate) markets where there is no private-sector interest in them.[2]

Finally, the assessment of whether the benefits outweigh the costs is perhaps the most challenging aspect of the decision, since assumptions must be made about the future impact of central bank actions. Clearly, the objective was to restore confidence by providing 'temporary' liquidity support, thus facilitating the transition to well-functioning markets and avoiding further 'excessive prudence'.[3] The costs

2. With respect to the Canadian asset-backed commercial paper (ABCP) market, the Bank of Canada's approach to the third-party sponsored programs (with exposures to collateralised debt obligations and, to a certain extent, US sub-prime mortgages) differed significantly from that to the bank-sponsored programs (which were predominately of a classic structure relying on loan receivables). This was based on an assessment of the permanent versus temporary nature of the problem. In the former case, a private resolution to the problem was encouraged, leading to a proposal (the Montreal Accord) to restructure the programs into long-term securities that matched the duration of the underlying liabilities. In contrast, the Bank indicated its willingness to accept bank-sponsored ABCP programs for traditional assets as eligible collateral for its standing liquidity facilities, subject to certain transparency criteria and explicit commitments by the banks to provide liquidity support to their own programs.

3. In Canada, the extension of non-routine term purchase and resale agreements – term repos – ended in mid July 2008.

to consider include the potential financial risks to the central bank, as well as the potential for moral hazard – the concern that central bank intervention will have detrimental effects on private incentives to manage liquidity and counterparty risks and therefore lead to less robust and well-functioning markets in the future.

1.3 What form should intervention take?

The nature of any intervention will depend on the circumstances and should be targeted at any market failures that have been identified. An auction mechanism, such as that utilised by the Fed for its special facilities, has a number of advantages. The competitive pricing process helps to minimise the potential for distortionary pricing of credit risk, minimises the effect of stigma (since an auction is a collective mechanism involving several borrowers simultaneously), facilitates the distinction between the monetary policy target rate and the lending rate, and also provides flexibility to vary the key parameters of the transaction (term, eligible counterparties and eligible securities) depending on the circumstances.

The term-liquidity operations can be placed into three broad categories, each targeting specific problems and each paralleling the Fed's facilities:

1. **term repos** can be offered to any financial market participant with marketable securities when the liquidity premium in the market is distorted;
2. **term loans** can be offered when individual (solvent) institutions are unable to access liquidity in markets. The collateral supporting such loans can be expanded beyond marketable securities (to loans, for example); and
3. **term securities lending** can be offered when premia for both high-quality and illiquid marketable securities are distorted.

With respect to future issues for Fed policy, Spence identified a number of important operational issues, including the composition of the Fed's balance sheet. For instance, Figure 3 in his paper highlights the asset allocation of the Fed's balance sheet according to the impact of each of the Fed's lending operations. It might be useful to also look at the composition by potential exposure to various assets to support an assessment of the overall risk to the Fed.

The paper does not explicitly address the broader policy issues regarding not only what a central bank can do, but also what it should do. However, the principles applied when deciding whether to enter into transactions can also apply to deciding when to withdraw a particular facility or to make it a more permanent feature of the Fed's complement of tools.[4] From this perspective, it would be instructive to discuss how a central bank might answer the following important (and difficult) questions:

4. In Canada, the decision to phase out the term purchase and resale facilities was taken when a range of indicators pointed to a reduction in adverse liquidity pressures. For example, when the auction rate was judged as being close to the implied future policy rate and the market rate, when bid-ask spreads narrowed sufficiently, and according to anecdotal evidence. As liquidity recovered, the Bank phased out the special facilities and again relied on markets to set prices out along the term structure, while continuing to intervene as necessary to reinforce its target overnight rate.

- Is the problem still viewed as temporary?
- Are the bank's actions still assessed to be effective in resolving the situation?
- Do the benefits still outweigh the costs?

Answering this latter question requires an assessment of whether private incentives have been distorted further such that risks to the financial system are increasing rather than diminishing, whether there are risks to the independence of the central bank in a blurring between its role and that of the fiscal authority, and whether there is too much risk being borne by the central bank such that its future effectiveness as the monetary authority is compromised.

Spence Hilton's paper provides an overview of the Fed's liquidity provision and associated challenges currently and in the future, but it goes without saying that there is sufficient fodder to feed discussion and debate about central bank policies during financial market turmoil – as well as the associated operational aspects – for years to come.

References

Carney M (2008), 'Principles for Liquid Markets', remarks to the New York Association for Business Economics, New York, 22 May. Available at <http://www.bankofcanada.ca/en/speeches/2008/sp08-6.html>.

Engert W, J Selody and C Wilkins (2008), 'Financial Market Turmoil and Central Bank Intervention', Bank of Canada *Financial System Review*, June, pp 71–78. Available at <http://www.bankofcanada.ca/en/fsr/2008/fsr_0608.pdf>.

2. General Discussion

The general discussion focused on the effect that new liquidity facilities offered by the US Federal Reserve may have on its operations. One participant was interested in what would happen to the ability of the Fed to act as a lender of last resort if US treasury securities fell to a very low share of the Federal Reserve's balance sheet, given that the Fed was prevented from purchasing treasury securities directly from the US government. In response, Spence Hilton reiterated points made in his paper, indicating that in this scenario the Fed would have the option of issuing its own securities, or requesting the US government to issue securities, with the money raised to be deposited at the Fed. Another participant noted that the reserve maintenance period for US banks was longer than the daily management system used in Australia and Canada and questioned whether this reduces the ability of the Fed to gauge the demand for cash by banks, which varies on a daily basis. Yet another participant wondered whether an authority to pay interest on overnight funds would allow the Fed to move towards setting a daily reserve target. In reply, Spence Hilton suggested that the Fed generally thought the longer maintenance period was a helpful feature that smoothed volatility.

In terms of the effect of the new liquidity facilities on the financial system, one participant questioned whether the Fed was in fact providing equity – and not merely liquidity to financial institutions – at effectively negative interest rates via these mechanisms, and thus encouraging distortions in the behaviour of market participants. Spence Hilton stressed that facilities such as the primary dealer credit facility (PDCF) are not providing equity as they are swap facilities, which may help stretch out the adjustment process by the financial system to a crisis caused by excessive risk-taking. One participant suggested that there did not appear to be any stigma associated with use of the term auction facility (TAF), which may be one test of its effectiveness as a liquidity management tool. Spence Hilton suggested that this may be because the facility operates as an auction, for which there was a sense of 'safety in numbers'. While liquidity problems appear to have been stemmed somewhat with the help of these new facilities, a number of participants pointed out that LIBOR/OIS spreads were still usually high, which was a reason for continued concern.