

Is There Stigma Associated with Discount Window Borrowing?

By Renee Courtois and Huberto M. Ennis

There is considerable anecdotal and empirical evidence suggesting that banks are reluctant to borrow from the Fed's discount window. This behavior is commonly explained as the result of stigma attached to this source of funding, though stigma is hard to establish conclusively.

New theoretical research provides a formal framework to analyze stigma, including the recent policies introduced to deal with it.

Are banks reluctant to borrow from the Fed because of a stigma attached to such loans? This question is important to monetary policy. Like other central banks, normally the Fed makes loans to banks through its discount window. This credit has long been thought to be an important tool for responding to financial strain. But if banks are reluctant to borrow from the Fed because of a stigma attached to such loans, then the Fed's ability to provide liquidity as a lender of last resort could be impaired.

More specifically, stigma refers to a fear on the part of banks that a negative signal could be conveyed to regulators, other banks, or investors about a bank's health if that bank is discovered to have borrowed from the Fed. Until the financial crisis, the discount window was the Fed's primary means of emergency lending to banks, so stigma is usually discussed in reference to that lending facility. Indeed, the Fed has repeatedly dealt with the issue of discount window stigma in recent history, as explained below.

The question of stigma has also been of recent legal importance. Federal appeals courts ruled in March that the Fed must disclose recipients of certain loans extended through the discount window and other lending programs enacted in response to the financial crisis. The Federal Reserve Board of Governors opposed disclosing the names of recipients on grounds that stigma could harm banks who had already taken the loans, even if they were healthy banks simply facing short-term liquidity shortages as a result of the financial crisis. More generally, the Board also fears that knowing their borrowing would be disclosed could discourage financial institutions from taking loans from the Fed at times when financial markets are in heightened need of liquidity.¹

The existence of stigma is difficult, if not impossible, to confirm empirically. However, several studies have documented that banks appear reluctant to borrow from the Fed. That is, banks do not use the discount window to the extent that would be expected when terms are advantageous. Most economists and policymakers believe stigma probably explains this phenomenon.²

RATIONALIZING STIGMA

It is not difficult to understand why stigma could exist if one is familiar

with the way the interbank market functions. Banks borrow from each other daily in this market mainly to satisfy reserve requirements or to avoid overnight overdraft in their accounts at the Fed. Interbank lending in the federal funds market is generally uncollateralized and occurs through bilateral arrangements. That is, banks, or brokers operating on their behalf, contact each other to negotiate and agree on the terms of overnight loans. The amounts and terms of these loans are not publicized (although a weighted average of a subset of the rates that prevails through this process is published daily by the New York Fed under the label of “the effective fed funds rate”).

The interbank market is the predominant venue in which banks access overnight funding. However, they can also borrow directly from the Fed at the discount window, paying the discount rate. For the most part, discount window borrowing is relatively rare; it is dwarfed by the volume of lending on the fed funds market. That said, there are many reasons banks might borrow from the discount window instead of the interbank market. For example, transactions that cause a shortfall in reserves but are entered late in the day may not leave sufficient time to find a suitable counterparty in the fed funds market. Other reasons may portend financial distress. For example, banks might borrow from the Fed if the amount needed becomes greater than is readily available on the interbank market during the day, or if other banks are skeptical of the institution’s ability to repay the loan and thus require a prohibitively large risk premium.

Importantly, other banks are aware that financial distress could explain a bank seeking loans from the Fed instead of the interbank market. The Fed does not disclose publicly which institutions have received discount window loans. However, the Board of Governors does publish weekly the total amount of discount window lending by the 12 regional Reserve Banks, who conduct the actual lending. As Fed Governor Elizabeth Duke noted in a February 2010 speech, a sudden, large increase in total discount window borrowing could send banks scrambling to identify the recipient or recipients of loans.³ Because of the interconnected, bilateral nature of the interbank lending market, it would not be hard for other banks to infer which institutions went to the discount window. The danger of being “caught” as a discount window borrower, and perceived as distressed, could be enough to discourage borrowing in the first place.

EVIDENCE OF STIGMA

Before 2003, the Fed set the discount rate below the target federal funds rate. As a result, borrowing from the Fed was generally cheaper than borrowing on the interbank market. This would appear to present an arbitrage opportunity: In theory, banks could borrow at the discount rate and re-lend the funds on the interbank market at a higher rate.

This would have the potential to increase reserves and push the fed funds rate below the level consistent with the Fed’s monetary policy stance. However, the Fed quashed this potential arbitrage opportunity through close monitoring of discount window borrowing. For example, banks were required to show that they had first sought funds elsewhere before utilizing the discount window, and they had to explain why they were in need of funds.

This (additional) regulatory scrutiny may have discouraged discount window borrowing for non-arbitrage purposes, too. In essence, borrowing from the discount window required banks to explain why they were unable to find a willing lender on the interbank market, which they feared would suggest financial weakness to the Fed and trigger regulatory measures.

Judging by both anecdotal accounts and the total volume of discount window borrowing, it appears that banks were indeed reluctant to use the discount window during this period, even during times of greater liquidity needs. In 2001, economist Craig Furfine of Northwestern University looked at the Fed’s Y2K Special Lending Facility (SLF) initiated to provide liquidity to banks in advance of the millennium turnover.⁴ He found that when rates in the fed funds market rose equal to or above the SLF rate, borrowing in the overnight fed funds market was still many times larger than that through the SLF, even though the Fed encouraged banks to use it without fear that it would trigger additional oversight. Furfine’s result lends support to the concern that the discount window’s effectiveness could, in fact, be limited even when the market most needs sources of liquidity.

The Fed changed its approach to discount window lending in 2003. The discount rate was set to a spread of 100 basis points *above* the target federal funds rate, effectively eliminating the arbitrage opportunity. Additionally, the discount window’s main source of short-term liquidity, then called “adjustment” credit, was replaced with “primary” credit. While adjustment credit was parceled according to Fed discretion, primary credit would be available to any bank that met a certain capital threshold (other banks would now have to borrow “secondary” credit). Since eligibility for primary credit was determined in advance, this allowed the Fed to safely extend primary credit with limited, if any, additional inquiry. The Fed no longer required banks to exhaust alternative funding sources first, and it did not require an explanation of why banks needed funds.

These changes were expected to reduce any stigma that previously might have been present. As mentioned, discount window loans now involved much less scrutiny from the Fed. Furthermore, borrowing primary credit was not likely to convey to regulators or, if detected,

other market participants that a bank was in financial distress since only sound banks, in principle, were eligible. To accentuate the change in philosophy, the Fed emphasized that it would be appropriate for banks to use primary credit as a more regular source of short-term liquidity than adjustment credit, and accordingly encouraged bank management and examiners to view occasional discount window borrowing as “unexceptional.”

Yet the behavior of bank borrowing from the discount window since 2003 seems to suggest that stigma persists. For example, the new discount rate policy should have established a ceiling on the effective fed funds rate, since, in theory, no bank would take an interbank loan at a fed funds rate above the discount rate. However, several studies have documented that banks have regularly paid more for loans on the interbank market than they could readily get for loans through the discount window.

In 2003, Furfine revisited discount window borrowing in light of the Fed’s substantial changes to that lending facility.⁵ He found that the volume of borrowing from the Fed’s “new” discount window after 2003 was much lower than interbank borrowing behavior would have predicted. Even at less attractive interest rates, the volume of fed funds borrowing was dozens of times larger than that from the discount window.

The message from the interbank market was no different at the start of the recent financial crisis. In August 2007, as the first signs of financial distress unfolded, the Fed lowered the discount rate spread to 50 basis points above the target fed funds rate (eventually lowering the spread further to 25 basis points), yet borrowing still remained low. Partly in response to banks’ reluctance to borrow from the discount window despite rather severe liquidity shortages, in December 2007 the Fed created the Term Auction Facility (TAF), a bi-weekly auction of loans from the Fed. Through TAF, the Fed loaned to banks a set amount of funds at a rate determined by auction. Banks bid the interest rate they would be willing to pay for up to 10 percent of the total funds being offered (a cap set to ensure the funds would be widely distributed). The Fed then ordered the bids from the highest rate to lowest, awarding the funds to the highest bidders until all funds were exhausted. The bid that exhausted funds determined the rate that all recipients would pay.⁶

Loans through TAF were in high demand. In fact, the auction-determined rate at which TAF funds were lent, called the “stop-out rate,” on a number of occasions settled above the prevailing discount rate, despite the fact that the same institutions could obtain essentially the same funds via the discount window.

Why did the Fed’s TAF program generate borrowing that the discount window apparently could not? It is logically plausible that the design of TAF effectively reduced or eliminated any stigma associated with borrowing through that facility. The auction format guaranteed many loan recipients, reducing the ability of financial market participants to identify specific borrowers. That is, banks would face a reduced risk of being “caught” borrowing from the Fed, since borrowers were not made public and it was especially hard to deduce them. A three-day settlement period between the close of the auction and disbursement of funds may have reduced the appearance of a desperate need for cash and thus financial distress.

The success of TAF seems to support the idea that there exists stigma attached with normal discount window borrowing. Yet it is interesting to note that the success of TAF is not consistent with stigma due to regulatory scrutiny since the Fed clearly had knowledge of who it lent to through TAF. In a similar vein, Furfine observed that the reduction in regulatory scrutiny after 2003 produced no discernable decrease in stigma. This may imply that it is the reaction of other counterparties, not regulators, that banks fear if discount window borrowing were to be detected.

MODELING STIGMA

Until recently, the phenomenon of stigma in the fed funds market had not been modeled formally. A 2010 paper by Richmond Fed economists Huberto Ennis, one author of this essay, and John Weinberg develops such a framework.⁷ They consider a model in which a subgroup of illiquid banks needs funding that another group of liquid banks could potentially provide. There are, however, frictions in the market that impair the ability of banks to trade with each other. In particular, borrowing banks need to search for a counterparty to arrange a loan and they only find one with a certain probability. That is, some banks are simply unable to contact a lender in time to arrange a loan. When an illiquid bank does find a potential lender, this counterparty can verify the financial position of the borrowing bank, which influences its repayment risk. More specifically, banks’ repayment risk depends on their ability to sell some assets at the time when the loan becomes due. While the quality of the assets is observed by the loan counterparty, it is not observable by the investors looking to buy those assets. Hence, investors need to make inferences about the quality of these assets on the basis of having observed past actions taken by the seller. If the seller is holding distressed assets, it is more likely to have been unable to borrow in the interbank market, and hence more likely to have borrowed at the discount window. In the model, then, discount window borrowing can act as a potential signal to investors about the quality of that bank’s portfolio of assets.

More specifically, in the equilibrium studied by the authors, banks may borrow at the window for two reasons: (1) because they are not able to find a counterparty; or (2) because the potential loan counterparties did not agree to make a loan at an acceptable rate, as a result of verifying the distress level of the assets held by the borrower (the model assumes the discount window cannot adjust its lending decisions to the borrower's conditions as tightly as private counterparties can, which means discount window loans are ultimately extended to both banks with sound and with distressed assets). In such situations, borrowing from the discount window, if detected, conveys to investors information about the financial situation of the bank. Specifically, borrowing from the discount window signals to investors that, with a relatively high probability, the bank's counterparty in the interbank market had negative information about the borrowing institution's assets causing the counterparty to refuse the loan in the interbank market. The ultimate result of this process is that the bank that borrows at the discount window is able to sell its assets only at a discount. Hence, if the bank has sound assets, it would be reluctant to go to the window to ask for a loan; in fact, it would be willing to accept an interest rate offer in the interbank market even if it were higher than the rate that the bank could get from borrowing at the discount window.

The model in Ennis and Weinberg's paper abstracts from many specific features present in the interbank market of the United States. However, their model identifies some fundamental components of a coherent explanation of the problem of stigma. In particular, frictions in the interbank market cause information to flow from liquid banks to investors in limited ways. In such an environment, discount window activity can serve as a signal influencing the prices faced by borrowing banks in the asset market. To the extent that these components capture realistic aspects of the market, the model adds plausibility to the interpretation of certain instances of bank borrowing behavior as being the result of stigma. While much more work is needed in this area, the paper takes a first step in the process of understanding the formal underpinnings of the issues at play.

CONCLUSION

While stigma associated with borrowing from the Fed is hard to establish conclusively, the presence of stigma is logically plausible and supported by anecdotal and empirical evidence gathered over several episodes in recent history. Reinforcing this evidence, in practice, the TAF, with its structure conducive to avoiding the stigma problem, has been successful in generating more demand for loans than the traditional discount window.

The last two years has seen dramatic changes in the system of liquidity provision by the Fed. These changes may bear implications for the effectiveness of future policy since they may affect how people perceive interactions with the central bank. It is not obvious whether these changes could weaken or worsen stigma. For example, has borrowing from the Fed become more "normal" such that suitable banks needing funds won't be deterred from it in the future? Or will borrowing be reminiscent of the financial distress experienced during the crisis, hence intensifying any stigma that may exist? Whatever the effects of the extraordinary developments experienced during the last three years, stigma is likely to remain a prominent concern for the Fed when evaluating adequate interventions to ensure the appropriate degree of liquidity provision. ■

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ENDNOTES

- ¹ Similar fears have been present in other episodes in history. The Reconstruction Finance Corporation (RFC), an organization created in the 1930s to lend to banks, other financial institutions, and railroads, was required to publicize loan recipients. Publication, in turn, led to runs on banks that appeared on the list, causing banks to be fearful of taking RFC loans. This case was discussed by Milton Friedman and Anna Schwartz in 1963's *A Monetary History of the United States*.
- ² For example, see Ben S. Bernanke, "Liquidity Provision by the Federal Reserve." Speech delivered at the Federal Reserve Bank of Atlanta Financial Markets Conference, Sea Island, Ga., May 13, 2008.
- ³ Elizabeth A. Duke, "Unusual and Exigent: My First Year at the Fed." Speech delivered to the Economics Club of Hampton Roads, Norfolk, Va., February 18, 2010.
- ⁴ See Craig Furfine, "The Reluctance to Borrow from the Fed," *Economics Letters*, August 2001, vol. 72, no. 2, pp. 209-213.
- ⁵ See Craig Furfine, "Standing Facilities and Interbank Borrowing: Evidence from the Federal Reserve's New Discount Window," *International Finance*, November 2003, vol. 6, no. 3, pp. 329-347.
- ⁶ For much more on the structure of TAF, including the conditions leading up to its creation, see Olivier Armandier, Sandra Krieger, and James McAndrews, "The Federal Reserve's Term Auction Facility," *Federal Reserve Bank of New York Current Issues in Economics and Finance*, vol. 14, no. 5, July 2008.
- ⁷ See Huberto M. Ennis and John A. Weinberg, "Over-the-Counter Loans, Adverse Selection, and Stigma in the Interbank Market," Federal Reserve Bank of Richmond Working Paper No. 10-07, April 2010.

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