Abstract

During the financial crisis of 2007 and 2008, banking firms in the United States experienced liquidity problem. To address the issue, the Federal Reserve System, as the lender of the last resort, created emergency lending facilities and provided unprecedented amounts of funds for financial firms. Using a data set released by Bloomberg L.P., I investigate the dynamics of bank borrowing from the lending facilities of the Fed during the financial crisis. My preliminary investigations show that for a sample of banking firms borrowing from one of emergency lending facilities alone, Term Auction Facility (TAF), reached 110% of the borrowing firms’ market cap on average. In this paper, I investigate the dynamics and determinants of bank borrowing during the financial crisis of 2007-2008.

JEL Classification: G19, G32, G33

Keywords: Bank Borrowing, Financial Crisis, Liquidity
Background and Literature Review:

The financial turmoil erupted in 2007 in the United States quickly embroiled the funding markets and created liquidity problems for financial firms. Mistrust among financial firms grew after New Century Financial filed for bankruptcy and Bear Stearns liquidated two of its hedge funds. Soon funding markets seized up, creating liquidity problem for financial institutions as well as for banking firms. To alleviate the liquidity problem, the Federal Reserve System (the Fed) attempted to alleviate the liquidity problem by reducing the rate on its primary credit discount window facility loans and relaxing the terms.¹ Soon the discount window lending became inadequate in addressing the liquidity problem in financial markets either due to the terms and conditions of the discount window loans or the negative stigma associated with it that could emit a negative sign of poor liquidity management in the context of Waller (1990) and Cosimano and Sheehan (1994).² Soon, the Fed created unprecedented emergency lending facilities and provided hundreds of billions of dollars to banks and other financial firms. The amount of funds parceled out through these lending facilities from August 2007 to April 2010 totaled to $1.2 trillion.³

The nature of providing funds through these emergency lending facilities were different from the traditional discount window loans. For instance, the Term Auction Facility (TAF) was created to auction off specified loans at auction determined rates. The purpose was to ease the stigma of borrowing from the Fed. The Commercial Paper Funding Facility (CPFF) was created

² Waller (1990) and Cosimano and Sheehan (1994) show that visiting the discount window of the Fed has a negative stigma to it and indicate poor liquidity management. Visiting the discount window could trigger bank audit by the Fed. They refer to non-interest rate costs of visiting the Fed as “harassment costs” and show that banks avoid to borrow from the discount window in fear of triggering audits or emitting negative signal to other institutions about their liquidity problems.
to provide liquidity in the commercial paper market and the Primary Dealer Funding Facility (PDFF) was created to provide liquidity in the primary dealer’s market. There were seven such major unprecedented lending facilities. While many banks visited one or more of the lending facilities, other banks didn’t borrow from the Fed at all.

The terms of the loans, eligibility, collateral and the magnitude of each lending facility were different and varied over time as well. Adrian et al. (2009) reveal that the discount window usage increased from approximately zero to about $10 billion in April 2008, hovered around $100 billion after the bankruptcy of Lehman Brothers and remained above $40 billion until the end of 2009. Kaperczyk and Schnabl (2010) and Griffiths et al. (2011) investigate the Fed’s intervention in the commercial paper market during the financial crisis and find that the Commercial Paper Funding Facility (CPFF) of the Fed was effective in easing the liquidity crunch in the commercial paper market. Akay et al. (2013) studied the Asset Backed Securities Money Mutual Funds Liquidity Facility (AMLF)’s effects and found that the AMLF program benefited primarily only two major banks, J.P. Morgan Chase, and State Street. They find that the two banks dominated more than 90% of the loans from the AMLF. Duygan-Bump et al (2013) study the effectiveness of the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) and find that the lending facility helped stabilize asset outflows from money market mutual funds. Berger et al (2017) study the effectiveness of the discount window and Term Auction Facility of the Fed and assert that injecting funds to the banking industry resulted in increased lending activities of the borrowing banks.

While these researchers study one or more of the lending facilities of the Fed during the financial crisis, characteristics, terms, eligibility and dynamics of all major lending facilities of the Fed during the recent financial crisis have not been yet adequately surveyed and juxtaposed. This is one of the contributions of this research paper I propose. I also analyze the determinants of bank borrowing from the Fed during the financial crisis. The primary research questions I address in this research paper are:
1- What were the terms, conditions, eligibility and collateral requirements of each emergency lending facility of the Fed during the financial crisis of 2007 and 2008?

2- What were the determinants of bank borrowing from the Fed during the recent financial crisis?

3- Are there significant differences in characteristics between the borrowing and non-borrowing banks?

4- How bank borrowing changed over time in the pre-crisis, crisis, and post-crisis periods?

Data:

Data on individual bank borrowings comes from each of the lending facilities of the Fed comes from a dataset released by the Fed to Bloomberg L.P. in the aftermath of the financial crisis. The dataset is publicly available and contains daily loan balances of all firms that borrowed from each lending facility of the Fed from August 2007 through April 2010. Data on bank ratios and other parameters comes from the Reports of Condition and Income (Call reports) banks file with the Federal Financial Institutions Examination Council (FFIEC) and Federal Deposit Insurance Corporation (FDIC).
References:


