



Board of Governors of the Federal Reserve System

# **The Federal Reserve's Section 13(3) Lending Facilities to Support Overall Market Liquidity:**

**Function, Status, and Risk Management**

Office of Inspector General

November 2010



**BOARD OF GOVERNORS  
OF THE  
FEDERAL RESERVE SYSTEM  
WASHINGTON, D.C. 20551**

OFFICE OF INSPECTOR GENERAL

November 16, 2010

Board of Governors of the Federal Reserve System  
Washington, DC 20551

Dear Members of the Board:

The Office of Inspector General is pleased to present its report on *The Federal Reserve's Section 13(3) Lending Facilities to Support Overall Market Liquidity: Function, Status, and Risk Management*. To respond to the financial crisis, the Board of Governors of the Federal Reserve System (Board), citing "unusual and exigent circumstances," exercised its authority under section 13(3) of the Federal Reserve Act (12 U.S.C. §343) between March and November 2008, to authorize the creation of the following six lending facilities to support overall market liquidity: Term Securities Lending Facility (TSLF) (including the TSLF Options Program), Primary Dealer Credit Facility, Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, Commercial Paper Funding Facility, Money Market Investor Funding Facility, and Term Asset-Backed Securities Loan Facility. We performed this work to provide an independent review of the six lending facilities' functions, status, and risks.

Our report describes the overall function and status of each lending facility, including how it operated, the financial markets it was intended to support, and the financial utilization of the facility. The report also identifies risks in each lending facility, for the Board's review in exercising its monetary policy function and its general supervision and oversight of the Federal Reserve Banks. To ease financial market conditions and restore economic stability, the six lending facilities were created separately and quickly to respond to severely stressed market conditions, without the opportunity for extensive planning. In addition, the lending facilities were designed to generally encourage broad participation by many borrowers. Thus, implementation of the facilities involved credit and operational risks, which varied by facility. To mitigate risk, the Federal Reserve implemented a number of credit risk management and operational controls. Overall, general indicators of market stress suggest that the lending facilities helped to stabilize financial markets. As of June 30, 2010, the Federal Reserve has reported that the lending facilities have generated approximately \$9.0 billion in interest income and usage fees, and that none of the lending facilities have experienced any financial losses.

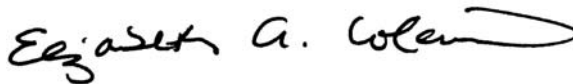
We conducted our review from August 2009 through June 2010, prior to the passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the Dodd-Frank Act), which was signed into law on July 21, 2010. The Dodd-Frank Act is a wide-ranging statute that makes numerous substantial changes to the U.S. financial regulatory system. In particular, the Dodd-Frank Act refocuses the Board's authority under section 13(3) of the Federal Reserve Act from discounts to individuals, partnerships, and corporations to discounts to participants in any program or facility with broad-based eligibility. Moreover, the Dodd-Frank Act requires a

Government Accountability Office (GAO) audit of all Federal Reserve emergency lending programs, including those facilities discussed in this report. We will share our report with GAO as it goes forward with its work.

We provided a draft of our report to Board officials in the Division of Reserve Bank Operations and Payment Systems, the Division of Monetary Affairs, and the Legal Division, as well as officials at the Federal Reserve Banks of New York (FRB-NY) and Boston (FRB-Boston), for their review and comment. In their consolidated response, they indicated that our report provides a clear summary of the purpose, implementation, operation, expiration, and key risks associated with each of the six lending facilities.

We appreciate the cooperation that we received from the Board, FRB-NY, and FRB-Boston during our review. We are providing copies of this report to Board management and FRB-NY and FRB-Boston officials. The report will be added to our publicly-available website and will be summarized in our next semiannual report to Congress.

Sincerely,

A handwritten signature in black ink that reads "Elizabeth A. Coleman". The signature is written in a cursive style with a large, sweeping flourish at the end.

Elizabeth A. Coleman  
Inspector General



Board of Governors of the Federal Reserve System

# **The Federal Reserve's Section 13(3) Lending Facilities to Support Overall Market Liquidity:**

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**Section 1**    **Executive Summary**

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# Section 1: Executive Summary

## Purpose

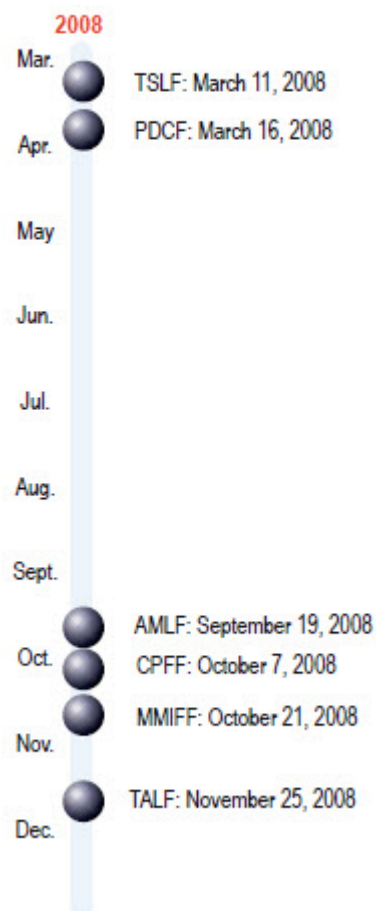
Triggered by a contraction of the U.S. housing market that began in 2006 and an associated rise in delinquencies on subprime mortgages, the United States experienced a financial crisis that had global consequences and affected a wide range of financial institutions, asset classes, and markets. Constraints on credit availability and declining asset values caused a substantial slowing in economic activity that cascaded throughout the financial sector. Concerns about liquidity and solvency of institutions brought down financial institutions that had been in business for decades. Many large banks became stressed to the point of possible failure. The inability of Bear Stearns Companies, Inc. (Bear Stearns), an investment company, to meet its financial obligations in March 2008 cast doubt on the ability of others to meet their obligations, which triggered chains of distress across the financial markets. When Lehman Brothers Holdings, Inc. (Lehman Brothers), an investment company, filed for bankruptcy six months later, credit markets froze and global financial markets became increasingly volatile.

To respond to the financial crisis, the Federal Reserve System (Federal Reserve) looked beyond its traditional monetary policy tools to restore economic stability. Between March and November 2008, the Board of Governors of the Federal Reserve System (Board), citing “unusual and exigent circumstances,” exercised its authority under **section 13(3) of the Federal Reserve Act** (12 U.S.C. § 343) to authorize six lending facilities to support overall market liquidity. The Federal Reserve Bank of New York (FRB-NY) was authorized to implement and operate the Term Securities Lending Facility (TSLF) including the TSLF Options Program (TOP), Primary Dealer Credit Facility (PDCF), Commercial Paper Funding Facility (CPFF), Money Market Investor Funding Facility (MMIFF), and Term Asset-Backed Securities Loan Facility (TALF).<sup>1</sup> The Federal Reserve Bank of Boston (FRB-Boston) was authorized to implement and operate the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF). These six lending facilities are described in Table A (on the next page).

Figure 1-1 illustrates the timeline of when the section 13(3) lending facilities were announced.

As the Board’s Office of Inspector General (OIG), we performed an independent review of the six lending facilities to (1) determine the overall function and status of each facility, including how it operated,

**Figure 1-1. Federal Reserve’s Section 13(3) Lending Facilities Announcement Dates**



Section 13(3) of the Federal Reserve Act—A section of the Federal Reserve Act that provides as follows: “In unusual and exigent circumstances, the Board of Governors of the Federal Reserve System . . . may authorize any Federal reserve bank . . . to discount for any individual, partnership, or corporation, notes, drafts, and bills of exchange . . . [that are] . . . secured to the satisfaction of the Federal reserve bank: *Provided* . . . that such individual, partnership, or corporation is unable to secure adequate credit accommodations from other banking institutions. All such discounts for individuals, partnerships, or corporations shall be subject to such limitations, restrictions, and regulations as the Board of Governors of the Federal Reserve System may prescribe.”

<sup>1</sup> In addition to the Board’s authorization under section 13(3), the TSLF was also authorized by the Federal Open Market Committee (FOMC), under the authority provided in section 14 of the Federal Reserve Act, because the facility involved open market operations.

**Primary Dealers**—Firms that are authorized to buy and sell U.S. government securities with FRB-NY's Open Market Desk, which operates on behalf of the Federal Open Market Committee (FOMC), in order to implement monetary policy. (See Appendix 4 for a list of primary dealers.)

**Tri-Party Repurchase Agreement**—A financial transaction in which the holder of a security obtains funds by selling that security to another financial market participant under an agreement to repurchase the security at a fixed price on a predetermined future date. The borrower posts collateral at a clearing bank and receives cash from the lender. The clearing bank confirms collateral eligibility, assesses the value of the collateral, and applies a haircut to set the loan amount.

**Asset-Backed Commercial Paper (ABCP)**—Short-term debt instruments (maturities ranging from overnight to 270 days) issued by corporations and financial institutions to meet short-term financing needs. The instruments are backed by assets, such as credit card receivables.

**Money Market Mutual Fund (MMMF)**—A fund that invests solely in money market instruments, such as government securities, certificates of deposit, commercial paper, and other short-term and low-risk securities. Unlike a money market deposit account at a bank, money market mutual funds are not federally insured. The Securities and Exchange Commission regulates money market mutual funds under the Investment Company Act of 1940.

**Commercial Paper**—Short-term debt instruments (maturities ranging from overnight to 270 days) issued by corporations and financial institutions to meet short-term financing needs.

**Special Purpose Vehicle (SPV)**—A separate legal entity used for the acquisition and financing of assets.

**Asset-Backed Securities (ABS)**—Tradable securities backed by pools of assets, such as loans, leases, or other cash-flow producing assets. The holders of ABS are entitled to payments that are distributed by the underlying assets.

the financial markets it was intended to support, the financial utilization of the facility, the total amount of loans extended, and the current outstanding balances; and (2) identify risks in each facility for the Board's review in exercising its monetary policy function and in its general supervision and oversight of the Federal Reserve Banks. Our review focused on the six lending facilities created under section 13(3) of the Federal Reserve Act to support overall market liquidity and did not include the Board authorized lending programs in support of specific institutions, such as American International Group (AIG) and Bear Stearns. Our objectives, scope, and methodology are discussed in detail in Appendix 3.

**Table A. The Six Lending Facilities to Support Overall Market Liquidity**

Name of Facility	Market Focus of Facility
<b>Term Securities Lending Facility (TSLF), including the TSLF Options Program (TOP)</b>	Loaned U.S. Treasury securities to <b>primary dealers</b> against eligible collateral to promote liquidity in the financing markets for U.S. Treasury securities and other securities and, thus, foster the functioning of financial markets more generally.
<b>Primary Dealer Credit Facility (PDCF)</b>	Provided funding to primary dealers in exchange for collateral eligible for <b>tri-party repurchase agreements</b> to foster the functioning of financial markets.
<b>Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF)</b>	Provided financing to financial institutions for purchases of <b>asset-backed commercial paper (ABCP)</b> from <b>money market mutual funds (MMMFs)</b> to foster money market liquidity.
<b>Commercial Paper Funding Facility (CPFF)</b>	Facilitated purchases of <b>commercial paper</b> via loans to a <b>special purpose vehicle (SPV)</b> that provided financing to businesses.
<b>Money Market Investor Funding Facility (MMIFF)</b>	Designed to provide loans via SPVs to money market investors to encourage them to extend the terms of their investments and maintain appropriate liquidity positions.
<b>Term Asset-Backed Securities Loan Facility (TALF)</b>	Provided loans to investors for the purchase of <b>asset-backed securities (ABS)</b> to revive the securitization market for consumer loans and commercial real estate loans.

## Results-in-Brief

### **Function and Status of the Lending Facilities**

The six Federal Reserve lending facilities shared the common objective of stabilizing the financial markets and the U.S. economy, and thereby supplementing the Federal Reserve's monetary policy actions. The

lending facilities expanded the Federal Reserve's traditional role as the "lender of last resort" beyond depository institutions, to corporations and other financial institutions. The Federal Reserve determined that such lending was necessary to avoid systemic financial failure within the U.S. economy.

At the peak on November 5, 2008, the combined usage of the lending facilities reached \$600 billion.<sup>2</sup> Since that point, each of the six lending facilities has expired, as market conditions have improved. As of June 30, 2010, only the TALF had outstanding loans, which totaled approximately \$42.5 billion, and were scheduled to mature no later than March 2015, according to the TALF terms and conditions. The Board has reported that all loans for the TSLF (including TOP), PDCF, AMLF and CPFF were repaid in full with interest, and it does not anticipate any net loss to the Federal Reserve on loans made through the TALF.<sup>3</sup> The Federal Reserve has reported that none of the lending facilities have experienced losses as of June 30, 2010, and that the lending facilities have generated approximately \$9.0 billion in interest earnings and fees as of that same date.

**Table B. The Lending Facilities' Current Loans Outstanding, Fees/Earnings, and Peak Utilization**

Facility	Current Loans Outstanding (Billions) <sup>a</sup>	Fees/Earnings (Billions) <sup>a, b</sup>	Peak Utilization (Billions)
<b>TSLF, including TOP</b>	\$0	\$0.781	\$235.5
<b>PDCF<sup>c</sup></b>	\$0	\$0.593	\$146.6
<b>AMLF</b>	\$0	\$0.543	\$152.1
<b>CPFF</b>	\$0	\$6.112	\$348.2
<b>MMIFF</b>	\$0	\$0	\$0
<b>TALF</b>	\$42.5	\$0.926	\$48.2

a Current outstanding loan amounts and fees/earnings are as of June 30, 2010.

b The total for fees/earnings was approximately \$9.0 billion.

c The Federal Reserve's reporting of the results of PDCF operations also included credit extended to other broker-dealers, such as credit provided to broker-dealers whose parent companies were transitioning to bank holding companies.

## Management and Oversight of the Lending Facilities

The Board authorized FRB-NY to implement the TSLF (including TOP), PDCF, CPFF, MMIFF, and TALF; and FRB-Boston to implement the AMLF. The Board worked with these two Reserve Banks to establish policies, terms, and conditions for their respective lending facilities. Both Federal Reserve Banks used their internal expertise and leveraged their

<sup>2</sup> Although the combined utilization of the lending facilities peaked at \$600 billion, each facility peaked on different dates.

<sup>3</sup> As it was never used, MMIFF had no earnings or losses.

internal operational, credit, and other risk management practices in operating their respective lending facilities. The lending facilities were implemented largely by utilizing existing Federal Reserve Bank staff and infrastructure (systems, processes, procedures, and controls). In addition, FRB-NY hired various vendors to perform key tasks, such as transaction and investment management.

The Board's Division of Monetary Affairs and Division of Reserve Bank Operations and Payment Systems (RBOPS) were responsible for overseeing and monitoring the lending facilities. Monetary Affairs officials worked with the Federal Reserve Banks in developing overall policies, terms, and conditions, and monitored the operations of the lending facilities. RBOPS officials performed operational reviews of the TSLF (including TOP), PDCF, CPFF, and TALF.

In addition, FRB-NY and FRB-Boston internal auditors completed audits of various aspects of the TSLF (including TOP), PDCF, AMLF, and CPFF. At the time of our review, FRB-NY's internal auditors were reviewing the TALF lending facility and the performance of vendors in TALF. Further, the Compliance section of FRB-NY's Legal Group had contracted with a third-party vendor who was in the process of testing specific vendors' compliance with conflict of interest and other contract provisions.

With regard to financial operations and financial reporting of the six lending facilities, the Board has engaged an independent public accounting firm, Deloitte & Touche LLP (Deloitte), to audit the individual and combined financial statements of the Federal Reserve Banks and the lending facilities' SPVs. Deloitte issued unqualified (clean) opinions for these financial statements as of December 31, 2008, and December 31, 2009.

In addition, the Government Accountability Office and the Special Inspector General for the Troubled Asset Relief Program have performed reviews of various Federal Reserve programs and operations, including the TALF.

### **How Have Risks Been Managed?**

To ease financial market conditions and restore economic stability, the lending facilities were created separately and quickly to respond to severely stressed market conditions, and without the opportunity for extensive planning. In addition, the Federal Reserve designed the lending facilities to generally encourage broad participation by many borrowers. Thus, implementation of the lending facilities involved credit and operational risks, which varied by facility. To mitigate risk, the Federal Reserve implemented a number of credit risk management and operational controls.

In order to stabilize the financial markets, the Federal Reserve provided for a broad scope of eligible borrowers and types of collateral for loans, which exposed the Federal Reserve to credit risk—the risk that borrowers are unable to meet their obligations in accordance with agreed-upon terms. The credit risks included broad eligibility for borrowers, the **non-recourse** nature of some of the lending facilities' loans, and the potential aggregate exposure to certain types of collateral and various types of borrowers.

To mitigate credit risk, the Federal Reserve implemented a number of credit risk management controls that varied by facility, with a particular focus on ensuring adequate collateral. For example, the Federal Reserve (1) required specific types of collateral, most of which were highly rated by **Nationally Recognized Statistical Rating Organizations (NRSROs)**, to cover the value of the loans; (2) in most cases, incorporated a “**haircut**” on the collateral; (3) imposed above-normal market interest rates and usage fees to ensure that facility borrowing only occurred when markets were not functioning properly; and (4) contracted with specialized vendors to obtain expertise to perform critical functions within the lending facilities.

The short lead time available for planning, coupled with the complex terms and conditions of the lending facilities, created operational risks associated with developing and maintaining policies and procedures; having sufficient, experienced staff to run the lending facilities; and managing vendor contracts and **agent** agreements. To mitigate these risks, dedicated teams were established to develop and maintain policies and procedures, operate the programs, and implement controls. Risks also existed concerning staffing shortages for operating the lending facilities, which were mitigated by borrowing staff from other sections of the Federal Reserve Bank, hiring additional staff, obtaining operational assistance from other Federal Reserve Banks, and using contractors. FRB-NY's contracts with vendors and agreements with agents entailed risks that the vendors and agents would not (1) comply with all provisions in contracts and agreements, (2) provide the quality and quantity of services required, and (3) protect against conflicts of interest. To mitigate vendor and agent risks, FRB-NY performed on-site reviews of vendors' and agents' compliance with contract and agreement provisions, established contractual conflict of interest provisions and, at the time of our review, had contracted with a third-party vendor to review and test specific vendors' and certain agents' compliance with conflict of interest and other provisions.

As stated previously, as of June 30, 2010, the Board reported that none of the lending facilities had experienced any financial losses. Overall, general indicators of market stress suggest that the lending facilities helped to stabilize financial markets, although the markets are still recovering.

**Non-Recourse Loan**—A secured loan that allows the lender to attach only the collateral pledged, not the borrower's other assets, if the loan is not repaid.

**Nationally Recognized Statistical Rating Organizations (NRSROs)**—Credit rating agencies that provide their opinions on a business entity's or security's creditworthiness. They are registered with the Securities and Exchange Commission. These ratings demarcate investment-grade (quality) and non-investment grade (lower quality) securities and provide additional risk-based information for investors to make investment decisions.

**Haircut**—The amount by which a maximum authorized loan amount is below the value of the assets used as collateral for the loan. When a borrower pledges assets as collateral, the lender making the loan treats the assets as being worth less than they actually are, so as to provide the lender a cushion in case the assets' market price decreases.

**Agent**—An individual or firm authorized to act on behalf of another.

We performed this work to provide an independent review of the six lending facilities' functions, status, and risks. Our report does not include any recommendations.

We provided a draft of our report to Board officials in RBOPS, Monetary Affairs, and the Legal Division, as well as officials at FRB-NY and FRB-Boston for their review and comment. In their consolidated response, they indicated that our report provides a clear summary of the purpose, implementation, operation, expiration, and key risks associated with each of the six lending facilities. The officials also provided technical comments under separate cover, which we incorporated as appropriate.

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**Section 2**

# Financial Crisis in Context and in Focus

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## Section 2: Financial Crisis in Context and in Focus

### Overview of the Financial Crisis

Triggered by a contraction of the U.S. housing market that began in 2006 and an associated rise in delinquencies on subprime mortgages, the United States experienced a financial crisis that had global consequences and affected a wide range of financial institutions, asset classes, and markets. Constraints on credit availability and declining asset values generated a substantial slowing in economic activity.

From 2000 to 2005, housing prices increased roughly 60 percent—far outstripping the increases in incomes and general prices. Rising home prices made housing increasingly unaffordable. In addition, the housing supply increased as single-family home construction grew by about 40 percent. The upward trend in housing prices generally ended in 2006, when mortgage delinquencies began to increase dramatically.

Another critical development was a broad credit boom where lenders and investors aggressively sought new opportunities for profits. Aspects of the credit boom included rapid growth in the volumes of transactions and **leveraged lending**. Cheap and readily available credit also created an abundance of liquidity that translated into poor market investment strategies, such as subprime mortgage lending, that were exacerbated by **securitization** and the increased use of complex structured financial investment vehicles, such as **collateralized debt obligations (CDOs)**.

Securitization and the issuance of asset-backed securities (ABS) gave financial institutions a way to transfer risk associated with lending, while allowing rapid loan growth to continue. The “originate-to-distribute” model of securitization in which financial institutions originate and then sell their loans to investors, rather than holding the loans to maturity, may have contributed to a loosening of credit lending standards. Eventually, loose lending standards were reflected in the negative performance of the securities, as delinquencies, and then losses, rose. As losses mounted, **credit rating** agencies downgraded what had once been highly-rated securities. Investors soon came to doubt the reliability of ratings that had been assigned to highly complex securities. As a result, investors became much more cautious and reversed their aggressive risk-taking posture.

The resulting pullback affected a broad range of securities, including asset-backed commercial paper (ABCP) and ABS. With home prices starting to fall, lenders tightened **underwriting** standards. Decreasing home values and increasing mortgage defaults led to losses that cascaded throughout the financial sector, further distressing the credit

**Leveraged Lending**—A loan made by a financial institution to a borrower for the acquisition of an asset. Often, the asset being acquired is used as collateral for the loan.

**Securitization**—The process of pooling various types of debt (such as mortgages, auto loans, or credit card debt) and packaging that debt into securities, which are sold to investors. The principal and interest on the debt underlying the securities are paid to the investors on a regular basis, though the method varies based on the type of security.

**Collateralized Debt Obligation (CDO)**—A financial instrument that entitles the purchaser to cash flows from a portfolio of assets, which may include bonds, loans, mortgage-backed securities, or other CDOs. CDOs are a type of ABS.

**Credit Rating**—An external assessment of the creditworthiness of corporations and securities. A credit rating is a financial risk indicator used by potential investors. The ratings are assigned by credit rating agencies, such as Standard & Poor's, Moody's, or Fitch Ratings.

**Underwriting**—The due diligence that a lender conducts to ensure that potential borrowers are able to repay their loans.

markets. Concerns about credit quality and institution solvency quickly became liquidity concerns. Lenders reassessed the risk of holding ABCP, ABS, and other securities as collateral; imposed even higher haircuts, which required borrowers to post more collateral against existing loans; and refused certain types of collateral altogether. This dynamic, including sell-offs of securities, led to additional declines in the price of the securities, which produced large losses for financial institutions; an inability to obtain adequate funding; and in some cases, the failure or near failure of institutions that had been in business for decades. For example, the inability of Bear Stearns, an investment company, to meet its obligations in March 2008 cast doubt on the ability of others to meet their obligations, thereby triggering chains of distress.

When Lehman Brothers, an investment company, filed for bankruptcy six months later, credit markets froze and global financial markets began a period of extreme volatility. As a result, even previously “safe” areas of the financial markets, such as money market mutual funds (MMMFs), experienced distress. For example, by writing off \$785 million of debt issued by bankrupt Lehman Brothers, the Reserve Primary Fund became the first MMMF in 14 years to experience a loss that left the net value of its assets below \$1 a share, known as “breaking the buck.” This event increased concern among investors about the breadth and depth of potential losses across institutions. All financial markets felt the effects, revealing how interconnected and mutually dependent the markets had become, including markets outside the United States. Large financial institutions, especially in the United States and Europe, were particularly affected by these events, having reported over \$840 billion in credit losses as of the end of 2008.

### ***Financial Markets in Play***

To better explain the financial crisis and the Federal Reserve’s actions, a description of the key markets impacted by the financial crisis follows. While some of the products in these markets overlap, their size, type of investor, and market significance distinguish them.

**Repurchase Agreements Markets.** The repurchase agreements markets are very large, short-term markets that provide collateralized financing for a large range of securities. A repurchase agreement is a two-part transaction. The first part is the transfer of specified securities by one party, the “borrower,” to another party, the “lender,” in exchange for cash. The second part of the transaction consists of a contemporaneous agreement by the borrower to repurchase the securities at the original price, plus an agreed upon additional amount, on a specified future date. In a tri-party repurchase agreement, a third party called a tri-party agent (usually a **clearing bank**) facilitates the repurchase transaction between the first two parties by providing custodian and cash management services. The tri-party agent adds a level of safety and security for both the lender and the borrower by

Clearing Bank—A financial services company that provides settlement services for financial transactions between two counterparties.

holding the collateral from the borrower and ensuring the transfer of funds from and to the lender. At its height in March 2008, repurchase agreements financing for primary dealers alone was over \$4.5 trillion.

**Money Markets.** **Money market instruments** are generally very safe short-term investments that return a relatively low interest rate. The core activity of the money markets involves interbank borrowing and lending, issuing commercial paper (discussed below), repurchase agreements, and similar instruments. MMMFs are large investment funds that buy money market instruments in the money markets. Banks and other financial institutions depend on the money markets to provide a safe investment and ready access to funds as needed. At the end of 2006, prior to the beginning of the financial crisis, U.S. MMMFs held approximately \$2.3 trillion in assets.

**Commercial Paper Markets.** Commercial paper is a short-term promissory note issued primarily by a wide variety of domestic and foreign companies to meet their operational cash flow requirements. Major investors in commercial paper include MMMFs, pension funds, and institutional investors. In general, commercial paper represents a lower cost alternative to drawing on a line of credit with a bank. In recent years, there has been increased use of ABCP, which is secured by a pool of assets. At the end of 2007, U.S. companies had \$1.8 trillion total in outstanding commercial paper (\$840 billion asset-backed and \$960 billion unsecured).

**Asset-Backed Securities Markets.** ABS are securities that are backed by a pool of assets. The pool of assets is most often a group of loans that are not easily sold individually, such as auto loans or student loans. Pooling the loans through securitization allows them to be sold to investors and provides funding to lenders to generate new loans. For investors, ABS provide a secured lending option that generally offers a higher rate of return than similar government securities. **Mortgage-backed securities (MBS)** are a type of ABS backed by mortgage-related assets. The pool of assets underlying MBS can be residential mortgages (residential mortgage-backed securities, or RMBS) or commercial mortgages (commercial mortgage-backed securities, or CMBS). At the end of 2006, approximately \$7.4 trillion in MBS and over \$2.1 trillion of consumer ABS (such as ABS backed by auto, credit card, home equity, student, and other consumer loans) were outstanding.

### The Federal Reserve System's Structure and Function

The Federal Reserve System consists of a central federal agency called the Board of Governors of the Federal Reserve System, 12 regional Federal Reserve Banks, and the Federal Open Market Committee (FOMC), as described below.

**Money Market Instruments**—Short-term debt securities, such as commercial paper, negotiable certificates of deposit, and Treasury bills, with a maturity of 1 year or less and often 90 days or less.

**Mortgage-Backed Securities (MBS)**—Tradable securities that represent claims on the cash flows from mortgage loans. An MBS investor owns an interest in a pool of mortgages, which serve as the underlying assets and source of cash flow for the security. MBS are a type of ABS.

### ***Board of Governors of the Federal Reserve System***

The Board is an independent federal government agency located in Washington, D.C. The Federal Reserve Act provides that the Board shall consist of seven members, called governors, who are appointed by the President of the United States and confirmed by the Senate.<sup>4</sup> The full term of a Board member is 14 years, and the appointments are staggered so that one term expires on January 31 of each even-numbered year. In addition to conducting research, analysis, and policy-making related to domestic and international financial and economic matters, the Board plays a major role in the supervision and regulation of the U.S. banking system. It also has broad oversight responsibility for the nation's payments system and the operations and activities of the Federal Reserve Banks.

### ***Federal Reserve Banks***

The Federal Reserve Banks are the operating arms of the nation's central banking system. Congress chartered the Federal Reserve Banks for a public purpose; however, they combine both public and private elements in their makeup and organization. Each Federal Reserve Bank has its own board of directors. For the purpose of carrying out the day-to-day operations of the Federal Reserve, there are 12 Federal Reserve districts, each managed by a separate Federal Reserve Bank: Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco. The 24 branches of the Federal Reserve Banks serve particular areas within each district. The Federal Reserve Bank of New York (FRB-NY) is the largest of the Federal Reserve Banks, based on total assets.

Many of the services that the Federal Reserve Banks provide to depository institutions and the government are similar to services provided by banks to business customers and individuals. Federal Reserve Banks hold the cash reserves of depository institutions and make loans to depository institutions at the **discount window**. They move currency and coin into and out of circulation, collect and process millions of checks each day, and operate automated clearinghouses (ACH), which are computerized facilities that allow for electronic exchange of payments among participating depository institutions. The Federal Reserve Banks also provide Fedwire Funds Services, a real-time system that enables participants to transfer funds immediately. They maintain the U.S. Treasury's operating cash account to support the Treasury's transactions, issue and redeem government securities, and serve as a fiscal agent for the U.S. government. Under delegated authority from the Board, they supervise and examine the safety and soundness of bank holding companies and over 800 state-chartered

**Discount Window**—A Federal Reserve lending program that allows eligible institutions to borrow money, usually on a short-term basis, from the Federal Reserve at an above market rate to meet temporary liquidity shortages.

<sup>4</sup> From March to November 2008, when the lending facilities were authorized, the Board had five governors.

banks that are members of the Federal Reserve System. The Federal Reserve Banks also participate in setting monetary policy.

### **Federal Open Market Committee**

The FOMC oversees open market operations, the principal tool of national monetary policy. Its voting membership consists of the members of the Board; the president of FRB-NY; and four other Federal Reserve Bank presidents, who serve one-year terms on a rotating basis. The Chairman of the Board is also the Chairman of the FOMC. The FOMC typically meets eight times a year in Washington, D.C. At each meeting, a senior official of FRB-NY and Board staff provide summaries of economic conditions and discuss developments in the financial and foreign exchange markets. After discussion, the FOMC members vote on a directive that sets a target for the **federal funds rate** and that instructs FRB-NY regarding the conduct of **open market operations** during the period until the next FOMC meeting.

### **The Federal Reserve's Role: Managing Monetary Policy**

Among its many roles, the Federal Reserve executes the nation's monetary policy by influencing the monetary and credit conditions in the economy in pursuit of maximum employment, stable prices, and moderate long-term interest rates. The Federal Reserve contributes to financial stability and economic performance by acting to contain financial disruptions and their escalation. Modern financial systems are highly complex and interdependent and may be vulnerable to wide-scale disruptions, such as an unexpected plunge in stock prices. The Federal Reserve enhances the financial system's resilience to such disruptions through its regulatory policies toward banking institutions and payment systems.

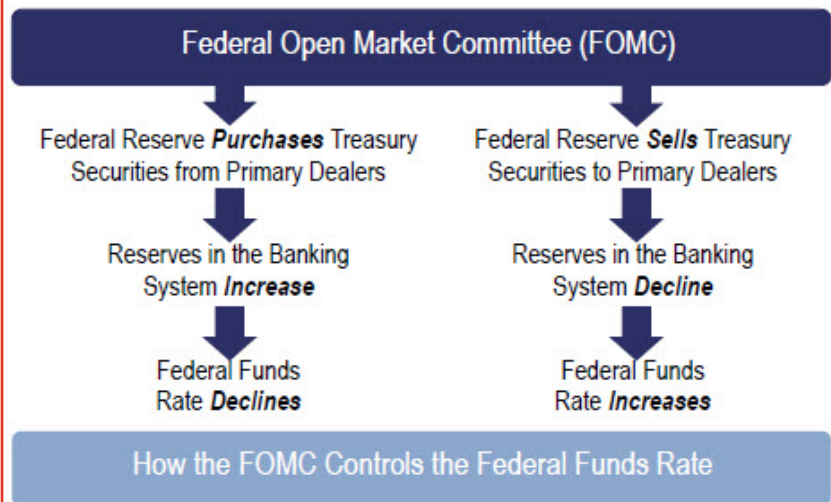
Traditionally, the Federal Reserve's three instruments for implementing monetary policy have been open market operations, reserve requirements, and the discount rate.

- **Open market operations**—The goal of open market operations is primarily to affect the federal funds rate, the interest rate at which banks borrow excess Federal Reserve funds from each other. To influence the amount of reserve balances in the banking system, the Federal Reserve sells or purchases securities, primarily U.S. Treasury securities and federal agency securities, either in outright purchases or sales, or through repurchase agreements, in the open market using primary dealers. By adjusting the level of reserve balances, the Federal Reserve influences the federal funds rate. Changes in the federal funds rate often have a strong impact on other short-term interest rates and, by extension, other interest rates. Figure 2-1 (on the next page) provides an overview of how the Federal Reserve controls the federal funds rate.

**Federal Funds Rate**—The interest rate at which depository institutions lend their excess Federal Reserve deposits to each other.

**Open Market Operations**—The primary tool used to implement monetary policy. This tool consists of Federal Reserve sales, purchases, or repurchase agreements regarding financial instruments, usually securities issued by the U.S. Treasury, federal agencies, and government-sponsored enterprises. Open market operations are carried out by FRB-NY's Trading Desk under direction from the FOMC. The transactions are undertaken with primary dealers.

Figure 2-1. Traditional Open Market Operations Process Overview



**Primary Credit Rate**—The rate of interest charged for very short-term advances (typically overnight) from the Federal Reserve Banks' discount window to generally sound depository institutions. Because the rate is above the FOMC's target rate for federal funds, the Federal Reserve expects that institutions will use the discount window as a backup rather than a regular source of funding.

**Secondary Credit Rate**—The rate of interest for very short-term loans (typically overnight) from the Federal Reserve Banks' discount window to depository institutions that are not eligible for primary credit. The secondary credit rate is set above the primary credit rate and is provided to temporarily meet backup liquidity needs with the understanding that an institution returns to a reliance on market sources of funding in a timely manner or that a troubled institution is resolved in an orderly manner.

- **Reserve requirements**—Reserve requirements are the percentage of certain deposits that depository institutions must hold in reserve in the form of cash or in an account at a Federal Reserve Bank. Reserve requirements play a useful role in the conduct of open market operations by helping to ensure a predictable demand for Federal Reserve balances and, thus, enhancing the Federal Reserve's control over the federal funds rate.
- **Discount rate**—The discount rate is the interest rate charged to commercial banks and other depository institutions on loans they request from their regional Federal Reserve Bank's discount window. The Federal Reserve Banks offer depository institutions three discount window lending programs: primary credit, secondary credit, and seasonal credit, each with its own interest rate. All discount window loans are fully secured by collateral. The discount rate charged for primary credit (the **primary credit rate**) is set above the usual level of short-term market interest rates. The Federal Reserve at times uses the term "discount rate" to mean the primary credit rate because primary credit is the Federal Reserve's main program used at the discount window. The **secondary credit rate** is higher than the primary credit rate, while the seasonal credit rate is an average of selected market rates.

In October 2008, Congress granted the Federal Reserve another tool to implement monetary policy: the ability to pay interest on depository institutions' required and excess reserve balances.

## The Federal Reserve's Reaction to the Crisis

Starting in the fall of 2007, the Federal Reserve reacted to financial strains by utilizing its traditional set of policy tools, conducting a series of liquidity injections and reducing the discount rate. Through successive rate decreases, the Federal Reserve decreased the target federal funds rate from 5.25 percent on September 17, 2007, to between 0 and 0.25 percent on December 16, 2008, to help stabilize the financial markets.

On December 12, 2007, the Federal Reserve, exercising its discount window authority, created the Term Auction Facility (TAF).<sup>5</sup> Under the TAF program, the Federal Reserve Banks auctioned longer-term funds to depository institutions in exchange for discount window collateral. All depository institutions judged to be in generally sound financial condition by their regional Federal Reserve Bank and eligible to borrow under the primary credit discount window program were eligible to participate in TAF auctions. By allowing Federal Reserve Banks to inject term funds, TAF promoted the efficient dissemination of liquidity when the unsecured interbank markets were under stress.

While the TAF helped provide liquidity, it did not fully address **counterparty** risk issues that were exacerbating the crisis. Banks were afraid to lend to one another out of fear that the debtor bank (the bank receiving funds from the originating bank) may not uphold its end of the financial contract. Counterparty risk concerns also occurred in other financial institutions. Tightening credit conditions threatened the nation's economic stability.

By the spring of 2008, the Federal Reserve looked beyond conventional policy actions and considered innovative ways to deal with the crisis. During the period of March through November 2008, acting under the "unusual and exigent circumstances" authority of section 13(3) of the Federal Reserve Act, the Board authorized the establishment of six lending facilities to address the troubled short-term lending and securities markets. Consistent with section 13(3), these lending facilities expanded the Federal Reserve's traditional role as the "lender of last resort" beyond depository institutions, to corporations and other financial institutions. The Federal Reserve determined that such lending was necessary to avoid systemic financial failure within the U.S. economy.

<sup>5</sup> TAF was created under the Federal Reserve's discount window authority and was not a section 13(3) lending facility.

Counterparty—In any financial contract, the persons or institutions entering the contract on the opposite sides of the transaction.



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**Section 3**    **Overview of the  
Federal Reserve's  
Lending Facilities**

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## Section 3: Overview of the Federal Reserve's Lending Facilities

Citing “unusual and exigent circumstances,” the Board exercised its authority under section 13(3) of the Federal Reserve Act to authorize FRB-NY to implement and operate the TSLF (including TOP), PDCF, CPFF, MMIFF, and TALF; and FRB-Boston to implement and operate the AMLF. The Board established the lending facilities' policies and, in conjunction with FRB-NY and FRB-Boston, developed the terms and conditions for their respective lending facilities, such as defining eligible borrowers and required collateral. In establishing the lending facilities' policies, the Board sought to encourage broad participation in the lending facilities to ease financial market conditions and support the broader economy, while balancing the risk of financial loss to the Federal Reserve. FRB-NY received operational support from the Federal Reserve Banks of Chicago (FRB-Chicago) and Atlanta (FRB-Atlanta) to manage the PDCF.

### Description of the Lending Facilities

While the six lending facilities were established separately in response to stressed conditions in specific markets, they shared the common objectives of reducing risks to financial stability and strengthening the effectiveness of monetary policy by targeting instability in the credit markets and increasing liquidity to corporations and financial institutions. The lending facilities were designed to achieve these objectives, while protecting against financial losses, by securing collateral to cover potential loan defaults and generally by extending short-term loans to financially sound institutions. The six lending facilities are summarized below.

- **Term Securities Lending Facility (TSLF), including TSLF Options Program (TOP)**—A term loan facility that lent U.S. Treasury securities from the Federal Reserve's **System Open Market Account (SOMA)** portfolio to primary dealers in exchange for other securities, in accordance with the facility's terms and conditions. It was intended to promote liquidity in the financing markets for U.S. Treasury securities and other collateral and, thus, to foster the functioning of financial markets more generally. The TSLF increased the ability of the primary dealers to obtain cash in the private financial markets by enabling them to pledge less-liquid securities temporarily as collateral and obtain U.S. Treasury securities, which are easier to use to obtain financing. The TOP offered options to the primary dealers to draw upon short-term, fixed rate TSLF loans. The program was intended to enhance the effectiveness of TSLF by offering added

**System Open Market Account (SOMA)**—An investment account that the Federal Reserve uses to help implement its monetary policy. By buying or selling U.S. Treasury securities in the financial markets, FRB-NY, on behalf of the FOMC, is able to add or subtract reserves from the monetary system and, thus, influence inflation, consumer lending, and interbank lending.

liquidity over periods of heightened collateral market pressures, such as quarter-end and year-end dates.

- **Primary Dealer Credit Facility (PDCF)**—An overnight loan facility that provided funding to primary dealers in exchange for a specified range of collateral, in accordance with the facility’s terms and conditions. It was intended to foster the functioning of the financial markets by providing the primary dealers with an alternative source of funding for assets that were effectively illiquid.
- **Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF)**—A term loan facility that provided loans to eligible borrowers for the purchase of ABCP from MMMFs, in accordance with the facility’s terms and conditions. This program was intended to assist MMMFs and to foster liquidity in the ABCP market and money markets more generally. MMMFs are major investors in ABCP and were experiencing substantial pressures from investors seeking to redeem their funds.
- **Commercial Paper Funding Facility (CPFF)**—A credit facility with a special purpose vehicle (SPV) that served to purchase commercial paper from eligible issuers. It was intended to increase the liquidity of the commercial paper markets and provide an immediate funding source for companies, allowing them to continue to finance day-to-day operations.
- **Money Market Investor Funding Facility (MMIFF)**—A loan facility designed to provide funding to a series of SPVs established by the private sector to purchase eligible money market instruments from eligible investors. It was intended to reassure MMMFs and other money market investors that they could buy longer-term (maturity up to 90 days) investments and still maintain appropriate liquidity positions in their **portfolio** holdings to meet immediate redemption demands by investors. This facility was never utilized.
- **Term Asset-Backed Securities Loan Facility (TALF)**—A credit facility that provided loans to eligible borrowers for the purpose of buying eligible ABS, including CMBS. It was intended to make credit available to consumers and businesses on more favorable terms by facilitating the issuance of ABS and improving the market conditions for ABS more generally. The TALF was intended to reinvigorate securitization markets that were largely frozen.

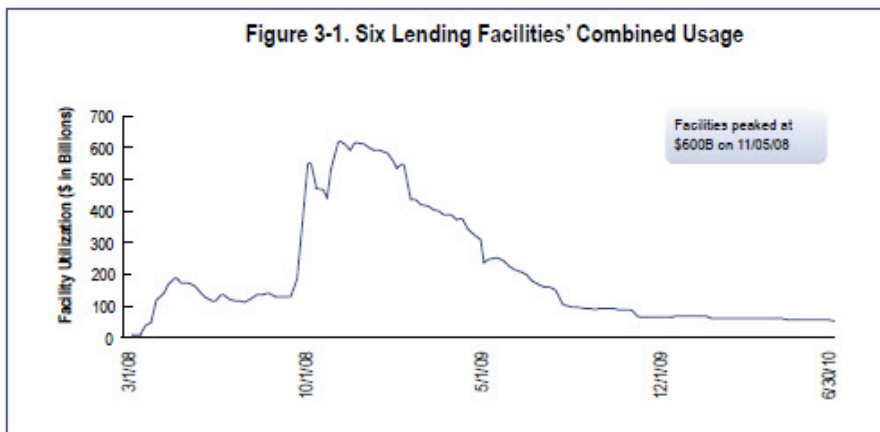
**Portfolio**—The combined holdings of stock, bond, commodity, real estate investment, mutual fund, cash equivalent, and other assets by an individual or institutional investor.

### Status of the Lending Facilities

At the peak on November 5, 2008, the lending facilities had a combined usage of \$600 billion.<sup>6</sup> Since that time, each of the six lending facilities has expired. The MMIFF expired October 30, 2009.

<sup>6</sup> Although the combined utilization of the lending facilities peaked at \$600 billion, each facility peaked on different dates.

The TSLF (including TOP), PDCF, AMLF, and CPFF expired on February 1, 2010. TALF ceased making loans collateralized by TALF-eligible newly-issued ABS and legacy CMBS on March 31, 2010, and stopped making loans collateralized by newly-issued CMBS on June 30, 2010. As of June 30, 2010, TALF had outstanding loans totaling approximately \$42.5 billion, which under the TALF terms and conditions are scheduled to mature no later than March 2015. Figure 3-1, below, provides an overview of the six lending facilities' combined utilization since their inception.



The Board has reported that all loans for the TSLF (including TOP), PDCF, AMLF, and CPFF were repaid in full with interest, and the Board has reported that it does not anticipate any net loss to the Federal Reserve on loans made through the TALF.<sup>7</sup> The Federal Reserve has reported that none of the lending facilities have experienced losses as of June 30, 2010, and that the lending facilities have generated approximately \$9.0 billion in interest earnings and fees as of that same date. General indicators of market stress suggest that the lending facilities helped to stabilize the functioning of financial markets. Utilization of the lending facilities decreased significantly, and, at the time the lending facilities expired, key market data had improved as market liquidity stabilized and investors' concerns subsided. For example, as of February 1, 2010, the **London Interbank Offered Rate-Overnight Indexed Swap (LIBOR-OIS) spread**, a closely watched barometer of distress in money markets, had decreased to pre-crisis levels. In addition, the financial market rates on commercial paper and ABS also decreased.

The Federal Reserve has publicly reported financial information and has enhanced transparency of the lending facilities in a number of ways. The results of the lending facilities operations have been reported on the Federal Reserve's H.4.1 weekly statistical release, entitled *Factors Affecting Reserve Balances of Depository Institutions and*

**London Interbank Offered Rate (LIBOR)**—The interest rate at which banks borrow unsecured funds in the London wholesale money market.

**Overnight Indexed Swap (OIS) Rate**—The OIS rate is a type of interest rate swap that is based on daily federal funds rates. OIS rates indicate investor expectations of future interest rates set by central banks, such as the federal funds rate.

**London Interbank Offered Rate-Overnight Indexed Swap (LIBOR-OIS) Spread**—A financial market metric that compares the three-month LIBOR with an interest rate swap tied to the federal funds rate. The OIS rate is considered the more stable and less risky component of the two. Thus, when the spread increases, LIBOR is rising, which means banks are charging other banks higher interest rates for interbank loans.

<sup>7</sup> As it was never used, MMIFF had no earnings or losses.

*Condition Statement of Federal Reserve Banks.* In addition, the Board publishes a monthly *Credit and Liquidity Programs and the Balance Sheet* report, which includes detailed information and income (fees and earnings) for each active facility. Additionally, the annual income related to the lending facilities has been reported on the *Federal Reserve Banks Combined Statements of Income and Comprehensive Income*, as well as FRB-NY's (consolidated) and FRB-Boston's financial statements, as applicable.

### Reserve Bank Implementation

Based on the policies issued by the Board, FRB-NY and FRB-Boston implemented their respective lending facilities over very short periods of time, primarily using existing internal expertise and infrastructure (systems, processes, procedures, and controls), and leveraging internal operational, credit, and other risk management best practices. For example, the TSLF (including TOP) and PDCF leveraged FRB-NY's existing open market operations and discount window infrastructures, respectively.

Given the significant increase in the roles and responsibilities associated with managing lending facilities of such size and importance, FRB-NY contracted with private firms for various operational aspects of the CPFF and TALF. FRB-NY also contracted with vendors to provide general consulting services. The services provided by vendors have included:

- **Accounting, Advisory, and Consulting Services**—due diligence support services, financial accounting advice, and other consulting services
- **Administrative and Custodial Services**—bookkeeping, monthly reporting, collateral safekeeping, and pricing
- **Audit Services**—independent review of financial reporting controls, processes, and procedures
- **Collateral Monitoring Services**—risk assessments on certain collateral and issuers, financial market assessments, valuation, and analysis reports
- **Legal Services**—creation of facility documents and agreements
- **Risk Management Advisory Services**—consulting services related to overall implementation and risk management
- **Structuring Agent Services**—services to arrange the SPV operating and financing requirements through interactions with private investors
- **Transaction Agent Functions**—review and processing of proposed sales of commercial paper, coordination with relevant entities, and investment management

Table C provides an overview of the vendors and the services they provided, by facility.

Table C. FRB-NY Vendors\*

Vendor	TSLF (including TOP)	PDCF	CPFF	MMIFF	TALF	General
Bank of New York Mellon	Custodial Services	Custodial Services	-	-	Administrative/ Custodial Services	-
BlackRock Financial Management, Inc.	-	-	-	-	Collateral Monitoring Services	-
Cleary Gottlieb Steen & Hamilton LLP	-	-	-	-	-	Legal Services
CWCapital Investments LLC	-	-	-	-	Advisory Services	-
Davis Polk & Wardwell LLP	-	-	-	-	-	Legal Services
Ernst & Young LLP	-	-	-	-	Accounting/ Consulting Services	-
JP Morgan Chase (JPMC)	Custodial Services	Custodial Services	-	Structuring Agent Services	-	-
KPMG LLP	-	-	Consulting Services	-	Consulting Services	-
McKinsey & Company	-	-	-	-	Consulting Services	-
Oliver Wyman Group	-	-	-	-	-	Risk Management Advisory Services
Pacific Investment Management Company LLC (PIMCO)	-	-	Transaction Agent Functions	-	Collateral Monitoring Services	-
Promontory Financial Group, LLC	-	-	-	-	Consulting Services	-
Sidley Austin LLP	-	-	-	-	Consulting Services	-
State Street Bank & Trust Company (State Street)	-	-	Administrative/ Custodial Services	-	-	-
TREPP LLC	-	-	-	-	Collateral Monitoring Services	-

\*Vendors were not utilized for the AMLF. For CPFF, the CPFF SPV contracted directly with PIMCO and State Street. For MMIFF, JPMC was an agent for the MMIFF private SPVs.



Facility vendors have been paid by FRB-NY, but the expenses have been deducted from the lending facilities' income or fees in the determination of net income. According to FRB-NY officials, FRB-NY did not pay Bank of New York Mellon and JP Morgan Chase (clearing banks) any fees or execute any new agreements for their custodial roles in the TSLF and PDCF. Fees to vendors that support the CPFF and TALF LLC have been paid directly by the income and fees generated by the CPFF SPV and the TALF LLC. The annual net income from the lending facilities has been reported on the *Federal Reserve Banks' Combined Statements of Income and Comprehensive Income* and FRB-NY and FRB-Boston financial statements, as applicable.

### **Oversight of the Federal Reserve Banks and the Lending Facilities**

Various groups at the Board and in the Federal Reserve Banks perform oversight functions. As the Board's OIG, we are responsible for conducting and supervising independent and objective audits, investigations, and other reviews related to the Board's programs and operations, which include the Board's oversight of the Reserve Banks.

With regard to financial operations and financial reporting of the lending facilities, an independent public accounting firm, Deloitte, audited the financial statements of the CPFF LLC as of December 31, 2008, and December 31, 2009, and TALF LLC as of December 31, 2009. The TSLF (including TOP), PDCF, AMLF, CPFF, and MMLFF facilities were included in the scope of the financial statement audits of the separate Federal Reserve Banks as of December 31, 2008, and December 31, 2009. TALF loans were included in the scope of the financial statement audit of FRB-NY as of December 31, 2009. Deloitte issued unqualified (clean) opinions for each of these audits.

The Board performs various reviews of the Federal Reserve Banks, including a wide range of off-site and on-site oversight activities, conducted primarily by the Board's Division of Reserve Bank Operations and Payment Systems (RBOPS). RBOPS oversees the Federal Reserve Banks' provision of financial services to depository institutions; fiscal agency services to the Treasury and other government agencies; and significant support functions, such as information technology, financial and cost accounting, audit of the Federal Reserve Banks' financial statements, human resources, facilities management, and physical security. RBOPS monitors the activities of each Federal Reserve Bank on an ongoing basis and conducts an on-site review of each Federal Reserve Bank at least once every three years. The review includes an assessment of each Federal Reserve Bank's Internal Audit function's conformance to applicable professional standards and the Internal Audit department's effectiveness. In addition, RBOPS created a special oversight group to review the operational, credit, and market

risk of the lending facilities, within the framework of policy decisions made by the Board.

Internal auditors with the Federal Reserve Banks are responsible for audits of the Banks' operations, including the nature of activities, the level of controls surrounding these activities, and budgeted resources. FRB-NY's Legal Group includes a Compliance section that is responsible for identifying, assessing, monitoring, and reporting on the legal risks, financial losses, or reputational impacts that may result from a failure to comply with applicable laws, regulations, the code of conduct, and industry best practices.

Division of Monetary Affairs officials worked with the Federal Reserve Banks in developing overall policies, terms, and conditions, and monitored the operations of the lending facilities through discussions with FRB-NY and FRB-Boston staff. RBOPS staff and FRB-NY and FRB-Boston internal auditors completed several reviews and audits of the lending facilities. Specifically, RBOPS completed reviews on the TSLF (including TOP), PDCF, CPFF, and TALF that assessed FRB-NY's management of operational, credit, and market risk, as applicable, and made a number of recommendations to strengthen the control environment for these lending facilities. FRB-Boston's internal auditors completed audits of the AMLF. FRB-NY's internal auditors completed audits of the TSLF (including TOP), PDCF, and CPFF. At the time of our review, the FRB-NY internal auditors were reviewing the TALF lending facility and the performance of vendors in TALF.<sup>8</sup> Additionally, at the time of our review, a third-party vendor, under contract with FRB-NY's Legal group, was performing a conflict of interest review and testing vendors' and agents' compliance with contract provisions. FRB-NY had reported progress in implementing corrective actions for recommendations made by RBOPS and the internal auditors, and was working to resolve outstanding issues.

In addition, the Government Accountability Office and the Special Inspector General for the Troubled Asset Relief Program have performed reviews of various Federal Reserve programs and operations, including the TALF.

<sup>8</sup> RBOPS and FRB-NY staff stated that the MMIFF was not reviewed or audited because the lending facility was never used.

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**Section 4**    **Term Securities**  
**Lending Facility (TSLF)**

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# Term Securities Lending Facility

## At a Glance

Announced on March 11, 2008, the Term Securities Lending Facility (TSLF) was intended to promote liquidity in the financing markets for U.S. Treasury securities and other collateral and, thus, foster the functioning of financial markets more generally. Traditionally, primary dealers could borrow highly liquid U.S. Treasury securities on an overnight basis from the Federal Reserve's System Open Market Account (SOMA), in exchange for other U.S. Treasury securities with different attributes or maturities as collateral. The TSLF allowed primary dealers to borrow U.S. Treasury securities for a term of 28 days (unless otherwise stated) by pledging other less liquid securities as collateral, through a competitive, single-price auction, subject to a minimum fee requirement.<sup>9</sup> Consequently, the TSLF increased the ability of the primary dealers to obtain cash in the private markets by pledging the highly liquid U.S. Treasury securities as collateral.

Primary dealers, broker-dealers, and other borrowers typically borrow large amounts of money on a daily basis through repurchase agreements. As of March 4, 2008, primary dealers' repurchase agreements financing—including both overnight and longer term loans—reached over \$4.5 trillion. Primary dealers are the trading counterparties of the Federal Reserve Bank of New York (FRB-NY) in its execution of open market operations to carry out U.S. monetary policy and have a key role in providing liquidity in the market for government securities, which is in turn critical to the implementation of monetary policy. In the weeks prior to the creation of the TSLF, liquidity concerns grew and the repurchase agreements markets became strained. Lenders were concerned about the creditworthiness of borrowers and the riskiness of the collateral pledged, particularly mortgage-backed securities (MBS). As a result, haircuts increased significantly, even for borrowers with high credit ratings and relatively safe collateral.

## Term Securities Lending Facility (TSLF) Overview (as of June 30, 2010)

<b>Announcement Date</b>	March 11, 2008
<b>Operational Date</b>	March 27, 2008
<b>Expiration Date</b>	February 1, 2010
<b>Current Utilization</b>	No outstanding loans
<b>Peak Utilization</b>	\$235.5 billion <sup>a</sup> October 1, 2008
<b>Participants</b>	Primary dealers of the Federal Reserve Bank of New York (FRB-NY)
<b>Collateral</b>	Collateral that was traditionally eligible for open-market operations, and other investment-grade corporate securities, municipal securities, mortgage-backed securities (MBS), and asset-backed securities (ABS).
<b>Managed by</b>	FRB-NY
<b>Loan Term</b>	28 days, unless otherwise stated in the announcement

<sup>a</sup> Includes outstanding loans under both the \$200 billion TSLF facility and the \$50 billion TSLF Options Program (TOP).

<sup>9</sup> Although the TSLF was similar in operation to Federal Reserve Bank of New York's traditional overnight securities lending program, the purposes of the traditional overnight securities lending program and the TSLF were different. The traditional overnight securities lending program's purpose was to promote the smooth functioning of the U.S. Treasury securities financing market. By contrast, the TSLF promoted liquidity in the financing markets beyond just the U.S. Treasury securities collateral and, thus, fostered the functioning of financial markets more generally.

By increasing the ability of primary dealers to finance their portfolios, the TSLF reduced the primary dealers' need to sell assets into increasingly illiquid markets and decreased the likelihood of lenders losing confidence in primary dealers. In addition, the TSLF Options Program (TOP) offered "options" to primary dealers to borrow securities under the TSLF during periods of heightened collateral pressures, such as financial quarter-end dates.

All loans of U.S. Treasury securities were made with recourse to the primary dealer beyond the specific collateral pledged. The TSLF (including TOP) was administered by FRB-NY.

### Utilization Summary

TSLF lending ramped up quickly in April 2008 and remained relatively constant through the summer and early fall of 2008. The program reached its peak utilization on October 1, 2008, at approximately \$235.5 billion.<sup>10</sup> As overall financial markets improved, primary dealers stopped utilizing this facility, and the TSLF expired on February 1, 2010.

While it is not possible to assess the specific, direct impact of the TSLF, market data indicated improved functioning in financial markets more generally.

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<sup>10</sup> Includes outstanding loans under both the \$200 billion TSLF facility and the \$50 billion TOP program.

## Detailed Overview of the TSLF

### What was it?

In authorizing the TSLF, which was managed by FRB-NY, the Board and FOMC sought to promote liquidity in the financing markets for U.S. Treasury securities and other collateral and, thus, foster the functioning of financial markets more generally. Under this facility, FRB-NY could lend up to \$200 billion of U.S. Treasury securities to primary dealers against pledges of collateral eligible for open market operations and investment-grade securities. TSLF provided an additional source of liquidity to help primary dealers obtain financing in the private market by enabling them to temporarily pledge less liquid securities as collateral to obtain U.S. Treasury securities, which are more widely accepted and easier to use as collateral to obtain financing. Therefore, the TSLF reduced the need for primary dealers to sell assets into increasingly **illiquid markets** and lessened the likelihood of a loss of confidence among lenders to the primary dealers.

In addition, the Board and FOMC created the TOP, which operated much like the TSLF, but offered “options” to primary dealers to borrow securities under the TSLF during periods of heightened collateral pressures, such as financial quarter-end and year-end dates. When these options were exercised, the primary dealer would receive a loan of U.S. Treasury securities at a fixed interest rate against a pledge of TSLF-eligible collateral. The price of the options was determined in competitive auctions.

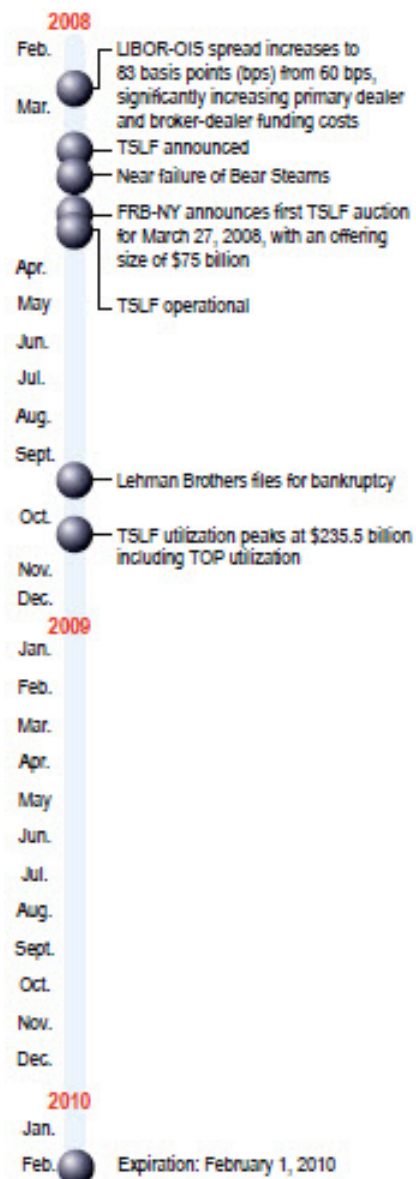
The TSLF was similar in operation to FRB-NY’s traditional overnight securities lending program. Traditionally, through the overnight securities lending program, primary dealers could borrow highly liquid U.S. Treasury securities on an overnight basis from the Federal Reserve’s SOMA, in exchange for other U.S. Treasury securities with different attributes or maturities as collateral, which promoted the smooth functioning of the U.S. Treasury securities financing market. However, the TSLF allowed a longer 28-day term for the loan of securities, and broadened the types of acceptable collateral to include less liquid securities that were eligible for tri-party repurchase agreements.

Also, in contrast to the other five section 13(3) lending facilities, the TSLF was a security-for-security lending program as opposed to the lending of funds under the other lending facilities.

### How did we get there?

Figure 4-1 highlights the key events in the relevant financial markets and operation of the TSLF.

Figure 4-1. Summary of Key Events in the TSLF Market



Illiquid Market—A market in which assets cannot be quickly converted to cash.



Broker-dealer—Any individual or firm in the business of buying and selling securities for itself and others. When acting as a broker, a broker-dealer executes orders on behalf of a client. When acting as a dealer, a broker-dealer executes trades for its firm's own account. Broker-dealers must register with the Securities and Exchange Commission.

Primary dealers, like **broker-dealers**, are distinguished from commercial banks in many respects, such as the way in which they obtain funding. While commercial banks can obtain funding through deposits from consumers, which tend to be a stable source of funds, broker-dealers rely heavily on short-term funding in the money markets and repurchase agreements markets. Primary dealers obtain short-term funding through the repurchase agreements markets to finance their portfolios of securities and are the markets' largest group of borrowers. Most repurchase agreements are organized as tri-party repurchase agreements. In March 2008, primary dealers' repurchase agreement financing—including both overnight and longer-term loans—peaked at more than \$4.5 trillion.

Primary dealers came under tremendous pressure in early 2008. The March 2008 near failure of Bear Stearns, an investment company, put significant strain on the financial markets, which led to further decreases in asset prices and higher haircuts on the assets used as collateral in repurchase agreements. As a result, liquidity conditions in the repurchase agreements markets grew very strained. Lenders were concerned about the creditworthiness of borrowers and the riskiness of the collateral pledged, particularly MBS. The Federal Reserve was concerned that higher haircuts would force large numbers of broker-dealers to terminate their repurchase transactions and sell off securities. A rapid sell-off could cause the prices of securities to plummet, prompting lenders in the repurchase agreements markets to reassess the risk of holding these securities as collateral and to impose even higher haircuts or to refuse certain types of collateral altogether. This dynamic could result in further sell-offs of securities, producing additional declines in the price of the securities held. The Federal Reserve's concern was heightened by the rapid rise in overnight repurchase agreements, which shifted from 50 percent of all repurchase transactions in 2004, to 75 percent in 2008. This shift toward shorter-term financing meant that a greater portion of the primary dealers' funding was rolled over each day, putting primary dealers' liquidity positions at great risk of fluctuations in availability and cost as short-term funding became increasingly scarce and more expensive.

Fearing not only the failure of the primary dealers, but also the freezing of the \$4.5 trillion repurchase agreements markets, the Board and FOMC authorized the lending of U.S. Treasury securities with a 28-day term, against a broader set of collateral to provide liquidity support to the primary dealers. The failure of a large primary dealer could have meant significant losses to investors in repurchase agreements markets, such as money market mutual funds and securities lenders and, thus, significant disruption to the financial markets.

## How did it work?

The TSLF was authorized under sections 13(3) and 14 of the Federal Reserve Act and was similar in operation to the traditional overnight securities lending program.<sup>11</sup> Like the traditional securities lending program, TSLF loans required collateral, with an appropriate haircut; recourse to the borrower's assets; and payment of a **bid rate** by the borrower. Unlike the traditional securities lending program, the TSLF extended the lending period from overnight (1 day) to 28 days; accepted other types of high quality collateral (beyond U.S. Treasury securities); and used a "single price auction" in which the accepted bids were awarded at one lending rate based on the lowest accepted bid. In contrast, the traditional securities lending program uses a "multi-price" format.

TSLF eligible collateral was comprised of two schedules. Schedule 1 collateral was comprised of all collateral eligible in open market operations (U.S. Treasury securities, agency debt securities, and agency MBS). Schedule 2 collateral was comprised of Schedule 1 collateral plus other investment-grade debt securities [corporate securities, municipal securities, asset-backed securities (ABS), agency **collateralized mortgage obligations (CMOs)**, and MBS (non-agency)].

Figure 4-2 illustrates the TSLF operating model, beginning with the primary dealer's bid for securities.

The following describes the various components of the TSLF operating model.

### TSLF Process Flow

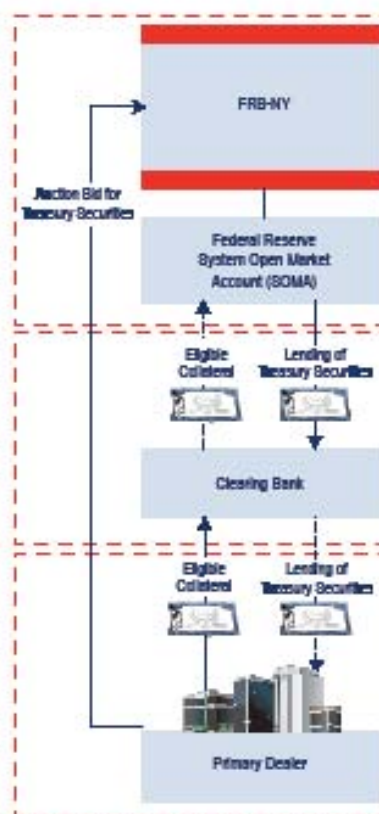
The TSLF was structured to lend U.S. Treasury securities via auction. The day before each auction, FRB-NY announced the par value of the offering amount, the particular basket of U.S. Treasury securities it was willing to lend from the SOMA, and the collateral eligible for delivery against the U.S. Treasury securities—either Schedule 1 or Schedule 2 collateral. Auctions were usually held at 2 p.m. Eastern Time and were open for 30 minutes. Primary dealers could submit up to two bids. A dealer's bid rate represented the rate it was willing to pay to borrow a basket of U.S. Treasury securities against other pledged collateral. The minimum bid size was \$10 million, each bid could not exceed 20 percent of the offering amount, and each dealer could be awarded no more than 20 percent of the offering amount. The auctions were single-priced, so accepted dealer bids were awarded at the lowest rate at which bids were accepted. The minimum fees for Schedule 1 and Schedule 2 auctions were 10 and 25 **basis points**, respectively.

<sup>11</sup> The TSLF was also authorized by the FOMC, under the authority provided in section 14 of the Federal Reserve Act, because the facility involved open market operations.

**Bid Rate**—Represents the interest rate a bidder was willing to pay to borrow a "basket" (a group) of U.S. Treasury securities against pledged collateral.

**Collateralized Mortgage Obligations (CMOs)**—A type of MBS that consists of bonds that represent claims to specific cash flows from large pools of home mortgages. The streams of principal and interest payments on the mortgages are distributed to the different classes of CMO interests, known as tranches, according to the deal structure. Each tranche may have different principal balances, coupon rates, prepayment risks, and maturity dates.

Figure 4-2. Mechanics of the TSLF



**Basis Points (bps)**—The smallest measure often used to specify transaction pricing and to quote rates on fixed income products. One basis point is equal to 1/100th of 1 percentage point (0.01 percent). Therefore, 100 basis points would be equivalent to 1 percent.

Shortly after the auction closed, FRB-NY informed dealers of their awards and posted summary results to FRB-NY's public website. Loans settled on the business day following the auction. U.S. Treasury securities were allocated to dealers on a pro rata basis (for example, a dealer awarded 10 percent of the offering amount received a 10 percent share of each U.S. Treasury security offered). Dealers awarded loans were required to pledge eligible collateral to their clearing bank custodial accounts to obtain the U.S. Treasury securities. The clearing banks exchanged the U.S. Treasury securities and pledged collateral between FRB-NY and the primary dealers, and made necessary adjustments to collateral levels to maintain the haircut-adjusted loan amounts. The loaned U.S. Treasury securities remained in the primary dealer's account at the clearing bank, and the eligible collateral remained in an account in FRB-NY's name that was maintained at the clearing bank.

### ***Terms and Conditions of the TSLF***

The following summarizes the terms and conditions for the TSLF at the time of our review. (A comprehensive list of TSLF terms and conditions was available on the FRB-NY website.)

Element	Description
<b>Standard Terms</b>	<ul style="list-style-type: none"> <li>• The term of a securities loan under the TSLF was 28 days (versus the traditional SOMA securities lending program, which is overnight), unless otherwise stated in the auction announcement.</li> <li>• Loans were awarded and allocated through auction formats.</li> <li>• There were separate auctions for Schedule 1 collateral, Schedule 2 collateral, and TOP.</li> <li>• Each dealer was allowed to submit two bids at each auction. Each bid could not exceed 20 percent of the total offering amount.</li> <li>• The minimum bid a dealer could place was \$10 million, and all bids were required to be in \$10 million increments.</li> <li>• Collateral was priced by the borrower's clearing bank using the lowest price available in the clearing bank's valuation systems.</li> </ul>
<b>Interest Rates/ Fees</b>	<ul style="list-style-type: none"> <li>• Minimum lending fees:               <ul style="list-style-type: none"> <li>– Schedule 1 collateral – 10 basis points</li> <li>– Schedule 2 collateral – 25 basis points</li> </ul> </li> <li>• A dealer's bid rate represented the interest rate it was willing to pay to borrow a basket of U.S. Treasury securities against pledged collateral.</li> <li>• The interest rate was based on the quoted price of the security (exclusive of accrued interest) on the day before the auction and the term of the loan, in days, divided by 360.</li> </ul>
<b>Lending Limits</b>	<ul style="list-style-type: none"> <li>• Dealer awards were limited to no more than 20 percent of the total offering of securities at each auction.</li> </ul>

Element	Description
<b>Collateral Requirements</b>	<ul style="list-style-type: none"> <li>• The awarded dealer was required to pledge Schedule 1 or Schedule 2 collateral against the U.S. Treasury securities borrowed through the auction.               <ul style="list-style-type: none"> <li>– Schedule 1 collateral (open market operations eligible)—Consisted of U.S. Treasury securities, agency debt securities, and agency MBS.</li> <li>– Schedule 2 collateral—Consisted of all Schedule 1 collateral, investment-grade corporate securities, investment-grade municipal securities, investment-grade MBS (non-agency), and investment-grade ABS.</li> </ul> </li> <li>• Haircut requirements on all collateral were determined by FRB-NY based on methods consistent with current market practices.</li> <li>• FRB-NY could call for collateral substitutions from the dealer if the value or quality of the pledged collateral deteriorated.</li> <li>• Dealers could also substitute eligible program collateral for other eligible collateral, if necessary.</li> </ul>
<b>Eligible Participants &amp; Involved Entities</b>	<ul style="list-style-type: none"> <li>• Only primary dealers of FRB-NY were eligible to participate in TSLF auctions.</li> </ul>

Since the inception of the facility, the Federal Reserve made a number of changes and clarifications to the terms and conditions of the TSLF, as follows:

#### **Collateral Eligibility**

- On March 20, 2008, FRB-NY announced that the first auction would use Schedule 1 and Schedule 2 collateral. Schedule 2 collateral was expanded to include agency CMOs and AAA/Aaa-rated commercial mortgage-backed securities (CMBS).
- On May 2, 2008, the FOMC authorized an expansion of Schedule 2 collateral to include AAA/Aaa-rated ABS.
- On September 14, 2008, FRB-NY announced that TSLF Schedule 2 collateral would be expanded to include all investment-grade securities.

#### **Fees**

- On March 20, 2008, FRB-NY announced a minimum fee rate for Schedule 1 and Schedule 2 auctions of 10 basis points and 25 basis points, respectively, with the actual fee rate resulting from the TSLF single-price auction format.

#### **Facility Expiration Date**

Since its inception, the TSLF's expiration date was extended three times. In each instance, the extension was due to continued instability in the financial markets.

- On December 2, 2008, the TSLF was extended through April 30, 2009.

- On February 3, 2009, the TSLF was extended through October 30, 2009.
- On June 25, 2009, the TSLF was extended through February 1, 2010.

#### **Facility Size**

- On March 20, 2008, it was announced that the first TSLF auction would be conducted on March 27, 2008, with an offering size of \$75 billion for a term of 28 days.
- On July 30, 2008, the Board and FOMC announced an extension of TSLF via the creation of the TOP. The TOP offered primary dealers options that, when exercised, allowed primary dealers to borrow up to an additional \$50 billion of U.S. Treasury securities for two weeks or less, surrounding key financing dates, against a pledge of TSLF-eligible collateral.
- On August 8, 2008, the Board announced that it would offer options on \$50 billion in TSLF loans in two separate auctions to be held August 27, 2008, and September 10, 2008. The TSLF loan underlying the September quarter-end TOP would be for seven days beginning on September 25, 2008, and maturing on October 2, 2008.
- On September 14, 2008, the Board announced that the amounts offered under Schedule 2 auctions would increase to a total of \$150 billion, from a total of \$125 billion. Amounts offered in Schedule 1 auctions would remain at a total of \$50 billion. The total amount offered in the TSLF program would increase to \$200 billion from \$175 billion. Schedule 2 TSLF auctions would be conducted weekly; previously, Schedule 2 auctions had been conducted every two weeks.
- On June 25, 2009, the Board announced the suspension of Schedule 1 TSLF operations effective July 1, 2009, and TOP operations effective with the maturity of outstanding June 2009 TOP options. It also reduced the frequency (to every four weeks) and size (to \$75 billion) of its Schedule 2 TSLF operations.
- On September 24, 2009, the Board further reduced the size of Schedule 2 TSLF auctions to \$50 billion in the October 2009 auction and to \$25 billion in the November 2009 to January 2010 auctions.

#### **Financial Reporting**

The results of the TSLF (including TOP) operations were reported on the Federal Reserve's H.4.1 weekly statistical release, entitled *Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks*. In addition, the Board publishes a monthly *Credit and Liquidity Programs and the Balance Sheet* report, which included additional detailed information on the TSLF. Both of these reports are posted on the Board's public website. All TSLF and TOP auction results were posted on FRB-NY's public website following each auction. The fees related to these securities lending

transactions were reported as a component of “Non-interest income (loss)” in the *Federal Reserve Banks Combined Statements of Income and Comprehensive Income*, as well as FRB-NY’s consolidated financial statements.

### How was risk managed?

As the first section 13(3) lending facility announced, the TSLF was established as the financial crisis was evolving, under pressures that afforded little opportunity for extensive implementation planning. To respond quickly and to minimize risk, FRB-NY used its traditional SOMA securities lending and open market operations infrastructure in designing and operating the TSLF. To help restore stability to the financial markets and improve liquidity, the Board and FOMC authorized a program similar to its traditional overnight lending of U.S. Treasury securities to primary dealers, but allowed a 28-day loan of securities. The TSLF also allowed the primary dealers to pledge a broader set of collateral than would be acceptable for traditional securities lending. To respond rapidly to stabilize the financial markets, FRB-NY implemented credit risk management practices that were market-neutral across the primary dealers—that is, it did not differentiate loan terms and conditions based on the strength and capitalization of individual primary dealers. While the primary dealers had a trading relationship with FRB-NY, they generally had not been subject to direct regulation and supervision by the Board. Thus, TSLF loans exposed the Federal Reserve to credit risk.

To mitigate these credit risks, the Board established TSLF terms and conditions that focused on ensuring adequate collateral. The TSLF required (1) specific types of collateral to cover the value of the loan, (2) the valuation of the collateral by a clearing bank, and (3) the daily revaluation of the collateral. Further, the TSLF included a haircut on the collateral—that is, the value of the collateral had to exceed the value of the U.S. Treasury securities lent—to reflect the credit risk of the collateral asset(s) and the market in which they were traded. In general, collateral assets with lower credit ratings, longer maturities, and less liquidity would have higher haircuts than assets with higher credit ratings, shorter maturities, and more liquidity. In addition, TSLF loans had recourse to the assets of the primary dealer to recover the loan value in the event of default and charged interest on the loans based on the dealers’ auction bids.

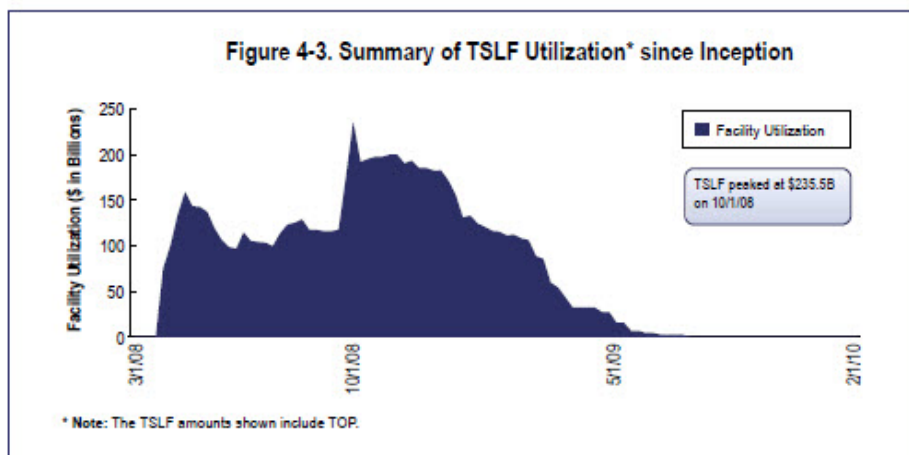
From an operational perspective, FRB-NY looked to experienced staff in its Markets group to operate the TSLF. During the peak of the crisis, FRB-NY had a staffing shortage due to the effort required to operate the TSLF and perform other functions. The employees had to balance the operation of this new facility with the traditional ongoing operations of their respective areas. In the fall of 2008, FRB-NY added new staff to assist in the operation of the TSLF. FRB-NY’s ability to

quickly draw on knowledgeable staff and hire additional staff helped to mitigate the risks that staffing constraints could have had on the quality and quantity of transaction processing, particularly for short-term periods of high utilization.

### Did it have an impact?

#### **Facility Utilization**

Upon initiation in March 2008, TSLF utilization ramped up quickly and remained relatively constant through the summer and early fall of 2008. The program reached its peak utilization on October 1, 2008, at approximately \$235.5 billion.<sup>12</sup> The TSLF and TOP were heavily utilized for most of October and November 2008; however, use then tapered off as funding markets gradually stabilized. Borrowing through the TSLF fell dramatically as financial markets improved. In June 2009, it was announced that due to diminishing demand, both Schedule 1 and TOP auctions were being suspended. TSLF utilization remained at \$0 from August 19, 2009, through the facility's expiration on February 1, 2010. Figure 4-3 illustrates the utilization of the TSLF since inception.



#### **Financial Review of the Facility**

According to FRB-NY, operation of the TSLF (including TOP) generated \$781 million from interest and fees charged on TSLF loans, and the Board reported that there were no losses on TSLF operations. All loans made were repaid with interest.

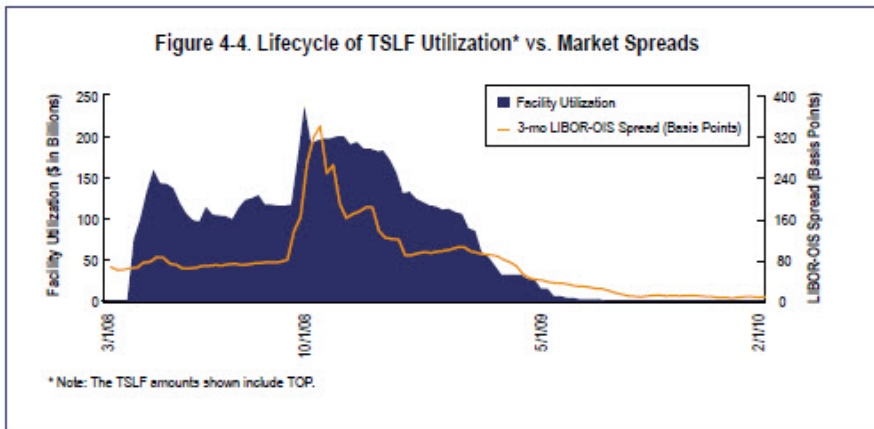
#### **Market Impact Analysis**

While it is difficult to determine the specific impact of the TSLF, market data indicated improved functioning in financial markets more generally. For example, the London Interbank Offered Rate-Overnight Indexed Swap (LIBOR-OIS) spread, a general measure of financial market stress, has historically hovered around 10 basis points. However,

<sup>12</sup> Includes outstanding loans under both the \$200 billion TSLF facility and the \$50 billion TOP program.

in the midst of the financial crisis, the spread increased from 60 basis points to 83 basis points in March 2008 and spiked to over 360 basis points in October 2008. An increasing LIBOR-OIS spread indicates that banks are charging each other higher interest rates to borrow money from one another because they are concerned about a greater chance of loan defaults, whereas a smaller LIBOR-OIS spread indicates increased bank confidence as LIBOR rates are conforming more closely to traditionally more stable central bank rates.

As shown by Figure 4-4, the spread between LIBOR and OIS rates subsequently decreased significantly, dropping below 100 basis points in mid-January 2009 and returning to a range of 10 to 15 basis points by September 2009, apparently reflecting that investors' concerns had diminished and financial markets had improved.





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**Section 5**    **Primary Dealer Credit  
Facility (PDCF)**

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# Primary Dealer Credit Facility

## At a Glance

Announced on March 16, 2008, and operational on March 17, 2008, the Primary Dealer Credit Facility (PDCF) was intended to maintain the orderly functioning of the financial markets by providing primary dealers with an alternative source of funding for assets that had, in effect, become illiquid. This facility provided overnight funding to primary dealers in exchange for eligible, haircut-adjusted collateral. The loans were with recourse, beyond the pledged collateral, to the assets of the primary dealers.

As discussed earlier under the Term Securities Lending Facility (TSLF) section, broker-dealers, which include primary dealers and other borrowers, typically borrow large amounts of money on a daily basis through repurchase agreements. As of March 4, 2008, primary dealers' repurchase agreements financing—including both overnight and longer term loans—reached over \$4.5 trillion. Primary dealers are the trading counterparties for the Federal Reserve Bank of New York (FRB-NY) in its execution of open market operations to carry out U.S. monetary policy. They have a key role in providing liquidity in the market for government securities, which is critical to the implementation of monetary policy. In the weeks prior to the creation of the PDCF, liquidity concerns grew and the repurchase agreements markets became strained. Lenders were concerned about the creditworthiness of borrowers and the riskiness of the collateral pledged, particularly mortgage-backed securities (MBS). As a result, haircuts increased significantly, even for borrowers with high credit ratings and relatively safe collateral. By increasing the ability of primary dealers to finance their portfolios, the facility reduced the primary dealers' need to sell assets into illiquid markets and decreased the likelihood of lenders losing confidence in primary dealers.

## Utilization Summary

The PDCF experienced varied usage. After inception, PDCF loans quickly rose to about \$37 billion, but then dropped to \$0 by July 2, 2008, and utilization remained at \$0 through September 10, 2008. The September 2008 Lehman Brothers Holdings, Inc. (Lehman Brothers) bankruptcy caused additional strain in the market, and eligible collateral was expanded to include all tri-party repurchase agreements eligible collateral. As a result, lending increased and then peaked at \$146.6 billion on October 1, 2008. As overall

## Primary Dealer Credit Facility (PDCF)

### Overview (as of June 30, 2010)

<b>Announcement Date</b>	March 16, 2008
<b>Operational Date</b>	March 17, 2008
<b>Expiration Date</b>	February 1, 2010
<b>Current Utilization</b>	No outstanding loans
<b>Peak Utilization</b>	\$146.6 billion <sup>a</sup> October 1, 2008
<b>Participants</b>	Primary dealers of the Federal Reserve Bank of New York (FRB-NY)
<b>Collateral</b>	Collateral that was eligible for tri-party repurchase agreements by the two major clearing banks
<b>Managed by</b>	Federal Reserve Banks of New York, Atlanta, and Chicago
<b>Loan Term</b>	Overnight

<sup>a</sup> The Federal Reserve's reporting of the results of PDCF operations also included credit extended to other broker-dealers, such as credit provided to broker-dealers whose parent companies were transitioning to bank holding companies.

financial markets improved, primary dealers stopped utilizing the facility, with the last loan made in May 2009. The PDCF expired on February 1, 2010.

During the height of the financial crisis (especially after the bankruptcy of Lehman Brothers), the PDCF performed in a similar manner to the Federal Reserve's discount window in that it served as a backstop source of liquidity for primary dealers. While it is difficult to determine the specific impact of the PDCF, market data indicated improved functioning in financial markets more generally.

## Detailed Overview of the PDCF

### What was it?

The PDCF was authorized under section 13(3) of the Federal Reserve Act to maintain the orderly functioning of the financial markets by providing primary dealers with an alternative source of funding for assets that had, in effect, become illiquid. The PDCF provided primary dealers with the ability to obtain overnight loans using eligible assets as collateral to secure such loans. These loans were made with recourse, beyond the collateral, to the primary dealers' assets. The PDCF was similar to the Federal Reserve's discount window in that it served as a backstop source of liquidity for primary dealers during market disruptions. Before the creation of the PDCF, primary dealers had no access to a "lender of last resort" credit facility.

Eligible collateral for the PDCF initially was limited to investment-grade securities. On September 14, 2008, the PDCF was expanded to accept all collateral eligible for tri-party repurchase agreements (which includes non-investment grade securities) through a major clearing bank, in order to further alleviate primary dealers' funding pressures.

The PDCF was funded and managed by FRB-NY. The Federal Reserve Banks of Chicago (FRB-Chicago) and Atlanta (FRB-Atlanta) provided operational support for the PDCF.

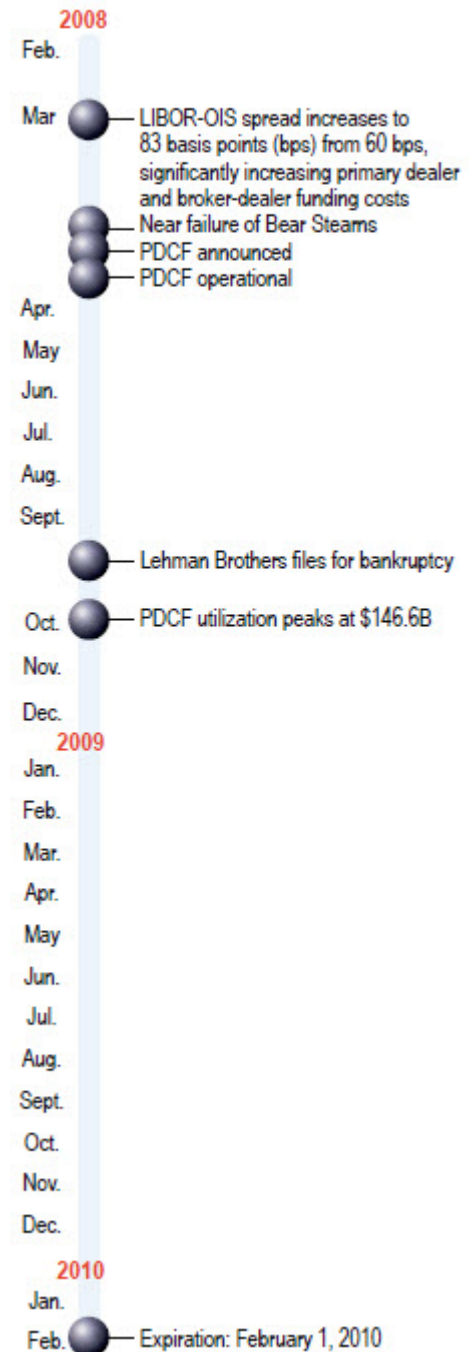
### How did we get there?

Figure 5-1 highlights the key events in the relevant financial markets and operation of the PDCF.

As discussed earlier in the TSLF section, primary dealers, like broker-dealers, are distinguished from commercial banks in many respects, such as the way in which they obtain funding. While commercial banks can obtain funding through deposits from consumers, which tend to be a stable source of funds, broker-dealers rely heavily on short-term funding in the money markets and repurchase agreements markets. To finance their portfolios of securities, primary dealers obtain short-term funding through the repurchase agreements markets and are the markets' largest group of borrowers. At its peak in March 2008, primary dealers' repurchase agreement financing—including both overnight and longer-term loans—reached more than \$4.5 trillion. Most repurchase agreements are organized as tri-party repurchase agreements.

Primary dealers came under tremendous pressure in early 2008. The March 2008 near failure of Bear Stearns, an investment company, put significant strain on the financial markets, which led to further decreases in asset prices and higher haircuts on the assets used as collateral in repurchase agreements. As a result, liquidity conditions in

Figure 5-1. Summary of Key Events in the PDCF Market



the repurchase agreements markets grew very strained. Lenders were concerned about the creditworthiness of borrowers and the riskiness of the collateral pledged, particularly MBS. The Federal Reserve was concerned that higher haircuts would force large numbers of broker-dealers to terminate their repurchase agreements and sell off securities. This dynamic could have caused the prices of securities to plummet, prompting lenders in the repurchase agreements markets to reassess the risk of holding these securities as collateral and to impose even higher haircuts or to refuse certain types of collateral altogether. These actions could have resulted in further sell-offs of securities, producing additional declines in the price of the securities held. The Federal Reserve's concern was heightened by the rapid rise in overnight repurchase agreements, which shifted from 50 percent of all repurchase transactions in 2004 to 75 percent in 2008. This shift toward shorter-term financing meant that a greater portion of the primary dealers' funding was rolled over each day, putting primary dealers' liquidity positions at great risk of fluctuations in availability and cost, as short-term funding became increasingly scarce and more expensive.

Fearing not only the failure of the primary dealers, but also the freezing of the \$4.5 trillion repurchase agreements markets, the Federal Reserve provided liquidity support, through the PDCF, to the primary dealers that FRB-NY transacts with on a regular basis. The failure of a large primary dealer could have meant significant losses to repurchase agreements markets investors, such as money market mutual funds and securities lenders and, thus, significant disruption to the financial markets.

After the inception of the PDCF, the financial markets experienced another significant disruption in September 2008, with the bankruptcy of Lehman Brothers, which had a primary dealer subsidiary, Lehman Brothers Inc. The Lehman Brothers' bankruptcy led to concern that other financial institutions, including broker-dealers, were at risk of failing, and credit markets froze.

### **How did it work?**

The PDCF was authorized under section 13(3) of the Federal Reserve Act to provide overnight loans to primary dealers, which was similar to the Federal Reserve's discount window that makes overnight loans to depository institutions. PDCF loans required an appropriate haircut to the collateral, recourse to the borrower's assets, and payment of interest and fees by the borrower.

Figure 5-2 illustrates the PDCF operating model, beginning with the primary dealer’s submission of collateral for the loan.

The following describes the various components of the PDCF operating model.

**PDCF Process Flow**

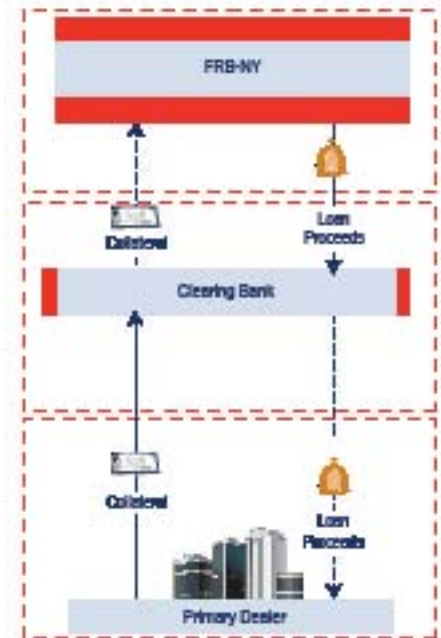
The operating model for the PDCF utilized FRB-NY’s discount window function and the infrastructure for the tri-party repurchase agreements markets, and involved the primary dealers communicating their funding needs to their respective clearing banks. The clearing banks then checked collateral eligibility, valuation, and haircuts to ensure that a sufficient amount of collateral had been pledged by each primary dealer participating in the PDCF, and they notified FRB-NY accordingly. Once FRB-NY received notice that a sufficient amount of eligible collateral had been assigned to FRB-NY’s account, FRB-NY would transfer the amount of the loan to the clearing bank for credit to the primary dealer. FRB-Chicago and FRB-Atlanta processed the loan origination and loan repayment for the PDCF on behalf of FRB-NY. The next day, the clearing bank would reverse the transaction and release the collateral back to the primary dealer.

**Terms and Conditions of the PDCF**

The following summarizes the terms and conditions for the PDCF at the time of our review. (A comprehensive list of PDCF terms and conditions was available on the FRB-NY website.)

Element	Description
<b>Standard Terms</b>	<ul style="list-style-type: none"> <li>Loans settled on the same business day and matured the following business day.</li> <li>PDCF credit was secured by collateral with appropriate haircuts, but with recourse to the primary dealer beyond the specific collateral pledged.</li> <li>Loan amounts were limited to the amount of haircut-adjusted eligible collateral pledged by the dealer and assigned to the FRB-NY account at the clearing bank.</li> <li>Assets were priced by the borrower’s clearing bank using the lowest price available in the clearing bank’s valuation systems.</li> </ul>
<b>Interest Rates</b>	<ul style="list-style-type: none"> <li>The lending rate was equal to the discount window’s primary credit rate at FRB-NY.</li> </ul>
<b>Fees</b>	<ul style="list-style-type: none"> <li>“Frequency fees” were assessed to borrowers who accessed the facility on more than 45 business days out of the preceding 180 business days.</li> <li>The following general fee schedule applied:                             <ul style="list-style-type: none"> <li>First 45 days: no fee</li> <li>46–90 days: 10 basis points, annualized</li> <li>91–135 days: 20 basis points, annualized</li> <li>136–180 days: 40 basis points, annualized</li> </ul> </li> </ul>

Figure 5-2. Mechanics of the PDCF





**Convertible Stock**—Corporate securities (usually preferred shares or bonds) that are exchangeable for a set number of another form of securities (usually common shares) at a pre-stated price.

**Preferred Stock**—A form of equity ownership that usually pays a fixed dividend, gives the holder a claim on corporate earnings superior to common stock owners, and generally has no voting rights. Preferred stock also has priority over common stock in the distribution of assets in the case of liquidation of a bankrupt company.

Element	Description
<b>Collateral Requirements</b>	<ul style="list-style-type: none"> <li>All assets that were eligible for tri-party repurchase agreements with the two major clearing banks were eligible, including:               <ul style="list-style-type: none"> <li>U.S. government, agency, and government sponsored entity securities; corporate and municipal bonds; money market instruments; MBS; asset-backed securities (ABS); and collateralized mortgage obligations (CMOs).</li> <li>Equities (such as common stock, <b>convertible stock</b>, and <b>preferred stock</b>).</li> </ul> </li> <li>For collateral that was eligible for open market operations (U.S. Treasury securities, agency debt securities, and agency MBS), the haircuts were those used for open market operations.</li> <li>For collateral not eligible for open market operations, haircuts were assigned based on the riskiness of the asset and were generally higher than for open market operations eligible collateral.</li> </ul>
<b>Eligible Participants &amp; Involved Entities</b>	<ul style="list-style-type: none"> <li>The PDCF was limited to primary dealers (via their clearing banks) of FRB-NY.</li> </ul>

Since the inception of the facility, the Federal Reserve made a number of changes to the terms and conditions of the PDCF, as follows:

#### **Collateral Eligibility**

- On September 14, 2008, eligible collateral was broadened to closely match the types of instruments that could be pledged in the tri-party repurchase agreements systems of the two major clearing banks as of September 12, 2008. Initially, eligible collateral was limited to investment-grade securities.

#### **Frequency Fee**

- On February 3, 2009, the facility usage fee changed, so that fees were calculated based on use of the facility for more than 45 business days out of the preceding 180 business days. (Previously it was 30 days out of 120 days.)

#### **Facility Expiration Date**

Since its inception, PDCF's expiration date was extended four times. In each instance, the extension was due to continued instability in the financial markets.

- On September 15, 2008, the term of the PDCF was extended to January 30, 2009.
- On December 2, 2008, the term of the PDCF was extended to April 30, 2009.
- On February 3, 2009, the term of the PDCF was extended to October 30, 2009.

- On June 25, 2009, the term of the PDCF was extended to February 1, 2010.

### **Financial Reporting**

The results of the PDCF operations were publicly reported on the Federal Reserve's H.4.1 weekly statistical release, entitled *Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks*. In addition, the Board publishes a monthly *Credit and Liquidity Programs and the Balance Sheet* report, which included detailed information on the PDCF. Both of these reports are posted on the Board's public website. The frequency fees and the interest income related to PDCF transactions were reported as components of "Non-interest income (loss)" and "Interest income" respectively, in the *Federal Reserve Banks Combined Statements of Income and Comprehensive Income*, as well as FRB-NY's consolidated financial statements.<sup>13</sup>

### **How was risk managed?**

To respond quickly to the financial crisis, the PDCF was established as the crisis was evolving, under pressures that afforded little opportunity for extensive implementation planning. To respond quickly and to minimize risk, FRB-NY used the infrastructures of its discount window function and the tri-party repurchase agreements markets in designing and operating the PDCF. Initially, the PDCF allowed primary dealers to pledge investment-grade securities as collateral, and it was later expanded to allow all collateral that was eligible for tri-party repurchase agreements, including non-investment grade securities. To respond rapidly to stabilize the financial markets, FRB-NY implemented credit risk management practices that were market-neutral across the primary dealers—that is, it did not systematically differentiate loan terms and conditions based on the strength and capitalization of individual primary dealers. While the primary dealers had a trading relationship with FRB-NY, they generally had not been subject to direct regulation and supervision by the Board. Thus, PDCF loans exposed the Federal Reserve to credit risk.

To mitigate these credit risks, the Board established PDCF terms and conditions that focused on ensuring adequate collateral. PDCF required (1) specific types of collateral to cover the value of the loan, and (2) the value of the collateral to be determined through the clearing banks' valuation processes. Further, PDCF included a haircut on the collateral—that is, the value of the collateral had to exceed the value of the loan extended—to reflect the credit risk of the collateral asset(s) and the market in which they were traded. In general, collateral assets with lower credit ratings, longer maturities, and less liquidity would have higher haircuts than assets with higher credit ratings, shorter maturities, and more liquidity. In addition, PDCF loans had recourse to the assets of the primary dealer to recover the loan

<sup>13</sup> The Federal Reserve's reporting of the results of PDCF operations also included credit extended to other broker-dealers, such as credit provided to broker-dealers whose parent companies were transitioning to bank holding companies.

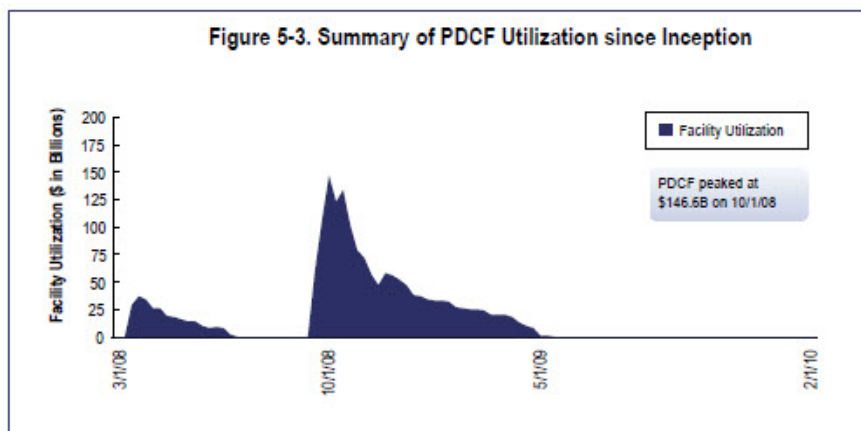
value in the event of default, charged interest on the loans based on the discount window primary credit rate, and required borrowers who frequently accessed the facility to pay frequency fees.

Operationally, the Federal Reserve looked to its experienced discount window staff in FRB-NY to operate the PDCF. During the peak of the crisis, FRB-NY had a staffing shortage due to the effort required to operate the PDCF and other lending facilities. It responded by borrowing staff from other sections of the Reserve Bank on an as-needed, temporary basis to support PDCF operations and obtaining operational assistance from FRB-Chicago and FRB-Atlanta. Once the facility utilization declined, the borrowed employees returned to their original positions. FRB-NY's ability to quickly draw on knowledgeable staff from other areas helped to mitigate the risks that staffing constraints could have had on the quality and quantity of transaction processing, particularly for short-term periods of high utilization. No permanent staff were added to specifically operate the PDCF.

### Did it have an impact?

#### **Facility Utilization**

The PDCF experienced varied usage. After inception, total PDCF loans quickly rose to about \$37 billion, but then dropped to \$0 by July 2, 2008, and utilization remained at \$0 through September 10, 2008. Once eligible collateral to the PDCF was expanded to include all tri-party repurchase agreements eligible collateral, and after the bankruptcy of Lehman Brothers, lending increased and then peaked at \$146.6 billion on October 1, 2008. As overall financial markets improved, primary dealers stopped utilizing the facility, with the last activity being in May 2009. The PDCF terminated on February 1, 2010. Figure 5-3 illustrates the utilization of the PDCF since inception.



### Financial Review of the Facility

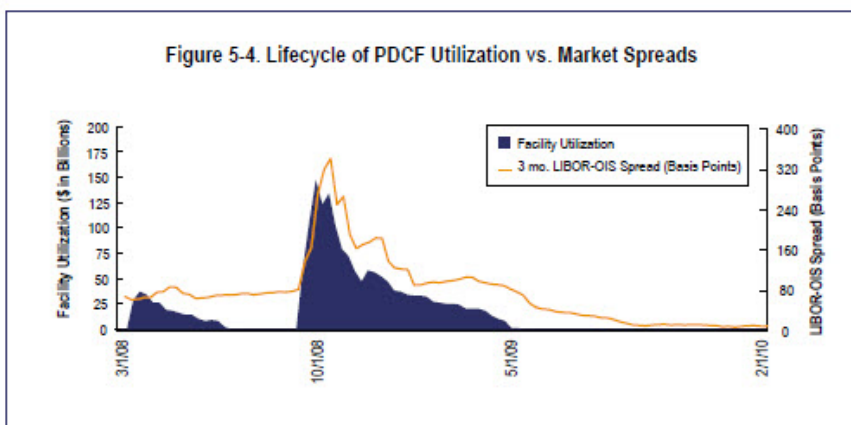
According to FRB-NY, operation of the PDCF generated \$593 million from interest and fees charged on PDCF loans, and the Board reported there were no losses on PDCF operations.<sup>14</sup> All loans made were repaid with interest.

### Market Impact Analysis

While it is difficult to determine the specific impact of the PDCF, market data indicated improved functioning in financial markets more generally.

For example, the London Interbank Offered Rate-Overnight Indexed Swap (LIBOR-OIS) spread, a general measure of financial market stress, has historically hovered around 10 basis points. However, in the midst of the financial crisis, the spread increased from 60 basis points to 83 basis points in March 2008 and spiked to over 360 basis points in October 2008. An increasing LIBOR-OIS spread indicates that banks are charging each other higher interest rates to borrow money from one another because they are concerned about a greater chance of loan defaults, whereas a smaller LIBOR-OIS spread indicates increased bank confidence as LIBOR rates are conforming more closely to traditionally more stable central bank rates.

As shown by Figure 5-4, the spread between LIBOR and OIS rates subsequently decreased significantly, dropping below 100 basis points in mid-January 2009 and returning to a range of 10 to 15 basis points by September 2009, apparently reflecting that investors' concerns had diminished and financial markets had improved.



<sup>14</sup> The Federal Reserve's reporting of the results of PDCF operations also included credit extended to other broker-dealers, such as credit provided to broker-dealers whose parent companies were transitioning to bank holding companies.

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**Section 6**    **Asset-Backed  
Commercial Paper  
Money Market Mutual  
Fund Liquidity Facility  
(AMLF)**

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## Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility

### At a Glance

Announced on September 19, 2008, the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) was intended to provide funding to U.S. depository institutions and bank holding companies (including U.S. broker-dealer affiliates) and U.S. branches and agencies of foreign banks to finance purchases of high quality asset-backed commercial paper (ABCP) from distressed money market mutual funds (MMMFs), thereby helping to restore liquidity to the ABCP markets and assist MMMFs in meeting investor redemption demands. Under normal circumstances, MMMFs meet investor redemption requests by drawing on cash reserves or by selling assets, such as ABCP. In the fall of 2008, however, MMMFs were faced with having to sell assets at deep discounts to meet the redemption requests of investors who were leaving MMMFs for less-risky investments. By providing non-recourse loans to eligible borrowers to fund the purchase of eligible ABCP from MMMFs, the AMLF was designed to foster liquidity in the ABCP market and money markets in general.

### Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) Overview (as of June 30, 2010)

<b>Announcement Date</b>	September 19, 2008
<b>Operational Date</b>	September 22, 2008
<b>Expiration Date</b>	February 1, 2010
<b>Current Utilization</b>	No outstanding loans
<b>Peak Utilization</b>	\$152.1 billion October 1, 2008
<b>Participants</b>	U.S. depository institutions and U.S. bank holding companies (parent companies or U.S. broker-dealer affiliates) and U.S. branches and agencies of foreign banks
<b>Collateral</b>	Asset-backed commercial paper
<b>Managed by</b>	Federal Reserve Bank of Boston (FRB-Boston)
<b>Loan Term</b>	Up to 120 days for depository institutions and up to 270 days for non-depository institutions

### Utilization Summary

Upon initiation of the program, lending levels from the AMLF peaked almost immediately. The program reached its maximum outstanding utilization of \$152.1 billion on October 1, 2008. Use of the AMLF tapered off thereafter as funding markets gradually stabilized and MMMF redemption pressures subsided. The AMLF experienced a moderate increase in utilization around May 2009, which coincided with the U.S. government's pending release of its bank stress tests results. According to Federal Reserve Bank of Boston (FRB-Boston) officials, these results could have led to downgrades to ABCP issuers that would have reduced the credit rating of their ABCP and, thus, made the ABCP ineligible for AMLF funding.

This facility expired on February 1, 2010. While it is difficult to assess the specific, direct impact of the AMLF, market data suggested that the facility helped to restore liquidity to the ABCP markets and, thereby, assisted MMMFs in meeting redemption demands, as well as fostered liquidity in the money markets in general.





# Detailed Overview of the AMLF

## What was it?

The AMLF, managed and funded by FRB-Boston, became operational on September 22, 2008. It provided funding for U.S. depository institutions and bank holding companies (including U.S. broker-dealer affiliates) and U.S. branches and agencies of foreign banks to use in purchasing ABCP from MMMFs. MMMFs are large investment funds that hold highly rated, short-term debt instruments, including ABCP. Under normal circumstances, MMMFs meet investor **redemption** requests by drawing on cash reserves or by selling assets, such as ABCP. However in the fall of 2008, many MMMFs experienced liquidity shortages and were faced with selling assets at deep discounts to meet their redemption requests, which could have resulted in substantial losses. The AMLF was intended to assist distressed MMMFs that held ABCP in meeting investor redemption demands, and thereby foster liquidity in the ABCP market and money markets in general.

In June 2009, the AMLF terms and conditions were revised to require a determination that an MMMF was experiencing “significant” redemption pressures, to warrant utilization of the facility. Net redemptions were required to exceed 5 percent of the MMMF’s net assets in a single day, or 10 percent in a period of five business days or less, to be considered “significant.”

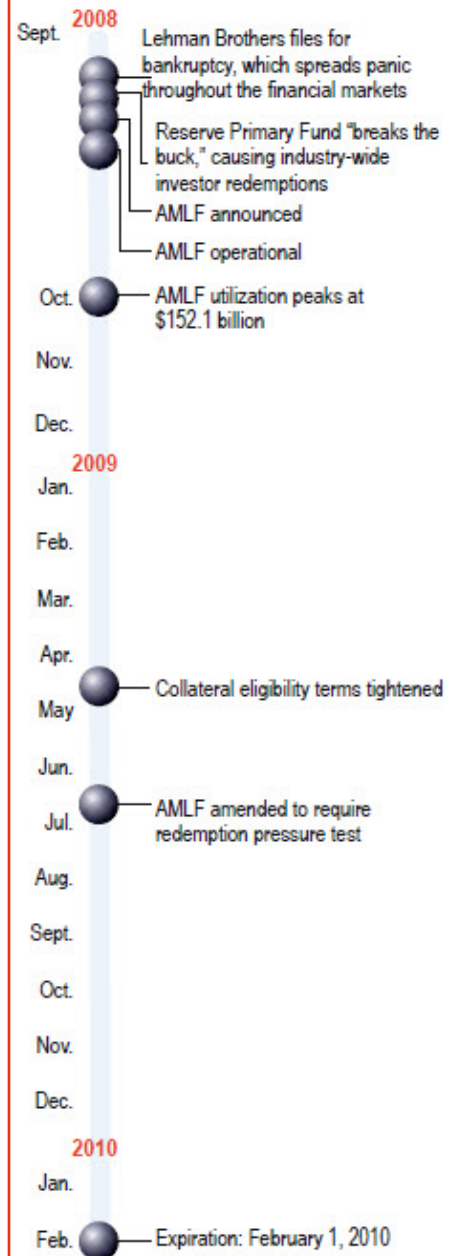
Of the six section 13(3) lending facilities, the AMLF and two other lending facilities, the Commercial Paper Funding Facility (CPFF) and the Money Market Investor Funding Facility (MMIFF), were authorized by the Board to address liquidity strains faced by MMMFs and borrowers in the commercial paper markets, which includes the ABCP market. While the CPFF was intended to provide liquidity in the commercial paper markets, the AMLF and MMIFF were intended to facilitate the sale of assets by MMMFs to increase their liquidity and encourage lending at longer-term maturities.

## How did we get there?

Figure 6-1 highlights the key events in the relevant financial markets and operation of the AMLF.

During 2005 to 2007, the ABCP market experienced significant growth. By early August 2007, the U.S. market had \$1.2 trillion in ABCP outstanding and \$2.2 trillion in total commercial paper outstanding. MMMFs held approximately 40 percent of all commercial paper in 2007. By the end of 2007, decreasing loan growth, lower investor demand for ABCP, and a recessionary economy reduced total ABCP to \$840 billion, with MMMFs holding about 34 percent of that total (about \$285 billion). The financial crisis that intensified in 2008 also impacted the MMMFs. On September 16, 2008, one of the oldest investment funds, the Reserve Primary Fund, “broke the buck” (meaning that the net value of its shares fell below \$1) due to losses from its holdings of Lehman Brothers Holdings, Inc. (Lehman

Figure 6-1. Summary of Key Events in the AMLF Market



Redemption—The return of an investor’s principal in a security, such as a bond, preferred stock, or mutual fund shares, and any interest earned, at or prior to maturity.

Brothers) commercial paper. This event caused widespread concern among investors regarding the creditworthiness of financial institutions, including MMMFs that had invested in financial institutions. As investors reallocated their funds, many MMMFs were put under enormous pressure to meet redemption requests from investors. Concurrently, the markets for commercial paper began to freeze. Asset prices dropped, leading to investors being concerned that they may not recover their investments.

To meet the increased level of investor redemptions, many MMMFs would have been forced to liquidate a considerable amount of assets at steep discounts. Selling assets at these markdowns would have created substantial losses, which likely would have resulted in further loss of investors' confidence and even higher levels of future redemptions, creating a cascading effect in declining asset prices. With \$3.4 trillion in total assets as of October 2008, the failure of an MMMF could have had a systemic impact across the financial markets.

### How did it work?

The AMLF, authorized under section 13(3) of the Federal Reserve Act, was designed to help distressed MMMFs meet redemption requests by enhancing investors' interest in the purchase of ABCP, and thereby fostering liquidity in the ABCP market and money markets in general.<sup>15</sup> It provided non-recourse loans to U.S. depository institutions, U.S. bank holding companies (including U.S. broker-dealer affiliates), and U.S. branches and agencies of foreign banks to purchase eligible ABCP from MMMFs. Since AMLF loans were non-recourse, FRB-Boston would only be able to enforce its rights on the ABCP in the case of default. In April 2009, eligibility criteria were tightened to require no credit ratings lower than **A-1/P-1/F1** and no ABCP identified as on "negative watch" as part of a **Rating Watch** by any major Nationally Recognized Statistical Rating Organization (NRSRO). Prior eligibility criteria only required that ABCP be rated A-1/P-1/F1 by at least two NRSROs. If rated by only one NRSRO, the ABCP must have been rated within that NRSRO's top rating category.

In addition, beginning in June 2009, the ABCP was required to be purchased from a distressed MMMF that was experiencing net redemptions in excess of 5 percent of the fund's value on a given business day or 10 percent in a period of five or less business days. The eligibility of the ABCP and the level of fund redemptions were required to be certified by the borrower and the MMMF's transfer agent (a company employed by the MMMF to maintain shareholder records, including purchases, sales, and account balances), respectively.

A-1/P-1/F1—The highest short-term ratings by NRSROs (Standard & Poor's, Moody's, and Fitch Ratings). The ratings indicate a strong capacity by the issuer to meet its financial commitments.

**Rating Watch**—A formal announcement by a rating agency that a security or issuer rating is being reviewed to determine if the current rating is appropriate. The announcement includes the likely direction of such a change ("positive" indicates a potential upgrade, and "negative" indicates a potential downgrade). However, ratings can be raised or lowered without being placed on Rating Watch first if circumstances warrant such an action.

<sup>15</sup> The AMLF was also authorized under section 10B of the Federal Reserve Act, which authorizes Reserve Banks to make advances to depository institutions.

The ABCP also had to be purchased by the borrower at the MMMF’s amortized cost (the carrying value of the investment in the MMMF’s accounting records). This was done to prevent sales at depressed values from causing another MMMF to “break the buck.” A purchase from the MMMF at amortized cost caused no detriment to remaining MMMF shareholders and, therefore, did not create further incentives for MMMF shareholders to redeem shares and place further liquidity pressure on the MMMFs.

The ABCP served as the collateral for the loan. In order to encourage participation in the AMLF and restore stability in the MMMF and ABCP markets, there was no haircut on the collateral in the loan process.

Figure 6-2 illustrates the overall AMLF operating model, beginning with the MMMF’s sale of ABCP.

The following describes components of the AMLF operating model.

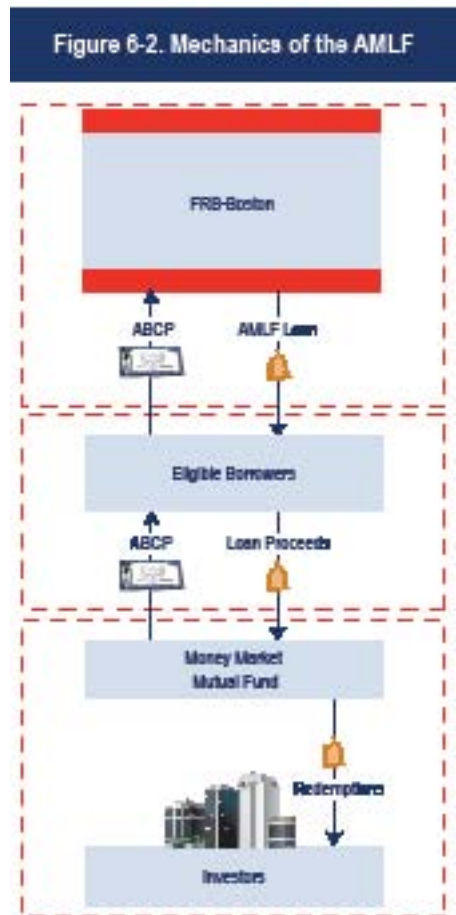
**AMLF Process Flow**

Under the facility, borrowers received AMLF loans to purchase eligible ABCP from an MMMF that was experiencing redemption pressure. Borrowers secured loans from the AMLF through FRB-Boston by pledging eligible ABCP as collateral. The maturity date of the FRB-Boston loan equaled the maturity date of the ABCP used as collateral, but could not exceed 270 days for non-depository institutions and 120 days for depository institutions. According to FRB-Boston officials, credit ratings of ABCP collateral were reviewed daily for signs of any impairment.

**Terms and Conditions of the AMLF**

The following summarizes the terms and conditions of the AMLF at the time of our review. (A comprehensive list of AMLF terms and conditions was available on the FRB-Boston website.)

Element	Description
<b>Standard Terms</b>	<ul style="list-style-type: none"> <li>Only U.S. dollar-denominated ABCP purchased directly from a registered MMMF was accepted as collateral.</li> <li>The loan was non-recourse to the borrower, meaning FRB-Boston ultimately bore the risk of credit loss on the ABCP.</li> <li>In order to be eligible ABCP, the ABCP had to be issued out of a program that was in existence as of September 18, 2008, and actively issuing eligible ABCP directly to market investors on September 18, 2008.</li> <li>ABCP was required to be purchased by the borrower at the MMMF’s amortized cost.</li> <li>An MMMF must have experienced net redemptions exceeding 5 percent of its net assets in a single day or 10 percent over a period of five business days or less, for its ABCP to be eligible for the AMLF.</li> </ul>



Element	Description
<b>Interest Rates</b>	<ul style="list-style-type: none"> <li>The interest rate on the loan was the primary credit rate in effect for FRB-Boston on the day that the loan was made.</li> <li>The interest rate was fixed for the term of the loan.</li> </ul>
<b>Maturity</b>	<ul style="list-style-type: none"> <li>Loans to non-depository institutions were equal to the maturity of the ABCP that was purchased, which could range from overnight to 270 days.</li> <li>For depository institutions, the loans were equal to the maturity of the ABCP that was purchased, which could range from overnight to 120 days.</li> <li>Prepayment of the loan was not allowed except in the event of bankruptcy or receivership of the borrower.</li> </ul>
<b>Collateral Requirements</b>	<ul style="list-style-type: none"> <li>The collateral for the loan was the ABCP purchased by the borrower. In addition, the ABCP was supported by the assets backing the paper.</li> <li>The ABCP was required to be rated not lower than A-1/P-1/F1 and not be identified as on “negative watch” by any NRSRO.</li> <li>Eligible borrowers were not able to pledge extendible ABCP (commercial paper whose term can be extended due to contractual allowances).</li> <li>Collateral valuation was equal to the amortized cost of the eligible ABCP without any haircut on the collateral. MMMFs determined the amortized cost, and the borrowers certified to the purchase of the pledged ABCP at amortized cost as a condition of program participation.</li> </ul>
<b>Eligible Participants &amp; Involved Entities</b>	<ul style="list-style-type: none"> <li>The following types of institutions qualified to borrow under the AMLF: <ul style="list-style-type: none"> <li>U.S. banks</li> <li>U.S. bank holding companies (parent companies or U.S. broker-dealer affiliates)</li> <li>U.S. branches and agencies of foreign banks</li> </ul> </li> </ul>

Since the inception of the facility, the Federal Reserve made some changes to the terms and conditions of the AMLF, including:

### Regulatory Requirements

On January 30, 2009, the Board announced two rules that amended existing banking regulations to facilitate financing ABCP purchases from MMMFs through the AMLF. The changes included:

- A temporary limited exception from the Board’s leverage and risk-based capital rules for bank holding companies (BHCs) and state member banks. Ordinarily, a bank or BHC would be required to hold capital against ABCP, including that purchased from affiliated money market funds. This final rule eliminated any capital requirement for purchases financed under the AMLF, which lowered a bank’s and a BHC’s cost of investment.

- A temporary limited exception from sections 23A and 23B of the Federal Reserve Act, which establish certain restrictions on and requirements for transactions between a bank and its affiliates. Without this exception, a bank would be severely limited in the amount of ABCP it could purchase from an affiliated MMMF.

These two rules were meant to facilitate participation by depository institutions and BHCs as intermediaries between the AMLF and MMMFs, thus increasing the number of eligible AMLF borrowers. The exceptions under the two rules were no longer available once the AMLF expired.

### **Collateral Eligibility**

- Effective April 22, 2009, program guidelines were updated to tighten ABCP eligibility requirements to require that no ABCP could have a rating lower than A-1/P-1/F1 and not be identified as on “negative watch.” Prior to April 22, ABCP eligibility was defined as ABCP not rated lower than A-1/P-1/F1 by at least two NRSROs, or, if rated by only one NRSRO, the ABCP must have been rated within that NRSRO’s top rating category.

### **MMMF Qualification**

On June 25, 2009, program guidelines were amended to require that MMMFs be under significant redemption pressure in order for their ABCP to be eligible for purchase through the AMLF, as discussed earlier (previously, there was no such provision).

- When an MMMF reached the established redemption pressure threshold, net redemptions in excess of 5 percent of the fund’s value on a given business day or 10 percent in a period of five or less business days, ABCP purchased from the fund would be eligible for the AMLF on the following business day, and for the next five days after the threshold was met. At the end of the eligibility period, any ABCP purchased from the MMMF became ineligible for the AMLF unless another redemption threshold was met.
- The transfer agent of the MMMF was required to certify that the net redemption requirement of the AMLF had been reached to make the MMMF’s ABCP eligible.

### **Facility Expiration Date**

The term of the facility was extended three times, in response to continued instability in the financial markets.

- On December 2, 2008, the AMLF was extended through April 30, 2009.
- On February 3, 2009, the AMLF was extended through October 30, 2009.
- On June 25, 2009, the AMLF was extended through February 1, 2010.

### **Financial Reporting**

The results of the AMLF operations were reported on the Federal Reserve’s H.4.1 weekly statistical release, entitled *Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks*. In addition, the Board publishes a monthly *Credit and Liquidity Programs and*

*the Balance Sheet* report, which included additional, detailed information on the AMLF. Both reports are posted on the Board's public website. The income earned by the AMLF was reported as a component of "Interest Income" in the *Federal Reserve Banks Combined Statements of Income and Comprehensive Income*, as well as FRB-Boston's financial statements.

### **How was risk managed?**

To respond quickly to the stressed ABCP and MMMF markets, the AMLF was established under severe time constraints that afforded little opportunity for extensive implementation planning. In order to stabilize the financial markets, the Federal Reserve provided broad eligibility for the AMLF loans across banks, BHCs (including U.S. broker-dealer affiliates), and U.S. branches and agencies of foreign banks. Since AMLF loans were extended to these borrowers to buy the ABCP from MMMFs, AMLF terms and conditions needed to be structured to attract the borrowers to take the loans, which carried risk for the Federal Reserve. In addition, the AMLF operational policies and procedures had to be developed quickly, were based on the market stress conditions at the time, and were not designed to address changes in risk that could occur as market conditions improved.

To attract the borrowers to purchase the ABCP using AMLF financing, the Federal Reserve did not impose haircuts on the collateral—that is, loans were provided for the full value of the collateral at its amortized cost rather than requiring a higher collateral value than the loan that would reflect the credit risk of the collateral asset(s) and the market in which it was traded. This exposed the Federal Reserve to credit risk. In general, collateral assets with lower credit ratings, longer maturities, and less liquidity would typically have higher haircuts than assets with higher credit ratings and shorter maturities that are more liquid. Further, AMLF loans were provided without recourse to the assets of the borrowers in the case of default, which entailed additional risk.

To mitigate these credit risks while providing broad AMLF loan eligibility to stabilize the ABCP and MMMF markets, the Federal Reserve required the ABCP to be highly rated. The original AMLF terms and conditions required that ABCP had to be rated A-1/P-1/F1 by at least two NRSROs, or, if rated by only one NRSRO, the ABCP must have been rated within that NRSRO's top rating category. The terms were tightened in April 2009, to require ratings no lower than A-1/P-1/F1 and no ABCP identified as on "negative watch." In addition, the ABCP was secured by underlying assets, and interest was charged on the AMLF loan at the primary credit rate. Also, AMLF policies and procedures were changed to restrict eligibility as the ABCP and MMMF stresses subsided, as discussed below.

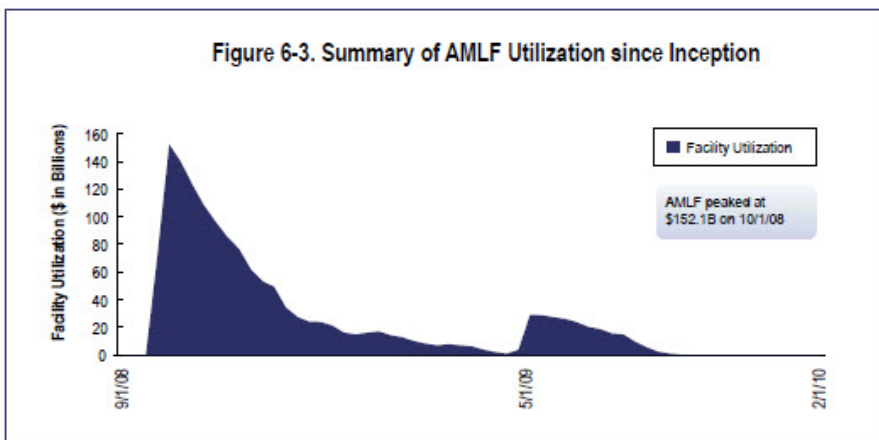
Operationally, the AMLF's original policies and procedures were established quickly to address the financial crisis in the ABCP market that led to MMMF redemptions, and were not designed to address changes in risk that could occur as market conditions improved. Based on the severe market stress

conditions that existed at the time and the pressure of investor redemption demands on the MMMFs, the AMLF terms did not specifically require that the ABCP be purchased solely from MMMFs experiencing material “redemption pressure.” After utilization of the facility had declined significantly, FRB-Boston staff observed that some of the borrowers and MMMFs may have been continuing to use the facility in anticipation of possible ABCP issuer downgrades under the bank stress tests (discussed below) that could have made the ABCP ineligible. In June 2009, the Board changed the terms of the program to add a redemption provision requiring that ABCP must be purchased from MMMFs demonstrating material redemption pressures—net asset loss of 5 percent in a single day or at least 10 percent for a period of five business days or less—for eligibility under the AMLF.

### Did it have an impact?

#### **Facility Utilization**

After initiation of the program, the AMLF escalated to a peak utilization of \$152.1 billion on October 1, 2008. As depicted in Figure 6-3, use of the AMLF tapered off thereafter as funding markets gradually stabilized and MMMF redemption pressures subsided. According to FRB-Boston officials, the AMLF experienced a moderate increase in utilization around May 2009, coinciding with the U.S. government’s pending release of its Supervisory Capital Assessment Program (also known as bank stress test) results, which could have resulted in ABCP issuer downgrades and, thus, ineligibility of certain ABCP to the AMLF.<sup>16</sup> The facility expired on February 1, 2010.



<sup>16</sup> The Supervisory Capital Assessment Program was an interagency (the Board, the Department of the Treasury, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency) evaluation completed during the spring of 2009 to determine if the largest U.S. banking organizations had sufficient capital to withstand the impact of a “more adverse” economic environment.

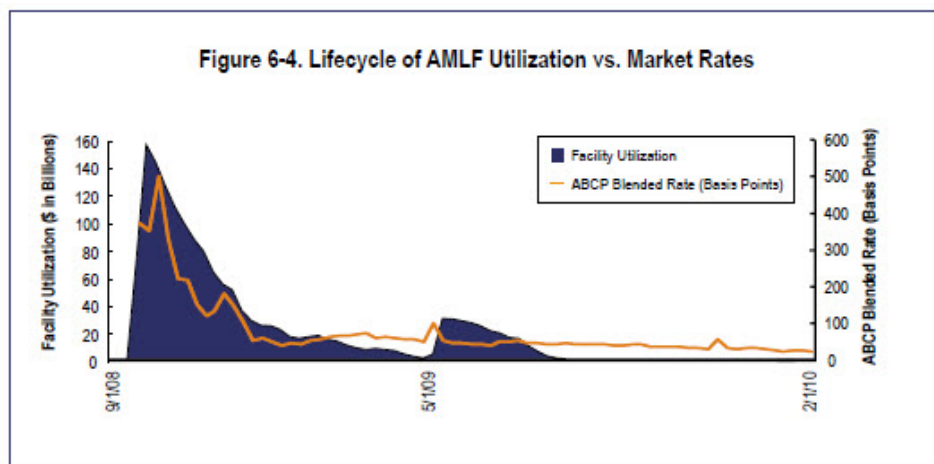


### **Financial Review of the Facility**

According to the Federal Reserve, the operation of the AMLF generated \$543 million in interest, and all loans were repaid. The Board reported that improving market conditions as well as limiting eligible collateral to highly rated ABCP, which was supported by assets backing the commercial paper, contributed to the absence of losses in the AMLF.

### **Market Impact Analysis**

While it is difficult to determine the specific impact of the AMLF on the markets, market data suggested that the AMLF helped to restore liquidity to the ABCP markets and, thereby, assisted MMMFs in meeting redemption demands. Figure 6-4 shows that AMLF utilization coincided with a reduction in the ABCP blended rate, signaling improvement in short-term markets.<sup>17</sup> By providing non-recourse loans, the AMLF provided attractive loans, from a risk and capital perspective, to eligible borrowers, who used the funds to invest in ABCP owned by MMMFs, providing liquidity to the MMMFs that reduced their redemption concerns and fostered liquidity in the money markets in general.



<sup>17</sup> The ABCP blended rate is the weighted average of AA-rated ABCP rates for maturities ranging from overnight through 90 days, weighted by the volume of issuances during the time period, as reported by the Board.

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**Section 7**      **Commercial Paper  
Funding Facility  
(CPFF)**

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# Commercial Paper Funding Facility

## At a Glance

Announced on October 7, 2008, the Commercial Paper Funding Facility (CPFF) was intended to increase the liquidity of the commercial paper markets and provide an immediate funding source for companies, allowing them to continue to finance day-to-day operations, such as payroll, purchasing, and lending. (Commercial paper is a short-term debt instrument issued by companies to meet short-term financing needs.) Due to instability in the commercial paper market during 2007 and 2008, companies experienced limited access to reasonably priced, short-term funding, putting enormous strain on their ability to finance operations. As a step toward unfreezing credit markets and ensuring short-term market liquidity, the Board authorized the CPFF to provide liquidity to the commercial paper markets. Authorized under section 13(3) of the Federal Reserve Act, the CPFF was structured using a special purpose vehicle (SPV). (An SPV is a separate legal entity used for the acquisition and financing of assets.) The Federal Reserve Bank of New York (FRB-NY) provided loans to the SPV on a recourse basis. The SPV used the funds to purchase eligible three-month, unsecured commercial paper and asset-backed commercial paper (ABCP) from eligible issuers.

Commercial Paper Funding Facility (CPFF) Overview (as of June 30, 2010)	
<b>Announcement Date</b>	October 7, 2008
<b>Operational Date</b>	October 27, 2008
<b>Expiration Date</b>	February 1, 2010
<b>Current Utilization</b>	No outstanding loans
<b>Peak Utilization</b>	\$348.2 billion January 21, 2009
<b>Participants</b>	U.S. commercial paper issuers
<b>Collateral</b>	Commercial paper
<b>Managed by</b>	Federal Reserve Bank of New York (FRB-NY)
<b>Loan Term</b>	Three months

## Utilization Summary

On January 21, 2009, the CPFF reached peak utilization of \$348.2 billion in outstanding loans. At the end of January 2009, as the first wave of commercial paper purchased by the CPFF matured, the facility's utilization dropped by approximately \$100 billion. Subsequently, the facility's utilization steadily decreased. Although the facility expired February 1, 2010, its remaining commercial paper holdings did not mature until April 26, 2010.

While it is difficult to assess the specific, direct impact of the CPFF on the commercial paper market, market data suggested that CPFF helped to stabilize commercial paper market funding. After its initiation, the CPFF became a significant investor in the market, at one time representing approximately 22 percent of the commercial paper market. The CPFF gave commercial paper market participants access to liquidity that allowed them to sell commercial paper at a lower cost than was feasible in a very stressed market. Further, it provided this liquidity at above normal market cost and with utilization fees that motivated issuers to fund commercial paper in the private markets, as soon as market conditions improved and lower cost private financing was available to issuers. Commercial paper rates decreased significantly after the CPFF was implemented.



# Detailed Overview of the CPFF

## What was it?

The CPFF, which was funded and managed by FRB-NY, provided liquidity to the commercial paper markets as a step toward unfreezing credit markets and ensuring short-term market liquidity. Authorized under section 13(3) of the Federal Reserve Act, the CPFF was structured using an SPV. The SPV purchased eligible three-month unsecured commercial paper and ABCP from eligible issuers using financing provided by FRB-NY. The SPV held the commercial paper until maturity and used the proceeds from maturing commercial paper and other assets of the SPV to repay its loans from FRB-NY.

Of the six section 13(3) lending facilities, the CPFF, the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), and the Money Market Investor Funding Facility (MMIFF) were authorized by the Board to address liquidity strains faced by money market mutual funds (MMMFs) and borrowers in the commercial paper markets. While the CPFF was intended to provide liquidity in the commercial paper markets, the AMLF and the MMIFF were intended to facilitate the sale of assets by MMMFs to increase their liquidity and encourage lending at longer-term maturities.

## How did we get there?

Figure 7-1 highlights the key events in the relevant financial markets and operation of the CPFF.

From 2005 to 2007, the commercial paper market experienced dramatic growth, especially ABCP, which grew by 69 percent. Commercial paper is an important funding source for large companies and generally carries low risk due to its short duration (on average, less than 30 days) making it easier to assess the ability of the issuer to meet its obligation. Also, most issuers are large companies with strong credit ratings. For unsecured commercial paper, the primary risk is a negative event that threatens the viability of an issuing company's business. For ABCP, the primary risk is a significant decrease in the value of the underlying assets of the ABCP, such as higher-than-expected mortgage defaults.

After peaking in mid-2007 at \$2.2 trillion, the commercial paper market shrank significantly. When the credit crisis and declining housing market started to unfold in the summer of 2007, asset-backed securities tied to subprime mortgages were a key area of weakness within the financial markets, which caused the rates on related ABCP to increase. Concerns about exposure to mortgage assets also negatively impacted companies' ability to issue unsecured commercial paper. Disruptions to commercial paper markets became more severe and widespread after the bankruptcy of Lehman Brothers Holdings, Inc. (Lehman

Figure 7-1. Summary of Key Events in the CPFF Market



Brothers). Between September 10, 2008, and October 22, 2008, the commercial paper market declined by \$325 billion to \$1.43 trillion, essentially shrinking by about one-fifth. In addition to the reduction of total outstanding commercial paper, the maturity of issued commercial paper also shortened over this timeframe. Only the most trusted institutions were able to issue commercial paper beyond a few days at favorable rates, and many firms had to reissue their paper on a daily basis. At the height of the credit crisis, even highly rated institutions were unable to reissue their commercial paper for longer than overnight, which increased costs to obtain funding. In addition, shorter maturities increased the risk that the issuer might not be able to find investors willing to roll over its maturing, outstanding paper, even at very high rates. To alleviate strain in the commercial paper markets, the Board authorized the CPFF.

### How did it work?

The CPFF supported the commercial paper markets by providing a liquidity backstop to U.S. issuers of commercial paper. The CPFF was established as an SPV that was a limited liability company (LLC) authorized by the Board and created by FRB-NY to operate the CPFF and maintain its assets. FRB-NY was responsible for funding, facility management, and oversight. The SPV purchased and held the commercial paper until maturity and used the proceeds from maturing commercial paper and other assets of the SPV to repay its loan from FRB-NY. The CPFF SPV paid the maximum of the target federal funds rate range to FRB-NY; this rate was set at loan origination and remained fixed through the term of the loan. FRB-NY's loans to the CPFF SPV were made with full recourse to the SPV and were secured by all the assets of the SPV. In situations where the obligations acquired by the SPV were ABCP, the FRB-NY loans also were secured by the assets that support the commercial paper. However, the loans were not made with recourse to the assets of the issuers. To cushion against potential losses, the CPFF SPV retained all fee income, such as the facility fees, and unsecured credit surcharges paid by borrowers. The maximum amount of commercial paper that could be financed by the CPFF SPV was estimated at approximately \$1.8 trillion, which was based on eligible issuers' outstanding commercial paper between January and August 2008. Individual issuer limits were established to ensure the CPFF acted only as a liquidity backstop.

An important part of the CPFF structure was the use of vendors to assist in various CPFF operations. Pacific Investment Management Company LLC (PIMCO) performed **transaction agent** functions and investment management services, and State Street Bank & Trust Company performed custodial and administrative services. As a transaction agent, PIMCO interacted with the issuers, the primary dealers, and the custodian to review and process proposed sales of commercial paper to

Transaction Agent—An individual or firm authorized to act on behalf of another (called the principal), such as by executing a transaction.

the CPFF. PIMCO was also responsible for daily monitoring of CPFF credit risk, and developed a four-tiered rating system that supported FRB-NY's internal collateral valuation and credit risk monitoring processes. FRB-NY was responsible for risk control, monitoring credit exposure, impairment estimates, and mitigation strategies.

Figure 7-2 illustrates the CPFF operating model, beginning with the commercial paper issuer's request to the primary dealer.

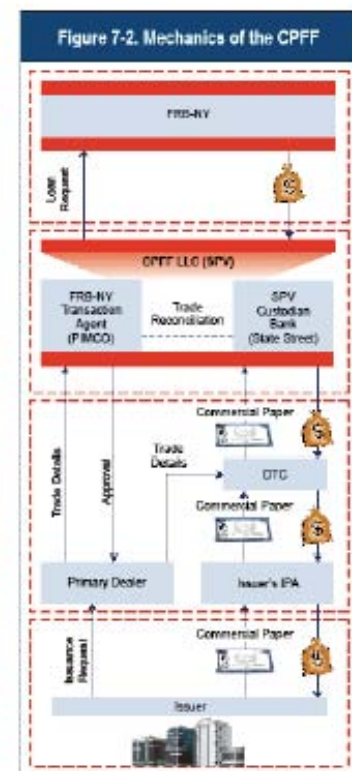
The following describes the various components of the CPFF operating model.

### **CPFF Process Flow**

The CPFF SPV received its funding directly from FRB-NY in the form of loans. Issuers requested access to the CPFF by contacting their respective primary dealer, who informed PIMCO of the request. Once PIMCO determined that the issuer and the collateral met CPFF eligibility requirements, PIMCO initiated the commercial paper purchase process by notifying FRB-NY of the need for a loan to the SPV. On behalf of the SPV, FRB-NY sent the loan proceeds to the custodian bank. Meanwhile, the issuer's new commercial paper was issued to the issuing/paying agent's (IPA's) account at the **Depository Trust Company (DTC)**. The SPV's custodian bank then used the loan proceeds to purchase the commercial paper in the DTC from the IPA. The IPA provided the funds to the issuer, and the custodian bank held the commercial paper for the SPV until maturity. PIMCO also provided periodic collateral valuation reports to FRB-NY. Once the commercial paper matured, the SPV used the proceeds from the commercial paper and other assets to repay its loan to FRB-NY.

### **Terms and Conditions of the CPFF**

The following summarizes the terms and conditions for the CPFF at the time of our review. (A comprehensive list of CPFF terms and conditions was available on the FRB-NY website.)



Depository Trust Company (DTC)—An organization that provides clearing and settlement services for securities, institutional trades (which typically involve money and securities transfers between custodian banks and broker-dealers), and money market instruments.



Element	Description
<b>Standard Terms</b>	<ul style="list-style-type: none"> <li>• CPFF SPV purchases were limited to three-month term, U.S. dollar-denominated commercial paper directly from eligible issuers.</li> <li>• Commercial paper purchased was discounted, based on a rate equal to a spread over the three-month overnight indexed swap (OIS) rate on the day of purchase.</li> <li>• If collateral was ABCP, the loans were also secured by the underlying assets.</li> <li>• To ensure that the CPFF only acted as a liquidity backstop and not as a substitute for other funding sources, the CPFF placed restrictions on the amount of commercial paper it could buy from any one issuer. The maximum amount that the CPFF SPV could own at any one time from any issuer could not exceed the greatest amount of U.S. dollar-denominated commercial paper the issuer had outstanding on any day between January 1, 2008, and August 31, 2008. The CPFF SPV also could not purchase additional commercial paper from an issuer whose total commercial paper outstanding to all investors, including the CPFF SPV, equaled or exceeded the issuer's maximum limit amount.</li> </ul>
<b>Interest Rates</b>	<ul style="list-style-type: none"> <li>• Issuers of unsecured commercial paper paid an interest rate of the three-month OIS rate plus 100 basis points.</li> <li>• Issuers of ABCP purchased by the CPFF SPV paid an interest rate of the three-month OIS rate plus 300 basis points.</li> <li>• All interest rates were published daily on FRB-NY's website.</li> </ul>
<b>Fees</b>	<ul style="list-style-type: none"> <li>• Issuers registering for the program were also required to pay a non-refundable facility fee of 10 basis points of the issuer's maximum issuance amount to the CPFF SPV. For example, if an issuer could sell a maximum of \$500 million in commercial paper to the CPFF SPV, its commitment fee upon registration to the CPFF would be \$500,000.</li> <li>• Unsecured credit surcharge: Issuers of unsecured commercial paper to the CPFF were also required to pay up front a 100 basis point per annum fee on each sale of commercial paper to the SPV.</li> </ul>
<b>Collateral Requirements</b>	<ul style="list-style-type: none"> <li>• The CPFF was limited to purchases of three-month term, U.S. dollar-denominated commercial paper issued by a U.S. issuer.</li> <li>• The commercial paper was required to be rated at least A-1/P-1/F1 by one or more of the Nationally Recognized Statistical Rating Organizations (NRSROs).</li> <li>• If the commercial paper had been rated by more than one NRSRO, then the commercial paper was required to be rated at least A-1/P-1/F1 by at least two NRSROs.</li> <li>• The CPFF SPV was not able to purchase extendible commercial paper, which is commercial paper with a term that can be extended due to contractual allowances.</li> <li>• Interest-bearing commercial paper was not eligible.</li> </ul>

Element	Description
<b>Eligible Participants &amp; Involved Entities</b>	<ul style="list-style-type: none"> <li>• Only U.S. issuers and co-issuers of commercial paper were eligible to participate in the CPFF, including U.S. issuers with a foreign parent and U.S. branches of foreign banks. Each legal entity that issued commercial paper was considered a separate “issuer,” thus a parent company and its subsidiaries could each issue to the CPFF SPV if each of them was an eligible issuer.</li> <li>• The CPFF SPV would buy commercial paper directly from issuers only, not investors.</li> </ul>

Since the inception of the facility, the Federal Reserve made some changes to the terms and conditions of the CPFF, as described below:

#### **Issuer Eligibility**

On January 23, 2009, the terms and conditions of the CPFF were revised to make issuers of ABCP that were inactive prior to the creation of the CPFF ineligible to participate in the CPFF.

#### **Facility Expiration Date**

Since inception, the facility was extended twice due to continued instability in the commercial paper market:

- On February 3, 2009, the term of the CPFF was extended to October 30, 2009.
- On June 25, 2009, the term of the CPFF was extended to February 1, 2010.

#### **Financial Reporting**

The results of the CPFF operations were reported on the Federal Reserve’s H.4.1 weekly statistical release, entitled *Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks*. The H.4.1 also contained information on the value of the collateral and the net holdings of the CPFF SPV, which secured FRB-NY’s loans to the SPV. In addition, the Board publishes a monthly *Credit and Liquidity Programs and the Balance Sheet* report, which included additional, detailed information on the CPFF. These reports are available on the Board’s public website. The income related to CPFF has been reported as “Investments Held By Consolidated Variable Interest Entities” in the *Federal Reserve Banks Combined Statements of Income and Comprehensive Income*, as well as in FRB-NY’s consolidated financial statements. The CPFF SPV also has separate financial statements, which have been audited by Deloitte & Touche LLP, an independent public accounting firm.

### How was risk managed?

In response to the financial crisis in the commercial paper market, the CPFF was developed quickly to provide immediate liquidity to companies to enable them to continue to fund day-to-day operations, which afforded little opportunity for extensive implementation planning. To stabilize the commercial paper markets, the Federal Reserve provided broad eligibility for the commercial paper that could be purchased by the CPFF across many companies. Although the commercial paper was required to be highly rated, FRB-NY did not (1) specifically provide formal differentiation of loan terms and conditions based on the strength and capitalization of individual borrowers, and (2) formally and systematically use Federal Reserve supervisory information throughout the program to evaluate the credit risk of eligible CPFF borrowers that were financial institutions. This exposed the Federal Reserve to credit risk. In addition, an important part of the CPFF structure was the use of vendors with specialized expertise to perform mission critical operations, such as PIMCO, which provided investment management and transaction agent services, and State Street Bank & Trust, which provided custodial and administrative services. Vendor contracts introduce certain risks, such as the risk that the vendors will not (1) comply with all contract provisions; (2) provide the quantity and quality of services required, at the best value; and (3) protect against conflicts of interest. For example, CPFF vendors were operating entities in the commercial paper and investment markets and had clients who were eligible to participate in the CPFF.

To mitigate credit risk, the Board specified a number of terms and conditions that focused on ensuring adequate collateral to protect against potential financial loss. The Board required the commercial paper collateral for loans to be highly rated, created an SPV to acquire and manage the collateral, charged interest rates and facility fees, and established loan limits that were tied to commercial paper volumes. Additional safeguards were provided through loan terms and conditions that provided recourse to the SPV's assets in the case of loan default, and the ability to reduce loan limits for specific commercial paper issuers, as needed, to reduce risk exposure. Also, risk was mitigated by analysis of CPFF borrowers and collateral monitoring performed by PIMCO, which had specialized expertise in credit risk analysis and knowledge of the commercial paper markets.

To mitigate contracting risks, FRB-NY CPFF staff and internal auditors performed an on-site review of PIMCO's compliance with contract provisions. In addition, FRB-NY put in place conflict of interest contract provisions for each of its CPFF vendors. Contractual conflict of interest provisions are used to protect professional or public interests from actions that instead benefit a contracted vendor, its employees, or its clients. FRB-NY staff reviewed conflict of interest provisions and, at the time of our

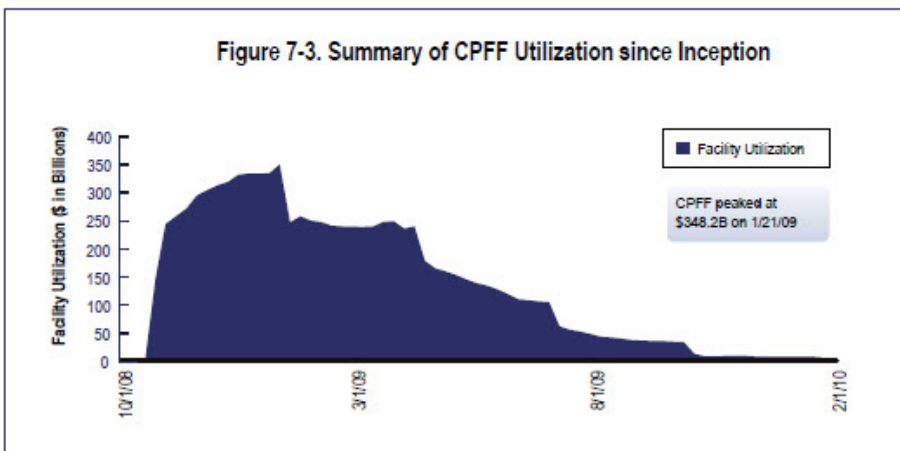
review, a third-party vendor, under contract with FRB-NY's Legal group, was performing a conflict of interest review and testing compliance with contract provisions.

## Did it have an impact?

### **Facility Utilization**

On January 21, 2009, the CPFF reached a peak utilization of \$348.2 billion. At the end of January 2009, as the first wave of commercial paper purchased by the CPFF SPV matured, the facility's utilization dropped by approximately \$100 billion. Private investors began purchasing reissued commercial paper in an improved market. Subsequently, the facility's utilization steadily decreased. Although the facility expired on February 1, 2010, its remaining commercial paper holdings did not mature until April 26, 2010.

Figure 7-3 illustrates the utilization of the CPFF since inception.



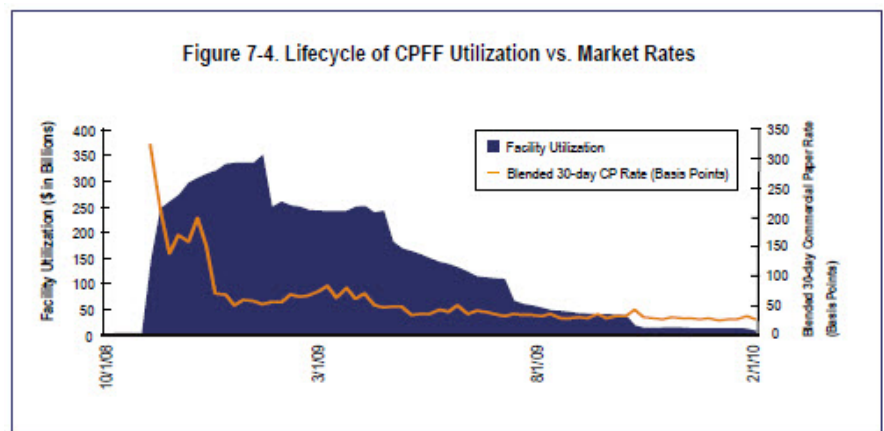
### **Financial Review of the Facility**

According to FRB-NY, the operations of the CPFF SPV generated \$6.112 billion in interest income and usage fees and the commercial paper purchased by the CPFF SPV experienced no defaults, as well as few downgrades. The Board reported that there were no losses on CPFF operations.

### **Market Impact Analysis**

After its start, the CPFF played a significant role in the market, at one time representing approximately 22 percent of the commercial paper market. The CPFF gave commercial paper issuers access to a liquidity "backstop" that allowed them to sell commercial paper at a lower cost than was feasible in a very stressed market. Further, it provided this liquidity at above normal market cost and with utilization fees that motivated issuers to fund commercial paper in the private markets, as soon as market

conditions improved and lower cost private financing was available to issuers. It may also have been a source of 2008 year-end financing for financial firms. As illustrated in Figure 7-4, the introduction of the CPFF coincided with a decline in commercial paper rates.<sup>18</sup> While commercial paper rates may have decreased for a number of reasons, such as the decreased federal funds rate and declining investor concerns as to corporate defaults, market data suggested that the presence of the CPFF helped to stabilize commercial paper market funding. Investors buying CPFF-eligible commercial paper knew the issuer could reissue its commercial paper to the CPFF SPV, if necessary, and repay the investor, thereby calming the financial markets and leading to a significant decline in facility utilization over time.



<sup>18</sup> The blended 30-day commercial paper (CP) rate is the weighted average (by issuance volume) of the interest rates for 30-day maturity, AA-rated financial & non-financial CP and ABCP, and A2/P-2 rated non-financial CP, as reported by the Board.

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**Section 8**

**Money Market  
Investor Funding  
Facility (MMIFF)**

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# Money Market Investor Funding Facility

## At a Glance

Announced on October 21, 2008, the Money Market Investor Funding Facility (MMIFF) was intended to restore confidence and liquidity in the money markets, which are critical to the short-term financing needs of businesses. Money market mutual funds (MMMFs) are an important component of the money markets.

During the fall of 2008, hundreds of billions of dollars were withdrawn from MMMFs, and more than 100 MMMFs lost a substantial amount of assets over a short period of time due to investor redemptions. These redemptions placed considerable pressure on the liquidity of the MMMFs, and many MMMFs reacted by shortening the maturity of their portfolio holdings. By their reluctance to invest in anything but the shortest-term instruments, MMMFs put great stress on financial institutions and businesses that relied on MMMFs to purchase their commercial paper. As a result, the percentage of outstanding money market instruments issued on an overnight basis increased significantly, which adversely impacted the ability of financial institutions to make loans and extend credit to businesses and households. By authorizing the MMIFF, the Federal Reserve sought to improve money market conditions and enhance the ability of banks and other financial intermediaries to accommodate the credit needs of businesses and households.

Under the MMIFF, the Federal Reserve Bank of New York (FRB-NY) was to provide funding to a series of special purpose vehicles (SPVs) established by the private sector to finance the purchase of certain money market instruments from eligible investors. The MMIFF was to be 90 percent funded by FRB-NY's loans, with an authorized limit of \$600 billion in assets, resulting in a maximum potential exposure of \$540 billion for the Federal Reserve. FRB-NY's loans under the MMIFF were to be fully collateralized by the assets of the SPVs, and investors using the facility would have absorbed approximately the first 10 percent of any losses incurred.

## Utilization Summary

The MMIFF expired on October 30, 2009, and was never utilized. Given the lack of utilization, it is difficult to assess the impact of the MMIFF on the money markets. However, the mere existence of the MMIFF may have provided investors with additional assurance about holding securities with longer-term maturities and, thus, had a positive effect on the money markets.

Money Market Investor Funding Facility (MMIFF)	
Overview (as of June 30, 2010)	
<b>Announcement Date</b>	October 21, 2008
<b>Operational Date</b>	November 24, 2008
<b>Expiration Date</b>	October 30, 2009
<b>Current Utilization</b>	No outstanding loans
<b>Peak Utilization</b>	\$0
<b>Participants</b>	U.S. money market mutual funds (MMMFs) and certain other money market investors
<b>Collateral</b>	Certificates of deposit (CDs), bank notes, and commercial paper
<b>Managed by</b>	Federal Reserve Bank of New York (FRB-NY)
<b>Loan Term</b>	90 days or less





## Detailed Overview of the MMIFF

### What was it?

With the MMIFF, the Federal Reserve sought to restore confidence and liquidity in the money markets, which are critical to the short-term financing needs of U.S. businesses. By facilitating sales of money market instruments in the **secondary market**, the MMIFF was intended to reassure MMMFs and other money market investors that they could buy longer-term (maturity up to 90 days) investments and still maintain appropriate liquidity positions to meet immediate redemption demands by investors. Greater access to longer-term financing from money market investors enhances the ability of banks and other financial intermediaries to accommodate the credit needs of businesses and households.

The Board authorized three lending programs to address liquidity strains faced by MMMFs and borrowers in the commercial paper markets—the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), the Commercial Paper Funding Facility (CPFF), and the MMIFF. CPFF was intended to provide liquidity in the commercial paper markets. Both the AMLF and the MMIFF were intended to facilitate the sale of assets by MMMFs to increase their liquidity and encourage lending at longer-term maturities; however, the MMIFF would have facilitated the sale of a different, broader set of assets than the AMLF (that is, money market instruments versus only asset-backed commercial paper (ABCP)).

The MMIFF was designed to provide funding to SPVs established by the private sector. The private sector SPVs had an authorized limit of \$600 billion in assets. The MMIFF was to be 90 percent funded through FRB-NY loans to the private sector SPVs, resulting in a maximum potential exposure of \$540 billion for the Federal Reserve. The remaining 10 percent was to be funded by the private sector SPVs' issuance of highly rated ABCP to the sellers of the money market instruments.

### How did we get there?

Figure 8-1 highlights the key events in the relevant financial markets and operation of the MMIFF.

MMMFs are large investment funds that seek to limit investors' exposure to losses due to various types of risk (such as credit, market, and liquidity) by investing only in highly rated, short-term debt instruments, such as U.S. government securities and highly rated commercial paper. Traditionally, MMMFs are supposed to be very safe, liquid investments and, therefore, are often used by financial institutions to invest money that is not currently loaned to consumers. U.S. MMMFs are an important component of the financial markets. It

Figure 8-1. Summary of Key Events in the MMIFF Market



**Secondary Market**—The secondary market, also known as the aftermarket, is where previously issued securities and financial instruments, such as stocks, bonds, options, and futures, are bought and sold. The primary market refers to the market for newly-issued securities.

Certificate of Deposit (CD)—A savings certificate entitling the bearer to receive interest. A CD bears a maturity date, has a specified fixed interest rate, and can be issued in any denomination. CDs are generally issued by commercial banks and are insured by the Federal Deposit Insurance Corporation up to \$250,000. The term of a CD generally ranges from one month to five years.

has been estimated that the value of assets held in U.S. MMMFs grew from \$180 billion in 1983 to \$3.9 trillion as of 2009, which accounted for 20 percent of the liquid cash balances of households and more than 30 percent of the short-term assets of non-financial businesses.

MMMFs are major investors in the commercial paper and repurchase agreements markets. In the fall of 2008, as the commercial paper and other financial markets came under duress, secondary markets for MMMFs' assets came under considerable strain. As investors began to favor very short-term (frequently overnight) instruments, MMMFs had difficulty selling assets with a longer term in the secondary market. MMMFs offer shares that are payable on demand, but hold assets that typically mature over the course of weeks, such as **certificates of deposit (CDs)**, bank notes, and commercial paper. This characteristic of MMMFs makes them vulnerable to investor "runs," much like banks (that is, investors may quickly remove their investments, leaving the fund with insufficient positive cash flow). However, unlike banks, MMMFs do not have federal deposit insurance to make investors less likely to withdraw their investments.

During the fall of 2008, investors redeemed hundreds of billions of dollars from MMMFs, and more than 100 MMMFs lost a substantial amount of assets over a short period of time due to redemptions. These redemptions placed considerable pressure on the liquidity of the MMMFs. To ensure that they had adequate liquidity to meet redemptions, many MMMFs took actions to shorten the maturity of their portfolio holdings. By their reluctance to invest in long-term instruments, MMMFs put great stress on financial institutions and businesses that relied on MMMFs to purchase their commercial paper. The percentage of outstanding money market instruments issued on an overnight basis increased significantly, which impacted the available liquidity for financial institutions to make loans and extend credit to businesses and households. By authorizing the MMIFF, the Board sought to improve money market conditions and enhance the ability of banks and other financial intermediaries to accommodate the credit needs of businesses and households.

### How did it work?

The MMIFF was authorized under section 13(3) of the Federal Reserve Act to support a private sector initiative designed to provide liquidity to U.S. money market investors. It would have done so through a series of private SPVs established to finance the purchase of specific assets from investors. MMMFs could have sold certain assets (such as commercial paper and CDs) that satisfied eligibility and certain ratings criteria to a private SPV. Each private SPV would have financed its purchases of eligible assets by borrowing 90 percent of the assets' value from FRB-NY. The private SPV also would issue subordinated ABCP to the seller of the eligible asset equal to 10 percent of the asset's value. Eligible assets

were required to be cleared by the Depository Trust Company (DTC) and have remaining maturities of at least 7 days and no more than 90 days.

As the structuring and referral agent for MMIFF, J.P. Morgan Securities was to solicit sales and determine asset quality on behalf of five private SPVs. Each SPV was to purchase only debt instruments issued by 10 designated financial institutions, which meant that debt instruments from 50 different financial institutions were eligible to be sold to the private SPVs. The 50 financial institutions were chosen because they were among the largest issuers of highly rated, short-term liabilities held by MMMFs, provided geographic diversification, and met certain short-term debt-rating criteria. The debt instruments of a financial institution could not constitute more than 15 percent of the assets of its assigned SPV, except during an initial ramp-up period when the concentration limit could be 20 percent. The SPV was to use proceeds from investments to first repay any loans from FRB-NY, and then to repay ABCP issued to sellers. Any remainder was to be remitted to FRB-NY.

Figure 8-2 illustrates the MMIFF operating model, beginning with the sale of eligible money market instruments to the SPV.

The following describes the various components of the MMIFF operating model.

### **MMIFF Process Flow**

FRB-NY was to provide senior-secured funding (that is, FRB-NY would be the first party to be repaid) to the five private SPVs to finance the purchase of specific types of money market instruments (CDs, bank notes, and commercial paper) from eligible investors. Eligible investors included MMMFs, as well as certain investment funds and certain reinvestment funds, accounts, or portfolios associated with securities lending transactions that were managed or owned by a U.S. bank, insurance company, pension fund, trust company, Securities and Exchange Commission (SEC) registered investment advisor, or, for investment funds, a state or local government entity. The SPVs were to purchase assets for 90 percent of amortized cost (the carrying value of the investment in the MMMF's accounting records) and issue the sellers ABCP for the remaining 10 percent of the asset value. The private SPVs were to hold the assets until they matured, and use the proceeds to first repay the FRB-NY loan and then the ABCP held by the seller. As the ABCP issued by the SPV was subordinated to the FRB-NY loan, the first 10 percent of any losses incurred by the SPV were to be absorbed by holders of the ABCP.

Figure 8-2. Mechanics of the MMIFF



### **Terms and Conditions of the MMIFF**

The following summarizes the terms and conditions for the MMIFF at the time of our review. (A comprehensive list of MMIFF terms and conditions was available on the FRB-NY website.)

Element	Description
<b>Standard Terms</b>	<ul style="list-style-type: none"> <li>• FRB-NY was to provide senior-secured funding to a series of five SPVs established by the private sector to finance the purchase of certain money market instruments from eligible investors.</li> <li>• Each private sector SPV was to finance its purchases of eligible assets with funding from FRB-NY and by issuing ABCP to the seller.</li> <li>• Each asset sold to each SPV was required to have a minimum value of \$250,000.</li> <li>• Assets were required to have a rate of 60 basis points above the primary credit rate at the time of purchase by the SPV, and the issuing institution was required to have a short-term debt rating of at least A-1/P-1/F1 from two or more Nationally Recognized Statistical Rating Organizations (NRSROs).</li> <li>• Under the MMIFF, FRB-NY's loans were to be collateralized by the assets of the borrowing SPV, and with recourse to the SPV.</li> <li>• There were no limits per eligible investor; the MMIFF did not limit how much a single investor could sell to an SPV.</li> <li>• The debt instruments of a financial institution could not constitute more than 15 percent of the assigned SPV's assets, except during an initial ramp-up period when the concentration limit could be 20 percent.</li> <li>• The SPVs were authorized, in total, to purchase a maximum amount of \$600 billion in eligible assets. Since FRB-NY would provide 90 percent of the financing of the SPVs, Federal Reserve lending could have reached \$540 billion.</li> <li>• Rate of return for ABCP: eligible investors were to sell eligible assets to the SPVs at amortized cost. Investors would initially earn an interest rate on the ABCP they received that was at least 25 basis points below the interest rate on the assets they sold.</li> </ul>

Element	Description
<b>Interest Rates</b>	<ul style="list-style-type: none"> <li>FRB-NY was to lend to each SPV, on a senior-secured basis, 90 percent of the purchase price of each eligible asset. The SPVs were to hold the eligible assets until they matured, and proceeds from the assets would be used to repay the FRB-NY loan and the ABCP. FRB-NY was to lend to the SPVs at the primary credit rate. In order to reduce the interest rate risk of the SPVs, however, FRB-NY subordinated its right to receive certain amounts of potential interest payments. Specifically, if the primary credit rate rose above the subordination threshold, FRB-NY's right to receive interest above the threshold rate would be subordinated to the rights of the ABCP holders to receive principal and interest. The subordination threshold would have equaled 50 basis points plus the lower of (i) the current primary credit rate and (ii) the primary credit rate 90 days before. In other words, the subordination threshold would have immediately and automatically decreased to track any declines in the primary credit rate and would have increased automatically 91 days after any increase in the primary credit rate. Any accumulated income in an SPV not distributed to investors would have accrued to FRB-NY.</li> </ul>
<b>Collateral Requirements</b>	<ul style="list-style-type: none"> <li>Each SPV was limited to purchases of U.S. dollar-denominated CDs, bank notes, and commercial paper with a remaining maturity of at least 7 days and not more than 90 days.</li> <li>The ABCP issued by each SPV and held by the investors would be subordinated to the FRB-NY loans and absorb approximately the first 10 percent of any losses incurred by the SPV. Any excess earned by the SPVs and paid to FRB-NY would serve as a further buffer against loss.</li> <li>The ABCP would have been rated at least A-1/P-1/F1 by two or more NRSROs.</li> </ul>
<b>Eligible Participants &amp; Involved Entities</b>	<ul style="list-style-type: none"> <li>The following investors were eligible to sell assets to an SPV: (1) U.S. MMMFs, (2) funds that operate in a manner similar to MMMFs and that were owned or managed by a U.S. bank, insurance company, pension fund, trust company, SEC-registered investment advisor, or state or local government entity, and (3) any U.S. dollar-denominated cash collateral reinvestment fund, account, or portfolio associated with securities lending transactions that was managed or owned by a U.S. bank, insurance company, pension fund, trust company, or SEC-registered investment advisor.</li> <li>Eligible investors in (2), above, were required to (i) maintain a dollar-weighted average portfolio maturity of 90 days or less; (ii) hold the fund's assets until maturity under usual circumstances; and (iii) hold only assets that, at the time of purchase, were rated by an NRSRO in one of the top three long-term investment-grade rating categories (such as A and above) or the top two short-term investment-grade rating categories (such as A-2 and above).</li> </ul>

Element	Description
<b>Eligible Participants &amp; Involved Entities (Continued)</b>	<ul style="list-style-type: none"> <li>The 50 financial institutions (5 SPVs purchasing from 10 financial institutions) that were to be funded by the MMIFF were chosen by representatives of the U.S. MMMF industry. The financial institutions were chosen primarily because they were among the largest issuers of highly rated short-term liabilities held by MMMFs, and also with an objective of achieving geographical diversification in each SPV. The financial institutions included most of the largest global North American and European financial institutions.</li> <li>J.P. Morgan Securities was the structuring agent and referral agent for the SPVs. It was chosen for this role by representatives of the MMMF industry.</li> </ul>

Since the inception of the MMIFF, the Federal Reserve made changes to its terms and conditions, including:

#### **Eligible Investors**

- On January 7, 2009, the Federal Reserve expanded the set of institutions eligible to participate in the MMIFF to include U.S.-based securities-lending cash-collateral reinvestment funds, portfolios, and accounts (securities lenders) and U.S.-based investment funds that operate in a manner similar to MMMFs, such as certain local government investment pools, common trust funds, and collective investment funds.

#### **Eligible Assets**

- On January 7, 2009, the Federal Reserve authorized the adjustment of several of the economic parameters of the MMIFF, including the minimum interest rate on assets eligible to be sold to the MMIFF, to enable the program to remain a viable source of backup liquidity for money market investors even at very low levels of money market interest rates.

#### **Facility Expiration Date**

- On February 3, 2009, the Federal Reserve extended the expiration of the facility from April 30, 2009, to October 30, 2009.

#### **Financial Reporting**

The results of the MMIFF operations were reported on the Federal Reserve's H.4.1 weekly statistical release, entitled *Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks*. The H.4.1 contained information on the value of the collateral and the net holdings of the MMIFF SPVs, which would have secured FRB-NY's loans to the SPVs. In addition, the Board publishes a monthly *Credit and Liquidity Programs and the Balance Sheet* report. As the MMIFF was not utilized, it was not included in this report. These reports are available on the Board's public website.

In the event that the MMIFF generated income, it would have been reported as “Investments Held By Consolidated Variable Interest Entities” in the *Federal Reserve Banks Combined Statements of Income and Comprehensive Income*, as well as FRB-NY’s consolidated financial statements.

### **How was risk managed?**

With the MMIFF, the Federal Reserve sought to restore confidence and liquidity in the money markets. However, the facility was not utilized since inception in November 2008 and expired on October 30, 2009. Evidence suggests a combination of factors, including the reduction of money market pressures through CPFF and AMLF activities and general improvement in market conditions, may have contributed to the lack of investor use of the facility. Analysis of the facility and why the market never engaged in any transactions may provide insight to the creation and operation of any future lending facilities.

### **Did it have an impact?**

#### ***Facility Utilization***

The MMIFF expired on October 30, 2009. Since inception, the MMIFF did not provide any loans for any purchases of money market instruments.

#### ***Financial Review of the Facility***

As it was never used, MMIFF had no earnings or losses.

#### ***Market Impact Analysis***

Given the lack of facility utilization, it is difficult to assess the impact of the MMIFF on the money markets. However, the mere existence of the MMIFF may have offered investors additional assurance about holding securities with longer-term maturities and had a positive effect on the money markets.



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**Section 9**

**Term Asset-Backed  
Securities Loan  
Facility (TALF)**

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# Term Asset-Backed Securities Loan Facility

## At a Glance

Announced on November 25, 2008, the Term Asset-Backed Securities Loan Facility (TALF) was intended to make credit more available to consumers and businesses on more favorable terms by facilitating the issuance of asset-backed securities (ABS) and improving the market conditions for ABS more generally. Prior to August 2007, the securitization markets funded as much as 60 percent of all private credit in the United States. By the fall of 2008, however, securitization markets had largely frozen.

In response, the Board authorized the TALF to lend up to \$200 billion to eligible U.S. companies for the purchase of ABS, with the potential to increase the capacity of the TALF to \$1 trillion if economic conditions warranted. By increasing demand for ABS, the Board sought to lower the financial sector's cost of funding and facilitate loans at more reasonable interest rates to businesses and consumers.

## Utilization Summary

Following inception, the range of eligible collateral was expanded and facility utilization increased. Eligible TALF ABS collateral included newly-issued non-mortgage-related ABS (such as ABS backed by auto loans, credit card loans, equipment loans, student loans, or Small Business Administration (SBA) guaranteed small business loans) as well as newly-issued and legacy commercial mortgage-backed securities (CMBS). The first TALF subscription occurred in March 2009, and TALF ceased making loans collateralized by eligible ABS and legacy CMBS on March 31, 2010, and loans collateralized by newly-issued CMBS on June 30, 2010. As of June 30, 2010, the authorized funding amount remained at \$200 billion, and TALF total outstanding loans were \$42.5 billion, collateralized by \$48 billion in ABS.

While it is difficult to assess the specific, direct impact of the TALF, market data suggested that TALF helped to improve ABS market conditions. The introduction of the TALF was followed by an increase in TALF-eligible ABS issuance and a dramatic decline in related ABS rates, suggesting that the facility had a stabilizing effect on the ABS markets by providing a source of liquidity for investors and issuers. According to FRB-NY, the TALF provided funding that assisted 101 primary securitization transactions, totaling over \$109 billion, as of June 30, 2010.

## Term Asset-Backed Securities Loan Facility (TALF) Overview (as of June 30, 2010)

<b>Announcement Date</b>	November 25, 2008
<b>Operational Date</b>	March 17, 2009
<b>Expiration Date</b>	June 30, 2010, for newly-issued commercial mortgage-backed securities (CMBS) collateralized loans; March 31, 2010, for all other TALF-eligible asset-backed securities (ABS) collateralized loans
<b>Current Utilization</b>	\$42.5 billion
<b>Peak Utilization</b>	\$48.2 billion March 17, 2010
<b>Participants</b>	U.S. eligible companies
<b>Collateral</b>	ABS
<b>Managed by</b>	Federal Reserve Bank of New York (FRB-NY)
<b>Loan Term</b>	Three years or five years (depending on collateral type)



# Detailed Overview of the TALF

## What was it?

The TALF was intended to assist the credit markets in meeting the credit needs of consumers and businesses by facilitating the issuance of ABS backed by pools of assets—such as auto loans, credit card loans, equipment loans, student loans, or small business loans—and improving the market conditions for ABS more generally. By offering loans to ABS investors to increase demand in ABS, the Federal Reserve sought to lower the financial sector's cost of funding and allow it to offer loans at more reasonable interest rates to businesses and consumers.

Authorized under section 13(3) of the Federal Reserve Act, the TALF was managed by the Federal Reserve Bank of New York (FRB-NY) to originate non-recourse loans to eligible borrowers in exchange for eligible collateral. Since TALF loans were non-recourse, FRB-NY would only be able to enforce its rights on the collateral pledged, in the case of default. (TALF loans could convert to recourse in the event of a borrower's fraud or misrepresentation.) FRB-NY created an "asset disposition facility," which is a special purpose vehicle (SPV) to manage and liquidate collateral that may be relinquished by defaulting borrowers. A borrower could elect to surrender collateral in lieu of repayment, in which case, the SPV would purchase the collateral from FRB-NY for an amount equal to the principal and interest due on the loan.

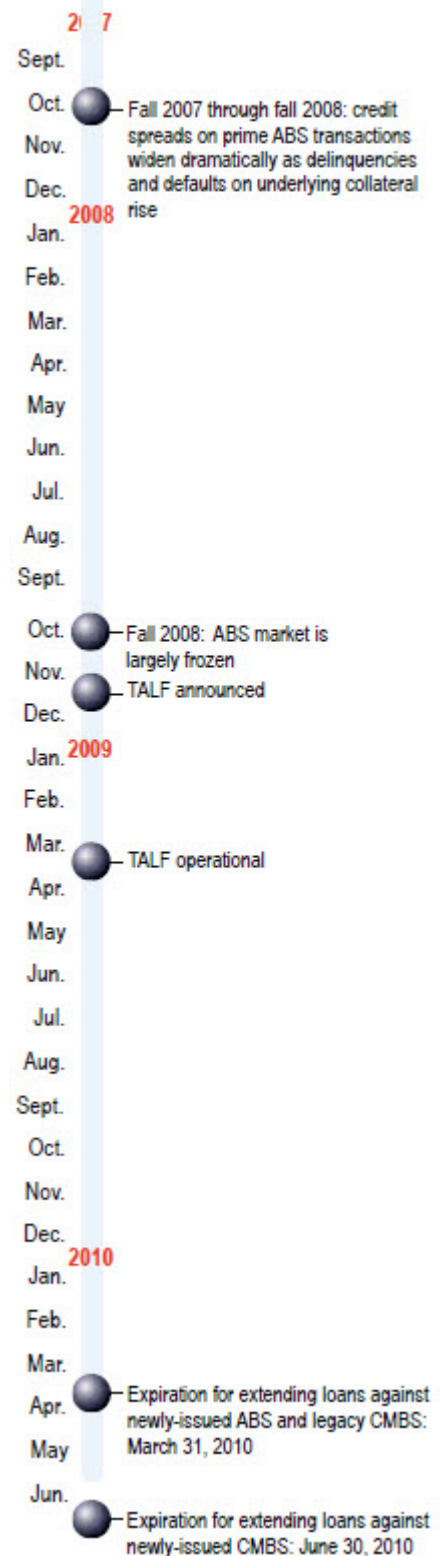
The TALF's authorized funding amount was \$200 billion, though the Board stated that up to \$1 trillion could be committed to the TALF program if market conditions warranted. The Department of the Treasury's (Treasury's) Troubled Asset Relief Program (TARP) committed to providing up to the first \$20 billion of funds required by the TALF asset disposition facility.<sup>19</sup> Any expansion of the TALF above \$200 billion also would have been supported by additional funds from the TARP. However, the authorized limit for the program remained at \$200 billion through June 30, 2010. As a joint program, the Federal Reserve and Treasury coordinated on TALF policy deliberations and program updates, such as new asset eligibility or other material changes to the TALF.

## How did we get there?

Figure 9-1 highlights the key events in the relevant financial markets and operation of the TALF.

<sup>19</sup> The Federal Reserve and Treasury announced on July 20, 2010, that Treasury would reduce from \$20 billion to \$4.3 billion the amount of credit protection provided to TALF under the TARP, based on the value of outstanding TALF loans upon the program's expiration on June 30, 2010.

Figure 9-1. Summary of Key Events in the TALF Market



With TALF, the Federal Reserve sought to increase demand in the financial markets for ABS and to restart the credit markets. By the fall of 2008, the financial markets had become disjointed and the securitization markets, which provide funding for consumer and business loans, were largely frozen.

The ABS markets facilitate the availability of credit to individuals and businesses and new loan growth for financial institutions. Financial institutions package (securitize) loans they have previously made (such as auto loans, credit card loans, equipment loans, student loans, and small business loans) by pooling these loans and issuing claims on them in the form of financial securities. By pooling these loans and issuing financial securities that are backed by these loans, financial institutions free up monies previously lent and re-lend to new and existing customers. With securitization, the financing is backed primarily by borrowers' payments on the pool of loans rather than the creditworthiness of the institution issuing the security. The credit rating of the ABS is based on the credit quality of the loans that underlie the securities and the protections inherent in the securitization structure itself. As a result, ABS are protected from the bankruptcy of the institution originating the underlying loans by various structural and legal arrangements, which is a benefit for investors.

In general, ABS have credit ratings assigned by Nationally Recognized Statistical Rating Organizations (NRSROs), which are used widely as a guide to the credit quality of the securities. The ABS markets are considered fairly "thinly traded" (that is, most investors who purchase ABS do not actively trade the securities). Since ABS are not actively traded through an exchange, such as the New York Stock Exchange for equity securities, the market prices for ABS are not as readily available.

From 2000 to 2006, the securitization markets grew significantly. During the credit boom in 2006, over \$2.1 trillion of non-mortgage-related ABS, and \$7.4 trillion of mortgage-backed securities (MBS), which includes CMBS as well as residential mortgage-backed securities, were outstanding. Prior to August 2007, the securitization markets funded as much as 60 percent of all private credit in the United States.

In 2007, deteriorating conditions in the financial markets began to spread to the securitization markets. As delinquencies and defaults on the mortgage assets that secured MBS began to rise, investors started to sell their holdings; required higher returns on new investments; and, in many cases, stopped buying MBS altogether. Credit concerns in other aspects of the ABS markets followed and led to dysfunction across the ABS markets. The ABS markets thus proceeded to collapse in a series of stages—first subprime mortgages, then alt-A mortgages (mortgage loans typically to borrowers of good credit quality but containing some deficiency, such as incomplete documentation) and non-agency

residential mortgage-backed securities (mortgages that are not backed implicitly or explicitly by the U.S. government), and finally CMBS and non-mortgage-related ABS.

Regarding CMBS, the commercial mortgage market experienced similar pressures as those in other ABS markets beginning in late 2007 through early 2008. CMBS provided a significant amount of liquidity to the commercial real estate markets in recent years. Commercial real estate mortgages that back CMBS typically structure monthly payments as interest-only or consistent with a 15- to 30-year amortization schedule, but with a shorter term and a balloon payment at the end of the term. Usually, the mortgage is simply refinanced prior to the due date for the balloon payment. When the CMBS market was severely disrupted in 2008, however, commercial mortgage borrowers found that lenders were not willing to refinance commercial real estate loans. With so many borrowers unable to make their final balloon payments without refinancing, a potential crisis loomed in the commercial real estate markets. The weakness in commercial real estate markets overall was exacerbated by the stressed CMBS market, which previously financed about 30 percent of originations and completed construction projects.

By the fall of 2008, the financial markets had become so disrupted that the ABS markets were largely frozen. The change in investor demand caused a significant disruption to the thinly traded ABS markets, such that sellers of ABS could not find buyers. Due to the lack of transactions, the markets could not set prices for ABS and issuers of securitizations were effectively unable to obtain funding at reasonable rates. For ABS investors, this freeze had many negative impacts. As the markets were declining, many ABS investors could only sell their holdings for highly discounted prices that would likely result in significant losses. At the same time, the market value of ABS was decreasing, leading to financial losses in the investors' portfolios. With approximately 60 percent of the funding market for lending essentially frozen, financial institutions had less money available for small business and consumer loans.

By authorizing the TALF, the Board hoped to set a "floor" under the ABS markets to stabilize prices, bring investors back into the markets, and increase the demand for new and existing ABS.

### **How did it work?**

The TALF was organized into two main components: (1) a lending program that provided loans to eligible borrowers in exchange for eligible collateral and (2) an asset disposition facility created specifically for managing and liquidating collateral that may be relinquished by borrowers. The disposition facility is an SPV that was organized as a limited liability company (LLC). The SPV is managed by FRB-NY.



Weighted Average Life—The average number of years for which each dollar of unpaid principal on a loan or mortgage remains outstanding.

Eligible ABS collateral included U.S. dollar-denominated ABS, for which underlying credit exposures included auto loans, student loans, credit card loans, equipment loans, floorplan loans, insurance premium finance loans, receivables related to residential mortgage servicing advances, commercial mortgage loans, and certain SBA guaranteed small business loans. Substantially all of the loans underlying eligible ABS had to be made to obligors domiciled in the United States or related to real property located in the United States or one of its territories. Substantially all of the credit exposures underlying any newly-issued ABS had to be originated by U.S.-organized entities or institutions, or U.S. branches or agencies of foreign banks.

Each TALF loan had a maximum three-year maturity, except for TALF loans secured by ABS backed by SBA loans, student loans, or commercial mortgages. These loans could have maturities up to five years. If the ABS collateral matured earlier than the three-year or five-year maturity date of the TALF loan, then the TALF loan would mature upon maturity of the ABS collateral. The **weighted average life** for eligible non-mortgage-related ABS could not be greater than 5 years, with limited exceptions, and the weighted average life for eligible CMBS could not be greater than 10 years. TALF loans were non-recourse, meaning that in the case of default, FRB-NY would be able to enforce its rights only on the collateral pledged, although TALF loans could convert to recourse in the event of a borrower's fraud or misrepresentation.

The TALF charged interest on the loans at interest rates that were more attractive than those that were available during the market instability, but less attractive than the rates typically available in normal market conditions. The TALF also charged borrowers an administrative fee for each loan and included a haircut on the collateral based on the collateral type and its weighted average life.

Individual TALF loans did not have specific dollar amount limits (subject to the program limit), although the minimum loan was \$10 million, nor were individual borrowers restricted in the number of loans they could request. However, FRB-NY reserved the right to reject any loan request at its discretion. Any eligible U.S. company could borrow from the TALF, provided the company maintained an account relationship with a TALF agent (discussed below) and pledged eligible collateral.

A borrower requested a TALF loan through a TALF agent. TALF agents were securities dealers, selected by FRB-NY, who served as agents on behalf of TALF borrowers. The TALF agents' roles and responsibilities, defined in the TALF Master Loan and Security Agreement, included representing borrower and collateral eligibility, submitting borrowers' loan requests, resolving discrepancies, and distributing payments. To evaluate borrower eligibility, TALF agents were required to apply their internal customer identification and due diligence procedures, referred

to as the “Know Your Customer (KYC) program,” which is used to screen customers and manage reputational risk. Additionally, TALF agents were expected to confirm the accuracy of the collateral certification documentation and separately confirm that the current collateral ratings met the eligibility criteria. FRB-NY published on its website due diligence guidance for TALF agents to follow.

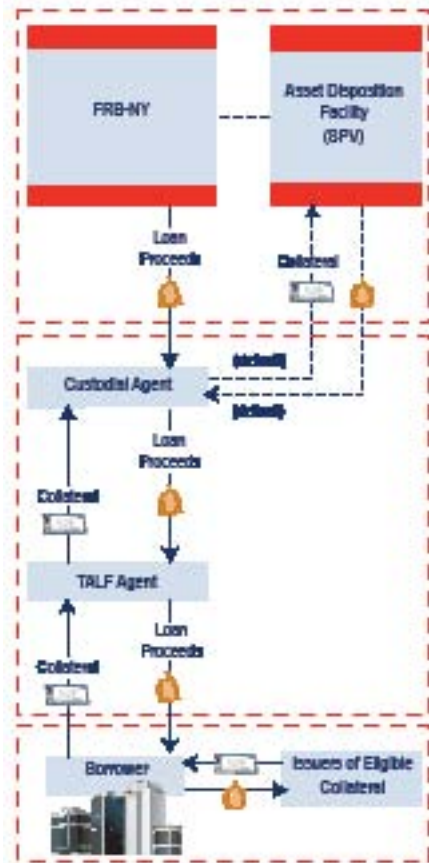
TALF loans are pre-payable in whole or in part at the option of the borrower. Unless otherwise provided in the Master Loan and Security Agreement, any remittance of principal on eligible collateral is used immediately to reduce the principal amount of the TALF loan in proportion to the loan’s original haircut (e.g., if the original haircut was 10 percent, 90 percent of any remittance of principal must immediately be repaid to FRB-NY). In addition, for collateral priced at a premium, the borrower periodically makes additional principal payments to prepay the loan.

For five-year TALF loans and three-year TALF loans for legacy CMBS collateral, some interest is diverted toward an accelerated repayment of the TALF loan. Specifically, for five-year TALF loans, the excess of interest and any other distributions (excluding principal distributions) on the ABS over TALF loan interest due (i.e., net carry) is remitted to the TALF borrower only until net carry equals 25 percent per annum of the original haircut amount in the first three loan years, 10 percent in the fourth loan year, and 5 percent in the fifth loan year, and the remainder of such net carry is to be applied to the TALF loan principal. For a three-year TALF loan for legacy CMBS, such net carry is remitted to the borrower in each loan year until it equals 30 percent per annum of the original haircut amount, with the remainder applied to the loan principal.

In the event of a TALF borrower default, the asset disposition facility SPV would purchase the collateral assets from FRB-NY at a price equal to the TALF loan amount, plus any accrued but unpaid interest. The SPV receives a portion of TALF loan interest earned by FRB-NY as a fee. The SPV would use these funds to buy the collateral assets and, if insufficient, would borrow money for additional purchases. The Treasury, under the TARP, committed to provide a loan for the first \$20 billion of any funding required by the TALF SPV.<sup>20</sup> If more collateral assets were to be purchased by the SPV than the amount of the TARP loan, FRB-NY would lend funds to the SPV to finance such additional purchases. Any FRB-NY loan to the SPV would be senior to a TARP loan (that is, any payment or recovery on the defaulted collateral would first go to repay the principal of the loan from FRB-NY) and would be secured by all the assets of the SPV.

<sup>20</sup> The Federal Reserve and Treasury announced on July 20, 2010, that Treasury would reduce from \$20 billion to \$4.3 billion the amount of credit protection provided to TALF under the TARP, based on the value of outstanding TALF loans upon the program’s expiration on June 30, 2010.

Figure 9-2. Mechanics of the TALF



Given its operational requirements, FRB-NY has contracted with various vendors for the management and operation of the TALF, as discussed below:

- **Administrative and Custodial Services** (bookkeeping, monthly reporting, and collateral pricing): Bank of New York Mellon.
- **Collateral Monitoring Services** (performing credit risk assessment of collateral and issuers, providing valuation reporting on ABS collateral, assessing ABS markets, and reporting on analysis): Pacific Investment Management Company LLC (PIMCO) for the entire TALF securities portfolio; Trepp LLC for the TALF CMBS portfolio; and BlackRock Financial Management, Inc. (BlackRock) for legacy CMBS.
- **Advisory Services** (assistance regarding the underwriting characteristics of newly-issued CMBS): CWC Capital Investments LLC.
- **Accounting and Consulting Services** (general accounting and consulting related to TALF): Ernst & Young LLP; KPMG LLP; McKinsey & Company; Promontory Financial Group, LLC; and Sidley Austin LLP.

Beginning with the November 3, 2009, subscription, FRB-NY, with the assistance of its collateral monitoring vendors, performed risk assessments of non-mortgage-related ABS collateral (risk assessments of CMBS collateral were performed prior to this date). For all non-mortgage-related ABS collateral, FRB-NY assessed the ABS' credit quality, transparency, and simplicity of structure. Data on the ABS had to be provided to FRB-NY three weeks in advance of the applicable TALF subscription date to allow for processing time. For newly-issued and legacy CMBS, FRB-NY assessed the underlying loan pools for asset, geographic, or borrower concentration; payment status; and property type, using services provided by collateral monitoring vendors. For legacy CMBS, additional analysis of expected performance under more distressed economic conditions was performed to assess the collateral's likelihood of default in strained economic conditions. The risk assessments allowed FRB-NY to identify and reject ineligible or potentially weaker ABS that otherwise satisfied TALF eligibility criteria.

Figure 9-2 illustrates the TALF operating model, beginning with the borrower's submission of ABS collateral to the TALF agent.

The following describes the various components of the TALF operating model.

### **TALF Process Flow**

Under the TALF, FRB-NY provided non-recourse loans to eligible borrowers who pledged eligible collateral. On fixed days each month (subscription dates), borrowers requested loans through their TALF agents, who submitted information regarding any loan requests to FRB-NY and the **custodial agent**. FRB-NY reviewed the loan requests against the eligibility criteria and decided whether to approve or

**Custodial Agent**—An organization, typically a commercial bank, that holds in custody and safekeeping someone else's assets. These assets may be cash, securities, or virtually anything of value.

reject the loans. Proceeds from approved loans were disbursed on the settlement date to the TALF agent upon receipt of the eligible collateral and an administrative fee. The TALF agent then forwarded the funds to the borrower. Subscription and settlement dates were typically about a week apart, providing FRB-NY and TALF vendors time to conduct an eligibility review of the borrower and the collateral, and reconcile the loan and collateral amounts. FRB-NY published a Master Loan and Security Agreement that provided further details on the terms that applied to borrowings under the TALF.

### **Terms and Conditions of the TALF**

The following provides an overview of the terms and conditions for the TALF at the time of our review. (A comprehensive list of TALF terms and conditions was available on the FRB-NY website.)

Element	Description
<b>Standard Terms</b>	<ul style="list-style-type: none"> <li>• TALF loans generally had a three-year maturity; ABS backed by SBA loans, as well as ABS backed by student loans or commercial mortgage loans, could have a five-year maturity.</li> <li>• TALF loans were for the value of the collateral reduced by the applicable haircut.</li> <li>• Lending was on a non-recourse basis except for breaches of representations, warranties, and covenants, as further specified in the Master Loan and Security Agreement.</li> <li>• TALF loans to borrowers did not have specific dollar amount limits (subject to the program limit), although the minimum loan was \$10 million.</li> <li>• Eligible investors could borrow against any eligible ABS, including ABS that they already owned. Legacy CMBS must have been recently purchased (within the time between sequential subscription dates) by the borrower.</li> <li>• Any payment of principal on the pledged ABS received by the TALF borrower had to be used to pay down the TALF loan in proportion to the loan's original haircut.</li> <li>• TALF borrowers had to agree to refrain from exercising any voting, consent, or waiver rights under the collateral ABS, without the consent of FRB-NY.</li> <li>• Borrowers could assign all obligations with respect to a TALF loan to another eligible borrower prior to expiration of the program, with the consent of FRB-NY.</li> </ul>
<b>Interest Rates</b>	<ul style="list-style-type: none"> <li>• Payments were based on either a fixed or adjustable rate for TALF loans, depending on the asset class (such as auto, credit card, or student loan ABS).</li> <li>• The type of collateral securing the loan determined the interest rate as well as the applicable loan term(s).</li> <li>• Interest rates were set one day prior to the subscription date and were published on FRB-NY's public website. Interest was accrued on a monthly basis.</li> <li>• Haircuts varied by asset class depending on the level of risk assessed by FRB-NY. Haircuts were published on FRB-NY's public website and were periodically reviewed and, if appropriate, would have been adjusted for new loans.</li> </ul>

Element	Description
<b>Fees</b>	<ul style="list-style-type: none"> <li>Administrative Fee: On each loan's settlement date, an administrative fee of 10 basis points for non-mortgage-related ABS collateral and 20 basis points for CMBS collateral, was charged to the borrower.</li> </ul>
<b>Collateral Requirements</b>	<ul style="list-style-type: none"> <li>Eligible collateral included U.S. dollar-denominated ABS for which underlying credit exposures were auto loans, student loans, credit card loans, equipment loans, floorplan loans, insurance premium finance loans, SBA guaranteed small business loans, receivables related to residential mortgage servicing advances, or commercial mortgage loans. These ABS must have been issued on or after January 1, 2009. Exceptions existed for SBA Pool Certificates or Development Company Participation Certificates, which must have been issued on or after January 1, 2008, and commercial mortgage pass-through securities, which must have been issued before January 1, 2009 (legacy CMBS).</li> <li>Substantially all of the credit exposures underlying eligible ABS must have been exposures that were made to U.S.-domiciled obligors or were for real property located in the United States or one of its territories. Substantially all of the credit exposures underlying any newly-issued ABS must have been originated by U.S.-organized entities or institutions or U.S. branches or agencies of foreign banks.</li> <li>All ABS must have been rated AAA by at least two of the eligible NRSROs and not have had a credit rating below AAA from any eligible NRSRO. The ABS could not have gained its AAA rating as a result of third-party guarantees.</li> <li>ABS could not be on "review" or "watch" for downgrade by an eligible NRSRO.</li> <li>Eighty-five percent or more of the underlying credit exposures of the ABS issued by a non-revolving trust must have been originated on or after October 1, 2007.</li> <li>Eligible auto ABS issued by a revolving trust must have been issued to refinance existing auto ABS maturing in 2009 or the first quarter of 2010, and not a maturity date beyond five years.</li> <li>Eligible ABS must have been cleared through the Depository Trust Company.</li> <li>Collateral must not have been backed by loans originated or securitized by the borrower or by an affiliate of the borrower (a borrower was not eligible for a TALF loan to buy its own securitization issuance).</li> <li>Zero-coupon ABS was not eligible, such as ABS that did not pay periodic interest but instead was purchased by the investor at a discounted rate such that the principal amount received at maturity included effective interest.</li> <li>The CMBS structure must have paid interest and principal, must have interest at a pass-through rate that was fixed or based on the weighted average of the underlying fixed mortgage rates, and must not have been junior to other securities with claims on the same pool of assets. Also, the borrower could not pledge as CMBS collateral any CMBS issued by the U.S. government.</li> <li>Loans for CMBS must have been secured by first-lien mortgages that were current at the time of securitization and paid fixed rate interest.</li> <li>Ninety-five percent of underlying credit exposures from newly-issued CMBS must have been originated by a U.S. entity on or after July 1, 2008.</li> </ul>

Element	Description
<b>Collateral Requirements (continued)</b>	<ul style="list-style-type: none"> <li>• Eligible ABS collateral was required to comply with requirements regarding transparency of financial reporting; issuer certifications, such as ABS compliance with TALF requirements; and accounting firm requirements.</li> <li>• ABS issuers had to obtain from an accounting firm (1) an attestation indicating that the ABS was TALF-eligible (for non-mortgage-related ABS) or (2) a report on agreed upon procedures for newly-issued CMBS that addressed factual matters related to eligibility criteria (such as weighted average lives, principal payment windows, and certain loan-by-loan and property-by-property information commonly set forth in an annex to the principal offering document).</li> <li>• For legacy CMBS, the TALF loan amount must have been the lesser of the dollar purchase price on the trade date, the market price as of the subscription date, or a value based on the FRB-NY risk assessment, less the stated haircut.</li> </ul>
<b>Eligible Participants &amp; Involved Entities</b>	<ul style="list-style-type: none"> <li>• An application process determined the eligibility of the TALF borrower and the TALF collateral.</li> <li>• Any eligible U.S. company that owned eligible collateral could borrow from the TALF, as long as that company maintained an account relationship with a TALF agent.</li> <li>• A U.S. company was eligible if it was (a) a business that was organized under U.S. law and conducted significant activities in the United States, (b) a U.S. branch of a foreign bank that maintained reserves with a Federal Reserve Bank, (c) a U.S. insured depository institution, or (d) an investment fund that was U.S. organized.</li> <li>• An eligible U.S. company could not be controlled by a foreign government or managed by a foreign-controlled investment manager.</li> </ul>

Since the inception of the facility, the Federal Reserve made some changes to the terms and conditions of the TALF, as described below:

### **Collateral Eligibility**

Collateral eligibility has undergone significant change since the inception of TALF, with nine key modifications. See Appendix 5 for the list of changes to collateral eligibility.

### **Eligible Borrowers**

- On February 6, 2009, the definition of eligible entities able to access the TALF was revised to specify the requirements for eligible U.S. companies and investment funds.
- On September 1, 2009, the list of eligible TALF agents was expanded to include four non-primary dealers to broaden the range of eligible investors to the TALF.

### **Transaction Structure and Pricing**

Transaction structure and pricing has undergone 10 key modifications. See Appendix 5 for the list of transaction changes.

**Facility Expiration Date**

- On August 17, 2009, the facility expiration date was extended from December 31, 2009, to March 31, 2010, for all TALF-eligible collateral, with one exception: the expiration date for newly-issued CMBS collateral was extended to June 30, 2010.

**Financial Reporting**

The results of the TALF operations have been reported on the Federal Reserve's H.4.1 weekly statistical release, entitled *Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks*. In addition, the Board publishes a monthly *Credit and Liquidity Programs and the Balance Sheet* report, which includes additional, detailed information on the TALF. These reports are available on the Board's public website. The income earned by the TALF has been reported as a component of "Interest Income" and "Non-interest income" in the *Federal Reserve Banks Combined Statements of Income and Comprehensive Income*, as well as FRB-NY's consolidated financial statements. FRB-NY also published on its website the aggregate amount of loans, by sector, requested at each subscription and settled at each closing.

Beginning November 19, 2009, information on the TALF LLC, which is the asset disposition SPV, has been consolidated on FRB-NY's balance sheet and presented separately in Table 8 of the Federal Reserve's H.4.1 weekly statistical release, entitled *Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks*. In addition, the Board's *Credit and Liquidity Programs and the Balance Sheet* report includes detailed information on the TALF LLC. The TALF LLC also has separate financial statements, which have been audited by Deloitte & Touche LLP, an independent public accounting firm.

**How was risk managed?**

To respond rapidly to the significant stresses in the ABS markets and thereby restore the availability of loans at reasonable interest rates to businesses and consumers, the Board authorized the availability of TALF loans to a broad range of potential borrowers, for which the Federal Reserve had little credit information, for longer loan periods, and based on a variety of ABS collateral. As a result, TALF exposed the Federal Reserve to additional credit risk compared to the other five section 13(3) lending facilities. Also, due to the nature and diversity of the ABS markets and the longer term nature of TALF loans, the eligibility and operational requirements of the TALF were more extensive and complex than the other section 13(3) lending facilities. This complexity led to numerous revisions of the facility's terms and conditions, which created challenges in managing and operating the facility. In addition, to operate the TALF, FRB-NY drew heavily on vendors and third-party agents with specialized expertise to perform mission-critical operations. Outsourcing carries risks regarding vendors and agents not (1) complying with provisions

of contracts and agreements, (2) providing the quantity and quality of services required, and (3) protecting against conflicts of interest.

### ***Credit Risk***

To stabilize the severely-stressed ABS markets, the Federal Reserve implemented broad TALF eligibility criteria, which exposed the Federal Reserve to credit risk because of the large number of potential borrowers, on which it had little credit information; the various types of collateral accepted under TALF; and the longer terms of the TALF loans, ranging from three to five years. Due to TALF's intent to provide broad participation by potential borrowers in order to stabilize the ABS markets, TALF loans were provided without recourse to the borrower's assets, beyond the pledged ABS collateral, although they could convert to a recourse loan in the event of fraud or misrepresentation. TALF terms and conditions also did not limit the amount of ABS that could be pledged in aggregate from an issuer or by asset type. For example, the Federal Reserve did not establish formal standards as to the amount of subprime auto ABS that the TALF could accept as collateral, or place a limit on the amount of ABS the TALF could accept from a specific issuer. The lack of such limits could have led to increased concentration risk, such that the portfolio could have become heavily weighted with a certain type of collateral or a limited number of issuers. Also, eligible borrowers were not restricted to a maximum amount of TALF loans they could undertake; thus, the TALF could have become heavily utilized by a class of borrowers that increased default risk.

To mitigate credit risk, the Federal Reserve implemented a number of credit risk management controls, with a particular focus on ensuring adequate collateral. TALF required ABS collateral to be rated AAA by at least two of the eligible NRSROs, and not be on "review" or "watch" for a possible downgrade by an eligible NRSRO. TALF also included a haircut on the collateral—that is, the value of the collateral exceeded the value of the loan—to reflect the credit risk of the collateral asset(s) and the market in which they are traded. In general, market practice is to assess higher haircuts on collateral assets with lower credit ratings, longer maturities, and less liquidity compared to assets with higher credit ratings, shorter maturities, and more liquidity. FRB-NY also added a feature (net carry) to certain TALF loans that funnels excess interest payments to pay down principal on the TALF borrower's loan, which helps mitigate FRB-NY's credit risk. Prior to approving a TALF loan, FRB-NY required a third-party, referred to as a TALF agent, to verify the borrower's and collateral's eligibility. Further, FRB-NY performed a risk assessment of any ABS proposed as collateral for a TALF loan and retained the right to reject any ABS as TALF loan collateral based on this risk assessment. FRB-NY performed additional analysis on the expected performance of legacy CMBS collateral prior to approving eligibility,



assessing such factors as the concentration of loans by borrower, geographic area, and property type; the status of the underlying loans within the CMBS and the possibility of their default; and the expected cash flows of the CMBS collateral under more distressed economic conditions. FRB-NY contracted with PIMCO, which has expertise in the non-mortgage-related ABS and CMBS markets, and Trepp LLC and BlackRock, which have expertise in the CMBS market, to provide estimated valuation, risk assessment, and monitoring of proposed and actual TALF collateral.

### ***Challenges in TALF Management and Operation***

The collateral eligibility and operational requirements of the TALF were more extensive and complex than the other section 13(3) lending facilities due to the nature and diversity of the ABS markets, the complex structure of ABS, the number of ABS asset classes that qualified for TALF loans, and the longer term nature of TALF loans. The TALF loan process involved numerous, detailed procedural steps that evolved over time, leading to over a dozen revisions of the facility's terms and conditions. New types of eligible collateral were added, key legal agreements and forms were modified and reissued, and additional risk mitigation measures were implemented that required significant change management efforts by the Federal Reserve. Rapid change management and the associated inherent risk of operational error or financial loss require extensive and consistent management and oversight to ensure that policies, procedures, and controls continue to be thoroughly documented, analyzed, implemented, and tested. To mitigate risk in managing and operating the TALF, FRB-NY established a dedicated team and resources, proactively implemented controls, and developed operational processes and procedures.

### ***Vendor Risks***

Vendors and agents with specialized expertise performed collateral valuation and monitoring, registration processing, collateral risk analysis, eligibility verification, and custodial services, and so were a critical part of the TALF operating structure. Utilizing vendors and agents introduces risks that they will not (1) comply with all provisions in contracts and agreements, (2) provide the quality and quantity of services required, and (3) protect against conflicts of interest.

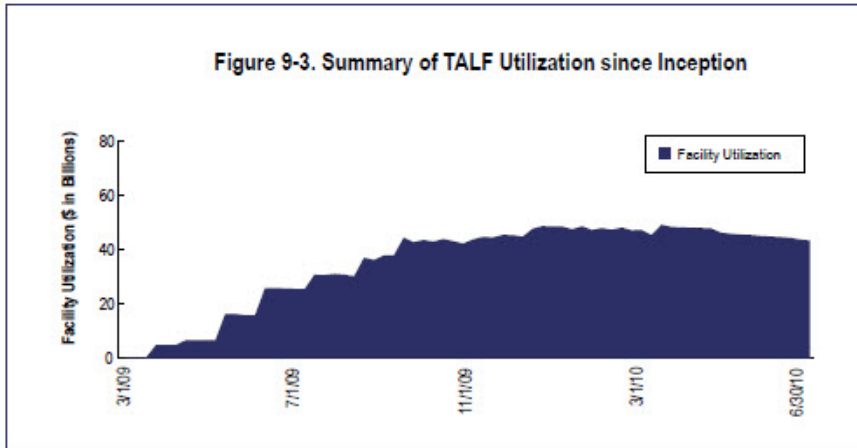
FRB-NY performed reviews of TALF vendors and agents. FRB-NY also developed an overall vendor management program for ongoing monitoring and testing of vendors' and agents' compliance with contracts and agreements. In addition, FRB-NY put in place conflict of interest provisions for each of its vendor contracts and agent agreements. Conflict of interest provisions are used to protect professional or public interests from actions that instead benefit a vendor or agent, its employees, or its clients. PIMCO, BlackRock, Bank of New York Mellon, and the TALF agents are operating business

entities in the investment markets and have clients that were eligible to participate in TALF. At the time of our review, FRB-NY was in the process of monitoring vendors' and agents' conflict of interest provisions, and a third-party vendor, under contract with FRB-NY's Legal group, was performing a conflict of interest review and testing compliance with contract provisions.

### Did it have an impact?

#### **Facility Utilization**

Facility utilization increased, and the range of eligible collateral was expanded to include ABS backed by loans or leases related to business equipment, leases of vehicle fleets, floorplan loans, mortgage servicing advances, insurance premium finance loans, and newly-issued and legacy CMBS. The facility expiration date was March 31, 2010, for all TALF-eligible collateral except newly-issued CMBS, which expired June 30, 2010. As of June 30, 2010, TALF total outstanding loans were \$42.5 billion, collateralized by \$48 billion in high quality ABS to 134 borrowers. Under the TALF terms and conditions, TALF loans are scheduled to mature no later than March 2015. Figure 9-3 illustrates the utilization of TALF since inception.

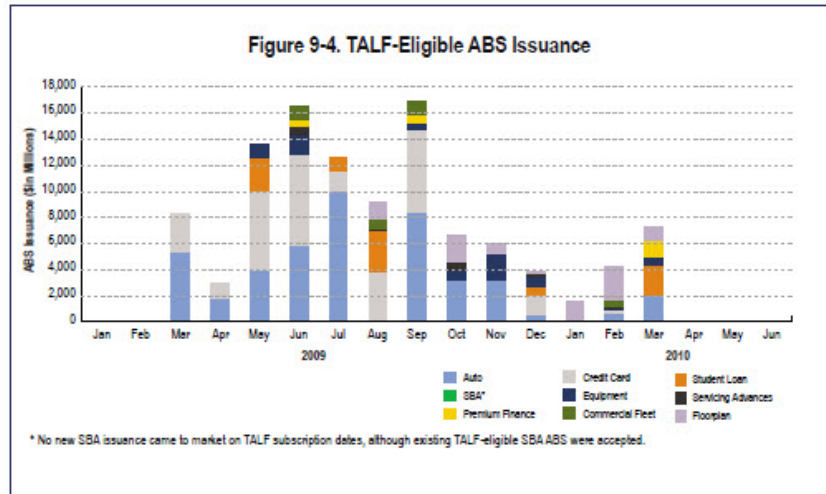


#### **Financial Review of the Facility**

According to FRB-NY, operation of the TALF from March 17, 2009, through June 30, 2010, generated \$926 million in interest and fees. As of June 30, 2010, the Board reported that there had not been any defaults on the loans or underlying collateral and that it expects no losses as a result of operating the facility.

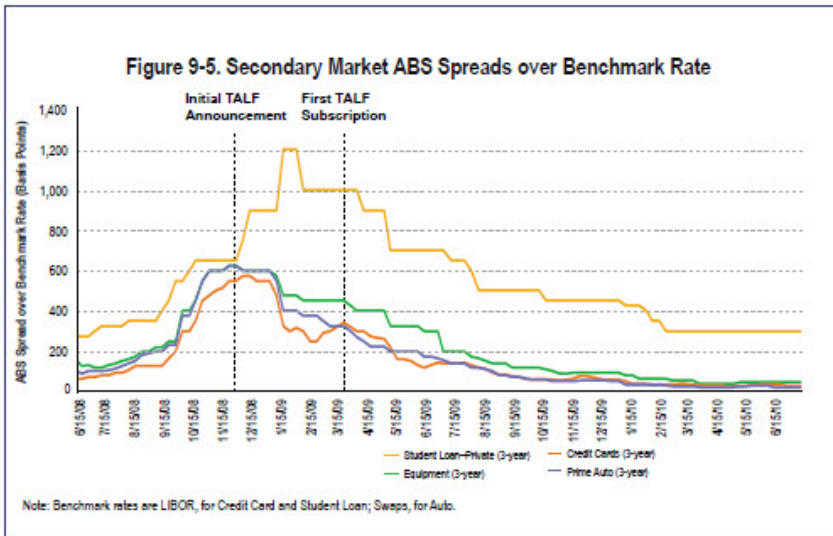
### Market Impact Analysis

While it is difficult to determine the specific impact of the TALF, market data suggested that TALF helped to improve ABS market conditions. According to FRB-NY, and as illustrated in Figure 9-4, TALF-eligible new ABS issuance increased after the start of TALF in March 2009.



After coming to a relative halt in October 2008 (compared to an average of \$18 billion per month during the first half of 2008), issuance of ABS started to grow as investors took advantage of TALF loans, and the securitization markets showed signs of stabilizing. The increase in ABS transactions that came to market in 2009 indicated improvement in securitization markets when compared with the stressed conditions toward the end of 2008. Through June 30, 2010, the TALF provided funding that assisted 101 primary securitization transactions, totaling over \$109 billion. The TALF supported the new issuance of ABS across the range of eligible asset classes, from credit cards and auto loans to equipment and student loans. In general, new ABS issuance should improve credit availability to consumers and businesses.

In addition, according to FRB-NY, substantial declines occurred in credit spreads for student loan securitization, equipment securitization, credit card securitization, and auto securitization since the TALF was initiated, as illustrated in Figure 9-5 (on the next page). This suggests that TALF may have had a stabilizing effect on the ABS markets by providing a source of liquidity for investors and issuers.



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**Section 10**   **Appendixes**

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# Appendix 1—Response to OIG Liquidity Facility Draft Report



BOARD OF GOVERNORS  
OF THE  
FEDERAL RESERVE SYSTEM  
WASHINGTON, D.C. 20551

September 16, 2010

Ms. Elizabeth A. Coleman  
Inspector General  
Office of Inspector General  
Board of Governors of the Federal Reserve System  
Washington, DC 20551

Dear Beth:

Thank you for the opportunity to review the OIG's draft *Review of the Federal Reserve System's Section 13(3) Lending Facilities to Support Overall Market Liquidity*. We believe that the report provides a clear summary of the purpose, implementation, operation, and expiration of each of the six lending facilities the OIG reviewed and of the key risks associated with each facility.

The Federal Reserve implemented the six lending facilities covered by this report to address the extraordinary financial strains and economic threats that emerged in 2007 and continued to develop throughout 2008 and early 2009. The Federal Reserve's decision to invoke 13(3) lending authority in authorizing these facilities was made with care. All of the liquidity programs were designed to provide support to key financial markets that had nearly shut down. In implementing these programs, the Federal Reserve took appropriate steps to protect against potential losses through the use of collateral and other risk management measures. The Federal Reserve also established appropriate independent oversight and review of these programs, including the use of internal auditors, Board staff, and external audits of the associated financial reporting. The programs were designed to unwind as financial conditions improved, and all of the facilities have now expired.

We believe that each of these programs helped stabilize financial markets and foster economic recovery. Because the Federal Reserve established appropriate risk controls for the lending facilities, it—and U.S. taxpayers—have not suffered any losses on these programs.

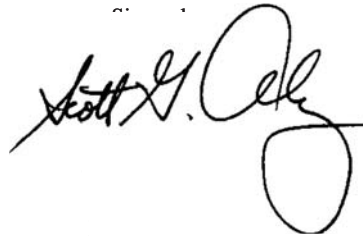
The Federal Reserve believes strongly in the principle of transparency and accountability for all public institutions, including the central bank. To enhance transparency regarding the actions it took to address the financial crisis, the Federal Reserve provides on its websites a wide array of information about the policy tools that were implemented during the crisis. In addition, the Federal Reserve initiated a monthly report to Congress that provides a great deal of detail on its credit and liquidity programs, including summary quarterly financial statements.

The Federal Reserve welcomes the upcoming GAO audit of these programs required by the recent Dodd-Frank Wall Street Reform and Consumer Protection Act and will be disclosing additional detailed information on borrowing under these and related programs by December 1 of this year as required by the Act.



- 2 -

We appreciate the opportunity to comment on this report. We have provided technical comments on the draft report under separate cover.



William B. English  
Director  
Division of Monetary Affairs



Louise L. Roseman  
Director  
Division of Reserve Bank Operations and Payment Systems

## Appendix 2—Glossary

**A-1/P-1/F1**—The highest short-term ratings by the NRSROs (Standard & Poor's, Moody's, and Fitch Ratings). The ratings indicate a strong capacity by the issuer to meet its financial commitments.

**Agent**—An individual or firm authorized to act on behalf of another.

**Amortized Cost**—The carrying value of an investment in an entity's accounting records.

**Asset-Backed Commercial Paper (ABCP)**—Short-term debt instruments (maturities ranging from overnight to 270 days) issued by corporations and financial institutions to meet short-term financing needs. The instruments are backed by assets, such as credit card receivables.

**Asset-Backed Securities (ABS)**—Tradable securities backed by pools of assets, such as loans, leases, or other cash-flow producing assets. The holders of ABS are entitled to payments that are distributed by the underlying assets.

**Bank Holding Company (BHC)**—A company controlling one or more banks. Bank holding companies are supervised by the Federal Reserve.

**Basis Points (bps)**—The smallest measure often used to specify transaction pricing and to quote rates on fixed income products. One basis point is equal to 1/100th of 1 percentage point (0.01 percent). Therefore, 100 basis points would be equivalent to 1 percent.

**Bid Rate**—Represents the interest rate a bidder was willing to pay to borrow a "basket" (a group) of U.S. Treasury securities against pledged collateral.

**Broker-Dealer**—Any individual or firm in the business of buying and selling securities for itself and others. When acting as a broker, a broker-dealer executes orders on behalf of a client. When acting as a dealer, a broker-dealer executes trades for the firm's own account. Broker-dealers must register with the Securities and Exchange Commission.

**Certificate of Deposit (CD)**—A savings certificate entitling the bearer to receive interest. A CD bears a maturity date, has a specified fixed interest rate, and can be issued in any denomination. CDs are generally issued by commercial banks and are insured by the Federal Deposit Insurance Corporation up to \$250,000. The term of a CD generally ranges from one month to five years.

**Clearing Bank**—A financial services company that provides settlement services for financial transactions between two counterparties.

**Collateral**—Assets that are pledged by a borrower to a lender against debts owed.

**Collateralized Debt Obligation (CDO)**—A financial instrument that entitles the purchaser to cash flows from a portfolio of assets, which may include bonds, loans, mortgage-backed securities, or other CDOs. CDOs are a type of ABS.

**Collateralized Mortgage Obligations (CMOs)**—A type of mortgage-backed security that consists of bonds that represent claims to specific cash flows from large pools of home mortgages. The streams of principal and interest payments on the mortgages are distributed to the different classes of CMO interests, known as tranches, according to the deal structure. Each tranche may have different principal balances, coupon rates, prepayment risks, and maturity dates.

**Collateral Monitor**—A TALF vendor that performs credit risk assessment of collateral and issuers, provides valuation reporting on ABS collateral, assesses ABS markets, and reports on analysis.

**Commercial Mortgage-Backed Securities (CMBS)**—A financial instrument that is backed by a commercial real estate mortgage or a group of commercial real estate mortgages that are packaged together.

**Commercial Paper**—Short-term debt instruments (maturities ranging from overnight to 270 days) issued by corporations and financial institutions to meet short-term financing needs.

**Convertible Stock**—Corporate securities (usually preferred shares or bonds) that are exchangeable for a set number of another form of securities (usually common shares) at a pre-stated price.

**Counterparty**—In any financial contract, the persons or institutions entering the contract on the opposite sides of the transaction.

**Credit and Liquidity Programs and the Balance Sheet Report**—A monthly report published by the Board to increase transparency around the lending facilities and special programs it created to address the financial crisis. The report includes an update on recent developments, trends, utilization, and economic performance of the lending facilities.

**Credit Rating**—An external assessment of the creditworthiness of corporations and securities. A credit rating is a financial risk indicator used by potential investors. The ratings are assigned by credit rating agencies, such as Standard & Poor's, Moody's, or Fitch Ratings.

**Credit Spreads**—The difference between the rate on debt securities of a particular borrower (or a class of borrowers with a specified credit

rating) and the rate on similar maturity Treasury debt securities. The larger the credit spread, the more credit risk the market perceives the security to have.

**Custodial Agent**—An organization, typically a commercial bank, that holds in custody and safekeeping someone else’s assets. These assets may be cash, securities, or virtually anything of value.

**Depository Trust Company (DTC)**—An organization that provides clearing and settlement services for securities, institutional trades (which typically involve money and securities transfers between custodian banks and broker-dealers), and money market instruments.

**Discount Window**—A Federal Reserve lending program that allows eligible institutions to borrow money, usually on a short-term basis, from the Federal Reserve at an above market rate to meet temporary liquidity shortages.

**Federal Agency Debt Security**—A debt instrument issued by a government sponsored enterprise or agency of the federal government, such as Fannie Mae and the Tennessee Valley Authority, respectively.

**Federal Agency Mortgage-Backed Securities**—Also known as a government sponsored enterprise MBS. Mortgage-backed securities that are backed or issued by entities such as Ginnie Mae, Freddie Mac, and Fannie Mae.

**Federal Deposit Insurance Corporation (FDIC)**—An independent agency created by Congress to maintain stability and public confidence in the nation’s financial system by insuring deposits, examining and supervising financial institutions for safety and soundness and consumer protection, and managing receiverships. The FDIC directly examines and supervises about 4,900 banks for operational safety and soundness, more than half of the institutions in the banking system. Banks can be chartered by the states or by the federal government. Banks chartered by states have the choice of whether to join the Federal Reserve System. The FDIC is the primary federal regulator of banks that are chartered by the states that do not join the Federal Reserve System.

**Federal Funds Rate**—The interest rate at which depository institutions lend their excess Federal Reserve deposits to each other.

**Federal Open Market Committee (FOMC)**—The group that oversees open market operations, the principal tool of national monetary policy; it meets in Washington, D.C., usually eight times a year. The voting members of the FOMC are the members of the Federal Reserve’s Board of Governors and the presidents of five Federal Reserve Banks, including the Federal Reserve Bank of New York.

**Floorplan Loans**—Lending that is a form of retail goods inventory financing in which each loan advance is made against a specific piece of collateral. As collateral is sold by the dealer, the loan advance against that piece of collateral is repaid. Inventory commonly subject to floorplan loans includes automobiles, large home appliances, furniture, television and stereo equipment, boats, mobile homes, and other types of merchandise usually financed by the purchaser.

**Haircut**—The amount by which a maximum authorized loan amount is below the value of the assets used as collateral for the loan. When a borrower pledges assets as collateral, the lender making the loan treats the assets as being worth less than they actually are, so as to provide the lender a cushion in case the assets' market price decreases.

**Illiquid Market**—A market in which assets cannot be quickly converted to cash.

**Insurance Premium Finance Loans**—Loans issued to small businesses, so they may obtain property or casualty insurance.

**Leveraged Lending**—A loan made by a financial institution to a borrower for the acquisition of an asset. Often, the asset being acquired is used as collateral for the loan.

**Liquidity**—The term liquidity can be used in various ways. An institution is said to have liquidity if it can easily meet its needs for cash either because it has cash on hand or can otherwise raise or borrow cash. A market is said to be liquid if the instruments it trades can easily be bought or sold in quantity with little impact on market prices. An asset is said to be liquid if it is easily convertible to cash.

**Liquidity Backstop**— An alternative source of financing in the event market participants are unable to access financial markets.

**London Interbank Offered Rate (LIBOR)**—The interest rate at which banks borrow unsecured funds in the London wholesale money market.

**London Interbank Offered Rate-Overnight Indexed Swap (LIBOR-OIS) Spread**—A financial market metric that compares the three-month LIBOR with an interest rate swap tied to the federal funds rate. The OIS rate is considered the more stable and less risky component of the two. Thus, when the spread increases, LIBOR is rising, which means banks are charging other banks higher interest rates for interbank loans.

**Market Value**—The price at which buyers and sellers can agree to sell a security in an arm's length transaction.

**Money Market Instruments**—Short-term debt securities, such as commercial paper, negotiable certificates of deposit, and Treasury bills with a maturity of 1 year or less and often 90 days or less.

**Money Markets**—Financial markets for short-term debt instruments, such as commercial paper, repurchase agreements, and Treasury bills. Money market instruments are generally very safe investments that return a relatively low interest rate in exchange for temporary cash storage over a short-term timeframe.

**Money Market Mutual Fund (MMMF)**—A fund that invests solely in money market instruments, such as government securities, certificates of deposit, commercial paper, and other short-term and low-risk securities. Unlike a money market deposit account at a bank, money market mutual funds are not federally insured. The Securities and Exchange Commission regulates money market mutual funds under the Investment Company Act of 1940.

**Mortgage-Backed Securities (MBS)**—Tradable securities that represent claims on the cash flows from mortgage loans. An MBS investor owns an interest in a pool of mortgages, which serves as the underlying assets and source of cash flow for the security. MBS are a type of ABS.

**Multi-Price Auction Format**—An auction process in which borrowers make competitive bids by specifying the lending fee rate that they are willing to pay. Successful bidders pay the price equivalent to the rate they bid.

**Nationally Recognized Statistical Rating Organizations (NRSROs)**—Credit rating agencies that provide their opinions on a business entity's or security's creditworthiness. They are registered with the Securities and Exchange Commission. These ratings demarcate investment-grade (quality) and non-investment grade (lower quality) securities and provide additional risk-based information for investors to make investment decisions.

**Net Assets**—The value of a portfolio of assets minus any debt associated with those assets.

**Non-Recourse Loan**—A secured loan that allows the lender to attach only the collateral pledged, not the borrower's other assets, if the loan is not repaid.

**Open Market Operations (OMO)**—The primary tool used to implement monetary policy. This tool consists of Federal Reserve sales, purchases, or repurchase agreements regarding financial instruments, usually securities issued by the U.S. Treasury, federal agencies, and

government-sponsored enterprises. Open market operations are carried out by FRB-NY's Trading Desk under direction from the FOMC. The transactions are undertaken with primary dealers.

**Options**—The right, but not the obligation, to buy (for a call option) or sell (for a put option) a specific amount of a given stock, commodity, currency, index, or debt, at a specified price (the strike price) during a specified period of time.

**Overnight Indexed Swap (OIS) Rate**—The OIS rate is a type of interest rate swap that is based on daily federal funds rates. OIS rates indicate investor expectations of future interest rates set by central banks, such as the federal funds rate.

**Overnight Loan**—Money that is loaned in the interbank market by banks with idle funds to those needing temporary funds. Funds are due back at the lending bank at the start of business the following day. The federal funds market, where financial institutions loan one another excess reserves from reserve accounts kept at Federal Reserve Banks, is the largest source of overnight funds.

**Portfolio**—The combined holdings of stock, bond, commodity, real estate investment, mutual fund, cash equivalent, and other assets by an individual or institutional investor.

**Preferred Stock**—A form of equity ownership that usually pays a fixed dividend, gives the holder a claim on corporate earnings superior to common stock owners, and generally has no voting rights. Preferred stock also has priority over common stock in the distribution of assets in the case of liquidation of a bankrupt company.

**Primary Credit Rate**—The rate of interest charged for very short-term advances (typically overnight) provided by the Federal Reserve Banks' discount window to generally sound depository institutions. Because the rate is above the FOMC's target rate for federal funds, the Federal Reserve expects that institutions will use the discount window as a backup rather than as a regular source of funding.

**Primary Dealers**—Firms that are authorized to buy and sell U.S. government securities with FRB-NY's Open Market Desk, which operates on behalf of the FOMC, in order to implement monetary policy.

**Rating Watch**—A formal announcement by a rating agency that a security or issuer rating is being reviewed to determine if the current rating is appropriate. The announcement includes the likely direction of such a change ("positive" indicates a potential upgrade, and "negative" indicates a potential downgrade). However, ratings can be raised or lowered without being placed on Rating Watch first if circumstances warrant such an action.

**Receivable**—Money owed but not yet paid by a customer (individual or corporation) to another entity in exchange for goods or services that have been delivered or used. Most companies operate by allowing some portion of their sales to be on credit.

**Recourse**—In the case of default, the legal right of a lender to seek loan repayment from the borrower's unpledged assets, in addition to the assets pledged to the lender as collateral.

**Redemption**—The return of an investor's principal in a security, such as a bond, preferred stock, or mutual fund shares, and any interest earned, at or prior to maturity.

**Repurchase Agreement**—A financial transaction in which the holder of a security obtains funds by selling that security to another financial market participant under an agreement to repurchase the security at a fixed price on a predetermined future date.

**Repurchase Agreements Market**—A short-term lending market utilizing collateral to obtain funding, with the collateral repurchased at the original price, plus an agreed upon additional amount, on a specified future date.

**Reserve Requirements**—Requirements regarding the percentage of certain deposits that depository institutions must hold in reserve in the form of cash or in an account at a Federal Reserve Bank.

**Residential Mortgage-Backed Securities (RMBS)**—Financial instruments that are backed by a group of residential real estate mortgages that are packaged together. An RMBS investor owns an interest in a pool of mortgages, which serves as the underlying assets and source of cash flow for the security.

**Seasonal Credit Rate**—The Federal Reserve's seasonal credit program that is designed to assist small depository institutions in managing significant seasonal swings in their loans and deposits. The interest rate applied to seasonal credit is a floating rate based on market rates.

**Secondary Credit Rate**—The rate of interest for very short-term loans (typically overnight) provided by the Federal Reserve Banks' discount window to depository institutions that are not eligible for primary credit. The secondary credit rate is set above the primary credit rate and is provided to temporarily meet backup liquidity needs with the understanding that an institution returns to a reliance on market sources of funding in a timely manner or that a troubled institution is resolved in an orderly manner.

**Secondary Market**—The secondary market, also known as the aftermarket, is where previously issued securities and financial instruments, such as stocks, bonds, options, and futures, are bought



and sold. The primary market refers to the market for newly-issued securities.

**Section 13(3) of the Federal Reserve Act**—A section of the Federal Reserve Act that provides as follows: “In unusual and exigent circumstances, the Board of Governors of the Federal Reserve System . . . may authorize any Federal reserve bank . . . to discount for any individual, partnership, or corporation, notes, drafts, and bills of exchange . . . [that are] . . . secured to the satisfaction of the Federal reserve bank: *Provided* . . . that such individual, partnership, or corporation is unable to secure adequate credit accommodations from other banking institutions. All such discounts for individuals, partnerships, or corporations shall be subject to such limitations, restrictions, and regulations as the Board of Governors of the Federal Reserve System may prescribe.”

**Securitization**—The process of pooling various types of debt (such as mortgages, auto loans, or credit card debt) and packaging that debt into securities, which are sold to investors. The principal and interest on the debt underlying the securities are paid to the investors on a regular basis, though the method varies based on the type of security.

**Servicing Advance Receivables**—Receivables related to residential mortgage loan securitizations that grant the servicer first priority in any insurance or liquidation proceeds from a loan. The servicer is responsible for administering a mortgage, including calculating principal and interest, collecting payments from the mortgagor, acting as an escrow agent, and foreclosing in the event of a default.

**Single Price Auction Format**—An auction process in which borrowers make competitive bids that specify the lending fee rate that they are willing to pay. Successful bidders pay the same price equivalent to the lowest accepted rate regardless of the rate they bid.

**Special Purpose Vehicle (SPV)**—A separate legal entity used for the acquisition and financing of assets.

**Supervisory Capital Assessment Program**—An interagency evaluation completed during spring 2009 to determine if the largest U.S. banking organizations had sufficient capital to withstand the impact of a “more adverse” economic environment than the consensus expectation. The participants included the Board, the Department of the Treasury, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency.

**System Open Market Account (SOMA)**—An investment account that the Federal Reserve uses to help implement its monetary policy. By buying or selling U.S. Treasury securities in the financial markets, FRB-NY, on behalf of the FOMC, is able to add or subtract reserves from the

monetary system and, thus, influence inflation, consumer lending, and interbank lending.

**System Open Market Account (SOMA) Securities Lending**

**Program**—An FRB-NY lending program that offers specific U.S. Treasury securities held by the System Open Market Account for loan against Treasury general collateral (such as Treasury bills, notes, and bonds) on an overnight basis in order to improve market liquidity.

**Term Asset-Backed Securities Loan Facility (TALF) Agents**—

Securities dealers selected by FRB-NY to screen for borrower and collateral eligibility, submit loan requests, resolve discrepancies, and distribute payments.

**Term Auction Facility (TAF)**—A Federal Reserve lending program in which term funds were auctioned to depository institutions that were eligible to borrow under the primary credit program. By allowing the Federal Reserve Banks to inject term funds against discount window collateral, the TAF helped ensure that liquidity could be disseminated efficiently even when the unsecured interbank markets were under stress. TAF was created under the Federal Reserve’s discount window authority and was not a 13(3) lending facility.

**Transaction Agent**—An individual or firm authorized to act on behalf of another (called the principal), such as by executing a transaction.

**Tri-Party Repurchase Agreement**—A financial transaction in which the holder of a security obtains funds by selling that security to another financial market participant under an agreement to repurchase the security at a fixed price on a predetermined future date. The borrower posts collateral at a clearing bank and receives cash from the lender. The clearing bank confirms collateral eligibility, assesses the value of the collateral, and applies a haircut to set the loan amount.

**Underwriting**—The due diligence that a lender conducts to ensure that potential borrowers are able to repay their loans.

**Weighted Average Life**—The average number of years for which each dollar of unpaid principal on a loan or mortgage remains outstanding.

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## Appendix 3—Objectives, Scope, and Methodology

As the Board’s Office of Inspector General, we performed this work to provide an independent review of the six lending facilities that the Board authorized under section 13(3) of the Federal Reserve Act to support overall market liquidity. Specifically, our objectives were to (1) determine the overall function and status of each facility, including how it operated, the financial markets it was intended to support, the financial utilization of the facility, the total amount of loans extended, and the current outstanding balances; and (2) identify risks in each facility for the Board’s review in exercising its monetary policy function and in its general supervision and oversight of the Federal Reserve Banks. We reviewed the Term Securities Lending Facility (TSLF) including the TSLF Options Program (TOP), Primary Dealer Credit Facility (PDCF), Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), Commercial Paper Funding Facility (CPFF), Money Market Investor Funding Facility (MMIFF), and Term Asset-Backed Securities Loan Facility (TALF). Our review did not include the Board authorized lending programs in support of specific institutions, such as American International Group (AIG), Bear Stearns Companies, Inc., or the transitional credit extension program to certain other broker-dealers. The approach used to conduct this review consisted of three parts: a characterization of each facility, an assessment of the current status of each facility, and the identification of risk areas and how they were managed in each facility. Our report does not include any recommendations.

To carry out our objectives, we reviewed relevant laws, regulations, reports, testimonies, bulletins, press releases, vendor contracts, the lending facilities’ terms and conditions, and other publicly-available information from the Federal Reserve Board, the Federal Reserve Banks, the Department of the Treasury, and the Government Accountability Office. We analyzed internal Federal Reserve studies and reports, including facility-specific policies, procedures, process controls, program management documentation, and internal performance reporting; and we interviewed key Federal Reserve staff (Federal Reserve Banks of New York (FRB-NY) and Boston (FRB-Boston), and the Board). We also analyzed the Board’s Division of Reserve Bank Operations and Payment Systems’ (RBOPS) reports and findings on the lending facilities, and relevant Reserve Banks internal auditors’ reports and findings.

In identifying risk areas, we analyzed oversight reviews, audits, and other analyses of the management and operation of these lending facilities, including RBOPS’ reports concerning TSLF (including TOP), PDCF, CPFF, and TALF, and Reserve Banks internal auditors’ reports

concerning TSLF, PDCF, AMLF, and CPFF. We also discussed various risk areas with Board, FRB-NY, and FRB-Boston officials to understand controls and risk mitigation strategies.

During our review, we assessed credit risk (the risk that borrowers are unable to meet their obligations in accordance with agreed-upon terms) and operational risk (the risk of inadequate or failed internal policies, procedures, and processes) for the lending facilities. We did not assess the potential risks in the information technology assets used to support these lending facilities.

Because our review objectives and field work focused on determining the overall function and status of the lending facilities and identifying risk areas, our review did not include detailed risk analysis or transaction testing of the individual lending facilities. We identified overall risk areas in each facility and how the Federal Reserve managed overall risks, but we did not perform detailed analysis or testing of the adequacy of the Federal Reserve's policies, terms and conditions; controls in managing and operating the lending facilities; contracts or agreements; or vendors' and agents' compliance with contracts or agreements. We did not assess the Federal Reserve's underlying analysis and methodology for determining the policies, procedures, terms, and conditions for each facility, such as collateral haircut amounts or interest and fees charged. We also did not analyze the borrowers who were extended credit under the lending facilities. Because audits of the financial statements of the Federal Reserve Banks and the lending facilities by an independent public accounting firm were in process at the time of our review, we did not perform an independent review of financial data reported for the lending facilities by the Federal Reserve.

We conducted our review from August 2009 through June 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the review to obtain sufficient and appropriate evidence to provide a reasonable basis for our findings and conclusions based on our objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our objectives.

## Appendix 4— List of FRB-NY Primary Dealers as of June 30, 2010

### Primary Dealers

BNP Paribas Securities Corporation  
Banc of America Securities LLC  
Barclays Capital, Inc.  
Cantor Fitzgerald & Company  
Citigroup Global Markets, Inc.  
Credit Suisse Securities (USA) LLC  
Daiwa Capital Markets America, Inc.  
Deutsche Bank Securities, Inc.  
Goldman, Sachs & Company  
HSBC Securities (USA), Inc.  
Jefferies & Company, Inc.  
J. P. Morgan Securities, Inc.  
Mizuho Securities USA, Inc.  
Morgan Stanley & Company, Inc.  
Nomura Securities International, Inc.  
RBC Capital Markets Corporation  
RBS Securities, Inc.  
UBS Securities LLC

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## Appendix 5— Changes in TALF Eligible Collateral, and Transaction Structure and Pricing

As a joint program, the Federal Reserve and Treasury coordinated on TALF policy deliberations, program updates, and other material changes to the TALF.

### 1) Eligible Collateral

- i) On February 6, 2009, the Federal Reserve announced a number of changes to eligible collateral, including
  - (a) clarifying the definition to not allow ABS that obtained AAA ratings through a third-party guarantee or were on watch for downgrade by an NRSRO,
  - (b) requiring that only ABS that cleared through DTC were eligible,
  - (c) adding auto ABS backed by recreational vehicle loans as eligible collateral, and
  - (d) establishing that auto and credit card ABS not have an expected life of more than five years.
- ii) On March 19, 2009, the Federal Reserve added ABS backed by vehicle fleet leases, equipment loans/leases, and floorplan loans as eligible TALF collateral, as well as ABS backed by receivables related to residential mortgage servicing advances.
- iii) On May 1, 2009, the Federal Reserve added newly-issued CMBS and insurance premium finance loans to the list of eligible ABS, effective in June 2009, and set forth terms and conditions for borrowing against such collateral.
- iv) On May 19, 2009, the Federal Reserve clarified that underlying credit exposures for all ABS must be originated by a U.S.-organized entity and made to U.S.-domiciled obligors if real property, and that ABS with a redemption option was not eligible unless approved by FRB-NY. It also announced the requirements for legacy CMBS, effective in July 2009, and clarified that eligible CMBS must have 95 percent or more of its credit exposure to U.S.-organized entities or U.S. branches of foreign banks.



- v) On June 23, 2009, the Federal Reserve added the requirement that a borrower may not pledge CMBS for which it or its affiliates are borrowers under a mortgage loan backing the CMBS in an amount greater than 5 percent of the aggregate principal balance of the loan pool.
- vi) On July 2, 2009, the Federal Reserve added legacy CMBS issued before January 1, 2009, as eligible collateral. It also clarified distinctions between newly-issued and legacy CMBS and removed the requirement that legacy CMBS had to be cleared through DTC.
- vii) On July 23, 2009, the Federal Reserve clarified that eligible collateral for a particular borrower that was originated by any of its affiliates was ineligible and set forth that ABS backed by commercial and government fleet leases, rental fleet leases, or floorplans were not eligible collateral for any borrower that was an obligor to more than 10 percent of the underlying loans. It also set forth that a borrower could not use collateral for which it was the manufacturer, producer, or seller of more than 10 percent of the underlying products.
- viii) On August 4, 2009, the Federal Reserve clarified that all underlying credit exposure for TALF collateral must come in the form of auto loans, student loans, credit card loans, equipment loans, floorplan loans, insurance premium finance loans, U.S. SBA guaranteed small business loans, receivables related to residential mortgage servicing advances (servicing advance receivables), or commercial mortgage loans that were issued on or after January 1, 2009 (except for SBA Pool Certificates or Development Company Participation Certificates, which must be issued on or after January 1, 2008, and commercial mortgage pass-through securities, which must have been issued before January 1, 2009 (legacy CMBS)).
- ix) On September 1, 2009, the Federal Reserve clarified that eligible ABS cannot contain interest payments that step up or step down to predetermined levels on set dates. The Federal Reserve also extended the eligibility of collateral secured by credit card, auto, floorplan, and insurance premium finance loans to those targeted to the refinancing of existing maturing ABS in the first quarter of 2010.

## **2) Transaction Structure and Pricing**

- i) On February 6, 2009, the Federal Reserve established benchmarks for pricing and haircuts for the collateral.

- ii) On March 3, 2009, the Federal Reserve revised the benchmarks for the different loans by collateral type, differentiated haircuts on different credit card ABS collateral, and clarified haircut percentage increases. In addition, the Federal Reserve announced that certain executive compensation requirements of the Emergency Economic Stabilization Act of 2008 would not be applied to TALF sponsors, underwriters, and borrowers as a result of their participation in the TALF.
- iii) On May 19, 2009, the Federal Reserve began to allow loans for ABS secured by SBA Pool Certificates and SBA Development Company Participation Certificates, and ABS backed by student loans or commercial mortgage loans to have up to five-year maturities and made corresponding changes to various calculations and formulas.
- iv) On July 2, 2009, the Federal Reserve increased the administrative fee from 5 to 20 basis points for any TALF loan with CMBS collateral. The Federal Reserve (1) clarified that the TALF loan amount for each legacy CMBS would be the lesser of the dollar amount price on the trade date, the market price as of the subscription date, or a value based on FRB-NY's risk assessment using a stressed valuation provided by the collateral monitor, and (2) set forth how the weighted average life of legacy CMBS would be calculated and repayment of principal should occur.
- v) On July 23, 2009, the Federal Reserve increased the administrative fee from 5 to 10 basis points for any TALF loan with non-mortgage-backed ABS collateral.
- vi) On October 5, 2009, the Federal Reserve announced a change to the procedures for evaluating ABS pledged to the TALF. The change was intended to ensure that TALF collateral continued to comply with existing high standards for credit quality, transparency, and simplicity of structure. The change required FRB-NY to conduct a formal risk assessment of all proposed collateral in addition to continuing to require that collateral for TALF loans receive two AAA ratings from TALF-eligible Nationally Recognized Statistical Rating Organizations (NRSROs). The FRB-NY assessment began with the November TALF subscription.
- vii) On November 13, 2009, and then again on January 15, 2010, the Federal Reserve issued revised conflict of interest guidance to TALF agents.
- viii) On November 13, 2009, the Federal Reserve issued a revised due diligence policy for TALF agents to further elaborate on provisions contained in the Master Loan and Security

Agreement. On January 20, 2010, FRB-NY issued additional due diligence guidance to TALF agents to better clarify expectations regarding practices viewed as effective in reviewing TALF borrowers and maintaining appropriate records.

- ix) On November 30, 2009, FRB-NY extended by one day the period of time in which monthly disbursements of principal and interest on underlying collateral would be distributed under the terms of existing TALF loans.
- x) On December 4, 2009, the Federal Reserve announced the adoption of a final rule that established criteria for determining the eligibility of NRSROs to issue credit ratings on ABS, other than those backed by commercial real estate loans, to be accepted as collateral for the TALF. The rule was intended to promote competition among NRSROs and ensure appropriate protection against credit risk for the U.S. taxpayer. The set of NRSROs eligible under the new criteria took effect with the February 2010 TALF subscription.