

**Assessment of the Compliance of the
Fedwire Securities Service with the
Recommendations for Securities Settlement Systems**

July 2007

Table of Contents

I.	Introduction.....	1
1.0	General.....	2
1.1	Scope of the Assessment.....	2
1.2	Institutional and Market Structure	2
1.3	Description of Regulatory Structure and Practices.....	10
1.4	Information and Methodology Used for Assessment	11
II.	Assessment of Observance	13
2.0	Executive Summary	13
2.1	Recommendation by Recommendation Assessment of Observance	16
	Recommendation 1: Legal Framework	16
	Recommendation 2: Trade Confirmation.....	23
	Recommendation 3: Settlement Cycles.....	25
	Recommendation 4: Central Counterparties (CCPs).....	26
	Recommendation 5: Securities Lending.....	27
	Recommendation 6: Central Securities Depositories (CSDs).....	28
	Recommendation 7: Delivery versus Payment (DVP).....	30
	Recommendation 8: Timing of Settlement Finality	32
	Recommendation 9: CSD Risk Controls to Address Participants’ Failures to Settle ..	34
	Recommendation 10: Cash Settlement Assets	39
	Recommendation 11: Operational Reliability	42
	Recommendation 12: Protection of Customers’ Securities.....	45
	Recommendation 13: Governance	48
	Recommendation 14: Access	52
	Recommendation 15: Efficiency	56
	Recommendation 16: Communication Procedures and Standards.....	59
	Recommendation 17: Transparency	60
	Recommendation 18: Regulation and Oversight.....	62
	Recommendation 19: Risks in Cross-border Links.....	65

Acronyms List

CCP	Central counterparty
CFR	Code of Federal Regulations
COP	Conference of Presidents
COSO	Committee on Sponsoring Organizations
CPSS	Committee on Payment and Settlement Systems
CPSIPS	Core Principles for Systemically Important Payment Systems
CUSIP	Committee on Uniform Securities Identification Procedures
CSD	Central securities depository
DVP	Delivery versus payment
ET	Eastern time
FDIA	Federal Deposit Insurance Act
FICC	Fixed Income Clearing Corporation
FRA	Federal Reserve Act
FRIT	Federal Reserve Information Technology
FSPC	Financial Services Policy Committee
GAO	Government Accountability Office
GSD	Government Securities Division
GSE	Government-sponsored enterprise
ICSD	International central securities depository
IOSCO	International Organization of Securities Commissions
ITOC	Information Technology Oversight Committee
MBSD	Mortgage-Backed Securities Division
MCA	Monetary Control Act of 1980
OCC	Office of the Comptroller of the Currency
OC	Operating circular
PSR	Payments system risk
RTTM	Real-time trade matching
SEC	Securities and Exchange Commission
SIFMA	Securities Industry and Financial Markets Association
SIPA	Securities Investor Protection Act
SOMA	System Open Market Account
SSS	Securities settlement system
TRADES	Treasury/Reserve Automated Debt Entry System
UCC	Uniform Commercial Code
U.S.C.	United States Code
WPO	Wholesale Product Office

Glossary of Terms

Central counterparty	An entity that is the buyer to every seller and seller to every buyer of a specified set of contracts.
Central securities depository	A facility (or an institution) for holding securities, which enables securities transactions to be processed by book-entry. Physical securities may be immobilized by the depository or securities may be dematerialized. In addition to safekeeping, a central securities depository may incorporate comparison, clearing, and settlement functions.
Confirmation	The process in which the terms of a trade are verified either by market participants directly or by some central entity.
Custody	The safekeeping and administration of securities and financial instruments on behalf of others.
Daylight credit	A negative balance in an institution's master account at any time during the Fedwire operating day. Also called intraday credit or daylight overdraft.
Delivery versus payment	A link between a securities transfer system and a funds transfer system that ensures that delivery occurs if, and only if, payment occurs.
Discount window	The Reserve Banks' overnight lending facility. Credit extended through the discount window must be secured by collateral.
Fedwire-eligible securities	Securities issued by the U.S. Department of the Treasury, federal agencies, government-sponsored enterprises, and certain international organizations that are issued, maintained, transferred, and settled over the Fedwire Securities Service.
International central securities depository	A central securities depository that clears and settles international securities or cross-border transactions in domestic securities.
Master account	An account with reserve and clearing balances on the books of a Reserve Bank. Master accounts do not contain book-entry securities.
Matching	The process for comparing the trade or settlement details provided by counterparties to ensure that they agree with respect to the terms of the transaction. Also called comparison.
Overnight overdraft	Daylight overdrafts that have not been extinguished prior to the close of the business day.
Repurchase agreement (repo)	A contract to sell and subsequently repurchase securities at a specified date and price.
Securities account	An account at a Reserve Bank containing book-entry securities.
Securities settlement system	The full set of institutional arrangements for confirmation, clearance, and settlement of securities trades and safekeeping securities.

Settlement bank

The entity that maintains cash accounts used to settle payment obligations associated with securities transactions. The settlement bank may be either a commercial bank, the settlement system itself, or a central bank.

I. Introduction

In November 2001, the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO) issued the *Recommendations for Securities Settlement Systems (Recommendations)*.¹ The *Recommendations* identified nineteen minimum standards that all securities settlement systems (SSSs) worldwide should meet to enhance international financial stability, reduce risk, increase efficiency, and provide adequate safeguards for investors.² Following on this effort, in November 2002, the CPSS and the Technical Committee of IOSCO developed an assessment methodology to facilitate evaluation of SSSs against the minimum standards.³

In support of the international risk-management standards for SSSs, the Board of Governors of the Federal Reserve System (Board) incorporated the *Recommendations* into the Federal Reserve Policy on Payments System Risk (PSR policy), which addresses risk-management in U.S. payments and settlement systems.⁴ The PSR policy was revised in January 2007 to set the expectation that systemically important SSSs conduct self-assessments against the *Recommendations* and disclose publicly the results.⁵

The Board, in close collaboration with the Federal Reserve Bank of New York, has completed this assessment of the Fedwire Securities Service[®] against the *Recommendations* pursuant to the PSR policy. The Fedwire Securities Service is a part of the institutional arrangements in the United States for the clearance and settlement of securities issued by the U.S. Department of the Treasury (Treasury), federal agencies, government-sponsored enterprises (GSEs), and certain international organizations.⁶ For the purposes of the assessment, these securities are collectively

¹ Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions, *Recommendations for Securities Settlement Systems*, Bank for International Settlements, November 2001. See www.bis.org/publ/cpss46.htm.

² The *Recommendations* defined an SSS broadly to include the full set of institutional arrangements for confirmation, clearance and settlement of securities trades and safekeeping of securities. As such, the *Recommendations* as a whole are not focused on a particular type of system, but apply to a wide variety of different “systems”, institutional arrangements and market practices that collectively provide the clearance and settlement infrastructure for a particular securities market.

³ Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions, *Assessment Methodology for “Recommendations for Securities Settlement Systems,”* Bank for International Settlements, November 2002. See www.bis.org/publ/cpss51.pdf.

⁴ The PSR policy is available at www.federalreserve.gov/paymentsystems/psr/default.htm.

⁵ The PSR policy also encourages system operators to refer to the assessment methodology for guidance on the minimum standards and to respond to the key questions included therein.

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⁶ GSEs are federally-chartered, privately-owned corporations designed by the federal government to pursue a public mission. GSEs are owned by shareholders and managed by a board of directors. In the United States, some GSEs provide liquidity to specific economic sectors by purchasing and pooling loans that are securitized, often with a GSE credit guarantee backing the security. GSEs rely primarily on debt financing and the issuance of asset-backed securities (securitized loans) for their day-to-day operations. GSEs do not receive direct federal funding, but their close relationship to the government leads most investors to assume that such institutions are implicitly government-backed. As a result, GSEs often have a funding advantage over or are able to provide credit guarantees at a lower

referred to as Fedwire-eligible securities. In this assessment, securities issued by the Treasury are referred to as Treasury securities and securities issued by all other Fedwire-eligible issuers are collectively referred to as non-Treasury securities. Other key components of the clearance and settlement arrangements for these securities in the United States include the Fixed Income Clearing Corporation (FICC) and the two clearing banks, The Bank of New York and JPMorgan Chase.⁷

1.0 General

As the U.S. central bank, the Federal Reserve plays several roles in the payment and settlement system. These roles include acting as fiscal agent for the Treasury, federal agencies, GSEs, and certain international organizations, and providing settlement services. In their capacity as fiscal agents, the Federal Reserve Banks (Reserve Banks) act as the central securities depository (CSD) for securities issued by these entities through the Fedwire Securities Service. The Fedwire Securities Service is also the key interbank settlement system for Fedwire-eligible securities. The objective of this assessment is to determine the extent to which the Fedwire Securities Service meets the *Recommendations*.

1.1 Scope of the Assessment

This assessment focuses on one component of the institutional arrangements for clearance and settlement of securities in the United States – the Fedwire Securities Service, which provides for the issuance, maintenance, transfer, and safekeeping of Fedwire-eligible securities.⁸ Where relevant, this assessment refers to other key entities that perform critical clearance and settlement services or functions for the Fedwire-eligible securities market, but these entities are not evaluated as part of this assessment against the *Recommendations*.

1.2 Institutional and Market Structure

Various institutional and market arrangements facilitate the issuance, trading, and clearance and settlement of Fedwire-eligible securities. The Reserve Banks, through the Fedwire Securities Service, provide key issuance, transfer, and settlement services. In addition, FICC and the two clearing banks perform clearance and settlement functions for market participants. Together, these entities constitute the core of the clearance and settlement arrangements for the Fedwire-eligible securities market. In addition, there are numerous brokers, dealers, and institutional and individual investors that trade and invest in this market.⁹ Although the scope of this assessment

cost than purely private-sector institutions. The stocks of some of the GSEs are traded on one or more public stock exchanges.

⁷ FICC, a wholly owned subsidiary of The Depository Trust & Clearing Corporation, is a private-sector clearing corporation that facilitates the clearance and settlement of Treasury and non-Treasury securities transactions. The Bank of New York and JPMorgan Chase specialize in providing the clearing and credit services needed by the primary dealers and other financial institutions in this market.

⁸ Securities issued by certain international organizations are outside the scope of this assessment. The market for these securities is small in comparison to the other Fedwire-eligible securities. In addition, the legal framework for securities issued by international organizations inside the United States differs slightly from the legal framework for the securities issued by the Treasury, federal agencies, and GSEs.

is limited to the Fedwire Securities Service, this section of the assessment discusses the Fedwire-eligible securities market more broadly. The life cycle of a security in this market has three segments – issuance, trading, and clearance and settlement.

Issuance

The Treasury, federal agencies, and GSEs use the Fedwire Securities Service to issue securities which have been sold publicly to investors in the primary market. As of year-end 2006, there were about \$36 trillion (par value) of securities held in custody on the Fedwire Securities Service. Those investors or entities that are not Fedwire Securities Service participants may hold securities indirectly through accounts at various intermediaries, or, in some cases, directly with the issuer, such as the Treasury. The majority of primary market issuance activity involves primary dealers purchasing securities for themselves and their customers.¹⁰

Trading

In the secondary market, brokers, dealers, depository institutions, and investors buy and sell Fedwire-eligible securities that have been purchased in the primary market.¹¹ Secondary market trades occur primarily between intermediaries such as dealers or through interdealer brokers, rather than through a recognized securities exchange.¹² This market is known as a dealer market or an over-the-counter market. Participation in the secondary market for these securities is concentrated among twenty-one primary dealers.

Secondary market trading for mortgage-backed securities, unlike Treasury and other non-Treasury debt securities, is conducted on a “To Be Announced” (T.B.A.) basis. When buying or selling mortgage backed-securities, traders contract for a specified yield with an agreed-upon delivery date, but they do not contract for a specific pool, number of pools, or the precise amount to be delivered.¹³ These specifics are not included because mortgage-backed securities trades

⁹ Broker is broadly defined in the Securities Exchange Act “as any person engaged in the business of effecting transactions in securities for the account of others.” See 15 U.S.C. § 78c(a)(4). Unlike a broker, who acts as an agent, a dealer acts as a principal. A dealer is defined in the Securities Exchange Act “as any person engaged in the business of buying and selling securities for such person’s own account through a broker or otherwise.” See 15 U.S.C. § 78c(a)(5). Broker-dealers may trade securities on their own behalf or on behalf of investors. For the purposes of this assessment, the term broker-dealer is used interchangeably with the term dealer.

¹⁰ Primary dealers are banks and securities broker-dealers that trade securities with the Open Market Desk at the Federal Reserve Bank of New York, which acts on behalf of the Reserve Banks in order to implement the Federal Open Market Committee’s monetary policy directives. See www.newyorkfed.org/markets/primarydealers.html.

¹¹ Treasury securities are also traded before issuance in the “when-issued” market. When-issued trading extends from the day a Treasury auction is announced until the issue date. Settlement of when-issued trades occurs on the issue date.

¹² Interdealer brokers often operate electronic trading systems through which they collect dealer quotes, post them to electronic screen services, and execute trades between dealers. Trading through an interdealer broker is conducted on a blind basis; neither the buyer nor the seller is known to the respective counterparty.

¹³ A pool is essentially a collection or group of mortgages, assembled by an originator or a servicer, that share similar characteristics, such as interest rates, maturities, and so on. The pools are used as collateral to create a mortgage-backed security. Each pool is identified by a unique pool number and has a prefix that identifies the mortgage product backing the pool. The GSEs define the standards and characteristics for mortgages they are willing to purchase and pool.

generally occur before current amortization factors are available for the pools and, therefore, the securities cannot be priced correctly at the time of trade execution.¹⁴

Clearance and Settlement

Once the trade is executed, dealers may use a number of market utilities to clear and settle the trade.¹⁵ Clearance for the vast majority of Fedwire-eligible securities is performed by one of the divisions of FICC: the Government Securities Division (GSD) or the Mortgage Backed-Securities Division (MBSD). FICC members submit their trades through inter-dealer brokers, who are also FICC members, or directly to the GSD or the MBSD.¹⁶

The GSD provides trade comparison, trade netting, and risk-management services to its members for both Treasury and non-mortgage-backed non-Treasury securities.¹⁷ The GSD is a central counterparty (CCP), interposing itself between the buyer and seller from a trade. Members may submit trade data on an automated basis to the GSD intraday, as trades are executed. In the comparison process, the GSD uses FICC's real-time trade matching system (RTTM) to receive, validate, and report trade data on the buy and sell sides of a securities transaction.¹⁸ Only trades that the GSD reports as compared are eligible for netting.

The GSD's netting system then aggregates and, on a multilateral basis, offsets deliver and receive obligations for netting members to establish a single net deliver or receive obligation for

¹⁴ Valuations of mortgage-backed securities take into account several factors, including principal and interest payments, as well as any prepayments that may occur before settlement. Calculations must be made each month to determine the amounts of principal and interest, or any prepayments earned for each pool. Calculations of principal and interest payments for mortgage-backed securities are based on factors that are published monthly by the processing agents for each pool. A factor is a decimal value reflecting the proportion of the outstanding principal balance of a security, which changes over time in relation to its original principal value, and is expressed as a factor of 1.0.

¹⁵ The types of trades include dealer financing or repurchase agreement (repo) transactions and outright purchases and sales on behalf of customers and for the dealer's own account. A repo is a sale of securities coupled with an agreement to repurchase the securities at a specified price on a later date. Common types of repos include deliver-out repos, triparty repos, and general collateral finance (GCF) repos. A deliver-out repo is a bilateral repo arrangement where the collateral (securities) is transferred against payment over the Fedwire Securities Service to the investor or its custodian. A triparty repo is a repo arrangement between three parties – the borrower (dealer), the lender (investor), and the triparty agent (dealer's clearing bank). A GCF repo is a bilateral repo where the lender of funds agrees to accept a variety of Treasury and other securities as collateral rather than one security type; these transactions are netted through FICC.

¹⁶ Dealers that are not FICC members or use an interdealer broker to submit trades to FICC may settle their trades on a gross basis either on the books of a depository institution or through the Fedwire Securities Service via a depository institution. Non-member dealers may also submit trades to FICC through a dealer member with which they have a correspondent relationship.

¹⁷ GSD membership includes, but is not limited to, all of the primary dealers, banks and broker-dealers that are not primary dealers, and inter-dealer brokers. For additional information about GSD membership and services, see www.ficc.com.

¹⁸ The RTTM service provides trade input matching for dealer-to-dealer trades and inter-dealer broker trades. RTTM enables participants to reduce the elapsed time between trade execution and the point at which legal and binding confirmation is achieved. The results of RTTM are reported on real-time screens available via a terminal service and through interactive messaging.

a member's trade activity in each security. It is at this point that the GSD interposes itself as the counterparty between the buyer and seller for these net settlement obligations.¹⁹

Net deliver and receive obligations must then be satisfied between the GSD and each counterparty. The GSD and the members instruct their clearing bank to deliver or receive securities to or from the GSD's accounts maintained at the two clearing banks. All securities deliveries, whether to or from one of the two clearing banks, are made against full payment over the Fedwire Securities Service or on the books of the clearing bank.²⁰ The GSD employs risk-management services to address the liquidity and credit risks that may arise in the clearance and settlement process. The GSD's risk-management practices include membership standards, margin and clearing-fund requirements, and loss allocation procedures.²¹

The MBSD provides trade comparison, trade netting, and risk-management services to its members that trade in the forward and over-the-counter option markets for mortgage-backed securities issued by the Government National Mortgage Association (Ginnie Mae), Federal National Mortgage Association (Fannie Mae), and Federal Home Loan Mortgage Corporation (Freddie Mac).²² The MBSD also provides an electronic pool notification (EPN) and confirmation service, which is a real-time electronic communications network through which buyers and sellers are able to transmit mortgage-backed securities pool information.²³ MBSD members, typically dealers or interdealer brokers, submit trade details on trade date.

After trade details are submitted, the MBSD performs its trade comparison, or matching. Depending on when the trade details are submitted, results of the matching process and confirmations are available to participants either on trade date or on the business day after trade date (T+1). To enable its participants to submit executed trade terms and receive timely comparison results, the MBSD uses RTTM and interactive messaging. For most trades, the MBSD multilaterally nets the trades and provides members with their net settlement obligations for each mortgage-backed security three days before the settlement date. Some other trades will require settlement on a gross basis. Unlike the GSD, the MBSD is not a CCP and therefore does not guarantee settlement for its members.²⁴ Members are responsible for settling their obligations directly with their counterparties outside of MBSD. On the pre-determined

¹⁹ This process, in which the GSD becomes the counterparty to every member, is known as novation (the substitution of a new legal obligation or contract for an old one, or the substitution of one party in a contract with another party).

²⁰ Securities delivered to the GSD's account at its clearing banks are instantaneously redelivered to the GSD's participants that are due to receive securities. The GSD's rules dictate that all deliveries whether to the GSD or from the GSD must be made by 3:00 p.m. eastern time (ET), prior to the closing time of the Fedwire Securities Service at 3:15 p.m. ET.

²¹ For additional information on the GSD's risk-management practices, see www.ficc.com.

²² MBSD membership includes commercial banks, GSEs, institutional investors, issuance companies, international organizations, investment managers, interdealer brokers, mortgage originators, private investment companies, and registered broker-dealers active in the MBSD market. For additional information about MBSD membership, see www.ficc.com.

²³ Sellers are required to submit pool information to the buyer at least forty-eight hours prior to delivery, either by telephone, facsimile, or EPN.

²⁴ For additional information on the MBSD's risk-management practices, see www.ficc.com.

settlement date, members will instruct their clearing banks to deliver securities against payment to their counterparties, with final settlement either on the Fedwire Securities Service or on the books of a clearing bank.

The GSD and the MBSD facilitate the clearance of the vast majority of secondary market trades of Fedwire-eligible securities. Settlement may then occur over the Fedwire Securities Service, on the books of a dealer, or on the books of a depository institution, usually one of the two clearing banks. Settlement of secondary market trades of Treasury securities typically occurs on T+1, but can, by agreement between counterparties, settle anytime from trade date to T+N, where N represents the number of business days between trade date and the future settlement date.²⁵ The final settlement of mortgage-backed securities occurs primarily on fixed monthly settlement dates, as designated by the Securities Industry and Financial Markets Association (SIFMA), in the settlement month that was contracted at the time of trade execution.²⁶

1.2.1 Fedwire Securities Service Overview

The Reserve Banks support the securities life cycle described above through the Fedwire Securities Service. The Fedwire Securities Service provides several critical services for the Fedwire-eligible securities market, including securities account maintenance, securities issuance, and transfer and settlement services. An overview of the Fedwire Securities Service follows.

Participants

The Reserve Banks' Operating Circular 7 (Book-Entry Securities Account Maintenance and Transfer Services) (OC 7) section 3.12 specifically defines the types of entities eligible to become participants.²⁷ Fedwire Securities Service participants include depository institutions, as defined in section 19 of the Federal Reserve Act (FRA), and certain other institutions, including U.S. branches and agencies of foreign banks.²⁸ As of year-end 2006, the Fedwire Securities Service had approximately 6,400 participants.

Access Methods

The Reserve Banks provide two types of electronic access channels, or online connections, to the Fedwire Securities Service – computer-to-computer connections and browser-based connections. Participants conducting large volumes of securities transfers typically use computer-to-computer connections with their Reserve Bank. Participants with computer-to-computer connections must

²⁵ Other trading arrangements have different settlement cycles. With regard to the settlement of overnight repos, the initial sell side of the transaction settles on trade date, while the repurchase side, or buy back of the securities, settles on T+1. The settlement of repos with longer maturities, however, called term repos, may occur outside of the Fedwire Securities Service. Forward trades in Treasury securities settle on a T+N basis, where N is greater than or equal to two business days.

²⁶ For additional information about SIFMA and mortgage-backed securities settlement dates, see www.sifma.org.

²⁷ OC 7 is available at www.frbservices.org/OperatingCirculars/index.html.

²⁸ See 12 U.S.C. § 461(b)(1)(A).

either program their own internal systems to interface with a Reserve Bank or install third-party vendor software on their internal systems that will allow them to interface with a Reserve Bank. In 2007, the Reserve Banks began migrating these customers to FedLine DirectSM, a new internet protocol based access channel.

Participants conducting small to moderate volumes of securities transfers typically access the Fedwire Securities Service via the browser-based connection, FedLine Advantage[®]. In contingency situations, participants that typically use computer-to-computer connections may also obtain access to the Fedwire Securities Service using FedLine Advantage. FedLine Advantage does not require participants to program their own internal systems to interface with a Reserve Bank. Instead, participants complete browser-based forms to initiate securities transfers.

In addition to online connections, participants can originate securities transfers off line by providing transfer instructions to the appropriate Reserve Bank via telephone. Once the Reserve Bank authenticates the instructions, it enters the information into the Fedwire Securities Service for execution. Offline securities transfers require manual processing by the Reserve Banks and cost more than online transfers. In 2006, offline transfers accounted for less than one percent of all transfers originated on the Fedwire Securities Service.

Securities Account Maintenance

Fedwire Securities Service participants may maintain one or more securities accounts, which are classified as either unrestricted or restricted. Participants typically use unrestricted accounts to segregate their internal holdings of securities from those they hold for their customers, which may include broker-dealers. Restricted accounts are used to pledge collateral to secure obligations related to Treasury programs, Federal Reserve discount window loans, payments system risk requirements, joint custody, and other government and federal agency purposes.²⁹ Withdrawals from restricted accounts typically require pledgee approval before securities are released. Neither the Treasury nor the Reserve Banks charge participants account maintenance fees for accounts containing only Treasury securities. The Reserve Banks, however, charge participants account maintenance fees for accounts containing non-Treasury securities.³⁰

Securities Issuance

The Reserve Banks, in their capacity as fiscal agents for the Treasury, federal agencies, and GSEs, facilitate the issuance of securities to Fedwire Securities Service participants. Original

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²⁹ Treasury programs for which securities collateral is pledged include Treasury Tax and Loan, Circular 176 (see 31 CFR Part 202), and Circular 154 (see 31 CFR Part 225).

³⁰ Refer to table 2 in the answers to key questions for Recommendation 15 for a listing of Fedwire Securities Service fees.

issuance of securities over the Fedwire Securities Service occurs between 8:30 a.m. and 2:30 p.m. eastern time (ET) each business day.

Transfer and Settlement

Participants use the Fedwire Securities Service to transfer securities to settle secondary market trades, to move collateral used to secure obligations, and to facilitate repurchase agreement (repo) transactions. In 2006, the Fedwire Securities Service processed more than 22 million securities transfers, valued at more than \$377 trillion. The average number of transfers per day in 2006 was nearly 90,000, with a total daily average value of approximately \$1.5 trillion.

The Fedwire Securities Service processes securities transfers on a gross basis in real time. The transfers of securities and any related funds are final and irrevocable when a Reserve Bank makes the appropriate debit or credit entries to the respective sending and receiving participants' securities accounts and corresponding master accounts.³¹ A notice of the transfer is conclusive evidence that the debit(s) and credit(s) were made. Securities transfers can be made as a delivery-versus-payment (DVP) transaction or as a free of payment transaction. Most securities transfers are DVP transactions.

During a typical DVP transaction, the sending participant (sender) initiates the securities transfer by sending a transfer message to the Fedwire Securities Service requesting a transfer of securities to a receiving participant (receiver). The message identifies the sender and receiver, the securities issue and par amount to be transferred, and any payment information. The Fedwire Securities Service checks the message for syntax errors and verifies that the sender has the correct security and security balance (par amount) in its securities account.³² Once verified, the securities are automatically withdrawn from the sender's securities account and deposited to the receiver's securities account, and simultaneously, the corresponding funds are withdrawn from the receiver's master account and deposited to the sender's master account. Once the transfer is complete, the Fedwire Securities Service sends both the sender and the receiver notice acknowledging that the message has been processed.³³

³¹ A master account, which may hold reserve or clearing balances, is also referred to as a funds account. Additional information on reserve requirements and clearing balances can be found in the *Reserve Maintenance Manual*, available at www.frbservices.org/Accounting/pdf/rmm.pdf.

³² The Fedwire Securities Service only accepts messages in the proprietary message format. The key data elements of the message format include the message type/subtype code, the sender's routing number, the sender's securities account, securities CUSIP number, par amount, payment amount, receiver's routing number, and the receiver's securities account.

³³ Although OC 7 allows a Reserve Bank to reject a transfer message for any reason, transfer instructions are generally accepted as long as security procedures are met and the instructions conform to proper syntax. A transfer message will be rejected if (a) the message does not designate which securities account is to be credited, (b) the sender does not have all of the required securities in its account, (c) the par amount of the transfer exceeds \$50 million (unless the transfer involves a restricted account), or (d) the appropriate identifying number of the sender or receiver is not used. The Fedwire Securities Service will inform the sender of a rejected transfer message, but will not inform the intended receiver of the rejection. A Reserve Bank reserves the right to debit or credit securities accounts, without further authorization or instruction, to correct any transfer errors.

Principal and Interest Processing

The holder of the securities as of a specified record date receives the principal and interest payable on the securities.³⁴ On the payment date, the Fedwire Securities Service releases principal and interest payments for Treasury and federal agencies' securities before 9:15 a.m. ET.³⁵ All other Fedwire-eligible securities' principal and interest payments are released when the issuers have funded their funder accounts.³⁶ These issuers have the flexibility to pay holders of their securities on a flow basis with incremental payments based upon a pre-established percentage of the entire obligation. Participants' master accounts are credited for the principal and interest amounts followed by a notification confirming the completed transfer.

Unlike the principal and interest payments for Treasury securities, the principal and interest payments for mortgage-backed securities vary from month to month. The mortgage-backed securities issuers initiate the process of paying principal and interest by transmitting the pool factors electronically to the Reserve Banks. The Reserve Banks then validate principal and interest data from the issuers before the payment date. This process is referred to as "factor file" processing. Once this validation process is complete, the Fedwire Securities Service sends a notification of release of expected principal and interest payments to participants.

Automated Claim Adjustment Processing

The Fedwire Securities Service's automated claim adjustment processing feature for mortgage-backed securities supports fails, interim accounting, and repo tracking. Claim adjustments are processed for securities when the appropriate beneficiary is different than the holder on the record date.³⁷ This optional feature allows participants to add information to transfer messages, using specific field tags in the transfer message format, which the Fedwire Securities Service uses to calculate adjustment payments owed to counterparties in the related transfers.

Securities Stripping and Reconstitution

The Fedwire Securities Service provides securities stripping and reconstitution processing for certain securities. The securities stripping process separates the securities' principal and interest components so each component can be traded as a separate security in the secondary market. Participants can request that a security be stripped by transferring securities free of payment to a designated account at the Federal Reserve Bank of New York. Following receipt of the securities in the account, the Fedwire Securities Service creates separate securities for each

³⁴ Participants that do not have master accounts arrange for a correspondent depository institution to receive principal and interest payments on their behalf.

³⁵ Federal agency securities include those backed by the full-faith and credit of the U.S. Government; these include Defeasance Trust for Sallie Mae, Department of Veteran Affairs, Ginnie Mae, and Tennessee Valley Authority.

³⁶ For additional information on incremental principal and interest payments, see www.frbservices.org/Wholesale/FedwireSecuritiesPSR.html.

³⁷ For additional information on the automated claim adjustment processing feature, see OC 7 appendix D at www.frbservices.org/OperatingCirculars/index.html.

principal and interest component, transfers these securities back to the sender, and, at the same time, retires the original security.

Participants may also reconstitute or reassemble the principal and interest components of a bond or note. Once the original security is reconstituted it can then be traded and transferred as a whole bond in the secondary market. Participants can request that a security be reconstituted by transferring the principal and interest components free of payment to a designated account at the Federal Reserve Bank of New York. These transfers must contain a unique identifier, consisting of ten alphanumeric characters, which links the interest and principal components. The Fedwire Securities Service retires the principal and interest components and creates a reconstituted security.

Operating Hours

The core operating hours for the Fedwire Securities Service are 8:30 a.m. to 3:15 p.m. ET, Monday through Friday, excluding designated holidays.³⁸ Participants may originate online securities transfers during these core operating hours. Online participants may initiate reversal transactions until 3:30 p.m. ET and move or reposition their securities among their securities accounts until 4:30 p.m. ET against payment and until 7:00 p.m. free of payment.³⁹ Offline participants may initiate securities transfers or other requests from 9:00 a.m. to 1:30 p.m. ET for same-day processing and until 4:00 p.m. ET for future-day processing. Under special circumstances, participants may ask the Reserve Banks to extend the Fedwire Securities Service operating hours.⁴⁰

1.3 Description of Regulatory Structure and Practices

The oversight, regulation, and supervision of the Fedwire-eligible securities market are conducted by the Board, the Treasury, the U.S. Securities and Exchange Commission (SEC), and other federal agencies. The Fedwire Securities Service is overseen by both the Board, as the general supervisor of the Reserve Banks, and the Treasury, as the Reserve Banks' fiscal principal. The SEC is the primary regulator of clearing agencies, including FICC, and certain market participants, such as broker-dealers. The Federal Reserve and the Treasury's Office of the Comptroller of the Currency (OCC) have supervisory responsibilities for the two clearing banks. Regulations governing Fedwire-eligible securities are promulgated by the issuer or its regulator.

The Board is responsible for the general supervision of the Reserve Banks, which own and operate the Fedwire Securities Service. The Board conducts periodic exams of the Reserve Banks, approves Reserve Bank budgets, reviews pricing of Reserve Bank financial services, and engages an independent external auditor to audit the financial statements of the Reserve Banks. The Board also closely monitors developments in and the performance of the Fedwire Securities

³⁸ A list of holidays is available in OC 7 appendix B at www.frbsecurities.org/OperatingCirculars/index.html.

³⁹ Transfers may be reversed only by a separate transfer effected by a transfer message using the reversal code.

⁴⁰ Guidelines pertaining to the extension of Fedwire Securities Service operating hours are provided in OC 7.

Service. In addition, internal Reserve Bank auditors test control procedures for Reserve Bank operations, including the Fedwire Securities Service, and report the results of their audits directly to each Reserve Bank's board of directors.⁴¹ As the fiscal principal, the Treasury also oversees certain fiscal agency activities of the Fedwire Securities Service. The Government Accountability Office (GAO), the investigative arm of the U.S. Congress, may also examine activities of the Fedwire Securities Service.

The SEC is charged by statute to facilitate the establishment of a national system for the prompt and accurate clearance and settlement of securities transactions.⁴² The SEC is the primary regulator of the U.S. securities markets and regulates, among other things, clearing agencies, such as FICC, and market participants, such as broker-dealers. SEC supervisory authority includes reviewing and approving new rules and proposed changes to existing rules of clearing agencies, examining registered clearing agencies and market participants, and investigating possible violations of securities law.

The Federal Reserve and the OCC supervise the two clearing banks, The Bank of New York and JPMorgan Chase, respectively.⁴³ The banking regulators have the power to examine banks and issue certain rules and regulations governing banking activities. The regulators may take supervisory actions against non-compliant banks or banks engaging in unsound activities by removing officers and directors, negotiating agreements to change practices, and issuing cease-and-desist orders.

The Treasury and other federal agencies are responsible for promulgating the regulations governing Fedwire-eligible securities. The Treasury/Reserve Automated Debt Entry System (TRADES) regulations, which govern Treasury bonds, notes, and bills, are promulgated by the Treasury. Other federal agency securities are governed by the comparable regulations to TRADES, as adopted by their respective issuer. Regulations governing GSE securities are promulgated by the issuer's regulator.

1.4 Information and Methodology Used for Assessment

The methodology used for this assessment follows the guidelines provided in the CPSS-IOSCO *Assessment Methodology for Recommendations for Securities Settlement Systems (Assessment Methodology)*. Part II of this assessment provides an executive summary and a detailed assessment of the Fedwire Securities Service against the *Recommendations*. In the detailed assessment of observance, answers are provided, wherever applicable, for each of the key questions outlined in the *Assessment Methodology*. The *Assessment Methodology* provides detailed guidance for assigning an assessment category (observed, broadly observed, partly observed, non-observed, and not applicable) for each recommendation based on the answers to these key questions. In addition, clarifying comments and other relevant information are

⁴¹ For additional information on the Reserve Bank boards of directors, see the answers to key questions for Recommendation 13 or see www.federalreserve.gov/generalinfo/listdirectors/about.htm.

⁴² For additional information on the SEC, see www.sec.gov.

⁴³ For additional information on the OCC and its functions, see www.occ.treas.gov. For additional information on the Federal Reserve's regulation and supervision role, see www.federalreserve.gov/banknreg.htm.

included to inform the assessments because this guidance is not intended to be applied in a purely mechanical fashion. Although the Fedwire Securities Service may not strictly meet an assessment criterion, it may successfully address the safety or efficiency objectives that underlie the recommendation, key issues, and key questions. All sources of information used in this assessment, where appropriate, have been cited.

II. Assessment of Observance

2.0 Executive Summary

The Fedwire Securities Service is mostly compliant with the standards outlined in the *Recommendations* and appropriately addresses legal, pre-settlement, settlement, operational, and custody risks, and other issues. The Fedwire Securities Service observed thirteen of the nineteen recommendations. Recommendation 2 is broadly observed and Recommendation 14 is partly observed, but residual risks in those areas are generally mitigated by other market utilities and industry practices. Four recommendations (Recommendations 3, 4, 5, and 19) are not directly applicable.

Legal Risk

U.S. law provides a well-established legal framework for the Fedwire-eligible securities market and, more specifically, the Fedwire Securities Service (Recommendation 1). This legal framework, which is based on statutes, regulations, and operating agreements, provides a high degree of legal assurance for transaction finality and asset security. The legal framework is public and readily accessible.

Pre-settlement Risk

Pre-settlement risk in the Fedwire-eligible securities market is addressed by other market utilities that provide trade confirmation, trade netting, and other post-trade services. In this context, the Fedwire Securities Service does not provide trade confirmation services or require participants to match settlement instructions (Recommendation 2). The Reserve Banks also do not interpose themselves as a CCP to trades in the market for Fedwire-eligible securities given the existence of FICC as an industry-owned CCP for Treasury and other non-mortgage-backed non-Treasury securities (Recommendation 4). In addition, settlement cycles are determined by market conventions (Recommendation 3) and securities lending occurs outside the Fedwire Securities Service (Recommendation 5).

Settlement Risk

The Fedwire Securities Service's rules and procedures provide a number of tools by which the system mitigates settlement risk. The Fedwire Securities Service is a real-time settlement system that provides for DVP and final settlement in central bank money (Recommendations 7, 8, and 10). In addition, the Reserve Banks may extend intraday credit to Fedwire Securities Service participants to ensure timely settlement of securities transfers, while employing various risk controls to limit credit risk to the Reserve Banks (Recommendation 9). Finally, virtually all securities eligible for the Fedwire Securities Service are dematerialized, which reduces the cost and risk associated with the custody and transfer of securities (Recommendation 6).

Operational Risk

The Fedwire Securities Service maintains a high degree of security and operational reliability. The Federal Reserve manages an overall information security program, which is designed to

protect information from loss or misuse, and regularly tests extensive contingency arrangements (Recommendation 11).

Custody Risk

Securities held in the Fedwire Securities Service are held in individual participants' accounts, and are subject to regular verification and a series of supervisory and internal controls (Recommendation 12).

Other Issues

Several other issues do not fit neatly into the aforementioned risk categories, including governance issues and risk disclosure. The Reserve Banks, as the CSD, are subject to a governance structure, which includes the Board, the Treasury, and other government entities, that is designed to pursue the public interest goals of settlement system security, efficiency, and accessibility (Recommendations 13). The Reserve Banks permit fair and open access to the Fedwire Securities Service to all eligible participants, although the types of entities that are eligible are generally limited to domestic and foreign depository institutions with operations in the United States and governmental entities authorized to use the Federal Reserve as fiscal agent (Recommendation 14). The Reserve Banks maintain safe, secure, and cost-effective operations by regularly reviewing service levels and improving the efficiency of the Fedwire Securities Service (Recommendation 15). The Reserve Banks are also subject to transparent oversight and regulation (Recommendation 18). The Fedwire Securities Service communication procedures and standards are easily convertible into international standards (Recommendation 16). The Fedwire Securities Service does not, however, have links to other CSDs to settle cross-border trades (Recommendation 19). Finally, this assessment, in conjunction with other publicly available information, is intended to assist Fedwire Securities Service participants in identifying and evaluating accurately the risks and costs associated with using the service (Recommendation 17).

With respect to broadly observed Recommendation 2 and partly observed Recommendation 14, no steps are recommended or currently contemplated to achieve full observance. In the case of Recommendation 2, trade confirmation is completed in a timely manner outside of the Fedwire Securities Service. FICC provides trade confirmation services for Fedwire-eligible securities. In the case of Recommendation 14, the Board and the Treasury have considered providing direct access to the Fedwire Securities Service to broker-dealers; however, the analysis concluded that without routine access to credit, direct access to the Fedwire Securities Services for broker-dealers would be of limited value to them.

Table 1 provides a summary of assessment results by category.

Table 1: Collation of assessment results by assessment category	
Assessment category	Recommendations
Observed	1, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18
Broadly Observed	2
Partly Observed	14
Non-observed	
Not Applicable	3, 4, 5, 19

2.1 Recommendation by Recommendation Assessment of Observance

Recommendation 1: Legal Framework

Securities settlement systems should have a well-founded, clear, and transparent legal basis in the relevant jurisdictions.

Answers to Key Questions

1. Are the laws, regulations, rules and procedures, and contractual provisions governing securities settlement arrangements public and readily accessible to system participants?

The laws, regulations, rules and procedures, and contractual provisions that constitute the legal framework governing the Fedwire Securities Service are public and readily accessible, via the Internet, to system participants and the general public.

2. (i) Does the legal framework demonstrate a high degree of legal assurance that:
 - (a) transactions are enforceable?

The legal framework governing the Fedwire Securities Service, and the Fedwire-eligible securities market broadly, offers a high degree of legal assurance that transactions are enforceable. The rights and obligations of parties to, and the enforceability of, transactions in the Fedwire Securities Service are subject to a broad and detailed treatment in this legal framework. The statutes, regulations, and agreements relevant to the Fedwire Securities Service are clearly stated, understandable, internally coherent, and unambiguous.

Federal Statutes

Section 15 of the FRA authorizes the Reserve Banks to act as fiscal agents for the Treasury.⁴⁴ The Reserve Banks are authorized by other federal statutes to act as fiscal agents for all of the other issuers in a similar capacity.⁴⁵ The Reserve Banks operate the Fedwire Securities Service pursuant to these authorities. The Fedwire Securities Service is the mechanism through which the Reserve Banks issue and maintain book-entry records evidencing ownership of the Treasury and non-Treasury debt.⁴⁶

⁴⁴ See 12 U.S.C. § 391.

⁴⁵ See 12 U.S.C. § 393 (Farm Credit System); 12 U.S.C. § 1435 (Federal Home Loan Banks); 12 U.S.C. § 1441 (Financing Corporation); 12 U.S.C. § 1441b (Resolution Funding Corporation); 12 U.S.C. § 1723a(g) (Government National Mortgage Association and Federal National Mortgage Association); 12 U.S.C. § 1452 (Federal Home Loan Mortgage Corporation); 12 U.S.C. § 2279aa-3(d) (Federal Agricultural Mortgage Corporation); 22 U.S.C. § 290i-5 (African Development Bank); 22 U.S.C. § 285d (Asian Development Bank); 22 U.S.C. § 283d (Inter-American Development Bank); 22 U.S.C. § 286d (Bank for Reconstruction and Development); and 22 U.S.C. § 282d (International Finance Corporation).

Treasury and other Federal Agency Regulations

The Treasury promulgated the TRADES regulations to govern Treasury bonds, notes, and bills on the Fedwire Securities Service.⁴⁷ In accordance with the TRADES regulations, federal law governs the rights and obligations of, and claims against, the U.S. government and the Reserve Banks with respect to the operation of the Fedwire Securities Service and the servicing of Treasury securities. TRADES regulations provide that state law governs the rights and obligations of the various parties with respect to book-entry securities to the extent such state law is consistent with TRADES. Federal agency issuers or, in the case of GSEs, their regulators have promulgated regulations comparable to TRADES.

State Statutes

In addition to federal statutes and regulations, transaction enforceability is governed by state securities and commercial code. Each of the fifty states, the District of Columbia, the Commonwealth of Puerto Rico, and the U.S. Virgin Islands have adopted Uniform Commercial Code (UCC) Articles 8 and 9 into state law.⁴⁸ UCC Article 8 sets out rules regarding the rights and obligations of entitlement holders, securities intermediaries, and other parties in both direct and indirect systems for holding securities. UCC Article 9 governs the rights and obligations of parties to a secured transaction.

Federal Reserve Bank Operating Circulars

In addition to the aforementioned statutes and regulations, each Reserve Bank publishes identical operating circulars for the Reserve Banks' various services that describe the terms agreed upon by participants.⁴⁹ Under both UCC Article 8 and the federal regulations governing the Fedwire Securities Service, these agreements have a special status as clearing corporation agreements.⁵⁰ Like TRADES and corresponding agency regulations, the operating circulars supersede inconsistent provisions of state law. The operating circulars that are directly relevant to providing the Fedwire Securities Service are OC 7, Operating Circular 1 (Account Relationships) (OC 1), and Operating Circular 5 (Electronic Access) (OC 5).

⁴⁶ At the request of the Treasury, the Reserve Banks also issue certain other federal agency securities using this authority.

⁴⁷ See 31 CFR Part 357 subpart B.

⁴⁸ The UCC was developed and endorsed by the National Conference of Commissioners on Uniform State Law (NCCUSL) and the American Law Institute, two private-sector organizations that study and recommend statutory changes and promote uniformity among state laws. The UCC is not effective in a state until the state's legislature adopts it.

⁴⁹ Reserve Bank operating circulars are available at www.frb services.org/OperatingCirculars/index.html.

⁵⁰ A clearing corporation is defined as a person registered as a clearing agency under the federal securities laws, a Reserve Bank, or any other person that provides clearance and settlement services that would be required to register as a clearing agency but for an exclusion or exemption to the federal securities laws if such person promulgates rules and is subject to regulation by a federal or state governmental authority. See UCC § 8-102.

OC 7 sets forth the terms under which each Reserve Bank maintains securities accounts and effects transfers of Fedwire-eligible securities for participants in the Fedwire Securities Service. In accordance with OC 7, a participant may hold Fedwire-eligible securities at a Reserve Bank in one or more securities accounts. In addition, OC 7 specifies the Fedwire Securities Service operating hours, rules for extending the operating hours, security procedures, format and media requirements for security transfers, charges for securities transfer services, automated claim adjustments for mortgage-backed securities, and contingency guidelines. OC 7 also sets forth the terms under which the Reserve Banks hold book-entry securities in custody for the benefit of a state or local government or unit thereof to which the securities have been pledged.

OC 1 sets out the terms for opening, maintaining, and terminating a master account with a Reserve Bank. With few exceptions, a participant holds only one master account with its Reserve Bank. A participant must establish and maintain a master account to send or receive securities transfers against payment. In addition, OC 1 contains provisions regarding a participant's default on an obligation to a Reserve Bank. Pursuant to OC 1, the account holder grants its Reserve Bank all of the account holder's right, title, and interest in property, whether owned at that time or acquired in the future, in the possession or control of, or maintained with, any Reserve Bank, including securities, security entitlements, and security accounts.

OC 5 sets forth the terms under which a participant may access Reserve Bank services, including the Fedwire Securities Service, by means of electronic connections.

(b) customers' assets are adequately protected (particularly against the insolvency of custodians and intermediaries)?

The legal framework governing the Fedwire Securities Service, and the Fedwire-eligible securities market broadly, also offers a high degree of legal assurance that customers' assets are protected.

Interests in Fedwire-eligible securities are held on either direct or indirect holding systems. In direct holding systems, interests in securities are held on the books of the issuer or their official registrar. For example, individuals and entities may directly hold these interests on the books of the Treasury, through *TreasuryDirect*. Although there is no equivalent to *TreasuryDirect* for non-Treasury securities, it may be possible to be a direct holder of non-Treasury securities at the official registrar in certificated form.

In indirect, or tiered, holding systems, interests in securities are recorded on the books of the securities intermediary. When securities are transferred in an indirect holding system, the transfer is reflected in accounts on the books of the securities intermediary. The Fedwire Securities Service is an indirect holding system, in which participants hold accounts with Reserve Banks and nonparticipants hold accounts on the books of a participant or some other intermediary.

In the Fedwire Securities Service, participants hold securities accounts with the Reserve Banks. The Reserve Banks are the custodians for participants' securities. As custodians, they maintain records of the identities and interests of each participant. Because participants' assets are held

directly with the central bank, those assets are adequately protected against a custodial insolvency. Also, participants have limited rights against the Treasury, federal agencies, and GSEs for principal and interest payments.⁵¹

Nonparticipants hold securities accounts or interests on the books of a participant or some other intermediary that holds its interests with a participant. The Reserve Banks do not maintain records of the identities or interests of nonparticipants. Nonparticipants do not have any rights against the issuer or any intermediary other than their direct intermediary. While Reserve Banks do not face liquidity constraints as part of the U.S. central bank, nonparticipants' custodians may. As indicated below, however, U.S. law protects nonparticipants' assets held at a custodian or intermediary.

The process for distributing assets held by insured depository institutions that become insolvent is governed by the liquidation provisions of the Federal Deposit Insurance Act (FDIA).⁵² The FDIA liquidation provisions generally provide that the beneficial owner of a Fedwire-eligible security held by a failed bank normally would be entitled to the security if the customer's exclusive ownership interest is properly documented.

The failure of entities other than insured depository institutions, such as broker-dealers, would require application of other statutes. The stockbroker liquidation procedures under the U.S. Bankruptcy Code and the Securities Investor Protection Act (SIPA) provide that, in general, a trustee for a failed broker-dealer will (1) return to customers property that is recorded in a specific customer's name, (2) pay customers their pro rata share of other assets in proportion to the dollar value of their total positions, and (3) provide customers (other than banks and broker-dealers for their own account) with reimbursement by the Securities Investor Protection Corporation for losses up to the statutory limit.⁵³

For additional information on the protection of customer property, see the answers to key questions for Recommendation 12.

- (ii) Does the legal framework demonstrate a high degree of assurance that there is a clear and effective legal basis for:
 - (a) arrangements for the immobilisation or dematerialisation of securities and the transfer of securities by book entry?

The legal framework provides a high degree of assurance that there is a clear and effective legal basis for the immobilization or dematerialization and transfer of Fedwire-eligible securities.

Section 15 of the FRA and other federal statutes provide the legal basis for the Reserve Banks to issue, maintain, and transfer Fedwire-eligible securities.⁵⁴ TRADES and corresponding agency

⁵¹ Under U.S. law, however, indirect holders are not typically entitled to claims against an issuer.

⁵² See 12 U.S.C. § 1811.

⁵³ See 11 U.S.C. § 753 and 15 U.S.C. § 78fff-(c)(1).

regulations, UCC Article 8, and OC 7 explicitly and specifically set out rules governing transfers of interests in securities recorded in book-entry form by the Reserve Banks.

For additional information on immobilizing or dematerializing securities, see the answers to key questions for Recommendation 6.

(b) netting arrangements?

U.S. law supports netting arrangements relating to securities transactions, but the Fedwire Securities Service does not provide netting services.

(c) securities lending arrangements (particularly the ability to obtain a security interest in assets)?

U.S. law supports securities lending arrangements, but the Fedwire Securities Service does not provide securities lending services.

For additional information on securities lending arrangements, see the answers to key questions for Recommendation 5.

(d) finality of settlement?

OC 7 defines finality of settlement for transfers through the Fedwire Securities Service. OC 7 states that, unless a transfer is rejected by the Fedwire Securities Service, all debits and credits with respect to a transfer become final at the time that the debits and credits are posted to the participants' securities accounts and, if the transfer is against payment, the participants' master accounts. Notice of the transfer is conclusive evidence that the debit(s) and credit(s) were made.

For additional information on settlement finality through the Fedwire Securities Service, see the answers to key questions for Recommendation 8.

(e) arrangements for achieving delivery versus payment?

OC 7 provides a clear and effective legal basis for the DVP feature in the Fedwire Securities Service. Under OC 7, a securities transfer may be either (1) a securities transfer that does not involve any funds credit or debit to a master account other than a transaction fee (free transfer) or (2) a securities transfer that is accompanied by a funds credit to the master account of the sender and a funds debit to the master account of the receiver, for the amount of the transfer (transfer against payment). A participant must maintain a master account at a Reserve Bank to be a sender or receiver of transfers against payment. A DVP transfer is completed under OC 7 when the debits and credits associated with both the securities transfer and the funds movements are made.

⁵⁴ See 12 U.S.C. § 391 and footnote 44.

For additional information on DVP through the Fedwire Securities Service, see the answers to key questions for Recommendation 7.

- (iii) Has a court in the jurisdiction ever failed to uphold the legal basis of these activities/arrangements? And if so, for what reasons?

No U.S. court has failed to uphold the legal basis of the Fedwire Securities Service.

3. Are the rules of the system and contracts between system participants enforceable notwithstanding the insolvency of a participant?

The rules governing the Fedwire Securities Service and contracts between participants are enforceable notwithstanding the insolvency of a participant. U.S. insolvency law does not include a zero-hour rule that allows the unwinding of securities transfers. Moreover, both the Bankruptcy Code and the FDIA generally uphold the enforceability of contracts to deliver securities that involve a financial intermediary, notwithstanding the insolvency of one of the parties to the contract.

For additional information on the protection of a customer's position in the event of the custodian's insolvency, see the answers to key questions for Recommendation 12.

4. (i) Is there a significant level of cross-border participation in the SSS? If so, please describe and answer Question 4(ii).

As a general matter, the Fedwire Securities Service does not permit participation by foreign banks without a U.S. presence.⁵⁵ Fedwire Securities Service participants generally are either U.S. depository institutions or U.S. branches or agencies of foreign banks. Participants may, however, conduct cross-border activity through direct or relayed links to other central securities depositories (CSDs) or international central securities depositories (ICSDs).⁵⁶

In addition, it is Federal Reserve policy to accept securities for the Fedwire Securities Service only if the offering documents for the securities specify that the securities are governed by U.S. law.⁵⁷

- (ii) Are other jurisdictions relevant for determining the adequacy of the legal framework? How has this been determined? Has the legal framework been

⁵⁵ Some foreign central banks, foreign monetary authorities, foreign governments, and certain international organizations participate in the Fedwire Securities Service.

⁵⁶ The *Assessment Methodology* contains a detailed description of direct, indirect, and relayed links. See www.bis.org/publ/cpss51.htm.

⁵⁷ Although international organizations are beyond the scope of this assessment, securities issued by these organizations on the Fedwire Securities Service are also governed by U.S. law. The Reserve Banks act as fiscal agents and depositories for these international organizations, and these actions are governed by U.S. law.

evaluated for the other relevant jurisdictions? Are there conflict of laws issues and, if so, have they been addressed?

The laws of non-U.S. jurisdictions are not directly applicable to disputes involving Fedwire Securities Service participants.

Assessment

Recommendation 1 is observed.

Recommendation 2: Trade Confirmation

Confirmation of trades between direct market participants should occur as soon as possible after trade execution, but no later than trade date (T+0). Where confirmation of trades by indirect market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.

Answers to Key Questions

1. What percentage of trades between direct market participants is submitted to a trade confirmation system on the trade date (T+0)? How soon after submission are problems communicated to the appropriate parties?

The Fedwire Securities Service does not provide trade confirmation services. As described in section 1.2 of the Introduction, trade confirmation services for Fedwire-eligible securities are provided by FICC.⁵⁸

2. Does the CSD require settlement instructions to be matched prior to settlement?

The Fedwire Securities Service does not require settlement instructions to be matched prior to settlement. The matching of settlement instructions is not seen as necessary given the existence of trade matching, confirmation, and netting services by FICC prior to settlement. In addition, experience has shown that only a small percentage of the transfers originated are reversed.⁵⁹

3. Are there trade confirmation procedures that are capable of comparing trade information between direct and indirect market participants by T+1? Is use of the system mandatory? For what types of indirect market participants? Of those trades involving indirect market participants for which confirmation is required, what percentage is confirmed by T+0, by T+1, by the contractual settlement date?

In the United States, confirmation between direct and indirect market participants is not required.

Assessment

Recommendation 2 is broadly observed.

⁵⁸ For statistics on trade confirmations and a description of the trade confirmation process, see www.ficc.com.

⁵⁹ Participants using the Fedwire Securities Service may reverse securities transfers. Securities transfers may be reversed only by initiating a new, separate transfer using the reversal code. In 2006, transfer messages using the reversal code accounted for less than 5 percent of all transfer messages.

Comments

In assigning an assessment rating, the *Assessment Methodology* lists three key issues to consider: (1) confirmation of trades between direct market participants should occur no later than trade date; (2) settlement instructions should be matched prior to settlement; and (3) where confirmation of trades by indirect market participants is required by regulators, clearing systems, or market operators, it should occur as soon as possible after trade execution, preferably on trade date, but no later than T+1.

The guidance in the *Assessment Methodology* indicates that in some cases, a securities settlement system may not strictly meet the assessment criteria for observance but may successfully address the safety or efficiency objectives that underlie the recommendation and the key issues and key questions. The intent of Recommendation 2 is to ensure that settlement failures are avoided and risks and costs are managed effectively. Although the Fedwire Securities Service does not pre-match settlement instructions, the existence of prompt pre-settlement confirmation services provided by FICC, as well as delivery and receipt controls at settlement intermediaries, such as clearing banks and custodians, achieve the intent of Recommendation 2 in practice.

Based on the compensating controls in the market, the existing pre-settlement capabilities of FICC, and the overall objective of providing efficient services to the market for Fedwire-eligible securities, the Federal Reserve believes the Fedwire Securities Service broadly observes Recommendation 2.

Recommendation 3: Settlement Cycles

Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of a settlement cycle shorter than T+3 should be evaluated.

Assessment

Recommendation 3 is not applicable to the Fedwire Securities Service.

Comments

Rolling settlement is not applicable to the Fedwire Securities Service because the Fedwire Securities Service provides for real-time final settlement of Fedwire-eligible securities transfers on the day the transfers are submitted to the Fedwire Securities Service. While the Fedwire Securities Service may settle transfers as early as trade date, in most instances securities trades are compared, confirmed, and netted through FICC before final settlement.

In addition, the Federal Reserve does not have the authority to set the settlement cycle or establish parameters for fails, despite the Fedwire Securities Service's capability to settle on a rolling settlement cycle. Settlement cycle decisions for Fedwire-eligible securities are generally made by market participants and industry groups. For example, settlement of secondary market trades of Treasury securities typically occurs on T+1. Settlement can, however, by agreement between counterparties, occur anytime from trade date to T+N, where N is equal to the number of business days between trade date and the future settlement date. Additionally, the final settlement of mortgage-backed securities occurs primarily on fixed monthly settlement dates, as designated by the Securities Industry and Financial Markets Association (SIFMA), in the settlement month that was contracted at the time of trade execution.⁶⁰

⁶⁰ Mortgage-backed securities notification and settlement dates are available at www.sifma.org. MBSD's Processing Schedules, which lists mortgage-backed securities settlement cycles and cash settlement schedules, are available at www.ficc.com.

Recommendation 4: Central Counterparties (CCPs)

The benefits and costs of a central counterparty (CCP) should be evaluated. Where such a mechanism is introduced, the CCP should rigorously control the risks it assumes.

Assessment

Recommendation 4 is not applicable to the Fedwire Securities Service.

Comments

Given the real-time settlement system design of the Fedwire Securities Service and the existence of FICC, the Reserve Banks have concluded that a CCP is not necessary for the Fedwire Securities Service.

As described in section 1.2 of the Introduction, the GSD acts as the CCP for Treasury and non-mortgage-backed non-Treasury securities. CCP services are not currently provided by the MBSD to participants in the mortgage-backed securities market, although the MBSD is considering doing so.

Recommendation 5: Securities Lending

Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities transactions. Barriers that inhibit the practice of lending securities for this purpose should be removed.

Assessment

Recommendation 5 is not applicable to the Fedwire Securities Service.

Comments

The Fedwire Securities Service does not provide securities lending services to participants. The securities lending market for Fedwire-eligible securities occurs outside of the Fedwire Securities Service and has its own conventions and procedures. Major market participants, including broker-dealers and large custodian banks, may offer these services to parties seeking to finance their positions or meet delivery obligations (such as to facilitate settlement or cover a short position).

The Federal Reserve supports the practice and operations of securities lending and recognizes the importance of this practice in expediting the settlement of Treasury securities transactions. In support of this practice, the Federal Reserve Bank of New York lends Treasury securities from the Federal Reserve's portfolio, called the System Open Market Account (SOMA), to provide a short-term source of liquidity to repo markets and to facilitate smooth clearing of government securities.⁶¹ The Federal Reserve Bank of New York conducts these transactions through the Fedwire Securities Service.

⁶¹ Additional information on SOMA is available at http://www.newyorkfed.org/markets/soma/sysopen_accholdings.html.

Recommendation 6: Central Securities Depositories (CSDs)

Securities should be immobilized or dematerialized and transferred by book entry in CSDs to the greatest extent possible.

Answers to Key Questions

1. Are securities issued on a dematerialised basis or as a physical certificate? If the latter, are they immobilised in a CSD to facilitate settlement? What percentage of securities issued domestically is either immobilised or dematerialised, and what is the trend? Is the transfer of securities carried out by book entry or does it require any form of physical delivery?

Fedwire-eligible securities are now issued on a dematerialized basis. Of the approximately \$4.3 trillion of marketable Treasury securities held by the public as of year-end 2006, 99.99 percent is dematerialized. A limited number of Treasury securities issued before the mid-1980s are eligible to be converted into certificated form. Also, certain real estate mortgage investment conduits (REMICS) issued by Ginnie Mae may be converted into certificated form. The trend, however, is towards the elimination of physical certificates for Fedwire-eligible securities. All securities held in accounts on the Fedwire Securities Service are in book-entry form and securities transfers are electronic.

2. Is there a lag between settlement and registration and what are the implications of the time lag for finality? If the CSD is not the official registrar, does the transfer of securities in the CSD result in the transfer of securities in the official register?

There is no lag between settlement and the establishment of the security entitlement, which is the equivalent of registration in the indirect holding system. Under TRADES and corresponding agency regulations, a participant obtains an interest in a Fedwire-eligible security when a Reserve Bank indicates by book-entry that a security has been credited to that participant's account. The answers to the key questions for Recommendations 7 and 8 offer a more detailed description of settlement finality.

The Reserve Banks, as the CSD, do not act as the official registrar. The Fedwire Securities Service is an indirect holding system and maintains records only of the identities and interests of the participants on the Fedwire Securities Service. Investors that have interests in Fedwire-eligible securities held with an intermediary other than the Reserve Banks are reflected on the books of that intermediary and are not recognized by the issuers.

Investors, however, may hold their securities directly with the issuer or its official registrar. Investors holding their Treasury securities in *TreasuryDirect* have their interests recorded directly on the books of the Treasury, the official registrar. It may be possible to be a direct holder of non-Treasury securities at the official registrar in certificated form.

Assessment

Recommendation 6 is observed.

Recommendation 7: Delivery versus Payment (DVP)

CSDs should eliminate principal risk by linking securities transfers to funds transfers in a way that achieves delivery versus payment.

Answers to Key Questions

1. Does the technical, legal and contractual framework ensure that delivery of securities takes place if, and only if, payment is received? If so, how?

The technical, legal, and contractual framework of the Fedwire Securities Service ensures delivery of securities against payment.

The Fedwire Securities Service is a DVP system that processes securities transfers individually in real time.⁶² The transfer of securities and associated payment occurs simultaneously and is final when the respective securities and master accounts are credited and debited. Securities transfer messages identify the sending and receiving participants, the securities issue and par amount to be transferred, and the payment information. The system checks the transfer messages for technical acceptability and verifies that the sender has the securities in its securities account. Once verified, the securities are automatically debited from the sender's securities account and credited to the receiver's securities account, and simultaneously, the corresponding funds are debited from receiver's master account and credited to the sender's master account. Once the transaction is complete, the Fedwire Securities Service sends a notice acknowledging that the message has been processed to both the sender and the receiver. While most transfers are against payment, participants can make transfers free of payment.

The legal and contractual frameworks also support DVP transfers. As discussed in the answers to key questions for Recommendation 8, OC 7 section 9.1 provides that settlement finality occurs when a Reserve Bank debits and credits the participants' respective securities and funds accounts.

2. What proportion of trades between direct participants of the CSD (by value) is settled on a DVP basis?

The Fedwire Securities Service settles the large majority of securities transfers on a DVP basis. In 2006, DVP transfers accounted for approximately 85 percent of total securities transfer volume. Transfers free of payment accounted for approximately 15 percent of all securities transfers and were primarily associated with intrabank transfers (repositioning securities within a participant's family of accounts).

⁶² The Fedwire Securities Service follows DVP Model 1, as described in the CPSS, *Delivery Versus Payment in Securities Settlement Systems*, Bank for International Settlements, September 1992. DVP Model 1 includes systems that settle transfer instructions for both securities and funds on a trade-by-trade (gross) basis, with final (unconditional) transfer of securities from the seller to the buyer (delivery) occurring at the same time as final transfer of funds from the buyer to the seller (payment).

Assessment

Recommendation 7 is observed.

Recommendation 8: Timing of Settlement Finality

Final settlement should occur no later than the end of the settlement day. Intraday or real-time finality should be provided where necessary to reduce risks.

Answers to Key Questions

1. Does the CSD permit final settlement of securities transfers by the end of the settlement day? Is the timing of settlement finality clearly defined for transactions within the CSD and for transactions over a link to another CSD?

The Fedwire Securities Service provides for final settlement of securities transfers on a real-time basis throughout the settlement day.

The timing of settlement finality is clearly defined in the TRADES and corresponding agency regulations, UCC Article 8, and OC 7. Pursuant to the TRADES and corresponding agency regulations and UCC Article 8, an interest in a Fedwire-eligible security is created when a Reserve Bank credits, by book-entry, the security to a participant's securities account. OC 7 section 9.1 provides that, unless a transfer is rejected, all debits and credits in connection with a transfer become final at the time a Reserve Bank posts the debits and credits to the participants' securities accounts and master accounts. The Fedwire Securities Service generally processes securities transfers and associated funds transfers immediately following the receipt of a transfer message.

2. Does the CSD permit final settlement of DVP transfers on a continuous basis throughout the day or at certain designated times during the day? If the latter, at what times do transfers become final? Is there a need for intraday or real-time finality to reduce risks? Do central banks use the SSS in monetary policy operations or to collateralise intraday credit extensions in a payment system? Do active trading parties or CCPs have a need for intraday or real-time finality to manage their risks effectively? Is there a need for intraday or real-time finality to facilitate settlement through links to other CSDs? Is there a need for intraday finality to facilitate the smooth functioning of some markets (for example, repurchase agreement markets)?

The Fedwire Securities Service provides for final settlement of DVP transfers on a real-time basis throughout the operating day. Real-time settlement supports monetary policy, credit extensions, and the smooth functioning of the Treasury securities market.

The Open Market Desk of the Federal Reserve Bank of New York uses the Fedwire Securities Service to support monetary policy operations involving the outright purchase of Fedwire-eligible securities.⁶³ For the more frequent open market operations involving repos, the Open Market Desk settles via the triparty repo services provided by the clearing banks, JPMorgan Chase and the Bank of New York. In addition, participants can use their securities holdings in

⁶³ Additional information on the Open Market Desk is available at www.newyorkfed.org/markets/openmarket.html.

the Fedwire Securities Service to collateralize intraday Reserve Bank credit, as well as overnight discount window borrowings.

For additional information on intraday credit, see the answers to key questions for Recommendation 9.

3. Does the CSD prohibit the unilateral revocation of unsettled transfer instructions late in the settlement day? Does the CSD receive provisional transfers of securities from any other CSDs? If so, does it prohibit retransfer of these securities until they become final? If not, what would be the consequences of an unwind of such provisional transfers for the CSD's participants?

All securities transfers sent over the Fedwire Securities Service are settled on a real-time basis. As a result, there are no unsettled transfer messages that could be revoked by participants at any point in the settlement day. The Fedwire Securities Service does not have direct, indirect, or relayed links to other CSDs or ICSDs and, therefore, does not receive provisional transfers from any other CSD.

Assessment

Recommendation 8 is observed.

Recommendation 9: CSD Risk Controls to Address Participants' Failures to Settle

CSDs that extend intraday credit to participants, including CSDs that operate net settlement systems, should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. The most reliable set of controls is a combination of collateral requirements and limits.

Answers to Key Questions

1. Does the CSD ensure that timely settlement can be completed in the event of an inability to settle by the participant with the largest obligation? If so, how? Are the credit exposures of the CSD fully collateralised? If not, what measures are in place to address risks stemming from granting uncollateralised credit? Are limits imposed on credit extensions by the CSD? Does the CSD have sufficient liquidity resources to ensure timely settlement?

The Fedwire Securities Service is a DVP Model 1 system, processing securities transfers on a gross basis in real time. The transfer of securities and the related funds, if any, is final and irrevocable when a Reserve Bank debits and credits the participants' securities and master accounts. The Reserve Banks facilitate settlement and mitigate participants' liquidity risk through the extension of intraday credit. The PSR policy defines the limits, requirements, and fees for intraday credit extensions.

Liquidity Risk

The Reserve Banks may extend intraday credit, in the form of daylight overdrafts, to Fedwire Securities Service participants, which facilitates the timely settlement of securities transfers against payment. Participants could incur securities-related funds overdrafts in their master accounts as a result of the debit of funds from their master accounts to pay for securities received. As the central bank, the Federal Reserve does not face liquidity risk from the Fedwire Securities Service operations or the provision of intraday credit. Intraday credit limits, as prescribed in part II of the PSR policy, can constrain some participants' payment operations. Each participant is aware of these constraints and is responsible for managing its master account throughout the day.⁶⁴

The Federal Reserve expects participants to extinguish their daylight overdrafts by the end of the operating day. A participant can extinguish daylight overdrafts with incoming payments to its master account, including payments from financing obtained in the money markets, or with funds borrowed from the Reserve Banks' discount window, the Reserve Banks' overnight credit facility. To obtain a discount window loan, a participant must have executed the appropriate legal agreements with and pledged adequate collateral to its Reserve Bank. A participant must contact its Reserve Bank and explicitly request a discount window loan, which is made at the discretion of the Reserve Bank. If a participant does not extinguish its daylight overdraft before

⁶⁴ For additional information on Reserve Bank accounts, see the *Account Management Guide* and the *Reserve Maintenance Manual* at <http://www.frbservices.org/OperatingCirculars/index.html>.

the end of the operating day, it will be charged for an overnight overdraft. Overnight overdrafts are strongly discouraged, incur higher fees than discount window loans, and may attract supervisory attention from the Reserve Banks.

Credit Risk

The Reserve Banks' provision of intraday credit converts participant liquidity risk into credit risk borne by the Reserve Banks. If a participant were to fail and close before extinguishing its daylight overdraft, its Reserve Bank could face a financial loss. The PSR policy attempts to control and mitigate these exposures while providing sufficient liquidity to participants paying for the receipt of DVP securities transfers.

Part II of the PSR policy requires all participants incurring daylight overdrafts in their master accounts to establish a maximum limit on uncollateralized daylight overdrafts (net debit cap). Net debit caps are based generally on creditworthiness, as determined by the participants' capital adequacy and the most recent supervisor ratings.⁶⁵ All net debit caps are granted at the discretion of the Reserve Banks. Only participants with normal discount window access are eligible for a positive net debit cap.⁶⁶ Participants that have access to the highest levels of intraday credit must annually assess their financial condition and operating environment.

The Federal Reserve expects participants to manage actively their accounts to avoid incurring daylight overdrafts in excess of their net debit cap. Reserve Banks employ ex-post and, in some cases, real-time monitoring of participants' daylight overdrafts. A participant exceeding its net debit cap may be contacted by its Reserve Bank and counseled.

In addition, the PSR policy relies heavily on both periodic and ongoing assessments of participants' financial condition. The Federal Reserve has developed extensive guidelines to monitor internally the condition of participants that have access to Reserve Bank intraday credit. The guidelines establish standard criteria and practices used by the Reserve Banks for account risk-management. These criteria help identify institutions that present high potential risk to the Reserve Bank and that, as a result, require special controls and monitoring. Each Reserve Bank retains the right to protect its risk exposure from individual participants by unilaterally reducing net debit caps, imposing collateralization or clearing balance requirements, rejecting or delaying certain transactions, or in extreme cases, taking the institution off line or prohibiting it from using the Fedwire Securities Service.⁶⁷

⁶⁵ Net debit caps are calculated by applying a cap multiple from one of six cap classes (zero, exempt-from-filing, de minimis, average, above average, and high) to a capital measure. The different cap categories correspond to different degrees of permissible intraday credit usage. The process of filing for a cap resolution and the assessment process are described in detail in sections II and VI of the *Guide to the Federal Reserve's Payments System Risk Policy*. See www.federalreserve.gov/paymentsystems/psr/default.htm.

⁶⁶ Discount window access is governed by the Board's Regulation A (12 CFR Part 201). See www.frbdiscountwindow.org.

⁶⁷ The Reserve Banks can monitor in real time payment transactions of an individual depository institution. Under certain circumstances, the Reserve Banks may place the institution on the "real-time monitor," which rejects or delays credit transactions initiated by the depository institution if sufficient funds are not available in the institution's master account.

Collateral

The PSR policy generally does not require participants to pledge collateral to the Reserve Banks to secure daylight overdrafts.⁶⁸ The PSR policy allows certain healthy participants to pledge collateral to their Reserve Bank to secure daylight overdraft capacity in excess of their net debit caps, subject to Reserve Bank approval. The net debit cap plus the additional capacity is referred to as the “maximum daylight overdraft capacity.”⁶⁹ Collateral pledged for intraday credit purposes is marked-to-market and subject to appropriate haircuts in accordance with the valuation methods used for discount window collateral.⁷⁰ The Reserve Banks may, however, require participants that pose exceptional risk, such as those in weakened financial condition or in imminent danger of failure, to pledge collateral to secure any daylight overdrafts.

Security Interest in Securities Purchased with Intraday Credit

Under UCC Article 9, a security interest in favor of a securities intermediary attaches to a person’s security entitlement if the securities intermediary purchases the security entitlement for that person on credit.⁷¹ Accordingly, a security interest in favor of a Reserve Bank attaches to Fedwire securities entitlements when the entitlements are purchased through the use of the Reserve Bank’s daylight credit. Under the UCC, such a security interest has priority over a conflicting security interest held by another secured party.⁷² The TRADES regulations clarify that a security interest in a security entitlement marked on the books of a Reserve Bank has priority over any other interest in the securities, except a security interest in favor of the United States to secure deposits of public money, such as deposits to the Treasury tax and loan accounts.⁷³ Further, in OC 1 the account holder explicitly grants to the Reserve Bank all of the account holder’s rights, title, and interest in property, whether owned at that time or acquired in the future, in the possession or control of, or maintained with, any Reserve Bank, including securities, security entitlements, and security accounts to secure any obligation of the account holder to any Reserve Bank.⁷⁴

⁶⁸ Although the PSR policy does not require the explicit collateralization of most daylight overdrafts, the Reserve Banks’ intraday credit exposure may be secured by collateral pledged to the Reserve Banks for discount window purposes.

⁶⁹ Participants are expected to manage their account to their maximum daylight overdraft capacity, that is, the lesser of their net debit cap plus collateral held or their approved maximum daylight overdraft capacity.

⁷⁰ Any type of collateral that is acceptable for discount window purposes is acceptable for intraday credit. For additional information on the types and valuation of assets accepted for collateral purposes, see www.frbdiscountwindow.org.

⁷¹ See UCC § 9-206.

⁷² See UCC § 9-328 (c).

⁷³ See 31 CFR 357.12 (e) (3).

Other Relevant PSR Policy Provisions

Daylight overdraft fees

Since 1994, the PSR policy has included a fee on daylight overdrafts to moderate the use of intraday credit.⁷⁵ The Federal Reserve initially set the annual rate for the overdraft fee at 24 basis points and increased it to the current level of 36 basis points on April 13, 1995. The overdraft fee is applied to a measure of average daily overdrafts for each institution less a deductible amount related to the institution's capital.

Transfer-size limit on book-entry securities

In 1988, the Board imposed a \$50 million limit on the par value of individual book-entry securities transfers over the Fedwire Securities Service.⁷⁶ The purpose of this limit is to encourage dealers to split large trades into multiple, partial deliveries, and thereby reduce subsequent book-entry securities-related daylight overdrafts.⁷⁷

2. Does the CSD permit overdraft or debit balances in securities?

The Reserve Banks do not permit participants to incur debit balances in securities accounts. If a participant initiates a securities transfer and does not have the securities in its securities account, the Fedwire Securities Service will reject the transfer message.

3. Does the CSD evaluate the probability of multiple failures? Can settlement be completed in that event? If not, has the CSD evaluated the cost of ensuring settlement in the event of multiple failures?

Final settlement is completed at the time the transfer is accepted and processed by the Fedwire Securities Service. The failure of a Fedwire Securities Service participant could result in a credit exposure to a Reserve Bank if the failing participant were in an overdraft position.

⁷⁴ In addition, participants desiring access to the discount window must execute the letter of agreement in Reserve Bank Operating Circular 10 (Lending) (OC 10). Under OC 10, collateral pledged by a participant to secure discount window advances secures both intraday and overnight credit.

⁷⁵ A detailed description of the fee and its calculation can be found in section IV of the *Guide to the Federal Reserve's Payments System Risk Policy*. See www.federalreserve.gov/paymentsystems/psr/default.htm.

⁷⁶ The \$50 million limit does not apply to original issue deliveries of securities from a Reserve Bank to a depository institution or transactions sent to or by a Reserve Bank in its capacity as fiscal agent. The \$50 million limit also does not apply to debits or credits to restricted securities accounts on a Reserve Bank's books.

⁷⁷ Before the limit's introduction, dealers generally accumulated securities in the full amount of the trade before they delivered them. Partial deliveries, those for less than the full amount of the trade obligation, were typically returned to the sending institution. Dealers' practice of stockpiling large amounts of securities to meet large trade obligations until close to the end of the day often resulted in the use of daylight credit at their clearing banks. The clearing banks, in turn, had to hold positive balances in their master accounts or use Reserve Bank daylight credit to accommodate this practice.

Assessment

Recommendation 9 is observed.

Recommendation 10: Cash Settlement Assets

Assets used to settle the ultimate payment obligations arising from securities transactions should carry little or no credit or liquidity risk. If central bank money is not used, steps must be taken to protect CSD members from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose.

Answers to Key Questions

1. Is the settlement agent the central bank that issues the currency? If the central bank is settling in a foreign currency, what steps has it taken as settlement agent to ensure that the settlement assets pose little or no credit or liquidity risk? If the central bank is not used, what steps have been taken to protect CSD members from failure of the cash settlement agent? Is the CSD itself organised as a limited purpose bank? Does it strictly limit any risks associated with non-settlement activities?

The settlement agents are the Reserve Banks, which are part of the U.S. central bank that issues the currency. Final settlement of DVP transactions on the Fedwire Securities Service occurs against payment of funds in central bank money, through the transfer of account balances held at a Reserve Bank. The Fedwire Securities Service settles transactions denominated only in U.S. dollars.

2. Are settlement banks subject to prudential supervision by government authorities? Who determines which institutions can be used as settlement institutions? What are the criteria? If multiple settlement institutions can be used in principle, how many are used in practice? How concentrated are payment flows? On an average day, what percentage of total payments is credited to accounts at the institution that accounts for the largest share of the payment flows? What is the financial condition of that institution (for example, its capital ratios and its credit ratings)? Are the concentration of exposures and the financial condition of the settlement banks monitored and evaluated? If so, by whom?

Settlement Bank Supervision

The Reserve Banks are the settlement banks for Fedwire-eligible securities transferred over the Fedwire Securities Service. The Reserve Banks are subject to general supervision by the Board, as well as supervision and control by their own boards of directors. The Reserve Banks are also subject to internal and external audits. For additional information on Reserve Bank supervision and oversight, see the answers to key questions for Recommendation 18.

The two clearing banks, The Bank of New York and JPMorgan Chase, also serve as settlement banks for Fedwire-eligible securities transferred outside of the Fedwire Securities Service. These banks are subject to the regulation and supervision of the Federal Reserve and the OCC.

Concentration of Payment Flows

While the key questions related to the concentration of payment flows are in the context of a settlement bank, the following summary statistics address the concentration of the volume and value of DVP securities transfers on the Fedwire Securities Service. As of year-end 2006, the top twenty participants, in terms of volume, accounted for approximately 96 percent of the total transfer volume. The top twenty participants, in terms of value, account for approximately 98 percent of the total transfer value. Additionally, the two clearing banks initiated approximately 66 percent of securities transfers, accounting for approximately 77 percent of the value, on the Fedwire Securities Service.

Financial Condition of Settlement Banks

As part of the U.S. central bank, the Reserve Banks do not face the risk of insolvency as a practical matter. The financial condition of the Reserve Banks is disclosed in the Board's *Annual Report*.

The financial conditions of the two clearing banks are monitored by the Federal Reserve, the OCC, and the FDIC. If a credit or legal problem caused the market to lose confidence in one of the clearing banks, and no well-qualified bank stepped forward to purchase the problematic bank's clearing business, the Fedwire-eligible securities market would be seriously disrupted. In response to this risk, the Board has endorsed the recommendations of the private-sector Working Group on NewBank Implementation for the creation of a dormant bank that could be activated to clear and settle Fedwire-eligible securities and facilitate triparty repo agreements.⁷⁸ Efforts are ongoing to develop the dormant bank.

3. How quickly can recipients use the proceeds of securities settlements? On the same day? Intraday?

Participants of the Fedwire Securities Service have immediate access to the settlement proceeds credited to their accounts and can use these funds for all other payments.

4. Does the payment system used for interbank transfers among settlement banks observe CPSIPS?

The Fedwire Securities Service achieves DVP through real-time simultaneous exchange of securities against payment; a separate interbank funds transfer system is not used. The other settlement banks may use the Fedwire Funds Service, which transfers funds between participants on a real-time gross basis and observes the *Core Principles for Systemically Important Payment Systems (CPSIPS)*.⁷⁹

⁷⁸ For additional information on the dormant bank, see www.federalreserve.gov/boarddocs/press/Other/2005/20051215.

⁷⁹ Committee on Payment and Settlement Systems, *Core Principles for Systemically Important Payment Systems*, Bank for International Settlements, January 2001. See www.bis.org/publ/cpss43.htm. For additional information on the assessment of compliance, see www.federalreserve.gov/paymentsystems/coreprinciples/default.htm.

Assessment

Recommendation 10 is observed.

Recommendation 11: Operational Reliability

Sources of operational risk arising in the clearing and settlement process should be identified and minimized through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Contingency plans and backup facilities should be established to allow for timely recovery of operations and completion of the settlement process.

Answers to Key Questions

1. Does the system operator have a process for identifying and managing its operational risks?

The Fedwire Securities Service operates within the context of the Federal Reserve's overall information security program, which consists of defined policies and an architectural framework. This program is designed to protect information from loss or misuse, and thereby minimize the risk of monetary loss, productivity loss, or embarrassment to the Federal Reserve. The program addresses areas of potential operational risk and personnel, facilities, and equipment security.

The Federal Reserve's information security program requires each Reserve Bank with management responsibilities for a business function, such as the Fedwire Securities Service, to complete information security risk assessments to determine that the appropriate controls are in place to manage operational risk. The Fedwire Securities Service, because of its critical role in the Fedwire-eligible securities market, is subject to several additional formal Reserve Bank risk assessment programs, including the Committee on Sponsoring Organizations (COSO) assertions, Federal Reserve Bank of New York enterprise risk-management initiatives, and compliance with the Federal Information Security Management Act of 2002 (FISMA).⁸⁰

The Reserve Banks have processes for identifying and managing operational risks associated with the Fedwire Securities Service. On a day-to-day basis a team of dedicated technical and software specialists monitors the Fedwire applications to ensure efficient processing of transactions and addresses any technical issues promptly. The Reserve Banks also conduct robust application and network testing, including penetration and stress testing.

2. Does the system operator have contingency plans and backup facilities for the failure of key systems, and are these tested and reviewed regularly with participants taking part? Do contingency plans ensure at a minimum that the status of all transactions at the time of the disruption can be identified with certainty in a timely manner? How long does it take to recover operations through backup systems? Do the procedures provide for

⁸⁰ COSO is a voluntary private-sector organization dedicated to improving the quality of financial reporting through business ethics, effective internal controls, and corporate governance. For additional information, see www.coso.org.

FISMA provides the framework for ensuring the effectiveness of information security controls over information resources that support federal government operations and assets. See 44 U.S.C. § 3541, et seq.

preservation of all transaction data? How does the system operator ensure the integrity of messages?

The Reserve Banks view the Fedwire Securities Service's business continuity as critically important. The Reserve Banks maintain and regularly test contingency plans and backup facilities to ensure resilience of the Fedwire Securities Service and all integral support functions. The Fedwire Securities Service meets or exceeds the recommendations published in the *Interagency Paper on Sound Practices to Strengthen the Resilience of the U.S. Financial System*.⁸¹ The Reserve Banks maintain multiple out-of-region backup data centers and redundant out-of-region staffs that support the data centers, Fedwire Securities Service applications, and customer testing facilities and support services. The Fedwire applications transmit and log transactions and critical database changes to both the primary and secondary backup sites in real time throughout the day. The Reserve Banks also conduct multiple on-site and remote-site recovery tests each year. Backup resources are also exercised through regular production rotation between sites.

As outlined in the Reserve Banks' OC 7, Fedwire Securities Service participants are responsible for developing their own contingency and recovery plans, such as backup computer and operations facilities. The most active Fedwire Securities Service participants are required to participate in a minimum number of contingency tests each year, including tests from the customers' backup sites.⁸² In addition, the Reserve Banks' customer testing facilities are available to all Fedwire Securities Service participants. Participants are also expected to follow Federal Financial Institutions Examination Council guidance for regulated depository institutions, among others, regarding business resumption and information systems contingency planning.

In the event of a Fedwire Securities Service processing disruption, participants have a process by which they reconcile their records of transfer messages sent with the Reserve Banks' records. After a disruption, the Reserve Banks issue reports to participants listing the securities transfers that the Reserve Banks have processed. Participants reconcile this report and their own reports to identify any gaps in the sequence numbers assigned to each transfer initiated by the participant. These gaps represent transfers that were submitted but not accepted or processed by the Fedwire Securities Service. Once the Fedwire Securities Service resumes processing, participants resend those transfer messages that fall within the gaps, flagged as possible duplicate messages. Participants exercise this reconciliation process regularly during contingency tests.

The Reserve Banks' procedures to ensure the integrity of transfer messages are also outlined in OC 7. The Reserve Banks require participants to implement appropriate physical and logical security measures to protect any access controls, hardware, or software. These security measures

⁸¹ The paper advises financial institutions on steps necessary to strengthen the overall resilience of and to protect the U.S. financial system in the event of a wide-scale disruption. See www.federalreserve.gov/boarddocs/srletters/2003/SR0309a1.pdf.

⁸² In 2006, the most active Fedwire Securities Service participants were required to participate in either two or three of four Reserve Bank-coordinated contingency tests, depending on their level of activity.

ensure that the initiation of a transfer message occurs from locations that the Reserve Banks have authorized and requires action by more than one of the participant's employees. The Reserve Banks also require messages to contain adequate identifying information and adhere to other media and format requirements.

3. Are operational reliability issues reviewed regularly by senior management, including review by persons not responsible for the relevant operations? Are periodic external audits of the IT (information technology) system conducted? Is there an independent internal audit function and does it review operational risk controls?

Operational reliability issues are reviewed regularly by senior management with various roles in relation to the Fedwire Securities Service, including persons not responsible for the securities service operations. Senior management of the Wholesale Product Office (WPO) focuses on operational reliability as a part of ongoing management attention.⁸³ As part of the COSO process, WPO management annually reviews IT internal controls and asserts to the Reserve Banks that internal controls are effective and observed for the Fedwire Securities Service. Senior management of all Reserve Banks annually assert that internal controls are effective for functions that affect Reserve Bank financial statements, which includes the Fedwire Securities Service.

Each Reserve Bank has an independent internal audit department that reports directly to that Reserve Bank's board of directors. Working cooperatively, the Reserve Banks' internal audit staffs are moving toward conducting end-to-end audits of Fedwire Securities Service activities on a risk-based schedule. The Board conducts periodic risk-based reviews of the Fedwire Securities Service, including reviews of the IT system. As part of the annual external audit of the Reserve Banks, independent external auditors conduct risk-based reviews of the IT system.

4. How many times during the last year has a key system failed? What is the most common cause of failures? How long did it take to resume processing? How much transaction data, if any, was lost? Does the system operator have capacity plans for key systems and are key systems tested periodically to determine if they can handle stress volume?

In 2006, the Fedwire Securities Service application was available for 100 percent of operating hours. The availability standard for the Fedwire Securities Service is 99.90 percent of operating hours. The Reserve Banks have dedicated staff that manage and test capacity to ensure that they can handle high volume levels.

Assessment

Recommendation 11 is observed.

⁸³ The WPO manages, operates, supports, and maintains the wholesale services on behalf of the Reserve Banks. For additional information on the WPO, see the answers to key questions for Recommendation 13.

Recommendation 12: Protection of Customers' Securities

Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities. It is essential that customers' securities be protected against the claim of a custodian's creditors.

Answers to Key Questions

1. What arrangements are used to protect customers' securities from theft, loss or misuse and to ensure that they will not become subject to claims of the custodian's creditors (for example, are segregation, insurance, or compensation schemes used)? Are those arrangements based upon specific laws and regulations? In the event of the custodian's insolvency, do those arrangements enable a customer's positions to be moved by a receiver to a solvent intermediary?

The Reserve Banks maintain records of the identities and interests of the participants on the Fedwire Securities Service. Each participant, in turn, maintains a record of how its Fedwire Securities Service holdings are allocated between it and its direct customers, and this process is repeated throughout a tiered structure. The Fedwire Securities Service allows participants to have multiple securities accounts so that the participants can, to the extent desirable or required by law, segregate their customer holdings.

To ensure that the Reserve Banks' records are accurate and that securities accounts are not subject to theft, loss, or misuse, both physical and technical security controls are incorporated into the Fedwire Securities Service, and periodic audits are performed. In addition, participants receive a notice after each debit or credit to their securities account (except for the credit of a security upon original issue or the debit upon maturity). At the end of each day, each participant receives a summary of its net balances for each security issue for which there was activity.

UCC Article 8 provides that securities intermediaries, including the Federal Reserve Banks, are required to maintain a sufficient quantity of investment property (for example, securities) to satisfy all of their customers' claims.⁸⁴ In addition, by regulation, securities intermediaries are prohibited from using customer securities in their own business activities. Thus, by law, a securities intermediary is prohibited from pledging or selling a customer security unless it is used to fund a loan to the customer and then only with the customer's consent.

UCC Article 8 further provides that all interests in a particular security held by an intermediary are held for the benefit of its customers to the extent necessary to satisfy the claims of its customers and are not the property of the intermediary.⁸⁵ Moreover, such interests are not subject to the claims of the creditors of the securities intermediary unless the securities intermediary is a clearing corporation or the creditor has control over the financial asset.

⁸⁴ See UCC § 8-504.

⁸⁵ See UCC § 8-503.

There are two exceptions to the general rule that customers have priority over claims of a securities intermediary's creditors. The first exception arises when the securities intermediary is a clearing corporation. Creditors of a clearing corporation are given preference over the securities intermediary's customers to ensure that clearing corporations can obtain the liquidity necessary to complete settlement. If a clearing corporation is unable to settle, there could be systemic consequences in the securities market. This exception is not a realistic possibility for the Reserve Banks because, as a part of the central bank, they do not face liquidity constraints.

The second exception arises when a creditor obtains control of the securities entitlement. This exception does expose a customer to the risk that its securities intermediary will wrongfully pledge or transfer its interest.⁸⁶ This risk is mitigated because securities intermediaries are regulated entities and may not grant a security interest in a financial asset without the agreement of the entitlement holder. Moreover, if the creditor of the securities intermediary does obtain control of customer securities by acting in collusion with the securities intermediary and the intermediary is insolvent, the intermediary's customer may bring a claim directly against the creditor to recover the securities entitlement.

If a failed broker has violated the customer protection regulations and does not have sufficient securities to satisfy its customers' claims, its customers generally will receive protection against loss by the SIPA. Under the act, a customer of a failed broker is entitled to a pro-rata share of any cash and securities held by the broker for its customers (other than securities registered in the name of a customer) and up to \$500,000 from the SIPA fund.

Under U.S. law, the customer of an insolvent intermediary is able to move its positions to a solvent intermediary.

2. How often do the entities holding securities in custody reconcile their records? Are the entities holding securities in custody subject to mandatory internal or external audit, or both, to determine if there are sufficient securities to satisfy customer claims?

As part of the account reconciliation process, daily activity reports or clearing summaries are available to participants and provide information on those Committee on Uniform Securities Identification Procedures (CUSIP) numbers that had transaction activity on the respective operating date. Participants may also elect to receive periodic account holdings reports providing detailed holdings information for each securities account. The reports list total par balances for each account, along with the number of CUSIP numbers, and participants may use

⁸⁶ U.S. law protects a customer of a securities intermediary from a claim by a third party that the third party has a property interest in the customer's security entitlement. Specifically, U.S. law does not recognize these adverse claims so long as the customer obtained his or her securities entitlement for value and without notice of the adverse claim. Under the TRADES regulations, a Reserve Bank is not liable to any person asserting an adverse claim to a book-entry security in a participant's securities account even when the claim arises as a result of a transfer or disposition of the Treasury security by a Reserve Bank, provided that the Reserve Bank acted pursuant to instructions that it reasonably believed to be genuine. Similar provisions are included in the equivalent corresponding agency regulations and OC 7. For example, OC 7, section 4.3 provides that unrestricted securities accounts are held for, and subject to, the sole order of the participant who owns the account. This is true regardless of the name used by the participant or the Reserve Bank to identify the account; such names are for the convenience of the participant only and do not create legal rights and obligations.

the reports to reconcile total outstanding balances. The Reserve Banks will also respond to participants' requests for an audit confirmation that can be used by depository institutions and their regulators, internal audit departments, and external audit firms to verify a securities holdings statement as of a particular date.

The Reserve Banks also provide similar information to issuers to help reconcile activity in issuer accounts. The issuer accounts are affected by all new issuances, redemptions, and maturities. Reports are provided to all issuers and contain activity information and amounts representing the total par value of outstanding securities for each CUSIP number. In order to balance the issuer accounts with the participants' securities accounts, the total par value of outstanding securities for each CUSIP number is compared to the total par value of the participants' security holdings. For additional information on the internal and external audits of Reserve Banks, see the answers to key questions for Recommendation 18.

3. Are the entities holding securities in custody subject to prudential supervision or regulation? Do regulatory reviews examine the procedures and internal controls used in the safekeeping of securities?

Participants that maintain securities accounts for customers are subject to prudential supervision and regulation. Examinations of these entities include a review of the procedures and internal controls used in the safekeeping of securities.

For a discussion of the supervision and regulation of the Reserve Banks, see the answers to key questions for Recommendation 18.

Assessment

Recommendation 12 is observed.

Recommendation 13: Governance

Governance arrangements for CSDs and CCPs should be designed to fulfil public interest requirements and to promote the objectives of owners and users.

Answers to Key Questions

1. What are the governance arrangements of the CSD or CCP? What information is publicly available regarding the system, its ownership and its board and management structure, and the process by which major decisions are taken and management made accountable?

The Board exercises general supervision over the Reserve Banks and has broad policymaking powers, including the authority to issue regulations on certain topics. The Reserve Banks operate the Fedwire Securities Service in their role as fiscal agents for the Treasury, federal agencies, and GSEs. The Reserve Banks manage the Fedwire Securities Service operations on a consolidated basis through the WPO and various Reserve Bank management committees discussed below. In addition, the Treasury maintains general supervision over the activities of the Reserve Banks conducted as fiscal agents for the Treasury.

Board of Governors

The Board exercises general supervision over the Reserve Banks. The Board carries out its general supervision in two ways: (1) issuance of regulations and policies and (2) exams and other oversight activities, as discussed in the answers to key questions for Recommendation 18. For example, part II of the PSR policy governs the provision of intraday credit, or daylight overdrafts in accounts at the Reserve Banks, and sets out the general methods used by the Reserve Banks to control their intraday credit exposures. In addition, the Board reviews all changes to operating circulars before they are adopted.

Reserve Banks

The Reserve Banks are the operating arms of the central bank, providing a variety of services to depository institutions and managing the Fedwire Securities Service in accordance with all applicable laws, agreements, and Board policies. As discussed in the answers to key questions for Recommendation 1, the FRA outlines the authority of the Reserve Banks in providing securities and funds transfer services. The Reserve Banks are responsible for maintaining customer accounts and relationships, the operating circular agreements, and the operation of payment and settlement services, such as the Fedwire Securities Service. In addition, the FRA provides that the Reserve Banks will act as fiscal agents and depositories of the United States when required to do so by the Secretary of the Treasury. Other statutes allow various federal agencies, GSEs, and certain international organizations to use the Reserve Banks as fiscal agents.

Although member institutions hold stock in each Reserve Bank, the legal organization of the Reserve Banks includes elements of public and private accountability.⁸⁷ Each Reserve Bank has its own board of directors, representing public and private interests, including members appointed by the Board and representatives of the banking community in each Reserve District. Each Reserve Bank, in carrying out the powers specifically granted in the FRA and such incidental powers as necessary, are subject to the supervision and control of its board of directors. Although each Reserve Bank is a separate legal entity, the Reserve Banks generally agree to conduct operations on a uniform basis, creating consistent policies and services throughout the United States.

By agreement among the twelve Reserve Banks, the Federal Reserve Bank of New York, acting as the WPO, is responsible for the daily operational management of the Fedwire Securities Service. Its mission is to foster the integrity, efficiency, and accessibility of U.S. wholesale payment and settlement systems. The WPO plays a leadership role in the development and enhancement of these systems and may initiate changes to the Fedwire Securities Service.

Reserve Bank Management Committees

Conference of Presidents

Cooperation among Reserve Banks is typically facilitated through the Conference of Presidents (COP), which is composed of the twelve Reserve Bank presidents, and its committees. Under its by-laws, the COP may establish committees to coordinate activities among the Reserve Banks. Two major committees established by the COP are the Financial Services Policy Committee (FSPC) and the Information Technology Oversight Committee (ITOC).

Financial Services Policy Committee

The FSPC is responsible for the overall direction of financial services and related support functions for the Reserve Banks, as well as providing Reserve Bank leadership for the evolving U.S. payments system. The role of the FSPC is to provide strategic leadership for the Reserve Banks' provision of financial services and act as a policy review and senior decision-making body for the Reserve Banks on financial services issues.

Information Technology Oversight Committee

ITOC is responsible for setting the strategic direction and policy for Reserve Bank information technology activities. Most nationwide information technology activities are managed by the Federal Reserve Bank of Richmond, in its capacity as the Federal Reserve Information Technology (FRIT) office. Although the FSPC and WPO are responsible for the Fedwire Securities Service's business strategy and daily management, FRIT plays a significant role in Fedwire Securities Service operations, such as managing the processing infrastructure, maintaining network security, and providing the communications network.

⁸⁷ Information regarding the organization of the Reserve Banks can be found within *The Federal Reserve System: Purposes & Functions*. See www.federalreserve.gov/pf/pf.htm.

Department of the Treasury

As the Reserve Banks' fiscal principal, the Treasury has the right to exercise control over those activities undertaken on its behalf by the Reserve Banks.

2. Are the system's public interest, financial and other objectives clearly articulated and public? What are they? Do the system's objectives reflect the needs of users as well as owners? How is the public interest taken into account? Can the system's participants or the public influence the system's decision-making process? How are major decisions communicated to owners and users?

The Federal Reserve's role, objectives, and policies with respect to the payments system are publicly disclosed through a series of policies. One key policy, "The Federal Reserve in the Payments System," presents the Federal Reserve's objectives for participation in the payments system: to promote the integrity and efficiency of the payments mechanism, to ensure the provision of payment services to all depository institutions on an equitable basis, and to provide such services in an atmosphere of competitive fairness.⁸⁸ This paper also describes the Federal Reserve's financial objectives, providing background on the Federal Reserve's compliance with the Monetary Control Act of 1980 (MCA).⁸⁹

The Federal Reserve plays a dual role in the payments system; the Reserve Banks are a service provider and the Board is a regulator. The Congress reaffirmed its commitment to this dual role for the Federal Reserve in the MCA. The Federal Reserve exercises great care to avoid actual or apparent conflict between its role as a provider of payment services and its roles as a regulator, supervisor, and lender. The Congress, through the GAO, has periodically assessed the Federal Reserve's policies regarding conflicts between its dual roles and determined that reasonable safeguards exist to prevent conflicts of interest.⁹⁰

The Federal Reserve also addresses participants' concerns and interests through various formal and informal means. The Treasury and the Board may use, as appropriate, formal procedures to obtain information and analysis from the public regarding proposed rules, regulations, policies, and changes to the Fedwire Securities Service that would have a significant longer-run effect. Promulgation of Board rules is subject to a federal statutory requirement for public notice and comment.⁹¹ Public notice is generally published in the Federal Register. In addition to the formal methods of consultation, the Reserve Banks use various informal methods as discussed in the answers to key questions for Recommendation 15.

⁸⁸ The paper can be viewed at www.federalreserve.gov/PaymentSystems/pricing/frpaysys.htm.

⁸⁹ See 12 U.S.C. § 248a.

⁹⁰ For additional information on the standards the Federal Reserve has adopted to avoid actual or apparent conflicts between its role as provider of services and its role as regulator, supervisor, and lender, see www.federalreserve.gov/paymentsystems/pricing/standards.htm.

⁹¹ See 5 U.S.C. § 553.

3. What steps are taken to ensure that management has the incentives and skills needed to achieve the system's objectives and is accountable for its performance?

The WPO submits periodic reports to the FSPC regarding service performance and trends. Specifically, the WPO submits its annual goals and budget objectives, with subsequent status reports of the office's progress, to the FSPC for review and approval. For additional information on audit and oversight functions, see the answers to key questions for Recommendation 18.

4. How is the composition of the board determined? What steps are taken to ensure that board members have the necessary skills, and represent or take into account in their deliberations the full range of shareholder and user interests as well as the public interest?

The Fedwire Securities Service does not have a board of directors. The activities of each Reserve Bank, including the operation of the Fedwire Securities Service, are conducted under the control and supervision of that Reserve Bank's board of directors. By statute, each Reserve Bank's board of directors is composed of nine members representing a cross-section of banking, commercial, agricultural, industrial, and public interests within that Reserve District. Three of the nine directors are appointed by the Board. Daily operations and management of a Reserve Bank have been delegated by the board of directors to the president.

Cooperation among the Reserve Banks is facilitated through the COP and its committees. The FSPC, with delegated authority from the COP, provides senior leadership and oversight of the Fedwire Securities Service and related support functions. The FSPC is composed of three Reserve Bank presidents and two Reserve Bank first vice presidents, one of whom is the chairman of the Conference of First Vice Presidents. In addition, the director of the Board's Division of Reserve Bank Operations and Payment Systems, the chairman of the ITOC, the Federal Reserve's chief information officer, and the various product directors of the Reserve Banks' financial services serve as liaison members to the FSPC.

Assessment

Recommendation 13 is observed.

Recommendation 14: Access

CSDs and CCPs should have objective and publicly disclosed criteria for participation that permit fair and open access.

Answers to Key Questions

1. Are access rules/criteria objective and clearly disclosed to all potential applicants?

The access rules and criteria for the Fedwire Securities Service are objective and publicly disclosed. Applicants eligible to maintain a securities account with a Reserve Bank include the following:⁹²

- depository institutions, as defined in section 19 (b)(1)(A) of the FRA (12 U.S.C. § 461(b)(1)(A));
- U.S. agencies and branches of foreign banks as defined in section 1(b) of the International Banking Act of 1978, as amended (12 U.S.C. § 3101(1) and (3));
- member banks of the Federal Reserve System pursuant to Regulation H issued by the Board (12 CFR Part 208);
- the Treasury and entities specifically authorized by federal statute to use the Reserve Banks as fiscal agents or depositories;⁹³
- entities designated by the Secretary of the Treasury in accordance with section 15 of the FRA (12 U.S.C. § 391);⁹⁴
- Edge or agreement corporations, as defined in section 25, paragraph 3 and section 25A of the FRA (12 U.S.C. § 601 (third), 611);⁹⁵

⁹² In addition to the entities enumerated, OC 7 states that participants also include “any other entity authorized by a Reserve Bank to use the Fedwire Securities Service.” The Reserve Banks have not authorized any entities under this provision.

⁹³ See 12 U.S.C. § 391 (Treasury); 12 U.S.C. § 393 (Farm Credit System); 12 U.S.C. § 1435 (Federal Home Loan Banks); 12 U.S.C. § 1441 (Financing Corporation); 12 U.S.C. § 1441b (Resolution Funding Corporation); 12 U.S.C. § 1723a(g) (Government National Mortgage Association and Federal National Mortgage Association); 12 U.S.C. § 1452 (Federal Home Loan Mortgage Corporation); 12 U.S.C. § 2279aa-3(d) (Federal Agricultural Mortgage Corporation); 22 U.S.C. § 290i-5 (African Development Bank); 22 U.S.C. § 285d (Asian Development Bank); 22 U.S.C. § 283d (Inter-American Development Bank); 22 U.S.C. § 286d (Bank for Reconstruction and Development); and 22 U.S.C. § 282d (International Finance Corporation).

⁹⁴ The Treasury has used this authority to direct the Reserve Banks to open securities accounts for certain state treasurers.

⁹⁵ An Edge corporation is chartered by the Federal Reserve to engage in international banking. An agreement corporation is chartered by a state to engage in international banking but has entered into an agreement with the Board to limit its activities to those permitted for an Edge corporation.

- foreign central banks, foreign monetary authorities, foreign governments, and certain international organizations.

Certain key market participants, such as broker-dealers, are not eligible to maintain a securities account.⁹⁶

In order to send or receive securities against payment, a participant must also maintain a master account at the appropriate Reserve Bank. Additionally, participants with master accounts may be eligible for Reserve Bank credit. Any depository institution, Federal Reserve member bank, or otherwise eligible institution, including a U.S. branch or agency of a foreign bank, may maintain an account with a Reserve Bank; however, certain nonbank market participants such as broker-dealers are not eligible to maintain a master account.⁹⁷ Reserve Bank credit can be used to complete DVP transactions once all reserve and clearing balances have been extinguished. Eligibility for Reserve Bank credit is governed by Regulation A and the PSR policy.⁹⁸

2. Are the same rules applied regardless of the identity, type and location of the applicant? If not, what variations apply and why? Can differential restrictions on access to the system be justified in terms of the need to limit risks to the system operator or to other users?

The same eligibility rules apply to all applicants, but these rules limit the types and location of entities that can access to the Fedwire Securities Service.

With respect to types of entities, statutes and policies generally limit eligibility for a securities account, master account, and routine credit. The interaction of these statutes effectively precludes certain key market participants, such as nonbank broker-dealers, from directly accessing the Fedwire Securities Service. Over the years, the Federal Reserve and the Treasury have studied the feasibility and appropriateness of allowing direct access to the Fedwire Securities Service to nonbank broker-dealers without granting them routine access to Reserve Bank credit. The analysis revealed that, without this routine access to credit, providing direct access to the Fedwire Securities Services is of nominal value to broker-dealers. Even if broker-dealers enjoyed routine access to Reserve Bank credit, direct access to the Fedwire Securities

⁹⁶ Although not expressly provided by statute, the Treasury and the Reserve Banks could make broker-dealers eligible for a Fedwire Securities Service account as a fiscal agency service.

⁹⁷ To obtain an account, an applicant must execute an account agreement pursuant to OC 1, which outlines the terms and conditions for a master account.

⁹⁸ Regulation A broadly governs extensions of Reserve Bank credit and limits routine access to credit to depository institutions and U.S. branches and agencies of foreign banks that are subject to reserve requirements under the Board's Regulation D. Regulation A also governs extensions of emergency credit to other entities. The PSR policy limits access to intraday credit to entities that have routine access to the discount window, in the event that overnight credit is needed to extinguish a daylight overdraft at the end of an operating day. This policy is designed to reduce and manage risk in the payments system, including risk to the Federal Reserve.

Service may offer broker-dealers less value than the wide range of services currently provided to them by the private-sector clearing banks.⁹⁹

In addition, current eligibility rules require applicants, other than official entities, to maintain a physical presence in the United States. Foreign banks without a U.S. banking presence are not permitted access to the Fedwire Securities Service because they are not subject to supervision by U.S. banking authorities or U.S. restrictions on their nonbanking activities. Granting direct access to a foreign bank under such circumstances would raise issues of risk to the Federal Reserve as well as consistency with the International Banking Act, which was intended to provide a level playing field in the United States between U.S. and foreign banking organizations. The extent to which these risks to the Federal Reserve can be mitigated is unclear. We believe, however, mitigating these risks would be costly and complex.

3. Under what conditions can participants terminate their membership? What arrangements does the system have in place to facilitate the exit of members who no longer meet the participation requirements? Are these arrangements publicly disclosed?

OC 1 section 2.8 details how a participant may terminate its master account with a Reserve Bank. A participant may terminate its master account by giving its Reserve Bank advance notice of not less than five business days. A Reserve Bank may terminate a master account agreement at any time by giving notice to the account holder, but generally will provide at least five business days advance notice.

Beyond the termination provision of OC 1, the PSR policy provides a mechanism for termination of service. As described in the PSR policy, Reserve Banks retain the right to limit their risk exposure, including exposures from intraday credit resulting from a securities transfer. If a participant presents undue risk to a Reserve Bank, a Reserve Bank may take the participant off line or prohibit it from using the Fedwire Securities Service. For additional information, see the answers to key questions for Recommendation 9.

Assessment

Recommendation 14 is partly observed.

⁹⁹ The clearing banks provide bundled service packages that include securities lending and triparty repo services.

Comments

In assigning an assessment rating, the *Assessment Methodology* lists three key issues to consider: (1) criteria should be objective, clearly stated, and publicly disclosed, (2) criteria that limit access on grounds other than risks to the CSD or CCP should be avoided, and (3) procedures facilitating the orderly exit of participants that no longer meet membership criteria should be clearly stated and publicly disclosed. The Fedwire Securities Service observes key issues 1 and 3.

As described in the answer to key question 2, the Federal Reserve prohibits direct access to the Fedwire Securities Service by nonbank broker-dealers. In the past, the Federal Reserve and the Treasury have considered providing broker-dealers direct access to the Fedwire Securities Service without routine access to Reserve Bank credit. During these reviews, it became clear that broker-dealers view the settlement process as a set of related services that include sophisticated account management and information, securities borrowing and lending, and substantial intraday and potentially overnight credit. The clearing banks offer these services to broker-dealers, while the Fedwire Securities Service does not. Absent the availability of such services, there has been no clear interest by broker-dealers in direct access to the Fedwire Securities Service. Based on the partial satisfaction of key question 2, in that the governing access rules employ some non-risk-related limiting criteria the Fedwire Securities Service partly observes Recommendation 14.

Recommendation 15: Efficiency

While maintaining safe and secure operations, securities settlement systems should be cost-effective in meeting the requirements of users.

Answers to Key Questions

1. Does the system operator have in place procedures to control costs (for example, by benchmarking its costs and charges against other systems that provide a similar service and to analyse the reasons for significant differences)? Does the system operator have in place procedures to regularly review its pricing levels against its costs of operation?

Cost Controls

The Federal Reserve has procedures in place to control the costs of the Fedwire Securities Service, such as the annual budget review and internal controls. The Board annually reviews and approves the Reserve Banks' budgets, which includes the cost of providing the Fedwire Securities Service. The Treasury-related costs for the service are also reviewed by the Treasury, as the Reserve Banks' fiscal principal. In addition, the Reserve Banks have internal controls to monitor and track costs.

The Reserve Banks assess fees to the users of the Fedwire Securities Service to cover the anticipated cost of providing the service over the long run. This cost recovery requirement imposes discipline on the Reserve Banks to control costs.

Pricing Procedures

Fees for the Fedwire Securities Service are reviewed annually by the Treasury and the Board. The Treasury sets fees associated with the transfer of Treasury securities. These fees reflect the cost to the Reserve Banks of providing the service. The Reserve Banks set fees, subject to the Board's approval, associated with non-Treasury securities services. Non-Treasury securities services are treated as a priced service, for which the Reserve Banks are expected to recover all direct and indirect costs of providing the service, as well as the imputed costs the Reserve Banks would have incurred and imputed profits they would have expected to earn if they were private-sector firms. Table 2 provides the basic fee schedule for the Fedwire Securities Service.¹⁰⁰

Table 2: Fedwire Securities Service fees <i>(effective January 2, 2007)</i>	
Description	Fee
Per-transfer fee for Treasury securities (origination fee and received fee)	\$ 0.31

¹⁰⁰ Table 2 does not include the fees that participants incur for electronic access connections to the Fedwire Securities Service and other Reserve Bank services. For additional information on Reserve Bank fees, see www.frbservices.org/FeeSchedules.

Per-transfer fee for non-Treasury securities (origination fee and received fee)	\$ 0.34
Surcharge to originate or receive an off-line securities transfer (Treasury securities)	\$33.00
Surcharge to originate or receive an off-line securities transfer (non-Treasury securities)	\$60.00
Monthly account maintenance fees (for accounts holding non-Treasury securities):	
▪ Per securities account	\$16.00
▪ Per non-Treasury issue within each account	\$ 0.40

2. Does the system operator regularly review its service levels, including by regularly surveying its users? Does the system operator have in place procedures to regularly review operational reliability, including its capacity levels against projected demand?

The Reserve Banks, through the WPO, regularly review service levels and regularly seek to improve the efficiency and practicality of the Fedwire Securities Service.

Internal Stakeholders

The WPO works with a number of Federal Reserve groups to review service levels. The WPO reports regularly to the FSPC, which is the principal management body for Reserve Bank financial services. In addition, the WPO leads the Wholesale Operations Steering Group (WOSG). The WOSG provides feedback on planned operational or policy changes to the Fedwire Securities Service. The group consists of members from Reserve Bank wholesale operation sites, the technical operations and testing staff responsible for monitoring the system, and liaisons from the Board, the Treasury, FRIT, the Federal Reserve's Customer Relations and Support Office, and Reserve Bank legal, audit, and systems development functions.

External Stakeholders

The Reserve Banks and the WPO periodically seek input on specific issues related to the Fedwire Securities Service from the Treasury and through industry workgroups and one-on-one interviews with external stakeholders.

Capacity Levels

The WPO and FRIT regularly review the transaction capacity of the Fedwire Securities Services to ensure adequate capacity and overall performance. The current transaction capacity of the Fedwire Securities Service is approximately one and a half times the highest number of transactions processed in one day.¹⁰¹

¹⁰¹ In 2006, the highest daily volume of securities transfers processed was 293,156.

Assessment

Recommendation 15 is observed.

Recommendation 16: Communication Procedures and Standards

Securities settlement systems should use or accommodate the relevant international communication procedures and standards in order to facilitate efficient settlement of cross-border transactions.

Answers to Key Questions

1. Does the securities settlement system use international communication procedures or standards or is it able to easily convert domestic procedures and standards into the relevant international communication procedures and standards for cross-border securities transactions?

The Fedwire Securities Service uses a proprietary message format that can be easily translated to and from international message standards. Routing numbers, which are used for bank identification in the United States, can be converted to and from the global Bank Identification Code (BIC) standard through a simple lookup.¹⁰² Similarly, CUSIP numbers, which are used to identify U.S. domestic fixed income securities and other securities, can be translated to and from International Securities Identification Numbers (ISINs). The WPO also participates in relevant securities industry standards groups, such as SWIFT user and steering groups, to maintain awareness about the development of future standards and changes to existing standards.

Assessment

Recommendation 16 is observed.

¹⁰² Each depository institution or any other participant is assigned a routing number. The American Bankers Association governs the assignment, use, and retirement of routing numbers. Additional information is available at www.aba.com/Products/PS98_Routing.htm.

Recommendation 17: Transparency

CSDs and CCPs should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using the CSD or CCP services.

Answers to Key Questions

1. Does the CSD or CCP make clear disclosures to market participants about its rules, regulations, relevant laws, governance procedures, risks, steps taken to mitigate risks, the rights and obligations of participants and the cost of participating in the system?

The rules and procedures of the Fedwire Securities Service, including the operating circulars, are publicly available on the Federal Reserve’s financial services and the Treasury’s Bureau of Public Debt websites and define the rights and obligations of all involved parties.¹⁰³ The rules and procedures provide participants with sufficient information to identify and evaluate the risks and costs associated with using the Fedwire Securities Service. The legal foundation and governance structure for the Fedwire Securities Service is publicly available and sound. For additional information, see the answers to key questions for Recommendation 1.

Key financial and operational risks associated with the Fedwire Securities Service are also publicly disclosed. Any financial risks, and the steps taken to mitigate such risks, are clearly identified and discussed in the answers to key questions for Recommendation 9 and the PSR policy. Operational risk related to security and contingency policies is outlined in the answers to key questions for Recommendation 11 and OC 7.¹⁰⁴ In addition, intraday operational issues, such as extensions and connectivity problems, are broadcast through the Reserve Banks’ communication network.¹⁰⁵

Lastly, the participation costs for the Fedwire Securities Service are highlighted in table 2 in the answers to key questions for Recommendation 15 and are made public on the Federal Reserve’s financial services website. Annual pricing announcements are also available on the Board’s website.¹⁰⁶

2. Has the system completed and disclosed the questionnaire set out in the CPSS/IOSCO disclosure framework or the answers to the key questions set out in this assessment methodology? Have the authorities responsible for regulation and oversight publicly

¹⁰³ The Federal Reserve financial services website is at www.frbservices.org and the Treasury’s Bureau of Public Debt website is at www.publicdebt.treas.gov.

¹⁰⁴ The distribution of certain security policies and procedures, however, is limited to Fedwire Securities Service participants, with an expectation of non-disclosure.

¹⁰⁵ For additional information on the Fedwire Securities Service operational status, see www.frbservices.org/Status/app/Wholesale/fedwireStatus.jsp.

¹⁰⁶ See www.federalreserve.gov/boarddocs/press/other/2006/20061114/default.htm.

disclosed their answers to the key questions regarding implementation of the recommendations?

This assessment provides the answers to the key questions set out in the *Assessment Methodology* regarding the implementation of the *Recommendations*. The PSR policy describes the Board's expectation that systemically important systems demonstrate the extent to which they meet the applicable principles or minimum standards by completing self-assessments and publicly disclosing the results of their analyses.¹⁰⁷

3. How is this information made available? In what language or languages? In what form?

This information is available electronically, in English, at www.federalreserve.gov.

4. What steps are taken by the CSD or CCP to ensure that the disclosures are complete and accurate? Are there regular reviews to ensure they remain current?

The Federal Reserve will review and update this assessment every two years at a minimum.

Assessment

Recommendation 17 is observed.

¹⁰⁷ Part I of the PSR policy is available at www.federalreserve.gov/paymentsystems/psr/policy07.pdf.

Recommendation 18: Regulation and Oversight

Securities settlement systems should be subject to transparent and effective regulation and oversight. Central banks and securities regulators should cooperate with each other and with other relevant authorities.

Answers to Key Questions

1. How is the system regulated/overseen? Describe the laws that authorize and govern the system's operation, the applicable regulatory bodies and their respective authority concerning the system's operation.

Oversight of the Fedwire-eligible Securities Market

As mentioned in section 1.3 of the Introduction, a number of federal government entities, including the Board, the SEC, and the Treasury, regulate and oversee various components of the Fedwire-eligible securities market. The Board has general supervision of the Reserve Banks, which own and operate the Fedwire Securities Service.¹⁰⁸ The SEC is responsible for regulating clearing agencies, including FICC, and the activities of certain market participants, including broker-dealers.¹⁰⁹ The Treasury, as the issuer of Treasury securities, has the authority to promulgate regulations governing Treasury bonds, notes, and bills. As fiscal principal, the Treasury also has general oversight of those aspects of the Fedwire Securities Service that are performed as fiscal agent of the Treasury. In addition, the two clearing banks are supervised by the appropriate banking supervisor.

Oversight of the Fedwire Securities Service

The Fedwire Securities Service is subject to effective regulation and oversight. The Reserve Banks are supervised by the Board. The Fedwire Securities Service and other related fiscal agent activities provided to the Treasury are also subject to oversight by the Treasury and the GAO.

The Board is responsible for general supervision of the Reserve Banks.¹¹⁰ Section 21 of the FRA requires that the Board order an annual examination of each Reserve Bank.¹¹¹ The Board's Division of Reserve Bank Operations and Payment Systems devotes significant resources to providing general supervision of Reserve Bank operations in order to render an independent assessment of internal controls, compliance with policies and procedures, and efficiency and effectiveness of operations. The Board also uses the services of a major public accounting firm to perform an annual audit of the financial statements of each Reserve Bank as well as the

¹⁰⁸ See 12 U.S.C. § 248(j).

¹⁰⁹ See 15 U.S.C. § 78o.

¹¹⁰ See 12 U.S.C. § 248(j).

¹¹¹ See 12 U.S.C. § 485.

combined financial statements of the Reserve Banks. The audited financial statements are published in the Board's *Annual Report*.

In addition, the Fedwire Securities Service is subject to oversight by the Treasury and the GAO. The Treasury and the GAO have the right to examine and audit certain fiscal agent activities, such as the provision of the Fedwire Securities Service. The Treasury's Bureau of the Public Debt and Inspector General have the right to examine the Fedwire Securities Service at their discretion. The GAO can review certain Reserve Bank activities at the direction of the Congress. A list of audits performed or under way by the GAO is available in the Board's *Annual Report*.¹¹²

2. Are the responsibilities of the securities regulator, central bank and, where relevant, banking supervisor clearly defined with respect to securities settlement systems? Are their roles and major policies disclosed publicly? Are they written in plain language so that they can be fully understood by designers, operators and participants of securities settlement systems, and other relevant parties?

The responsibilities of the Board, the SEC, and the Treasury, as they relate to the regulation and oversight of the Fedwire-eligible securities market, are clearly defined by law and available to the public. In addition, the Board maintains policies, such as the PSR policy, that outline the types of oversight activities relevant parties employ to ensure the effectiveness and efficiency of the Fedwire-eligible securities market. These policies are also clearly defined and available to the public.

3. What is the regulatory and oversight framework based on? Is it a statute-based approach where specific tasks, responsibilities and powers are assigned to specific public authorities? Or a non-statute-based approach? Do the securities regulator and the central bank have experienced staff, proper resources and funding to carry out regulatory and oversight functions effectively?

The regulatory and oversight framework for the Fedwire-eligible securities market is primarily based on the FRA and the Securities Exchange Act. Key aspects of the framework are also set out in Board and SEC rules and policies. The regulatory and oversight framework for the Fedwire Securities Service is based on the FRA and Board policies. The regulation of FICC is based on the Securities Exchange Act and SEC rules and policies. In addition, the Treasury has regulatory authority over Treasury securities and general oversight of the Fedwire Securities Service. The Federal Reserve and the OCC have supervisory authority for the two clearing banks. The Board has experienced staff, proper resources, and funding to carry out its regulatory and oversight functions effectively.

4. Is there a framework for cooperation between the securities regulator and the central bank, such as for the exchange of information and views on securities settlement

¹¹² The *Annual Report* is available at www.federalreserve.gov/boarddocs/rptcongress.

systems? Is there such a framework for cooperation with relevant authorities both within and outside the country?

The Board's framework for cooperation with other regulators is outlined in the PSR policy. In working with other financial system authorities, the Board is guided, as appropriate, by Responsibility D of the *CPSIPS*, Recommendation 18 of the *Recommendations*, Recommendation 15 of the *Recommendations for CCP*, the Principles for Cooperative Central Bank Oversight of Cross-border and Multi-currency Netting and Settlement Systems (Part D) of the *Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries* (Lamfalussy Report), and the Principles for International Cooperative Oversight (Part B) of the *Central Bank Oversight of Payment and Settlement Systems*.¹¹³

Assessment

Recommendation 18 is observed.

¹¹³ Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions, *Recommendations for Central Counterparties*, Bank for International Settlements, November 2004. See www.bis.org/publ/cpss64.htm.

Committee on Interbank Netting Schemes, *Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries* (Lamfalussy Report), Bank for International Settlements, November 1990. See www.bis.org/publ/cpss04.htm.

Committee on Payment and Settlement Systems, *Central Bank Oversight of Payment and Settlement Systems*, Bank for International Settlements, May 2005. See www.bis.org/publ/cpss68.htm.

Recommendation 19: Risks in Cross-border Links

CSDs that establish links to settle cross-border trades should design and operate such links to reduce effectively the risks associated with cross-border settlements.

Assessment

Recommendation 19 is not applicable to the Fedwire Securities Service.

Comments

The Fedwire Securities Service does not have direct, indirect, or relayed links to other CSDs or ICSDs to settle cross-border trades.¹¹⁴ Settlement of any cross-border activity may occur through Fedwire Securities Service participants who provide global custodian services to their customers. Other CSDs or ICSDs may have indirect links to the Fedwire Securities Service through Fedwire Securities Service participants that act as their custodian bank.

¹¹⁴ The *Assessment Methodology* contains a detailed description of direct, indirect, and relayed links. See www.bis.org/publ/cpss51.htm.