



FEDERAL RESERVE BANK
OF DALLAS

HELEN E. HOLCOMB
FIRST VICE PRESIDENT AND
CHIEF OPERATING OFFICER

January 12, 1998

DALLAS, TEXAS
75265-5906

Notice 98-03

TO: The Chief Operating Officer of each
financial institution and others concerned
in the Eleventh Federal Reserve District

SUBJECT

**Request for Public Comment on
Policy Statement on Privately Operated Multilateral
Settlement Systems**

DETAILS

The Board of Governors of the Federal Reserve System is requesting public comment on a proposal to integrate its policies on "Privately Operated Large-Dollar Multilateral Netting Systems" and "Private Small-Dollar Clearing and Settlement Systems" into a single comprehensive policy statement on "Privately Operated Multilateral Settlement Systems." The Board's proposal is part of its payments system risk reduction program.

The Board must receive comments by February 10, 1998. Please address comments to William W. Wiles, Secretary, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue, N.W., Washington, DC 20551. All comments should refer to Docket No. R-0987.

ATTACHMENT

A copy of the Board's notice as it appears on pages 60713-20, Vol. 62, No. 218 of the *Federal Register* dated November 12, 1997, is attached.

MORE INFORMATION

For more information, please contact Mike Turner at (214) 922-5573. For additional copies of this Bank's notice, contact the Public Affairs Department at (214) 922-5254.

Sincerely,

For additional copies, bankers and others are encouraged to use one of the following toll-free numbers in contacting the Federal Reserve Bank of Dallas: Dallas Office (800) 333-4460; El Paso Branch *Intrastate* (800) 592-1631, *Interstate* (800) 351-1012; Houston Branch *Intrastate* (800) 392-4162, *Interstate* (800) 221-0363; San Antonio Branch *Intrastate* (800) 292-5810.

FEDERAL RESERVE SYSTEM**[Docket No. R-0987]****Policy Statement on Privately Operated
Multilateral Settlement Systems****AGENCY:** Board of Governors of the
Federal Reserve System.**ACTION:** Request for comment.**SUMMARY:** As part of its payment system risk reduction program, the Board of Governors is requesting comment on a proposal to integrate its policies on "Privately Operated Large-Dollar Multilateral Netting Systems" and "Private Small-Dollar Clearing and Settlement Systems" into a single, comprehensive policy statement on "Privately Operated Multilateral Settlement Systems."**DATES:** Comments must be received by February 10, 1998.**ADDRESSES:** Comments should refer to Docket No. R-0987 and may be mailed to Mr. William W. Wiles, Secretary, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue, N.W., Washington, D.C. 20551. Comments may also be delivered to the Board's mail room between 8:45 a.m. and 5:15 p.m. on weekdays, and to the security control room at all other times. The mail room and the security control room are accessible from the courtyard entrance on 20th Street between Constitution Avenue and C Street, N.W. Comments will be available for inspection and copying by members of the public in the Freedom of Information Office, Room MP-500, between 9:00 a.m. and 5:00 p.m. weekdays, except as provided in Section 261.8 of the Board's Rules Regarding Availability of Information.**FOR FURTHER INFORMATION CONTACT:** Jeffrey C. Marquardt, Assistant Director (202/452-2360), Paul Bettge, Assistant Director (202/452-3174), or Heidi Richards, Senior Financial Services Analyst (202/452-2598), Division of Reserve Bank Operations and Payment Systems; or Oliver Ireland, Associate General Counsel (202/452-3625); for the hearing impaired only,

Telecommunications Device for the Deaf, Diane Jenkins (202/452-3544).

SUPPLEMENTARY INFORMATION:

I. Background

In 1994, the Board adopted a policy statement on Privately Operated Large-Dollar Multilateral Netting Systems (Large-Dollar Policy Statement).¹ The Large-Dollar Policy Statement, which replaced earlier policy statements on large-dollar funds transfer networks and offshore dollar clearing and netting systems, contains minimum standards for multilateral netting systems (Lamfalussy Minimum Standards) set forth in The Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries (Lamfalussy Report).² The criteria for identifying arrangements subject to the policy were designed to limit the scope and application of the policy to large-dollar multilateral netting systems for payments and foreign exchange contracts that involve settlements in U.S. dollars and have the potential to increase systemic risk in financial markets.

At the time the Large-Dollar Policy Statement was adopted, the Board recognized that in the case of larger multilateral netting systems for "batch-processed" payments, such as checks or automated clearing house (ACH) payments, certain electronic controls that would be required to implement the Lamfalussy Minimum Standards might not be feasible. In addition, the characteristics of the instruments cleared in such systems, along with the scale of systemic risk, might differ from large-dollar systems. Consequently, the Board stated its intent to study further the implications of the Lamfalussy Minimum Standards for privately operated multilateral netting systems for batch-processed payments and did not apply the Large-Dollar Policy Statement to those systems at that time.

In addition, in 1995, the Board began a comprehensive evaluation of its policies regarding Federal Reserve net settlement services, which are typically used by privately operated clearinghouses for batch-processed and other small-dollar payments, including checks, ACH payments, and in some cases, automated teller machine (ATM) and credit card transactions. The Board's review addressed both the need to enhance the Federal Reserve's net settlement services and risk-reduction policies toward small-dollar payments clearinghouses more generally, including, potentially, the Lamfalussy

Minimum Standards. As a result of this review, the Board issued for public comment a proposal for enhancing the Federal Reserve's net settlement services (62 FR 32118, June 12, 1997).

The proposed modifications to the Policy Statement on Payments System Risk issued in this notice also stem from this comprehensive evaluation of net settlement services and policies. This proposal would repeal the existing Large-Dollar Policy Statement and replace it with a unified policy statement on risks in multilateral settlement arrangements. The proposal is not intended to alter the Board's current policy as applied to those existing privately operated large-dollar multilateral netting systems that are currently subject to the Large-Dollar Policy Statement, but to integrate that policy within a broader and more consistent policy framework.

II. The Proposed Policy Statement

Rationale for and Scope of the Policy

The proposed policy statement is designed to address risks in multilateral settlement arrangements for both "small-dollar" payments, such as checks and ACH transfers, and "large-dollar" payments, which are typically used to settle interbank and other financial market transactions. The policy statement recognizes that settlement of payments through a multilateral clearinghouse arrangement may not necessarily pose material additional risks for participants relative to other methods of settlement, such as bilateral or correspondent settlement. For example, in smaller arrangements used primarily to settle customer or third-party payments, such as check clearinghouses, participants generally are not exposed to significant credit risk with respect to the underlying payments. Payments are supported by a well established body of law and operational practice that would help determine the resolution of a participant default or clearinghouse settlement failure. In other arrangements, however, such as those for some types of electronic payments, the characteristics of the underlying payments in the event of a settlement disruption or failure and the operational options for resolving such a situation may be much less clear.

The proposed policy statement, therefore, is directed only at those multilateral settlement arrangements that heighten existing risks inherent in the settlement process or that create new risks to their participants or to financial markets. For these systems, the Board believes that policy guidance on settlement risk concerns at the

clearinghouse or system level is warranted. For other systems, which are likely to include the vast majority of clearinghouse arrangements for small-dollar payments, reliance on existing supervisory approaches aimed at promoting the safe and sound operation of financial institutions, including the Bank Service Company Act, is appropriate.

Fundamental categories of risk, including credit, liquidity, operational, legal, and systemic risk, are common to many different types of multilateral settlement arrangements. The magnitude and specific manifestation of these settlement-related risks, as well as the most cost-effective means of managing them, differ across systems. Therefore, the proposed policy statement provides a flexible, risk-based approach to risk management, rather than imposing uniform, rigid requirements on all systems. While the flexible approach may lead to some initial uncertainties in the implementation of the policy statement, the Board expects that the costs of such uncertainty would be significantly lower than the costs of an alternative policy that mandated uniform risk management standards for all systems. Further, such a uniform, rigid policy would likely not adequately address risks in some systems and would impose unnecessary costs on the majority of systems that pose limited or no additional risks relative to other forms of settlement.

Risk Factors and Risk Management Measures

The proposed policy statement identifies five categories of settlement-related risks—credit, liquidity, operational, legal, and systemic—that may arise in multilateral settlement systems. For each type of risk, the policy statement includes (1) a discussion of risk factors that give rise to concerns, (2) threshold criteria for each risk category that are intended to serve as "safe harbors" for purposes of compliance with the policy statement, and (3) common examples of risk management or mitigating controls that can be used to address these risk factors. Systems would be expected to address any material risks in each category.

First, the discussion of risk factors for each category is intended to identify multilateral systems where such risks are heightened relative to other means of settlement. In general, risks may be heightened in multilateral settlement arrangements if the ability of participants to manage settlement-related risks individually are reduced

¹ 59 FR 67534, December 29, 1994.

² Bank for International Settlements (Basle, 1990).

for operational or other reasons, or because risk management incentives are reduced as a result of shifts in bilateral obligations and risk exposures between participants. Risks could also be increased if no alternative to multilateral settlement in a particular system is available, such that settlements could not reasonably be expected to be completed by participants in a timely manner outside the system in the event that settlement could not be completed within the system.

Second, for each risk category the policy statement specifies qualitative and quantitative thresholds and other criteria intended to identify more clearly systems in which these risks are not likely to arise. These criteria are intended to simplify administration of the policy. Many clearinghouse arrangements will fall below the thresholds or not meet specified criteria and therefore will not be required to assess their compliance with the policy statement. The Board requests comment on the appropriateness of these threshold criteria. The Board expects that smaller check clearinghouses, for example, will not need to modify their operations at all in order to comply with the policy; others should only have to make minimal changes, for example, changes in settlement timing or settlement failure notification policies. To provide further guidance on application of the policy, the Appendix to the policy statement also contains specific illustrative examples.

Third, the risk management discussion in the proposed policy statement provides illustrations of the type of risk management measures that may be appropriate given the particular risk factors identified. Particularly for multilateral settlement systems that are not likely to raise systemic risk concerns, this policy is intended to provide flexible guidance on means to address risks. In general, the Board believes that risk management measures should be commensurate with the scale and scope of risks. In some cases, the Board recognizes that systems may need to consult with Board staff regarding approaches to addressing identified risk factors.

For multilateral settlement systems that are sufficiently large to raise potential systemic risk concerns, the proposed policy statement imposes higher risk management standards. The Board is proposing to retain the threshold criteria for application of the Large-Dollar Policy Statement, including \$500 million in daily net settlement amounts or an average payment size of \$100,000. The Board

requests comment on the appropriate level of these thresholds, or whether a different measure, such as gross payment value settled, or net settlement amounts alone, would be more appropriate proxies for systemic risk.

Under the proposed policy statement, those larger systems that meet the systemic risk criteria would be expected to demonstrate robust policies and procedures for addressing settlement failures and disruptions, but would not necessarily be required to meet all of the Lamfalussy Minimum Standards. The Board believes that full application of the Lamfalussy Minimum Standards embodied in the existing Large-Dollar Policy Statement may not be necessary or appropriate for some of those arrangements. These standards were designed for those multilateral netting systems for which a failure to settle all positions on a multilateral net basis as and when expected could pose a high degree of systemic risk. As a result, these standards require systems, among other things, to have the ability to settle all positions on a multilateral net basis even if the participant with the largest debit position defaults on its settlement obligations. In contrast, the Board recognizes that for many small-dollar multilateral settlement systems, such as check clearinghouses, a recast of multilateral net settlement positions (to exclude transactions with the defaulting participant) or similar procedures may be an effective risk management tool. This presumes that settlement for non-defaulting participants can be completed in a timely manner and that any liquidity effects on participants are manageable.

For some larger multilateral settlement systems, however, there is no feasible or reasonable alternative to settlement of all multilateral net positions within the system as and when expected, due primarily to potentially systemic credit and liquidity effects. As a result, these systems are expected to meet fully the Lamfalussy Minimum Standards. For such systems, the proposed policy statement retains the same requirements of the Board's existing Large-Dollar Policy Statement. The Board expects that these requirements would apply to those multilateral netting systems for large-dollar payments and foreign exchange contracts that are currently required to meet the Lamfalussy Minimum Standards under the Board's existing Large-Dollar Policy Statement. For other systems meeting the systemic risk criteria under the new policy but for which real-time controls may not be operationally feasible, the Board would consider alternative risk management

measures that would provide an equivalent level of risk management.

Repeal of Existing "Small-Dollar" Policies

The Board is also proposing to repeal its existing policies for certain "small-dollar" payments clearing and settlement arrangements. These policies date from 1984 and 1990, when the Board approved the provision of Federal Reserve net settlement services to ATM and national ACH clearing arrangements, respectively, subject to certain conditions. These conditions were also restated as part of the Board's Policy Statement on Payments System Risk (57 FR 40455, September 3, 1992).

The earlier policies were designed to address specific situations that arose in the Federal Reserve's provision of net settlement services to depository institutions and were not intended to represent a comprehensive approach to fundamental risks that arise in payments clearing and settlement arrangements. In addition, the policies were developed before the Federal Reserve had fully implemented its program for managing risks in providing payment services to depository institutions, as well as other policy developments relevant to the management of interbank exposures, such as the issuance of Regulation F.

Furthermore, a policy that links clearinghouse usage of a particular Federal Reserve net settlement service to its compliance with particular risk management standards (which do not apply to other clearinghouse arrangements), may have the unintended effect of discouraging the use of settlement services with potentially lower risks to financial institutions and their customers, such as those providing same-day finality. Moreover, many of the fundamental risks that may exist in a clearing arrangement are not linked to a particular form of settlement. Consequently, the Board is proposing to repeal these policy statements once a revised, unified policy statement on risks in multilateral settlement arrangements is finalized.

Specific Questions for Comments

1. The Board requests comment on whether the policy statement adequately identifies settlement arrangements that exhibit material settlement-related risks. Please address the usefulness of the base criteria. Are there any other such thresholds or criteria that the Board should consider?

2. How should the policy statement distinguish systems that may pose systemic risk and are thus subject to

higher risk management standards from those that do not? Should the thresholds be based on net settlement amounts, gross settlement amounts, average payment size, or some other measure?

3. Should the policy statement include an Appendix with illustrative examples of application of the policy in different circumstances?

Regulatory Flexibility Act Analysis

The Board has determined that this proposed policy statement would not have a significant economic impact on a substantial number of small entities. The proposal would require multilateral settlement arrangements to address material risks in their systems. The proposal is designed to minimize regulatory burden on smaller arrangements that do not raise material risks.

Competitive Impact Analysis

The Board has established procedures for assessing the competitive impact of rule or policy changes that have a substantial impact on payments system participants.³ Under these procedures, the Board will assess whether a change would have a direct and material adverse effect on the ability of other service providers to compete effectively with the Federal Reserve in providing similar services due to differing legal powers or constraints, or due to a dominant market position of the Federal Reserve deriving from such differences. If no reasonable modifications would mitigate the adverse competitive effects, the Board will determine whether the anticipated benefits are significant enough to proceed with the change despite the adverse effects.

The Board does not believe that the adoption of this policy statement will have a direct and material adverse impact on the ability of other service providers to compete effectively with the Reserve Banks' payments services. A number of the payment services potentially covered by the proposed policy statement are not offered by the Federal Reserve Banks. In addition, the revised policy statement may have the effect of encouraging competition with the Federal Reserve in areas such as national check and ACH clearing and settlement. The repeal of the Board's existing policies for small-dollar payments clearing arrangements, together with the Board's proposal for an enhanced net settlement service, may reduce barriers to establishing such arrangements.

³ These procedures are described in the Board's policy statement "The Federal Reserve in the Payments System," as revised in March 1990. (55 FR 11648, March 29, 1990).

Federal Reserve System Policy Statement on Payments System Risk

The Board is amending its "Federal Reserve System Policy Statement on Payments System Risk" under the heading "II. Policies for Private-Sector Systems" by removing "A. Privately Operated Large-Dollar Multilateral Netting Systems" in its entirety and adding in its place "A. Privately Operated Multilateral Settlement Systems" and removing "C. Private Small-Dollar Clearing and Settlement Systems" in its entirety.

II. Policies for Private-Sector Systems

A. Privately Operated Multilateral Settlement Systems

Introduction

Multilateral settlement systems, such as clearinghouses and similar arrangements, may produce important efficiencies in the clearance and settlement of payments and financial contracts. Participants in such systems, typically depository institutions, exchange payments for their own account or the accounts of their customers in a coordinated fashion and settle the resulting obligations on a multilateral, often net, basis.

A variety of credit, liquidity, and other risks can arise in the clearing and settlement process that institutions must manage in the normal course of business, regardless of the method of clearing and settlement. Existing supervisory standards are generally directed at ensuring that institutions establish appropriate policies and procedures to manage such risks. For example, Regulation F directs insured depository institutions to establish policies and procedures to avoid excessive exposures to any other depository institutions, including exposures that may be generated through the clearing and settlement of payments.¹

However, the use of multilateral settlement systems introduces the risk that a failure of one participant in the system to settle its obligations will have credit or liquidity effects on participants that have not dealt with the defaulting participant. Multilateral settlement may have the effect of altering the underlying bilateral relationships that arise between institutions during the clearing and settlement process. As a result, the incentives for, or ability of, institutions to manage effectively the risk exposures to other institutions may be reduced. In addition, in some cases, there may be no feasible or timely alternative to

¹ See 12 CFR 206.

settlement through the multilateral system in the event that the system fails to complete settlement, due, for example, to a participant default. These factors may create added risks to participants in multilateral settlement systems relative to other settlement methods.

Clearinghouses also may generate systemic risk that could threaten the financial markets or the economy more broadly. The failure of a system to complete settlement as and when expected could generate unexpected credit losses or liquidity shortfalls that participants in the system are not able to absorb. Thus, the inability of one participant to meet its obligations within the system when due could lead to the illiquidity or failure of other institutions. Further, the disruption of a large number of payments and the resulting uncertainty could lead to broader effects on economic activity. In addition, as the Federal Reserve has established fees for daylight overdrafts, along with other risk management measures for Federal Reserve payment services, the potential exists for intraday credit risks to be shifted from the Federal Reserve to private, multilateral settlement arrangements, either domestically or in other countries, that have inadequate risk controls.

The Board believes that these concerns warrant the application of a risk management policy to a limited number of multilateral settlement systems that raise material added risks for participants or financial markets. The Board recognizes that multilateral settlement systems differ widely in terms of form, function, scale, and scope of activities. As a general rule, risk management measures should be commensurate with the nature and magnitude of risks involved, but risk management measures may be designed differently for different types of payments or systems. This policy statement, therefore, is designed to permit market participants to determine the best means of addressing risks, within certain guidelines.

The Board's adoption of this policy in no way diminishes the primary responsibilities of participants in, and operators of, multilateral settlement systems to address settlement and other risks that may arise in these systems. In addition, the Board encourages all multilateral settlement systems to consider periodically cost-effective risk management improvements, even if not specifically required under this policy. Insured depository institutions participating in multilateral settlement systems are also expected to limit their bilateral credit and liquidity exposures

as required under Federal Reserve Regulation F.

Scope and Administration of the Policy

This policy statement will be applied to privately operated multilateral settlement systems or arrangements with three or more participants that settle U.S. dollar payments, including but not limited to systems for the settlement of checks, automated clearinghouse (ACH) transfers, credit, debit, and other card transactions, large-value interbank transfers, or foreign exchange contracts involving the U.S. dollar. It does not apply to clearing and settlement systems for securities or exchange-traded futures and options. This policy statement is not intended to apply to bilateral relationships between financial institutions, such as those involved in traditional correspondent banking. The Board may also apply this policy to any non-U.S. dollar system based, or operated, in the United States that engages in the multilateral settlement of non-dollar payments among financial institutions and that would otherwise be subject to this policy.

The Board expects to be guided by this policy statement in taking action in its supervisory and operational relationships with state member banks, bank holding companies, and clearinghouse arrangements, including, for example, the provision of net settlement services and the implementation of the Bank Service Company Act.² Systems subject to this policy may be asked to provide gross and net settlement data, as well as intraday position data, if applicable, to the Federal Reserve.

Risk Factors and Risk Management Measures

The risk factors described below are intended to identify those multilateral settlement systems that may pose material added risks relative to conventional bilateral means of settlement, and which therefore must address these risks under this policy statement. The Board believes that the vast majority of multilateral settlement systems, including most clearinghouses for checks and other small-value payments, do not raise the risks identified below to a material degree. Threshold criteria for each risk category exclude many such systems from the need to assess risk factors under the policy. The Appendix to this policy statement also provides several illustrative examples of the likely

application of the requirements of the policy statement.

Systems that exhibit one or more risk factors should take steps to address those specific risks, including consideration of the risk management measures listed below. If necessary, the Board will work with systems to determine whether changes in their policies or operations are required and, if so, whether steps proposed by the system would satisfy the requirements of the policy. In some cases, an operational change may mitigate a particular risk factor. In other cases, systems may need to develop or modify written rules, policies, and procedures that specify the rights and obligations of participants, as well as other relevant parties, such as settlement agents for the system, in the event that a settlement cannot be completed as and when expected. Such rules and procedures should be disclosed to all participants and their primary regulatory authorities.

In general, risk management controls should be proportional to the nature and magnitude of risks in the particular system. For larger systems that have the potential to create systemic risk, the Board expects systems to demonstrate commensurately robust procedures for addressing settlement disruptions, including, in some cases, meeting the Lamfalussy Minimum Standards for multilateral netting systems, discussed below under *Systemic risk*.³

(1) *Credit risk*. Risk factors: A multilateral settlement system would give rise to material credit risk if its rules or practices materially increase or shift the bilateral obligations or credit exposures between participants in the clearing and settlement process. One example is a clearinghouse operator or agent that provides a guarantee of settlement. Such a guarantee might be implemented explicitly through the establishment of a central counterparty for all transactions, or through other provisions in the system's rules, such as a guarantee of members' settlement obligations, third-party credit

arrangements, or the system's ability to recover settlement-related losses from participants. Additionally, a system in which participants are exposed to material credit risk to one another by virtue of their participation in the system, due for example, to agreements to mutualize any settlement losses, would be considered to give rise to material credit risk if participants have no means to control these exposures.

Threshold criteria: Multilateral settlement systems in which underlying bilateral obligations between participants are not altered, such as those that do not employ settlement guarantees, loss-sharing, or other techniques, would not give rise to additional material credit risk. Thus, most traditional check clearinghouses would not be considered to give rise to credit risk under this policy statement.

Risk management measures: Measures that are commonly used to mitigate credit risk in a multilateral settlement system and provide support for settlement guarantees include monitoring of participants' financial condition, caps or limits on some or all participants' positions in the system, and requirements for collateral, margin, or other security from some or all participants. Systems in which participants have material bilateral exposures to one another or to the system, such as through loss-sharing agreements, may implement mechanisms for participants to control these exposures. Use of settlement methods with same-day finality may also shorten the duration of credit risk exposure in a system.

(2) *Liquidity risk*. Risk factors: A multilateral settlement system would give rise to significant liquidity risk for its participants if a delay, failure, or reversal of settlement would be likely to cause a significant change in settlement amounts to be paid or received by participants on the settlement date. The degree of liquidity risk in a particular system is greater (1) the larger are gross payment flows relative to netted amounts to be settled; (2) the larger are participants' settlement positions relative to their available funding resources; (3) the later that participants would be notified of a settlement disruption relative to the timing of activity in the money markets and through other funding channels, and (4) the greater the likelihood that a settlement failure of the particular system would be accompanied by abnormal market conditions.

Threshold criteria: The Board expects that participants in multilateral net settlement systems ordinarily would be able to fund their bilateral obligations in

³ *The Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries* (Bank for International Settlements, November 1990), known as the Lamfalussy Report, recognized that netting arrangements for interbank payment orders and forward-value contractual commitments, such as foreign exchange contracts, have the potential to improve the efficiency and the stability of interbank settlements through the reduction of costs along with credit and liquidity risks, provided certain conditions are met. That Report developed and discussed "Minimum Standards for Netting Schemes" (Lamfalussy Minimum Standards) and "Principles for Co-operative Central Bank Oversight" of such arrangements. These standards have been adopted by the central banks of the G-10 and European Union countries.

the event of a delayed or failed settlement where the netting factor for the system is 10 or less, provided settlement activity does not reach levels likely to raise systemic risk, as discussed under Systemic risk, below.⁴

Risk management measures: One approach to mitigating liquidity risk is to implement measures to reduce significantly both the probability and the effect of a settlement disruption. Measures that are often used to support a settlement guarantee, as described under Credit risk, above, as well as establishing external liquidity resources and adequate operational contingency arrangements may mitigate liquidity risk.

Some systems anticipate performing a recast of settlements in the event of a participant default by recalculating multilateral net settlement obligations among participants. These systems are expected to address the liquidity impact of such a procedure.⁵ For example, timely notification of settlement failure before or during the period of active money market trading would permit participants readily to borrow funds to cover any shortfalls due to the recast. Individual participants may also take steps to limit their own liquidity exposures or increase available liquidity resources. The system itself may utilize committed lines of credit or other external liquidity resources that can be drawn upon to complete settlements in the event of a temporary settlement disruption.

(3) *Operational risk.* Risk factors: Operational risks, such as those relating to the reliability and integrity of electronic data processing facilities used in the clearing and settlement process, are addressed in standard supervisory guidance for depository institutions and their service providers. Operational risk factors for purposes of this policy statement include those that could hinder the timely completion of settlement or the timely resolution of a settlement disruption in a multilateral settlement system. For example,

operational obstacles could make it difficult or impossible for participants to arrange settlement outside the system on a timely basis in the event of a settlement failure. As a result, those participants expecting to receive funds could face significant liquidity risk. In addition, in some cases, failure to complete settlement on a timely basis could change the rights of participants with respect to the underlying payments, creating potential credit or liquidity risks. For example, institutions that are unable either to return or to settle for checks presented to them on the same day may lose the right to return the checks for insufficient funds. Further, risk control procedures implemented by a particular system may themselves entail operational risks. The ability of a system to execute a recast of settlements, implement guarantee provisions, or access lines of credit may depend on the operational reliability of the system's facilities.

Threshold criteria: In smaller multilateral settlement systems, it is less likely that operational complexities or constraints would prevent the resolution of a participant default or other settlement disruption, provided that participants receive notice of a settlement failure with adequate time to make alternative arrangements before the closing of funds transfer systems. Thus, the Board does not consider systems with less than one hundred participants that normally settle sufficiently early in the day to raise material operational risks.

Risk management measures: Multilateral settlement systems and their participants typically mitigate the risk of operational failure in their daily processing activities through standard techniques, such as contingency plans, redundant systems, and backup facilities. For purposes of this policy statement, systems should ensure the reliable operational capability to execute procedures used to resolve a participant default or other settlement disruption as well as to implement other risk management measures. For example, if a system anticipates recasting settlements by excluding transactions of a defaulting participant, it should ensure that the system can perform any required processing, generate the necessary information, and provide it to participants in a timely manner. To the extent that payments would be expected to be settled outside the system, participants should have adequate time, settlement information, and operational capabilities to complete such settlements before the close of critical funds transfer systems.

(4) *Legal risk.* Risk factors: Legal risk may exist in a multilateral settlement system if there is significant uncertainty regarding the legal status of settlement obligations or the underlying transactions in the event of a settlement failure. This legal uncertainty would greatly exacerbate efforts to achieve an orderly and timely resolution and could expose participants to credit and liquidity risks. If the obligations of participants with respect to underlying transactions exchanged in the system have no enforceable legal status in the event of a system settlement failure, the ability of the participants to revert to other methods of settlement on a timely basis may be in doubt. Legal risk would also arise if the legal enforceability of any risk management measures, netting agreements, or related arrangements, is questionable.

Threshold criteria: Systems that clear and settle payments that are supported by a well established legal framework that is independent of the particular settlement system are unlikely to give rise to significant legal risk.

Risk management measures: Systems may be able to address legal risk factors through changes to operating rules or other agreements between participants. Rules and related agreements may provide an adequate legal basis for enforceable netting of obligations or for other arrangements that would be invoked in the event of a settlement failure, such as unwind or reversal provisions.

(5) *Systemic risk.* Risk factors: For some multilateral settlement systems, settlement risk factors could have systemic implications. The failure of a multilateral settlement system to complete settlement as and when expected could generate unexpected credit losses or liquidity shortfalls that participants in the system are not able to absorb, or disrupt a large number of payments. In general, the larger the size of settlement activity in a multilateral settlement system, the greater the potential for systemic risk.

Threshold criteria: The Board considers as posing systemic risk multilateral settlement systems that have, or that expect to have, on any day, settlements with a system-wide aggregate value of net settlement credits (or debits) larger than \$500 million (in U.S. dollars and any foreign currencies combined), or that clear and settle payments or foreign exchange contracts with a daily average stated dollar value larger than \$100,000 (calculated over a twelve month period corresponding to the most recent fiscal year for the netting system). Multilateral settlement systems of any size that serve core

⁴ The netting factor, calculated as the ratio of gross transactions exchanged in a particular period to the resulting multilateral net amounts (aggregate net debits or net credits) settled, is one indicator of the magnitude of the change in positions if all multilateral net settlement obligations had to be settled on a gross basis.

⁵ For example, in a "recast" of settlements, some or all transactions involving the defaulting participant would be removed from the system's settlement process, to be settled or otherwise resolved outside the system. A revised multilateral settlement with recalculated settlement obligations would then be conducted among the remaining participants. In an "unwind," transactions or settlement obligations to be settled on the day of the default for all participants would be removed from the system.

financial markets may also be considered to pose systemic risk.

Risk management measures: Systems posing systemic risk as defined above are expected to adopt more robust risk management policies and procedures addressing participant defaults and other settlement disruptions and to demonstrate that they are able to execute these procedures. In order to determine the adequacy of risk management controls, systems may need to establish a capability to simulate or test the effects of one or more participant defaults or other possible sources of settlement disruption on the system and its participants.⁶

Systems with activity exceeding the systemic risk thresholds, and for which there is no feasible or reasonable alternative to settlement of all positions within the system as and when expected due to credit, liquidity, or operational risks, are expected to meet the six Lamfalussy Minimum Standards, below. These standards are designed to address the main risk factors that may be present in multilateral clearing and settlement systems and to provide confidence that such systems can settle all positions as and when expected, thereby reducing substantially the risk that a default by one participant will cause defaults by others.

Lamfalussy Minimum Standards for the Design and Operation of Privately Operated Large-Dollar Multilateral Netting Systems⁷

1. Netting systems should have a well-founded legal basis under all relevant jurisdictions.

2. Netting system participants should have a clear understanding of the impact of the particular system on each of the financial risks affected by the netting process.

3. Multilateral netting systems should have clearly-defined procedures for the management of credit risks and liquidity risks which specify the respective responsibilities of the netting provider and the participants. These procedures should also ensure that all parties have both the incentives and the capabilities to manage and contain each of the risks they bear and that limits are placed on the maximum level of credit exposure that can be produced by each participant.

4. Multilateral netting systems should, at a minimum, be capable of ensuring

the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single net debit position.

5. Multilateral netting systems should have objective and publicly-disclosed criteria for admission which permit fair and open access.

6. All netting systems should ensure the operational reliability of technical systems and the availability of backup facilities capable of completing daily processing requirements.

In meeting these standards, the Board expects that systems will utilize the following risk management measures, or their equivalent: (1) To the extent that participants are exposed to credit and liquidity risks from other participants, require each participant to establish bilateral net credit limits vis-à-vis each other participant in the system; (2) establish and monitor in real-time system-specific net debit limits for each participant; (3) establish real-time controls to reject or hold any payment or foreign exchange contract that would cause a participant's position to exceed the relevant bilateral and net debit limits; (4) establish liquidity resources, such as cash, committed lines of credit secured by collateral, or a combination thereof, at least equal to the largest single net debit position; and (5) establish rules and procedures for the sharing of credit losses among the participants in the netting system.⁸ The Board will consider, on a case-by-case basis, alternative risk management measures that provide for an equivalent level of risk management controls for systems in which real-time risk controls are not operationally feasible. However, the Board strongly encourages systems that perform sequential processing of payments or other obligations to develop real-time risk management controls. The Board may also encourage or require higher risk standards, such as the ability to ensure timely multilateral net settlement in the event of multiple defaults, of individual systems that present a potentially high degree of systemic risk, by virtue of their high volume of large-value transactions or central role in the operation of the financial markets.

Offshore Systems

The Board has a long-standing concern that steps taken to reduce systemic risk in U.S. large-dollar payments systems may induce the further development of multilateral

systems for settling U.S. dollar payments that are operated outside the United States. Such systems, if implemented with inadequate attention to risk management, may increase risks to the international banking and financial system. In addition, offshore arrangements have the potential to operate without sufficient official oversight.

As a result, the Board has determined that offshore, large-dollar multilateral netting systems and multicurrency clearing and settlement systems should at a minimum be subject to oversight or supervision, as a system, by the Federal Reserve, or by another relevant central bank or supervisory authority. The Board recognizes that central banks have common policy objectives with respect to large-value clearing and settlement arrangements. Accordingly, the Board expects that it will cooperate, as necessary, with other central banks and foreign banking supervisors in the application of the Lamfalussy Minimum Standards to offshore and multicurrency systems. In this regard, the Principles for Co-operative Central Bank Oversight outlined in the Lamfalussy Report provide an important international framework for cooperation.

By order of the Board of Governors of the Federal Reserve System, November 6, 1997.

William W. Wiles,
Secretary of the Board.

Appendix

Example #1

A local or regional check clearinghouse with less than 100 members that settles sufficiently early in the day to allow settlement disruptions to be resolved on a timely basis would typically not give rise to risks addressed under this policy statement. Generally, such arrangements do not guarantee settlement, mutualize losses, or involve a central counterparty to all transactions, and therefore the settlement arrangement itself does not give rise to added or shifted credit risk for participants. In addition, the liquidity risks of such arrangements generally are low, with netting factors of less than 10, so that liquidity shortfalls due to a disruption in settlement are likely to be within the funding capabilities of participants. From an operational standpoint, these arrangements usually exchange checks in the morning. If prompt notice is given of a recast of settlements at that time, participants should be able to meet their recast settlement obligations, settle any payments excluded from the system bilaterally as necessary, and manage any liquidity shortfalls. Similarly, the existence of established check law would satisfy any legal concerns. Finally, such check clearing arrangements generally do not have aggregate net settlement credits (or debits) larger than \$500 million per day, nor do the checks cleared through such

⁶ Such simulations may include, if appropriate, the effects of changes in market prices, volatilities, or other factors.

⁷ The minimum standards adopted by the Board are identical to those set out in the Lamfalussy Report, with minor changes to terminology.

⁸ The term "largest single net debit position" means the largest intraday net debit position of any individual participant at any time during the daily operating hours of the netting system.

arrangements have a daily average dollar value larger than \$100,000, so the arrangements would not be considered to give rise to systemic risk.

Example #2

An ACH clearinghouse with more than 100 members, net settlement debits averaging less than \$500 million per day, and a netting factor of five would not be considered to raise significant credit, liquidity, or systemic risks. Such a system would likely not involve settlement guarantees or mutualization of losses, and without high netting factors or similar concerns, it would not be likely to lead to significant liquidity risks. Given the large number of participants, it is unlikely that participants would be able to resolve a settlement failure among themselves without prior coordinated procedures. The system would need to have reliable operational procedures to resolve a settlement failure in a timely manner on the settlement date, such as through a recast of settlements. The rules of the system would need to specify settlement failure procedures, including those for identifying and reversing non-settled entries under applicable rules.

Example #3

A foreign exchange clearinghouse that clears and settles contracts that average more than \$100,000 through a central counterparty arrangement would be required to address potential credit, liquidity, and legal risks, as well as systemic risks. Netting and novation of transactions, for example, would shift credit risk to the central counterparty. Legal risk could exist if the arrangements to implement the netting of underlying foreign exchange contracts could be invalidated or ineffective in the event of bankruptcy of the central counterparty. Given that the arrangement exceeds or plans to exceed the base criteria for potential systemic risk, and serves a key financial market, it would be required to implement robust risk controls and fully meet the Lamfalussy Minimum Standards.

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