COMMENT

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Issues Regarding Payments and Netting Systems

The Settlement Risk in Foreign Exchange Transactions report (the Report)\(^1\) prepared by the Committee on Payment and Settlement Systems of the Central Banks of the Group of Ten Countries is a landmark in the history of the quest to reduce settlement risk. It is a summary of the studies and efforts to address the problem since the Bankhaus Herstatt collapsed in 1974 but, most importantly, it is a manifestation of the will and consensus of the central banks to take, or encourage, dramatic steps in the next two to three years that will make anything that has taken place in the past two decades look insignificant in comparison.

This is not to say that no significant progress was made in those two decades or that the Report does not represent the will of market participants as well. Indeed, the fact that more rapid progress is now possible is related to studies undertaken and developments achieved by industry groups, some with central bank participation and some independent. Thus, the Report signifies a general consensus that a partnership between central banks and market participants to develop a solution or solutions is necessary, although there are obviously many details to be worked out.

Although there are many different legal issues affecting payments and netting systems, the focus of this comment is on legal issues relating to the subject of the Report—reduction of settlement risk in foreign exchange transactions.

First, some basic terminology must be considered. Risk management professionals distinguish between "exposure" and "risk." By the former, they mean the amount that may be lost by a party to a transaction; by the latter, they mean the amount that may be lost times the probability that there will be a loss (loss being the actual amount of damages incurred). Obviously, it is easier to quantify exposure and loss than it is to quantify risk. In many contexts, the terms can be used interchangeably, especially when discussing legal issues. Nevertheless, it is helpful to adopt the distinction between the terms for present purposes where it appears to be appropriate.

Second, there are various ways to classify risks in connection with any transaction, foreign exchange or otherwise. The most fundamental would
be the distinction between noncredit risks and credit risks. Noncredit risks are risks that do not directly arise out of the possibility of counterparty default, such as market, liquidity, and operational risks. Credit risks, on the other hand, directly arise because of the possibility that a counterparty may default. In the case of foreign exchange transactions (as in the case of many other transactions traded in the financial markets), settlement risk is a type of credit risk along with replacement cost risk.

This comment uses the terminology used in the Report. Replacement cost risk is the risk that arises because a party (the "nondefaulting party") may have to replace foreign exchange transactions at more costly prices as the result of a default (often referred to by market participants as "mark-to-market risk"); settlement risk is the risk that a nondefaulting party will pay a defaulting party under a foreign exchange transaction and not be paid by the defaulting party (variously referred to as "principal," "notional," "delivery," and even "Herstatt" risk). Replacement cost exposure for a particular foreign exchange exposure is constantly changing and is the incremental cost (which may be negative) to replace a transaction at current prices; settlement exposure is constant (at least when considered in terms of a single transaction and the currency involved that is owed to the relevant party) and is the amount owed to the nondefaulting party under the relevant transaction.

A further distinction to note between replacement cost risk and settlement risk is that replacement cost risk is more probable than settlement risk, although the exposure (the amount that may be lost) is smaller. Settlement exposure, on the other hand, is huge and is the reason for the various efforts considered herein, because such huge amounts are unacceptable even if it is believed that the probability of loss is smaller than in the case of replacement cost risk.

Furthermore, there are various collateral effects of settlement risk, which make it even more important that a solution be developed. First, a settlement loss may lead to gridlock in the international payments systems, usually referred to as "systemic risk." Second, the failure of a counterparty to deliver a currency may mean that the nondefaulting party must find sources to fund any obligation it has with other parties to deliver that currency (and this liquidity risk will exist even when a nondefaulting party has not incurred a settlement loss in connection with a defaulted transaction).

In considering settlement risk (and the related legal issues), it is appropriate to discuss the efforts to reduce such risk. Those efforts may be put in two major categories. First, there are the efforts that may be undertaken by individual banks on their own initiative. These are the various things listed in the Report, including the recommendations of the New
York Foreign Exchange Committee’s Summary of Recommendations for Private Sector Best Practices in Appendix 2 to the Report. Examples include being more aware of settlement risk issues, taking steps to measure settlement risk adequately, shortening the period between dispatch of irrevocable payment instructions and reconciliation, and entering into netting arrangements with counterparties, to name a few.

Second, there are mechanisms that depend on the joint efforts of industry groups and central banks. There are primarily two mechanisms—payment versus payment (PVP) and netting. If effectuated, true PVP can reduce settlement risk to zero. This is true whether or not payments under foreign exchange transactions are netted. Whether as a policy matter PVP alone or PVP with some kind of netting is desirable is a complicated issue that this comment does not attempt to answer. However, PVP of some sort must and will be achieved, perhaps in combination with netting. Also, in the short run at least, netting is a more achievable mechanism than PVP at the present time. In part, this is because the legal issues relating to netting have been more thoroughly researched in recent years; the legal issues involved in establishing a PVP system are just beginning to be investigated. However, PVP mostly depends on modifications to payment and settlement systems that are not yet in place and modifications that are not easy to achieve overnight.

For present purposes, therefore, this comment primarily concentrates on legal issues relating to netting. Of course, where appropriate, various issues relating to payments systems in general and PVP in particular are addressed, because netting and payments are obviously closely connected.

The terminology relating to netting is very imprecise. Often, for example, a client will call a lawyer and request the preparation of a netting agreement. Well, what kind of netting agreement is desired? A lawyer may be thinking in terms of a netting agreement that provides for termination of covered transactions in the event of default. It is interesting to note, however, that a foreign exchange salesperson or trader is usually not thinking in these terms. When such a person requests a netting agreement, he or she is thinking in terms of an agreement that nets payments under foreign exchange transactions having the same settlement date to one payment per currency. A credit officer, however, is probably thinking of something that combines the viewpoint of the lawyer and the salesperson—he or she wants an agreement that deals with both replacement cost exposure and settlement exposure.

Thus, some of the different types of netting need to be defined. The Report provides a useful set of definitions in Appendix 4. First, there is obligation netting, which is “the legally binding netting of amounts due in the same currency for settlement on the same day under two or more
Obligation netting is mainly a mechanism that reduces settlement risk.

Obligation netting may be further subdivided. First, there is obligation netting where the individual transactions do not lose their identity at the time they are entered into. The essential nature of this type of netting is that net settlement takes place under the agreement but without any modification of the individual transactions having the same settlement date at the time a transaction with such a settlement date is entered into.

In the second type of obligation netting, the individual transactions at the time of the trade are canceled and simultaneously replaced by a new obligation in addition to net settlement. This is usually referred to as "novation," and the term in the Appendix 4 Glossary for this type of obligation netting is "netting by novation." Note that, because it has the effect of legally modifying each contract when transactions with the same settlement date are entered into, netting by novation also reduces replacement cost risk. For this reason, it was first recognized by risk-based capital rules as the only type of netting that reduced replacement cost risk for capital purposes.

Second, there is "closeout netting," which is "an arrangement to settle all contracted but not yet due liabilities to and claims on an institution by one single payment, immediately upon the occurrence of one of a list of defined events, such as the appointment of a liquidator to that institution. . . ." Thus closeout netting is mainly a mechanism that reduces replacement cost risk.

Regardless of the type of obligation netting, it is important to note that it results in one payment per currency per settlement date. Unlike closeout netting, obligation netting affects day-to-day practice. Closeout netting is something that is put into an agreement, which is put on the shelf, and, hopefully, the closeout provisions are never used. Obligation-netting provisions, however, have a profound effect on practice every day. No doubt this is why an obligation-netting agreement is what clients of banks often have in mind when they call and ask that a netting agreement be prepared.

Some further types of netting should be mentioned to complete this typology. Netting, whether of the closeout or obligation-netting variety, can take place on either a branch-pair basis or on a multibranch basis. Practically, however, closeout netting usually is accomplished on a multibranch basis, which means that all transactions of all branches of an institution covered by the netting agreement are terminated, liquidated, and netted to determine a single amount in a base currency owed by one
party to the other. Operational issues make it difficult for many multi-branch institutions to effectuate at this time obligation netting on a multibranch basis. Branch-pair netting, on the other hand, results in the netting of transactions between specific branches and is most characteristic of obligation netting.

Finally, netting of any type may be bilateral or multilateral. Bilateral netting is by far the more familiar in terms of actual practice, but multilateral netting will become more familiar in the near future. Until ECHO\textsuperscript{14} started up in 1995, virtually all netting of foreign exchange transactions was done on a bilateral basis. It is important to point out, however, that both ECHO and Multinet International Bank\textsuperscript{15} achieve multilateral netting by means of counterparty substitution. When such a clearinghouse matches a trade between two participants and it accepts the transactions, it becomes a party to each such transaction, standing in the middle between two equal and opposite transactions. In such situations, the relationship between the clearinghouse and each participant is a bilateral one, but the effect is multilateral because each participant has what is in effect a running account with the clearinghouse, resulting in one payment per currency per settlement date for all accepted transactions.

What can be done to advance the cause of settlement risk reduction? The Report provides a useful framework by dividing the efforts into three major categories: (i) individual bank steps; (ii) industry group developments and (iii) central bank initiatives and cooperation.\textsuperscript{16}

**Individual Bank Steps**

In a way, individual bank steps are the most important, because they can be accomplished now. One of the problems industry groups face is the different agendas and priorities of their individual members. Of course, this is to some extent true within a single institution, but the scale is much different.

This comment primarily addresses legal issues that industry groups face, so it does not dwell on the myriad issues that are unique to individual bank steps. It is worth pointing out that one major step, entering into bilateral netting agreements with counterparties, has a well-founded legal basis largely as the result of efforts of industry groups. For example, as the result of efforts of industry groups located in the United States, Canada, England, Japan, and most other Group of Ten jurisdictions, there is a firm basis for the legal enforceability of industry standard netting agreements, such as the International Foreign Exchange Master Agreement,\textsuperscript{17} the International Currency Options Market Master Agreement,\textsuperscript{18} and the International Swaps and Derivatives Association
Master Agreement. Counterparties in these jurisdictions are increasingly willing to document foreign exchange transactions under such master agreements. More needs to be done with counterparties in other jurisdictions, however.

**Industry Group Developments**

Industry groups developing multicurrency services face formidable obstacles of a practical and legal nature. This part outlines some of the most significant legal obstacles. There are three major categories for these issues—payments, netting, and collateral. Furthermore, for each category there are two fundamental, overarching issues for a multicurrency service—choice of law and finality.

**Choice of Law**

Choice of law in a way is the more fundamental of these two issues. Choice of law means determining the substantive law applicable under the conflict of laws rules of the relevant jurisdictions. Thus, choice of law actually is something broader than the law chosen by the parties in their documentation to govern their rights and obligations. Indeed, it is the question of whether that choice is valid under any of the systems of law that could conceivably be applicable to a multicurrency service. It may be more difficult to reach conclusions concerning choice of law than finality, because in many jurisdictions the answers depend on case law rather than a statute. In many instances, it may not be possible to come to a conclusion. Suffice it to say that if a clear answer cannot be reached as to choice of law, then the issue of finality must be investigated under the substantive laws of all jurisdictions that one reasonably concludes could be applicable.

The issue of choice of law has acquired acute importance in light of the global, cross-border nature of the foreign exchange market today. Unfortunately, the rules in most jurisdictions either are not clear or are not adequate for the situation. Many jurisdictions, including the United States, have choice of law rules that were adequate for the days when business was more likely to be confined within national borders.

**Finality**

In simple terms, finality involves the question of whether, when, and to what extent payments, netting, and security interests in collateral are enforceable. There are different levels of finality, however. Payments, for example, might be final as a matter of commercial or contract law, but might not be final if a party is subject to insolvency proceedings.
Insolvency finality might be achievable in certain jurisdictions, but might still be subject to residual uncertainties such as the possibility that governmental decrees, acts of state, or force majeure events may occur and affect enforceability. Thus, there are three broad levels of finality that one might seek to achieve: (i) contractual finality; (ii) insolvency finality; and (iii) absolute finality. This comment argues that absolute finality is not only unachievable at the present time, but that it is not even worthwhile to try to achieve absolute finality.

Payments

The Report defines finality in the context of payments (settlement) as payment that is irrevocable and unconditional. A payment may be irrevocable in the sense that the sender cannot revoke it as a matter of contract law and the rules of the particular payment system, but may not be unconditional in the sense that the beneficiary has received a credit within the system that is enforceable both as a matter of the system's rules as well as in the event of the insolvency of the sender. For example, batch payment systems include a cutoff time for revoking payments but may not give unconditional credit to the recipient until the end of the day or even the end of the next day. In the case of real-time gross settlement (RTGS) systems, the point of irrevocability and unconditionality is theoretically the same, because the debit of the sender's account and the credit of the recipient's account occur in real time as the system receives and matches payment instructions rather than as a batch at the end of some stated period.

Payment systems that are not RTGS systems pose real problems for multicurrency services in terms of risk management, as well as liquidity and collateral needs. For example, under the rules of a particular system, a service might receive a payment that is irrevocable under the rules of the payment system relating to the currency of the payment, but that might not be unconditional until, for example, noon on the next business day. In other words, such a payment might be recalled if the sender went bankrupt before noon on the next day. Can the service make payment in the countercurrency or currencies to the sender on the day it receives the payment that is still conditional? What is its exposure in such circumstances?

If the service does pay the sender before the currency paid to the service becomes unconditional, it seems that it must measure its exposure in terms of (at least) two business days' risk. That will mean that the service has greater liquidity needs and that more collateral may be required from participants in the service, making it more expensive. Solutions can be worked out that shift the risk to an agent bank for the settlement cur-
rency, but those may pose difficult concentration of risk issues from a central bank policy perspective.

Netting

Netting, whether of the obligation-netting or closeout variety, should also be final. There has been a considerable amount of work in recent years to achieve finality at one level or another with respect to netting. Fundamental difficulties remain with respect to multilateral netting, however.

Bilateral netting (netting between two parties) is fairly well established in the Group of Ten countries. The Financial Markets Lawyers Group has obtained legal opinions on the International Foreign Exchange Master Agreement showing that obligation and closeout netting is enforceable in the event of insolvency of specific types of counterparties in all of the Group of Ten countries save one.21 (This is not to say that the opinions do not have some important qualifications for particular circumstances.)

Jurisdictions that explicitly recognize multilateral netting, however, are in the minority. In the United States, for example, section 404(a) of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) provides that, “[n]otwithstanding any other provision of law,” payments among members of a “clearing organization” are to be netted in accordance with the applicable netting agreement.22

True multilateral netting does not involve a clearing organization as a central counterparty. The Clearing House Interbank Payments System (CHIPS) is the best example we can think of in the United States. One net payment (U.S. dollars only) is owed by, or to, each member of the system on each day, reflecting netting of all the payment orders between members. This netting scheme is validated under section 404 of FDICIA.

In principle, true multilateral netting would be achievable for multicurrency services, at least under U.S. law. To be viable, however, a multicurrency service must include members in other jurisdictions where multilateral netting may not be enforceable. The solution that ECHO and Multinet International Bank have pursued is to become central counterparties to each trade. For example, the rules of Multinet International Bank provide that each transaction submitted by participants who have dealt with each other bilaterally is first submitted to various checks, including checks for compliance with exposure limits. If the transaction is matched and does not exceed the exposure limits, it is accepted by Multinet International Bank. That is, the transaction between the participants becomes subject to novation and Multinet International Bank is
substituted as a principal to each participant. The bilateral relationship between the two participants is replaced with a bilateral relationship between Multinet International Bank and each participant. Bilateral netting occurs between Multinet International Bank and each participant. However, because the bilateral relationship between Multinet International Bank and each participant will be affected by each transaction initiated by that participant with every other participant that is accepted by Multinet International Bank, multilateral risk (and cost) reductions are achieved.

In short, the mechanism of clearinghouse counterparty substitution achieves the risk-reduction benefits of multilateral netting, but involves a bilateral relationship between the clearinghouse and each participant. Such netting should be enforceable, therefore, in countries that recognize bilateral netting even if they do not recognize multilateral netting.

Another interesting issue is whether a multilateral system can accept transactions like those that have already been bilaterally netted, such as through the service provided by FXNET Ltd.23 Such an arrangement may be preferable for certain participants because they have made significant investments in bilateral netting systems and do not wish to completely abandon them. They may feel more comfortable keeping their bilateral netting systems in place and just using a multilateral netting service to achieve further settlement risk reduction.

There have been rumors that some central banks do not like such netting, sometimes referred to as “netting on netting.” Why this should be the case is not understandable, so long as the netting has a well-founded legal basis as required by the Lamfalussy standards.24 In the United States, for example, the netting provisions of FDICIA25 would uphold such netting among financial institutions under a netting agreement subject to U.S. law.

In a jurisdiction that does not have a netting statute such as FDICIA (which, incidentally, is not a bankruptcy statute but which overrides any bankruptcy statute because the netting provisions of FDICIA apply “notwithstanding any other provision of law”)26 there could be more concern about netting on netting if the statute in question does not validate netting per se, but validates it in the context of specified types of transactions. For example, the insolvency laws in the United States applicable to insured banks and corporate entities independently of FDICIA list various types of transactions, including foreign exchange transactions, for which contractual termination and setoff rights override any provision in the bankruptcy legislation to the contrary.27 A lawyer might have some difficulty in concluding under such a statute that a bilaterally netted foreign exchange transaction (which is now just a series of cash flow rights and obligations) is a foreign exchange transaction under such a statute.
Fortunately, in the United States this is not an issue, because FDICIA, which governs any netting arrangement among financial institutions governed by U.S. law, is a statute that does not list particular types of transactions—it simply validates netting agreements. Furthermore, even without FDICIA the U.S. bankruptcy statutes noted above list foreign exchange transactions but also validate closeout and setoff for any combination of such transactions. It is submitted that it is the better view that such language cover cash flow rights and obligations that have already been bilaterally netted, as well as the original foreign exchange transactions.

For countries that do rely solely on a list of transactions, however, and do not have clear language applying to previously netted transactions, netting on netting could be an issue. Discussions with counsel whose opinions are being solicited by Multinet International Bank on this subject, however, reveal that most views are positive from the standpoint of legal enforceability. Some of the opinions may be quite reasoned—they are not based on clear case law or statutory precedent, but on what the writer believes to be the most rational conclusion. Thus, there is always some residual doubt. However, arguably, such a level of doubt is acceptable and should not mean that a multicurrency netting service does not have a well-founded legal basis.

Collateral

It will not do a multicurrency service any good to have finality of payment and finality of netting and yet be uncertain whether security interests granted to it are unenforceable. All the major services existing or proposed depend on liquidity facilities, largely on the basis of Lamfalussy Standard IV. It is not enough that the system ensures that a participant that pays in does not lose the currency paid in; it must ensure that the participant gets the currency it expects notwithstanding the default of another participant. To ensure this, a service needs liquidity facilities, and liquidity providers will require collateral.

Unfortunately, far more work has been done advancing finality of payments and netting, especially in a cross-border context, than has been done with respect to finality of security interests in collateral. Much significant work is beginning to be done, however.

First, a framework for evaluating whether there is finality in the context of collateral should be considered. The most fundamental issue is whether the security interest has been validly created. In the United States, this is called “attachment,” which essentially means that the party granting the security interest has rights in the collateral and has agreed to create the security interest, and that value has been given by the secured
party. Attachment is necessary to enforce the security interest against the grantor. The next issue is whether the security interest is enforceable against third parties. This involves some steps taken that would be expected generally to give such parties notice that the security interest exists (possession, filing, etc.), and in the United States these steps are called "perfection." Attachment and perfection are sufficient to achieve contractual finality. They are necessary for insolvency finality, but not sufficient. For insolvency finality, there is the question whether the collateral is immediately enforceable by the secured party or available, notwithstanding any bankruptcy stay, or preference, or similar rule that might otherwise apply.

In the United States, "transfers" (which term would include a grant of a security interest) in connection with specified transactions, such as foreign exchange transactions, are generally protected from the various bankruptcy rules that ordinarily would restrict action by, or create risks for, a creditor. Nevertheless, not all types of insolvency proceedings include this protection, nor has this been found to be the rule in all other jurisdictions. The risks that a secured party faces when its counterparty is subject to insolvency proceedings fall in several categories that can be used generally to assess the insolvency laws of most countries.

First, there is "preference risk," which is the risk that a payment or grant of collateral made within a defined "suspect" period prior to insolvency will be required to be returned because the creditor has thereby received an advantage over other unsecured creditors. The second risk is "constructive fraudulent conveyance risk," which is the risk that a payment or grant of collateral will be required to be returned on the ground, for example, that insufficient value was given to the insolvent party. "Fraudulent conveyance" is the term used in the United States, and "constructive" means there has been no actual intent to defraud other creditors. By the way, under U.S. insolvency statutes, not even foreign exchange transactions are free from the risk that a payment, netting, or grant of collateral could be set aside because it is found that there has been actual intent to defraud creditors. This is an example of why absolute finality is not achievable.

Furthermore, there is the risk that enforcement of a security interest will be stayed in the event of a bankruptcy proceeding ("stay risk") and the risk that individual transactions will be selectively enforced ("cherry-picking risk"). The former is obviously a real problem for concluding that there is finality in the case of a security interest. The latter is more of an issue for closeout netting and, as noted above, has an effect on replacement cost risk but not settlement risk. Nevertheless, it could have a profound effect on the need for collateral, because it may mean that an
exposure that was assumed to be net is in fact a gross exposure, requiring more collateral.

The above framework, no doubt, does not include all the possible insolvency risks, which vary from jurisdiction to jurisdiction. It is a good start, however, for evaluating various insolvency regimes. In addition, the issues listed are an important basis for considering legislation to deal with these issues, which is addressed below.

Choice of law issues are especially acute when considering finality of security interests in collateral. If a multicurrency service headquartered in the United Kingdom has a security agreement governed by U.K. law and has U.S. dollar cash collateral from a German participant held in the United States, and the participant is subject to insolvency proceedings with respect to its branch in France, which law will apply? Will it make any difference whether the participant has a branch in the United States? This example may be unlikely, but it illustrates difficulties that are quite real.

Central Bank Initiatives and Cooperation

With all the uncertainties concerning choice of law and finality of payments, netting, and collateral, one may wonder whether multicurrency services are possible at all at the present time. Not only are they possible, but they are imperative. Now is the time to take bold steps.

Legislation

It is clear that many of the issues of finality require a legislative solution. It is often hard to make specific recommendations without considering the circumstances of a particular jurisdiction. Thus, generally, it is possible only to identify the issues that should be considered. The following are some suggestions for consideration to be included in legislation that could be sponsored by central banks in their individual jurisdictions.

• The legislation should adopt conflict of law rules recognizing the enforceability of the choice of law of the parties to a multicurrency service. Even if issues involving finality of payments, netting, and collateral are resolved satisfactorily for transactions taking place between participants within a particular country, there is often uncertainty in cross-border situations. The best rule is for legislation to recognize explicitly the choice of law of the parties to a multicurrency service, notwithstanding any apparent conflict of the chosen law with the general choice of law rules of the participant's country.
• The legislation should adopt clear rules regarding finality of payment in the country’s payment system. The issue of finality of payment is even more fundamental than issues of netting because it is an issue of crucial importance to all multicurrency services, whether or not they involve netting. Payments in the jurisdictions of some countries may not be final until the end of the day or even until the next day. Absence of real-time finality can have significant collateral and liquidity ramifications for multicurrency services.

• The legislation should identify the basis for netting. Some netting statutes specifically require that an oral or written netting agreement be in effect. Legislation also might be based on a setoff approach that would apply whether or not there is a netting agreement. In any event, the basis should be clear.

• The legislation should clearly identify the types of entities to which it is applicable. A netting statute such as FDICIA in the United States clearly identifies the parties to which it is applicable. Amending bankruptcy statutes to recognize the enforceability of netting is another approach that is helpful, as long as the statute is clear as to which parties are covered. It should be clear at a minimum whether the legislation applies to the following types of entities: banks, savings institutions, trust companies and other types of depository institutions, broker-dealers and futures commission merchants, corporations, funds and other types of limited liability companies, partnerships, governments, municipalities, and quasi-public institutions.

• The legislation should clearly identify the types of transactions to which it applies. Perhaps the most essential feature of netting legislation is identification of the transactions covered. Typically, statutes have identified transactions by enumerating types. At a minimum, the following categories should be considered: foreign exchange transactions; swaps (including rate swaps, basis swaps, forward rate transactions, commodity swaps, equity or equity linked swaps, and currency and cross-currency rate swaps); swap-related derivatives (including cap, floor, and collar transactions); securities transactions; commodities transactions; options (including bond options, equity or equity index options, interest rate options, and currency options); and options on any of the foregoing. Another approach is just to stipulate (as does FDICIA in the United States) that agreements providing for net payments (including as the result of closeout) are enforceable.39

• The legislation should explicitly extend netting benefits to spot as well as forward transactions. Spot transactions include any transac-
tion with a maturity of two days or less. Some netting statutes have failed to include spot transactions explicitly, resulting in uncertainty as to the enforceability of agreements that cover both spot and forward transactions. There is no valid reason for distinguishing between spot and forward transactions for the purposes of netting. Furthermore, since netting agreements typically cover both types of transactions, it is essential to make it clear that both types of transactions are entitled to netting benefits.

- The legislation should make it clear that it applies to "master-master" and cross-product netting agreements. The enforceability of netting agreements applying to more than one type of transaction or product has been a major issue in some jurisdictions.

- The legislation should make it clear that covered transactions are not unenforceable under laws prohibiting gambling. Some jurisdictions have statutes that prohibit gambling or "gaming." Such laws should not be applicable to transactions with a commercial purpose, such as those subject to netting legislation.

- The legislation should identify the types of netting that are covered. As identified in the Report, there are several distinct types of netting. Netting legislation should be as broad as possible covering at a minimum obligation netting and closeout netting, whether conducted on a bilateral or multilateral basis. In addition, there are variations and hybrids of the foregoing that should be covered (for example, multibranch bilateral netting and multilateral netting achieved through bilateral counterparty substitution).

- The legislation should make it clear that it applies to previously netted transactions. A statute may apply to foreign exchange transactions, for example, and those transactions may be subject to obligation netting on a single settlement date, as noted in the above point. The legislation should make it clear that such resulting netted transactions may be validly netted, such as would occur in the case of closeout netting of previously netted transactions.

- The legislation should, at a minimum, explicitly eliminate or explain the effect on netting of the following insolvency risks: (i) preference risk, (ii) constructive fraudulent conveyance risk, (iii) stay risk, and (iv) cherry-picking risk. Preference risk is the risk that a payment or delivery (or grant of collateral) made prior to insolvency will be required to be returned because a particular creditor is preferred over others. Constructive fraudulent conveyance risk is the risk that a payment or delivery (or grant of collateral) will be required to be returned on the ground, for example, that insufficient consider-
arion was obtained.42 (Some jurisdictions may want to preserve the right to avoid transfers where there is something more, such as an actual intent to defraud creditors.) Stay risk is the risk that insolvency procedures will prevent the nondefaulting party from exercising its rights to terminate and liquidate transactions with the defaulting party.43 Cherry-picking risk is the risk that the defaulting party will be permitted to enforce transactions selectively, that is, transactions that are to its advantage, while rejecting performance of transactions that are not to its advantage.44

- The legislation should make it clear that optional termination is enforceable after the commencement of insolvency proceedings. One of the aspects of stay risk, as noted in the above point, is that optional termination may not be enforceable after the commencement of insolvency proceedings. This leads some parties to choose automatic termination upon, or immediately prior to, the commencement of such proceedings in order to avoid this risk. Automatic termination is less desirable because the nondefaulting party may not learn of the termination until some time after the event, thus forcing the liquidation of transactions at prices that may not make the nondefaulting party whole.

- The legislation should clearly indicate whether global netting is recognized. It is highly desirable from the point of view of the parties' expectations that the entire netting agreement of the parties be enforced in the home jurisdiction of the defaulting party, regardless of the effectiveness of netting in other jurisdictions in which other branches or offices of the defaulting party may be located. In addition, it is highly desirable that the jurisdiction clearly indicate how master agreements covering branches of entities located in the jurisdiction, but not domiciled there, will be treated in the event of insolvency.

- The legislation should adopt clear rules concerning enforceability of security interests. Certainty as to the enforceability of security interests within a jurisdiction is essential for the operation of a multicurrency service. This includes certainty that the security interests would be immediately enforceable upon default, including in bankruptcy. Obviously, security interests in accounts denominated in a country's currency and securities held through a financial intermediary in that country are the most likely to be involved in a multicurrency service. Choice of law rules that validate the parties' choice of law, notwithstanding location of the collateral, are desirable.

- The legislation should make it clear that electronic communications are sufficient for the enforceability of individual transactions. Some
jurisdictions have a requirement (such as statute of frauds laws in the
United States)\textsuperscript{45} that agreements be in writing. No matter how such
a requirement applies to a master agreement that has netting provi­sions and other terms, in light of modern practice, it should not
require signed documents if the transactions are evidenced by elec­
tronic means, such as recorded telephone conversations or electron­
ic dealing systems.

Other Steps

Although legislation may provide the most certainty, practical difficul­
ties may need to be addressed as well. There are many things that central
banks can do to stimulate industry group developments and cooperate
with them short of sponsoring legislation. Explicit encouragement of
industry group efforts is essential. The Report is a giant step in this direc­
tion. More needs to be done within countries so that concrete steps are
taken by market participants. In addition, the central bank may wish to
sponsor groups of lawyers who practice in the field of financial markets
law. Such lawyer groups are not industry groups, but they are helpful
forums to discover and discuss issues and propose solutions that affect
industry group efforts. The inclination of some to sit back and let others
do the developmental work needs to be addressed. The benefits of the
initiatives discussed in this comment are real and substantial, but they will
only become truly viable with the participation of most of those who
stand to benefit.

Central banks need to be sympathetic to the problems that industry
groups face in developing multicurrency services. In this comment, some
of the legal issues have been addressed. However, legal issues are only
part of the picture. Industry groups are made up of members that do not
all have the same goals and interests. There are the issues of cost and
time, and enormous practical problems arise in forming such a service—
such as structuring the organization, developing documentation, getting
regulatory approvals, developing systems and operations, and obtaining
personnel and facilities—all for a venture that will not directly enhance
revenues.

Such “sympathy” is only useful in concrete forms. For example, central
banks should understand the need to control costs. The best solution is
one that achieves the proper balance between costs and benefits. This, of
course, is more of an art than a science.

Central banks must also accept less-than-absolute certainty with
respect to the resolution of the legal issues that arise. This is especially so
because of the multinational character of the undertaking to reduce set­
tlement risk. A well-founded basis does not mean that there can be no
legal risks. As long as the risks are sufficiently remote or a reasonable basis exists for identifying exposures, controlling responsibility for any identifiable loss and controlling the magnitude of the risks pose acceptable partial solutions.

Finally, central banks can expedite the approval process. This is not to say that central banks should be reckless. However, where they have regulatory discretion to do so, breaking down the barriers of red tape is a key ingredient in success. An effort to build a multicurrency service is a unique undertaking. Such a fact is an argument for caution. Still, there are no doubt many issues in the regulatory approval process that may technically apply but that are irrelevant in light of what people are trying to achieve.

Hypotheticals

The following are some hypothetical situations that illustrate some of the issues in this comment. The first hypothetical considers some individual bank steps that might be taken by a typical money center bank. The second hypothetical considers some industry group efforts in which such a bank might participate. Following the hypotheticals is an analysis of each.

Hypothetical Number 1: Individual Bank Steps

A new credit officer of First National Bank has been hired, and in her first week she tries to familiarize herself with the new environment. Having been very concerned by the issue of settlement risk at her former employer, she decides first to investigate how settlement risk is measured at First National Bank.

She finds that settlement exposure is measured by the amount due from a counterparty to First National Bank in all currencies (converted at current rates into U.S. dollars) on a single day. She questions whether any thought has been given to measuring the exposure in terms of more than one business day, in light of the fact that there is likely to be more than one day's risk between irrevocability of First National's payment instructions and reconcilience, as noted in a report by the Foreign Exchange Committee of the Federal Reserve Bank of New York, entitled Reducing Foreign Exchange Settlement Risk. Those listening to her inquiries are puzzled by her question. Their response: “This is the way we have always done it.” The credit officer asks whether it makes any difference in the measurement of settlement exposure if receipts by First National Bank in a particular currency are not final until the next business day. Again, the response is negative.
Resolving to discuss the matter of the measurement of settlement exposure further, the credit officer decides to inquire into netting arrangements with various counterparties. She finds from her credit coordination staff that there is a very firm rule about requiring netting agreements and supporting legal opinions in order to measure replacement cost exposure on a net basis, but she finds that there is no such requirement in the case of settlement exposure.

Based on her knowledge of bankruptcy law, the credit officer believes that there are lots of things that can happen in countries where netting is not enforceable in the event of the insolvency of the counterparty. Under the laws of country X (indeed of any country potentially), enforcement of a netting agreement could be stayed; individual contracts subject to the netting agreement could be selectively enforced (cherry-picked); and payments received during a suspect period prior to insolvency could be required to be returned as preferential. The member of the credit coordination staff says that he has thought about this quite thoroughly, and, whereas the credit officer is right with respect to replacement cost exposure, which he believes is the only type of exposure affected by cherry-picking and the other damages mentioned, he does not believe that settlement exposure should be affected. After all, if First National and the counterparty have an obligation netting agreement and actually are netting, how important is it that there be a legal opinion? "Would a court that permits cherry-picking also require us to pay on a gross basis and not get paid by the counterparty?"

Concerned by the discoveries that she has made with respect to payments and netting, the credit officer turns her attention to collateral. She wants to know how First National measures exposure when it is secured by collateral. She finds that exposure is reduced to the extent that there is cash collateral or liquid government securities. There are firm opinions in the files that the collateral is perfected in the jurisdictions where the collateral is located (the location of the branch of First National at which the cash or securities are held). The credit officer is relieved. At least in this matter, the basis for measuring credit risk seems to be based on solid ground. Her beliefs are shattered, however, when she tests her conclusions with a lawyer in First National’s legal department.

**Hypothetical Number 2: Industry Group Developments**

First National Bank’s credit officer has received a telephone call from a marketing representative of a proposed foreign exchange clearinghouse. The representative has thoroughly explained all the risk-reduction benefits of the proposed clearinghouse and has pointed out that, since the clearinghouse is still in the development stage, First National Bank has
the option to become a shareholder in the clearinghouse at this time as well as a participant in (that is, user of) the clearinghouse's services when it commences business. The credit officer meets with the business executive for the foreign exchange trading business of First National Bank and the two discuss the benefits and costs.

The credit officer points out that there are significant reductions in replacement cost exposure with the institutions that are currently planning to participate in the proposed clearinghouse, and there is an especially significant reduction in settlement exposure even when compared to exposures that have already been bilaterally netted. The two offices defer valuing this exposure, however, for the present. There will be fewer payments for the foreign exchange department to make, and this certainly can be quantified (the two offices note that they should consult with the payments department about this, however, the department will be impacted negatively by a reduction in payments by its customers who are in the netting system).

On the cost side, the two offices first note the cost of collateral. That cost can be quantified, as can the cost of the system changes to hook up to the clearinghouse's system. If First National Bank became a shareholder, there would be the cost of the equity investment. The two offices briefly discuss this possibility. The credit officer points out that the advantage would be an opportunity to participate in the structuring and governance of the clearinghouse. The business executive notes that there are several competing industry groups vying for their attention; if First National Bank joins now, there would be significant costs in terms of hours, travel, and so on without certainty that there would ever be a functioning service.

After this discussion, the credit officer decides to get some input from the legal department about the enforceability of multilateral netting. The lawyer she meets points out that there are many issues to consider. First, there is the basic question of whether multilateral netting is enforceable. Bilateral netting is generally enforceable in most of the Group of Ten countries, but he believes the situation may be otherwise in the case of multilateral netting. Second, he understands from the credit officer's presentation that the clearinghouse intends to accept for multilateral netting trades that have already been netted under a bilateral netting service. The lawyer believes that there are problems with such a proposal, referred to as "netting on netting." Furthermore, there are difficult issues concerning finality of payments, enforceability of security interests given to the clearinghouse and to liquidity providers, and choice of law rules of the clearinghouses's jurisdiction involving cross-border situations. He emphasizes that it is impossible to resolve these issues with absolute cer-
tainty, considering the present state of the law, and this may not constitute a well-founded legal basis under the Lamfalussy standards.47

As a result of these discussions, the credit officer decides that it is best to let the industry groups bring further proof. There are too many practical and legal uncertainties. Let others bear the burden and cost of organizing the proposed clearinghouse. If it gets started, First National Bank could then join as a participant. Of course, even if the practical and legal issues are resolved and the clearinghouse does begin operations, there is some uncertainty in her mind as to whether First National Bank would even join as a participant. Despite the clear benefits of settlement exposure reduction in terms of sheer numbers, she has been unable to make a business case for joining the clearinghouse, because she feels it is impossible to quantify the value of the reduction in settlement risk.

Analysis

Hypothetical Number 1: Individual Bank Steps

The credit officer is right to question whether it is accurate to measure settlement risk in terms of one day's exposure. In *Reducing Foreign Exchange Settlement Risk*, the Foreign Exchange Committee argues persuasively that settlement risk exists from the point that a party's instructions to make payment of its obligation under a foreign exchange transaction becomes irrevocable until the point at which the party reconciles its records to determine that it actually has received payment of what it is owed under the transaction.48 Since typically payment instructions become irrevocable at least one day prior to settlement and reconciliation does not take place until one day after settlement, this means that there is exposure for at least three days for any one transaction, and longer periods are possible. To this must be added the exposure for any other transactions during such period for which an irrevocable payment order has gone out or for which reconciliation has not taken place. Furthermore, the absence of finality for payments received can further increase exposure.

Having opinions establishing sufficient certainty that netting agreements are enforceable is good practice for calculating exposure as net for credit purposes. It is also a requirement for counting exposure as net for regulatory capital purposes in the United States. Opinions from most major countries as to the enforceability of master agreements such as the IFEMA49 have been obtained by industry groups such as the Financial Markets Lawyers Group in the United States.50

There is an argument that agreements providing for settlement netting (as opposed to replacement cost netting) do not need to be legally enforceable in order to justify counting settlement exposure on a net
basis for credit purposes. For example, even if netting agreements are not enforceable in a particular jurisdiction, if a bank has a settlement netting agreement with a customer in that jurisdiction and is settling transactions under the agreement on a net basis, it is hard to see how the bank could be legally required to settle a transaction on a gross basis upon the counterparty’s insolvency unless the counterparty also performed under the transaction on a gross basis. In such a case, there would be no settlement exposure by definition. (There is only settlement risk if the counterparty does not perform.) It is theoretically possible that the insolvency law of a jurisdiction would require the bank to perform on a gross basis without requiring the counterparty to perform, although this would seem to be extremely unlikely. Nevertheless, while there is a theoretical argument that the agreement need not be enforceable to have a net settlement exposure as a practical matter, it is good practice to understand the legal implications of one’s contracts and to avoid reliance on agreements that are not likely to be enforceable. Furthermore, the issue is mooted in many jurisdictions by the fact that there are now quite a few legal opinions available (such as those obtained by the Financial Markets Lawyers Group) that verify the enforceability of settlement netting as well as closeout netting under master agreements such as the IFEMA.

It is generally not sufficient to have opinions on the enforceability of security interests in collateral in only the jurisdictions where the collateral is located. A security interest may be enforceable in the jurisdiction where the collateral is located, for example, but may not be enforceable in the jurisdiction where the counterparty is located. In such a case, there would be a question whether the jurisdiction where the collateral is located would recognize, or give comity, to the law of the jurisdiction where the counterparty is located. Even if the jurisdiction where the collateral is located would not give comity to the counterparty’s law, there may be troubling consequences for the secured party if it has any presence in the counterparty’s jurisdiction.

**Hypothetical Number 2: Industry Group Developments**

It may be difficult to do the cost-benefit analysis for joining a multicurrency service, but it is a question that must be considered by every institution that is considering participation in such a service. The costs are fairly easy to calculate: there is the cost of collateral, of modifying systems or installing new ones, and, of course, the pricing of the service itself. As for the benefits, there are the reduced costs for settlements and, the most significant benefit, the reduction in risk. Just for settlement risk alone, the reduction is tremendous, especially when looked at from the viewpoint of reduction in the dollar value of transactions, which in the case of multi-
lateral netting can go from 50 percent for netting on a bilateral basis to 80 percent to 90 percent when netting on a multilateral basis.

Because, as was argued in this comment, exposure is not risk, there is really no way to quantify precisely the value of such risk reduction. Most institutions make a somewhat subjective judgment when considering this question—they feel either that the numbers make participating in a multicurrency service worth it, or they do not. Each institution must make its own decision.

Many, if not most, institutions have concluded that something has to be done about the current levels of settlement risk and that participating in a multicurrency service will be desirable when available. It is unfortunate, however, that most such institutions believe that it is acceptable to let a few institutions do all the work in developing such a service. Such institutions are forfeiting an excellent opportunity to participate in the development of the service and to have an input into its structuring so that it best reflects the needs of the widest range of possible participants.

The legal issues arising in connection with a multicurrency service are formidable, but this should not be a reason not to participate. Much has already been learned that gives reasonable assurance that multilateral netting will work in most jurisdictions if structured so that the central clearinghouse is substituted as a counterparty for all accepted transactions. In such a model, the netting between the clearinghouse and each participant is on a bilateral basis (although the effect is multilateral), because each participant will have a bilateral relationship with the clearinghouse in respect of all accepted trades of that participant with all participants in the clearinghouse. Since bilateral netting has a well-founded legal basis in most Group of Ten countries, this method of achieving multilateral netting also should have a well-founded legal basis.

Netting on netting does not appear to be an issue for jurisdictions such as the United States (where netting is recognized under FDICIA) and the United Kingdom (where netting is recognized under the insolvency laws as an aspect of the law of setoff). Further research needs to be done, but this should not be a cause for nonparticipation.

There is also evidence that security interests in cross-border contexts will be enforceable with a reasonable degree of certainty in most Group of Ten countries notwithstanding some residual uncertainties regarding choice of law. After all, ECHO has already commenced business where such issues are a practical reality, and Multinet International Bank is expected to commence business in 1997. Such multicurrency services would not be possible unless cross-border issues regarding collateral were not resolved with a sufficient degree of comfort under the Lamfalussy standards.