

**THE
FOREIGN EXCHANGE COMMITTEE**

ANNUAL REPORT

1994

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CHAIRMAN'S REPORT

Nineteen ninety-four was a particularly productive year for the Foreign Exchange Committee. The Committee completed important projects in each of the major areas of foreign exchange trading — risk management, trading practices, and the legal and regulatory framework of the market. For the first time, the Committee presented public seminars in several different locations overseas in order to increase international awareness and understanding of the Committee's work.

The 1994 Annual Report reflects the Committee's productivity. The Report reviews several major Committee projects completed during the year:

- The Trading Practices Subcommittee studied the market impact of the Committee's 1993 letter on broker switches and discussed market best practices for over-the-counter financial market transactions between participants.

- The Market Structure Subcommittee sponsored a Committee discussion on the future of electronic trading systems, advised the Federal Reserve Bank of New York on the Foreign Exchange and Derivatives Markets Turnover Survey, produced the Committee's formal comment on the Financial Accounting Standards Board's proposal on disclosure about derivative financial instruments and fair value of financial statements, and responded to the Federal Reserve Board's proposal to amend risk-based capital guidelines for derivatives.

- The Risk Management Subcommittee prepared a paper that analyzed settlement risk and recommended market best practices to reduce settlement risk.

- The Financial Markets Lawyers Group, in conjunction with the London Bullion Market Association, completed the International Bullion Master Agreement.

Each of the projects is described in detail in the subcommittee sections that follow. Committee documents completed during the year are also included in the report.

A project deserving special mention is the settlement

risk report. In 1994, the Committee undertook to clarify and define settlement risk, investigate its causes, and recommend changes that the market could make to reduce the risk.

Foreign exchange settlement risk first received widespread attention in 1974 when the financial institution Bankhaus Herstatt failed. At the end of the German banking day on June 26, 1974, the German authorities closed down the Herstatt Bank after it had completed its currency transactions in Europe, but — because of time-zone differences — before it had completed its U.S. dollar transactions. As a result, counterparties due to receive dollars were not paid, and in the days following the closure, the markets experienced severe systemic problems as payments in the major currency payment systems virtually ground to a halt. The event focused attention on a problem inherent in the foreign exchange market: the need to settle different legs of a single transaction in different markets and in different time zones.

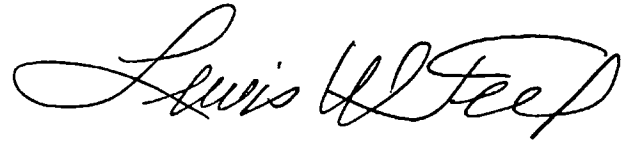
The twenty years since the Herstatt incident have witnessed dramatic changes in the foreign exchange markets. Greater capital flows, a substantial increase in cross-border financial investments, the lifting of capital controls, and the growing interdependence of markets have caused both the volume and the average size of transactions to grow tremendously. Despite the surge in trading volumes, however, the basic processes for completing foreign exchange transactions are essentially the same as they were twenty years ago. Thus, settlement risk continues to hinder the foreign exchange market and is especially troublesome because it goes beyond national borders and affects the financial system globally.

The Committee's efforts led to the report *Reducing Foreign Exchange Settlement Risk*, published in October. The first work of its kind, the report defined settlement risk precisely and recommended a set of private sector best practices for reducing settlement risk. Because of the importance of this subject and its relevance to the global financial community, the Committee

presented its settlement risk report to market participants at seminars in Frankfurt, London, Tokyo and New York

A work-in-progress on issues surrounding customer suitability also deserves special mention. Many events in 1994 — most notably, the Orange County bankruptcy and the losses incurred by Gibson Greetings — illustrated the importance of clearly defining the relationship between participants in over-the-counter financial market transactions. Several members of the Committee were actively involved in an industry effort to draft a voluntary set of best practices for dealing with counterparties in wholesale market transactions. This document is due to be released in 1995.

I hope that all of the work completed by the Committee this year will prove valuable to market participants and encourage productive international discussions on many of the topics.

A handwritten signature in cursive script that reads "Lewis W. Teel". The signature is fluid and elegant, with a large initial "L" and a prominent flourish at the end.

Lewis W. Teel

LEGAL INITIATIVES OF THE FOREIGN EXCHANGE COMMITTEE

To promote greater understanding of the laws and statutes that govern foreign exchange trading and to enhance the integrity of the foreign exchange market by encouraging the adoption of sound trading practices, the Foreign Exchange Committee has in recent years sponsored projects to draft model agreements or evaluate the statutory underpinnings of the foreign exchange market in the United States. The Committee's 1994 projects included the following:

- The Committee submitted an *amicus curiae* (friend of the court) brief in the case of *CFTC v. Dunn*.
- In conjunction with the London Bullion Market Association, the Committee issued a master netting agreement for bullion and other precious metals trading. The International Bullion Master Agreement ("IBMA") is based on the International Foreign Exchange Master Agreement ("IFEMA"), published by the Committee in 1993. The Committee plans in 1995 to issue a revised version of its 1992 International Currency Option Market ("ICOM") Master Agreement and a consolidated ICOM/IFEMA (option/spot) master agreement.
- The Financial Markets Lawyers Group, which has assisted the Committee in its legal projects, began a project to commission legal opinions on IFEMA in

major trading jurisdictions worldwide. It is hoped that compilation and dissemination of such opinions will clarify and improve the enforceability of netting across jurisdictions.

Model Agreement for Bullion

The IBMA was completed and endorsed by the Foreign Exchange Committee in the spring of 1994. The agreement provides a set of common contractual terms for bullion transactions and sets out procedures that will govern the methods of netting and close-out by which counterparties can liquidate their trading positions when, for example, one counterparty defaults. Like the ICOM and IFEMA agreements, the IBMA was drafted by the Lawyers Group in conjunction with the London Bullion Market Association. The IBMA provides a basis upon which dealers operating in the United States and the United Kingdom can trade bullion with a wide range of dealing counterparties and customers on both sides of the Atlantic without the need to negotiate costly specialized agreements.

The IBMA was also endorsed by of the London Bullion Market Association in the spring of 1994. Bound copies of the agreement, the guide, and the other attending documents can be obtained by contacting the Committee's Executive Assistant

TRADING PRACTICES SUBCOMMITTEE

The Trading Practices Subcommittee monitors issues raised by the trading behavior of market participants and makes policy and procedural recommendations to promote sound trading practices and enhance the integrity of the foreign exchange market.

1994 Projects

During 1994, the Trading Practices Subcommittee held discussions on the following four topics: the effects of its 1993 letter on broker switches, the obligations binding participants in over-the-counter market transactions, the need to update management guidelines, and a strategy to further the education of market participants.

Brokers' Switches

In September of 1993, the Trading Practices Subcommittee published a letter on brokers' switches. The Subcommittee was responding to reports that switches had become increasingly difficult to arrange as institutions became less willing to act as "clearing banks." The Subcommittee was able to confirm that a significant minority of dealers, including several of the higher-volume dealers, were reluctant to act as clearing banks for various reasons. These included a psychological linkage between switches and "points," which the Committee had previously discouraged, as well as concerns about monitoring credit risk and the possibility of unethical behavior associated with off-market transactions. Brokers stated that the difficulty in arranging switches had the potential to diminish liquidity in the brokers' market significantly.

In its letter, the Subcommittee said that switching, properly executed, was a legitimate practice that added liquidity to the foreign exchange market. However, it was also recognized that switches not properly executed posed certain risks. Therefore, the Subcommittee recommended a set of procedures to introduce greater management control and transparency in the process of switching names. These procedures included the following:

- Only authorized individuals should agree to switches.

- Senior trading room management should explicitly identify those individuals that are authorized to conduct switches. An institution's list of individuals authorized to switch should then be circulated throughout the brokerage community.
- Confirmations should clearly indicate a trade as part of a switch, both between the broker and the clearing institution, and between the clearing institution and the original parties to the transaction.
- Any compensation should be explicitly recorded and subject to audit.

In 1994, the Trading Practices Subcommittee investigated the impact of the letter on market practices. It found that many banks and financial institutions had reviewed the letter and implemented several of the suggested changes. In general, it appeared that switching was working fairly well under the new guidelines, however, brokers did note that as of that time, few financial institutions had provided brokers with a list of personnel authorized to switch.

Subcommittee members also learned that the greatest benefit of the letter had been to separate the idea of broker switches from broker points in the minds of market participants at banks and other financial institutions. Market participants now recognize the difference between points and switches and understand that switches executed properly can benefit the market by providing an additional source of liquidity.

Best Practices for Over-the-Counter Wholesale Market Transactions

The Subcommittee devoted considerable effort in 1994 to examining the obligations that bind participants in the over-the-counter financial markets. The Subcommittee surveyed the professional standards that Foreign Exchange Committee member institutions adhere to in their over-the-counter financial market dealings with counterparties and studied the existing "codes of conduct" in various markets around the world. The Subcommittee is planning to use the information culled from its investigations to update the "Guidelines for the Management of Foreign Exchange Trading Activities."

Management Guidelines

The wide scope of issues that the Subcommittee explored in 1994, as well as work completed by other subcommittees, has highlighted the need to review the "Guidelines for the Management of Foreign Exchange Trading Activities (Management Guidelines)," last revised in 1992. As its prime initiative in 1995, the Subcommittee plans to update, where appropriate, the Committee's recent work in the following areas: best practices for over-the-counter financial markets transactions between participants, guidelines for broker switches, and market best practices for dealing with foreign exchange settlement risk

Education

The Committee has had a long-standing interest in furthering the education, integrity, and professionalism of foreign exchange market participants. The Committee recognizes that it shares these interests with the Association Cambiste Internationale (ACI) and FOREX USA Inc. In 1995, in an effort to support the ongoing efforts of both FOREX USA and the ACI, the Subcommittee will explore plans for improving professional standards for participants in the foreign exchange market.

Market Structure Subcommittee

The Market Structure Subcommittee considers issues and developments likely to affect the structure and character of the foreign exchange market over the long term. During 1994, the Subcommittee undertook four principal projects, leading a Committee discussion on the future of electronic trading systems in the foreign exchange market, advising the Federal Reserve Bank of New York on the 1995 Turnover Survey of firms active in the foreign exchange and derivatives markets, and drafting the Committee's formal comments on two proposals — the Financial Accounting Standards Board's proposal on disclosure about derivative financial instruments and fair value of financial statements and the Federal Reserve Board's proposal to amend risk-based capital guidelines for the treatment of derivative contracts.

Committee Discussion on the Future of Electronic Trading Systems in the Foreign Exchange Market

For several years a number of private sector entities have been working to develop electronic order-matching systems for foreign exchange trading activities. These systems are designed to improve the speed and efficiency of interbank foreign exchange trading and reduce transaction costs. At the same time, designers are seeking to preserve the essential features of the current "live" brokers' market, including appropriate credit standards for participation and the "blind brokerage" system in which counterparty names are revealed only after the trade has been agreed upon.

The Foreign Exchange Committee first looked at the issues of electronic trading in 1991 at the market's inception. To keep the Committee up to date on recent developments, the Market Structure Subcommittee in April 1994 organized presentations to the Committee by the three groups offering electronic order-matching systems: Electronic Broking Services, MINEX Corporation, and Reuters plc. Following the presentations, Committee members discussed the possible effects of these systems on the function and structure of the foreign exchange market.

Members agreed that although the electronic brokering market is still in its infancy, the use of these systems

is likely to increase in the future as technology advances. It is too early to tell, however, whether electronic brokerage will completely replace traditional voice brokerage. The bankers on the Committee noted cost reduction as the principal reason for their expectation that the electronic brokerage business will continue to grow. The broker members, however, pointed out that credit problems could not be handled as flexibly by electronic matching systems. Both bankers and brokers acknowledged that the future of any type of brokering system will depend almost entirely on the system's ability to analyze and provide global credit.

At the moment, most electronic brokering systems are used by junior traders to transact less active currencies rather than senior traders, who tend to trade the major currencies. In five years, however, the growth of electronic brokering systems could be exponential as the junior traders become senior traders and use these systems when executing large deals.

Members were generally of the view that electronic brokering provides the greatest benefits when the market is inactive, because order matching can be accomplished more easily and inexpensively than through traditional voice brokers. In more volatile markets, however, voice brokers will continue to provide useful information about the market that electronic brokering systems cannot. Members suggested that voice brokers have a particular advantage in stressed markets, when it is unlikely that any participant will post prices on a screen because there is no reward for this activity. Thus, the presence of electronic brokering systems could cause the foreign exchange market to become two-tiered in certain market environments.

Members observed that the electronic trading systems automatically leave a large paper trail and thus could significantly decrease operational risks. Several members currently using these systems noted that the incidence of operational problems had declined dramatically. It was also remarked that when digitalized systems and standardized formats become available, further cost savings will result as operations no longer require full staffing. Finally, electronic trading systems are faster than direct dealing, allowing traders to deal more easily in higher volumes.

Members predicted that electronic brokering systems would flourish as operations expanded into countries around the world where English is not spoken. Electronic brokering systems are useful in non-English-speaking countries because all that is required to operate the system is the ability to type numbers into a computer. Members concluded that global expansion would continue because electronic trading systems are fast and inexpensive and can be installed on any personal computer or workstation.

Foreign Exchange and Derivatives Markets Turnover Survey

In April 1995, a global foreign exchange market survey will be conducted simultaneously by central banks in the major market centers. Unlike previous surveys, however, this one will also include financial derivatives. Aggregate market size data will be made available at the national level by the participating central banks, as well as at the global level by the Bank for International Settlements

Because market respondents to the survey will bear the costs of the survey and may make use of its findings, the survey's design will be determined in conjunction with the firms active in the foreign exchange and derivatives markets. The Market Structure Subcommittee was asked by the Federal Reserve Bank of New York to evaluate the content of the data requested in the survey, as well as the feasibility of collecting the data.

The Foreign Exchange and Derivatives Markets Survey focuses on market size and the scale and significance of risk intermediation in foreign exchange and derivatives markets. The data on risk intermediation is useful to central banks, for example, in dealing with monetary policy issues, while market participants might use market size data to determine the relative size of their market activity.

For this purpose, central bankers have proposed that the data be broken down by market risk type (foreign exchange by currency pair, interest rate by currency, equities, commodities) and counterparty type (dealer, nondealer firm, nonfinancial firm). These data are intended to shed light on market structure and size, but do not address any individual firm's exposure to price and credit risks. It was also proposed that the survey include data on both turnover and outstanding positions. Turnover will be measured in terms of notional amount, and the turnover data will be collected according to trade location. Positions will be measured in terms of both notional amount and market value, and the position data will be collected according to book location.

Members commented that the general goal of looking

at risk in derivatives and not at notional amounts is correct, but they questioned whether it was in fact feasible to do so. They pointed out that the computer programs for the existing Foreign Exchange Turnover Survey reports are already in place. To expand these programs for derivatives would be difficult and would dramatically impact the report's timeliness. Since it currently takes one year to compile data for the turnover survey using existing programs, members felt that this time lag could increase if derivatives were added, making the information irrelevant by publication time.

In addition, members noted that the credit risk exposure associated with derivatives is more important than measuring volume. Every organization looks at credit differently, and it might be difficult to devise a standardized set of questions because there is no standardized way to measure credit risk between firms. The Committee's comments were used by the Federal Reserve Bank of New York to redesign and simplify the survey. (See page 13 for a further discussion of the Committee's comments)

Committee Comment on the Financial Accounting Standards Board's Proposal on Disclosure about Derivatives

In April 1994, the Financial Accounting Standards Board (FASB) released for public comment a paper outlining various proposals regarding disclosure about derivative contracts and the fair value of financial statements. Following the release, the Market Structure Subcommittee was asked by the Committee Chairman to draft a formal comment on the FASB's proposal and submit it on behalf of the Foreign Exchange Committee. Work on the project began in April and the Committee's formal comment was submitted to the FASB on June 27, 1994. (The text is reprinted in this report beginning on page 19.)

Committee Comment on the Federal Reserve Board's Proposal to Amend Risk-Based Capital Guidelines

In September 1994, the Board of Governors of the Federal Reserve System released for public comment a paper outlining the proposed risk-based capital guidelines for state member banks and bank holding companies regarding the treatment of derivative contracts. Following the release, the Market Structure Subcommittee was directed by the Committee Chairman to draft a formal comment on the proposal and submit it on behalf of the Foreign Exchange Committee. Work began in September and the Committee's formal comment was submitted to the Board of Governors on October 21, 1994. See page 13 for a further discussion of the Committee's comment. (The text is reprinted in this report beginning on page 22)

RISK MANAGEMENT SUBCOMMITTEE

The Risk Management Subcommittee fosters understanding of risk management issues and promotes improvements in the quality of risk management techniques in foreign exchange and related financial markets. During 1994, the Subcommittee focused on one principal project: completion of the paper *Reducing Foreign Exchange Settlement Risk*.

Foreign Exchange Settlement Risk

In its 1989 Annual Report, the Committee outlined the "loan equivalent" approach for measuring pre-settlement credit risk. Following the completion of the pre-settlement credit risk project, the Subcommittee had intended to address immediately the more difficult topic of settlement risk — that is, the possibility of counterparty default during the settlement cycle. Because of the complex nature of the problem, however, work on the settlement risk project did not actually commence for several years.

When the Subcommittee began the settlement risk project in 1994, it found that much of the market debate about possible changes to global payments systems was not grounded in a clear understanding of the causes of settlement risk, and that many market participants had been quick to focus on solutions without a thorough understanding of the problem. It also discovered that there was no useful summary of settlement practices in a number of the G-10 countries, nor a uniform definition of settlement risk.

Because no uniform definition of settlement risk existed, it was necessary to study what actually constituted common settlement procedures in the private sector and to devise methods of defining and quantifying settlement risk. To accomplish this, the Subcommittee surveyed the current settlement practices of its member firms and developed an operational definition of settlement risk consistent with these practices. The Subcommittee used the survey results, the settlement risk definition, and actual trade data to study settlement risk for various portfolios and under different assumptions.

The study revealed that most firms' settlement exposures are much larger than previously thought. For example, the failure of some market participants to take full advantage of overlapping operating hours in Europe and

North America contributes to unnecessary settlement risk involving the U.S. dollar and European currencies. In this case, settlement risk exists because a bank's exposure extends from the time it makes an irrevocable payment instruction to the time that the payment it receives from its counterparty is final and has been reconciled. This period of exposure is not intra-day as some banks think, in fact, it may last for several days. The results of the analysis, however, made it clear that individual firms could do much to reduce settlement risk on their own, even given the current infrastructure of payment systems.

Using the study's information, the Subcommittee developed a set of best practices that the private sector could implement immediately to reduce settlement risk. The Subcommittee decided not to focus on the possible public sector changes, such as linked payment systems, extended operating hours, or intra-day finality, because the timing, scope, and feasibility of implementing these changes were uncertain. Also, the Subcommittee felt that unless private sector changes were made, firms could not take full advantage of any public sector initiatives.

The two main conclusions of the study were:

- The internal procedures of each bank are the largest source of the duration of settlement risk. It was also clearly shown that these internal procedures can be altered by the banks themselves to reduce their settlement exposures.
- Netting is a powerful tool for active market makers. Legally binding netting of payments enables market makers to reduce significantly the enormous sums at risk on any given day.

Based on the study conclusions, the Subcommittee recommended several changes to market practice, notably:

- Firms should reduce the amount of time they are at risk by improving internal procedures and negotiating correspondent bank arrangements.
- Market participants should implement legally sound netting of payments.
- Senior managers should mandate "ownership" of settlement risk within their organizations.

- Firms should be prepared to deal with crisis situations.

Seminar on Committee Paper

Because the significance of this topic transcends national borders and because of interest from market participants worldwide, for the first time ever, the Subcommittee presented seminars on the paper *Reducing Foreign Exchange Settlement Risk* in London, Frankfurt, and Tokyo as well as New York. (The text of the paper is reprinted in this report beginning on page 24.)

MEMBERSHIP SUBCOMMITTEE

The Membership Subcommittee advises the Federal Reserve Bank of New York on potential candidates for membership in the Foreign Exchange Committee. The Subcommittee also makes recommendations regarding subcommittee assignments and considers organizational changes to the Committee. In 1994, the Subcommittee recommended the following two changes to the Committee's structure, both of which were adopted by the full Committee.

Formation of the Operations Group

The Subcommittee recommended the formation of an Operations Group that will function along the same lines as the Financial Markets Lawyers Group. Comprising representatives from the credit, operations, and risk management areas of member institutions, the Operations Group will work on specific projects relating to operations. A core group of members will exist, but the membership may change with the type of project the Group undertakes. This way, individuals may be included in various projects where their specific expertise is required. In addition, a chairperson and secretary from the Federal Reserve Bank of New York will provide support for the Group.

Change in Subcommittee Structure

On the recommendation of the Committee Chairman, the Membership Subcommittee decided to discontinue the Communications Subcommittee. In 1993, the Membership Subcommittee recommended that each member of the Foreign Exchange Committee also serve as a member of one of the Committee's three principal subcommittees — Trading Practices, Market Structure, and Risk Management. The assignment of all members to one of the three principal subcommittees freed up sufficient resources for each subcommittee to organize its own public seminars and disseminate information about the Committee's work. For example, the Risk Management Subcommittee organized three international seminars and published a paper that was distributed to market participants and regulators worldwide.

The recommendation to eliminate the Communications Subcommittee was adopted by the Committee effective in 1994 and written into the Document Organization.

ADVISORY ROLE OF THE FOREIGN EXCHANGE COMMITTEE

A principal purpose of the Foreign Exchange Committee is to advise the Federal Reserve Bank of New York on issues related to the foreign exchange market. At the Committee's monthly meetings at the Federal Reserve Bank of New York, members from dealing institutions provide their assessment of recent exchange rate trends and trading conditions. Members from foreign exchange brokerage firms comment on recent trends in the volume of transactions and on issues pertaining to the bank-broker relationship. These discussions are particularly useful during periods of increased market stress or heightened volatility, such as the decline in world bond markets in February or the turmoil in the markets caused by the devaluation of the peso in December.

Perhaps the most important project of 1994 pertaining to the Committee's advisory role was its comment on the Federal Reserve Board's proposal to amend risk-based capital guidelines. The Board's proposal, released for public comment in September 1994, outlined the Board's intended method of revising its risk-based capital guidelines for state member banks and bank holding companies regarding the treatment of derivative contracts for the supervisory treatment of netting and market risk under the Basle Capital Accord. Because the policies, once implemented, would have important implications for foreign exchange dealing banks and, more generally, for the market, the Foreign Exchange Committee decided to submit a comment on the paper. The Market Structure Subcommittee was subsequently directed by the Committee Chairman to draft that comment.

In its comment, the Foreign Exchange Committee generally supported the Board's proposal to revise and expand the conversion factors used to calculate the potential future exposure of derivative contracts and recognize the effects of netting arrangements in the calculation of potential future exposure for derivative contracts subject to qualifying bilateral netting arrangements.

However, the Committee's comment on the paper sought clarification of the expansion of conversion factors. Although the Committee acknowledged the need to expand the matrix of conversion factors in calculating risk-based capital, it suggested that the assignment of conversion add-on factors and the development of the

residual maturity schedules required further study and analysis. The Committee believed that the proposed matrix did not reach an appropriate trade-off between simplicity and accuracy.

In addition, the Committee made two principal observations: (1) increasing the conversion factors by multiplying the number of remaining payments in the contract is too conservative for contracts with multiple exchanges of principal, and (2) the "add-on" calculation, which uses notional value as opposed to net credit risk, may be inappropriate, and the proposed formula is cumbersome and difficult to apply.

The Committee's comment was submitted to the Secretary of the Federal Reserve's Board of Governors on October 21, 1994. (The full text is reprinted in this Report beginning on page 22.)

Foreign Exchange and Derivatives Markets Turnover Survey

Recognizing the importance of derivative markets, G-10 central banks in 1994 began to consider ways to improve the quality of information available about these markets. While some data on derivatives markets already exist, they have a number of shortcomings. Improved market data could be of use to central banks as well as market participants.

In April 1995, the Foreign Exchange and Derivatives Markets Survey will be conducted simultaneously by central banks in the major market centers. In contrast to previous foreign exchange market surveys, however, this survey will also cover financial derivatives. Aggregate market size data will be made available at the national level by the participating central banks and at the global level by the Bank for International Settlements. The G-10 central banks have sought feedback from market participants on the reporting format and level of detail that would be necessary to achieve the survey's objectives.

The Market Structure Subcommittee was asked by the Committee Chairman, in May 1994, to evaluate the proposed content of the survey and the feasibility of collecting the data. The Federal Reserve Bank of New York was able to use the Committee's comments to redesign and somewhat simplify the survey.

MEETINGS OF THE COMMITTEE

The Committee held eleven meetings during 1994. Nine of the meetings were luncheons at the Federal Reserve Bank of New York and two were evening meetings hosted by member institutions.

Meetings in 1994

January 13
February 2
March 3
April 7
May 5
June 9
July 7
September 8
October 6
November 3
December 1

Schedule for 1995

January 5
February 2
March 2
April 6
May 4
June 1
July 6
September 7
October 5
November 2
December 7

SUBCOMMITTEE ASSIGNMENTS FOR 1994

TRADING PRACTICES

Co-Chairman:

Lloyd Blankfein
David Puth

Members:

James Borden
Anthony Bustamante
Kikuo Inoue
Lars Lidberg
Richard Mahoney
John Nixon
Klaus Said

MEMBERSHIP

Chairman:

Peter Fisher, FRBNY

Members:

James Borden
John Galbraith
John Nixon
William Rappolt

RISK MANAGEMENT

Co Chairman:

John Finigan
Heinz Richl

Members

Cyrus Ardalan
Chris Dousters
Martin Dooney
Thomas Hughes
Ian MacKay
Andrew Siciliano
Robert White

MARKET STRUCTURE

Co-Chairman:

William Dueker
David Harvey

Members:

Mickey Chase
Bruce Cobb
John Galbraith
Timothy Hultquist
Andrew Popper
William Rappolt
Yoneo Sakai
Joseph Spendley

SUBCOMMITTEE ASSIGNMENTS FOR 1995

TRADING PRACTICES

Co-chairmen:

Richard Mahoney
John Nixon

Members:

Lloyd Blankfein
James Borden
Anthony Bustamante
Kikuo Inoue
Dennis Keegan
David Puth
Klaus Said
Jamie Thorsen

MEMBERSHIP

Chairman:

Peter Fisher, FRBNY

Members:

James Borden
John Galbraith
John Nixon
William Rappolt

RISK MANAGEMENT

Co-chairmen:

John Finigan
Heinz Riehl

Members:

Cyrus Ardalan
Chris Deuters
Martin Dooney
Paul Kimball
Ian MacKay
Andrew Siciliano
Robert White

MARKET STRUCTURE

Co-chairmen:

William Dueker
Thomas Hughes

Members:

Mickey Chase
Bruce Cobb
Lars Lidberg
Matthew Lifson
Klaus-Peter Moritz
William Rappolt
Yoneo Sakai
Susan Storey

SELECTED DOCUMENTS

Committee Comment on the Proposed Statement of the Financial
Accounting Standards Board on Disclosure about
Derivative Financial Instruments and
Fair Value of Financial Statements

Committee Comment on the Federal Reserve Board's Proposal to
Amend Risk-Based Capital Guidelines

Paper on Reducing Foreign Exchange Settlement Risk

International Bullion Master Agreement (IBMA)

Guide to the IBMA

Guidelines for the Management of Foreign Exchange Trading Activities

Document of Organization

**COMMITTEE LETTER REGARDING ITS COMMENT ON THE PROPOSED STATEMENT
OF THE FINANCIAL ACCOUNTING STANDARDS BOARD**

***Disclosure about Derivative Financial Instruments and
Fair Value of Financial Statements***

Director of Research and Technical Activities
Financial Accounting Standards Board
401 Merritt 7
Norwalk, CT 06856-5116

June 27, 1994

Dear Sir,

The Foreign Exchange Committee of the Federal Reserve Bank of New York (the "Committee") appreciates the opportunity to comment on the Exposure Draft of a Proposed Statement of Financial Instruments and Fair Value of Financial Instruments (the "Statement"). The following commentary expresses the collective opinions of its membership.

As a general premise, the Committee supports the Financial Accounting Standards Board's (the "Board") recommendations for increased disclosure for derivative financial instruments and agrees that this information will be useful to investors, creditors and market participants. The Committee also agrees with the Board's approach that increased disclosure should be encouraged. However, such disclosure requirements should be on a voluntary basis for 1994 and the Board should consider adopting a phase-in period. This decision will enable Banks, other financial institutions and other entities to gradually adapt to new reporting requirements and will not place an undue burden on smaller entities. While we understand there is a sense of urgency about attempting to improve disclosures about derivative financial instruments, any attempt to mandate specific quantitative disclosures prematurely probably would not improve the quality or usefulness of derivatives disclosures.

The attachment to this letter discusses certain points raised above in more detail and provides our general comments on specific issues discussed in the Statement. We hope the Board will find the attached comments helpful and we look forward to continued cooperation as we move toward the common goal of a healthy and sound system of international financial markets.

Also attached for your information is a list of the Committee's 1994 membership. Please feel free to contact me or the Committee's Executive Assistant regarding any aspect of our comments.

Very truly yours,

Lewis W. (Woody) Teel
Chairman

COMMENTS ON THE PROPOSED STATEMENT OF THE FINANCIAL ACCOUNTING STANDARDS BOARD

Disclosure about Derivative Financial Instruments and Fair Value of Financial Statements

General Comments

The Committee desires to offer its comments on the foreign exchange derivatives of the proposal, however, these comments would apply equally to other types of derivatives. The Committee believes that the industry's experience with foreign exchange derivative instruments is very relevant and positive. The foreign exchange community has the longest standing experience with derivative products, some of which (e.g. forwards) have been present in the market for several decades. This experience proves that the industry is capable of developing strong mechanisms for managing and controlling the risks involved in such activities. Trading in foreign exchange derivative products — which is largely self-regulated — has been remarkably problem-free, strongly suggesting that heavy regulatory intervention and onerous reporting are not necessary in order to preserve the integrity of the system and market activities. On the contrary, the Committee believes that excessive regulations and reporting requirements are likely to lead to a reduction in market liquidity and make it difficult for corporations and other categories of customers to hedge their natural risk positions. As a general premise, the Committee agrees that the Board's proposal does not put an excessive burden on the financial industry assuming sufficient time is given for establishing a reporting system to meet the requirements and that they can generally be implemented without an inhibiting effect on the functioning of the foreign exchange derivative market activities.

Specific issue comments

- 1 *The proposed Statement would apply to all entities with a one-year delay for smaller entities*

Smaller entities should be exempted from the requirement of this Statement. However, exemptions should not be based solely upon size of entity. The Board should consider that exemption be based upon a calculated ratio of exposure (e.g. face amount of derivative to capital) to size. In addition, non-financial or not-for-profit entities should not be exempted. It has been the non-financial entities, among others, who have gained the most notice from mishandling or inappropriate use of derivative financial instruments.

- 2 *This proposed Statement would be effective for financial statements for fiscal years ending after December 15, 1994, with a one-year delay for smaller entities*

The disclosure requirements for this proposed Statement are both extensive and complex. The Committee strongly recommends that the proposed statement be effective for fiscal year ending a December 31, 1995. This should enable Banks and other institutions to gradually adapt to new reporting requirements, and will not place an undue burden on those institutions that do not have a reporting system to meet the proposed disclosure requirements. In addition, certain proposed disclosures (e.g. the requirements to disclose maximum/minimum aggregate fair value and trading gains/losses by contract type) may not be readily available. With the appropriate lead time, the burden requiring institutions to retroactively recreate certain information for reporting purposes will be eliminated. It is important that the proposed Statement should focus on qualitative rather than quantitative disclosures. An attempt to mandate specific quantitative disclosures, if not maturely, probably would not improve the quality or usefulness of disclosures.

It would not be realistic to attempt to develop a standard for disclosing interest rate risk and other market risks which requires specific quantitative disclosures within the Board's stated time frame. Risk management issues are extremely complex and determining appropriate quantitative disclosures would require extensive study and investigation of the alternatives. Specific quantitative disclosures described in the Statement may not be appropriate for all organizations, and accounting standards should not dictate risk management methodologies. While the Committee does not support a requirement that would dictate the format of an entity's disclosures, we do believe that specific guidance about content (such as nature or level) of disclosures is critical. The absence of such guidance would create a lack of comparability of financial statement disclosure among different entities and it would also exacerbate, rather than alleviate, the perception that derivatives disclosures are difficult to understand and report.

3 *For derivative financial instruments held or issued for trading, this proposed Statement would require disclosure of average, maximum, and minimum aggregate fair values and of net trading gains or losses (This is in addition to current requirements for end-of-period only)*

The requirement to disclose average, maximum and minimum fair value of foreign exchange derivative instruments during the reporting period should not be required. The information is not readily available for many entities and not particularly useful. It will create a heavy burden on data gathering and record keeping. The foreign exchange activity is not normally manageable to pre-determined fair value levels.

The Committee also does not believe that any value is added by separating the reporting of gains or losses from spot transactions from those in forward transactions. Spot and forward transactions are so closely linked and constantly intermingled that they should be disclosed as one product. In general, most entities do not capture the gains/losses information by contract type — it is captured by the type of risk or business activities (e.g. foreign exchange, interest rate or equities, etc.).

4. *For derivative financial instruments held or issued for purposes other than trading, it would require disclosure about those purposes, about how the instruments are reported in financial statements, and — if the purpose is hedging anticipated transactions — about the anticipated transactions, the amounts of hedging gains and losses deferred, and the transactions or other events that result in recognition of the deferred gains or losses in income.*

The Committee supports the requirement to provide a qualitative discussion of its hedging and risk management activities. This disclosure should include a general description of its risk management strategies and information about the various types of instruments accounted for as hedges. However, the Committee is strongly opposed to requirements that would require disclosure of proprietary data that might make an organization's hedging strategies vulnerable to pricing manipulation by competitors in the marketplace. In addition, any requirement to disclose earnings from risk management activities separately would be misleading (e.g. analysis of deferred gains and losses would be meaningless and laborious), because it may imply that risk management activities are intended to be income producing rather than value stabilizing.

5 *This proposed Statement would amend Statement 107 to require that fair value information be presented without combining, aggregating, or netting the fair value of separate financial instruments of a different class and be presented in one location, together with the related carrying amounts, in a form that makes it clear whether the amounts are favorable (assets) or unfavorable (liabilities)*

A requirement to disclose fair value information without combining, aggregating, or netting the fair value of separate financial instruments of a different class should not be required. The information is not meaningful and not useful. In addition, such a requirement appears to conflict with FASB Interpretation No. 39. In practice, the products may often net against one another where a counterparty has a master netting agreement and the risk is managed on a net basis. It would be misleading to present them separately when contracts are used as part of the same strategy.

6. *Reporting the quantitative information encouraged in paragraph 12 includes disclosing (a) more details about current positions and perhaps activity during the period, (b) the hypothetical effects on equity, or on annual income, of several possible changes in market prices, (c) a gap analysis of interest rate repricing or maturity dates, (d) the duration of the financial instruments, or (e) the entity's value at risk from derivative financial instruments and from other positions at the end of the reporting period and the largest value at risk level during the year.*

In general, the Committee believes that proprietary data which is vulnerable to pricing manipulation by competitors in the marketplace should not be required to be disclosed. Information such as notional amount outstanding at each year end or a gap analysis presenting the effect of a standardized shift in indices on the portfolio's dollar value would be meaningful and useful. However, disclosing the aggregate value-at-risk defined as the potential overnight loss, may not be readily available for many entities. This analysis is meaningless for derivatives in isolation. It must be integrated with all other financial instruments exposing the entity to risk. The Committee agrees that these may be desirable voluntary disclosures but should not be mandated initially.

**COMMITTEE LETTER REGARDING ITS COMMENT
ON THE FEDERAL RESERVE BOARD'S PROPOSAL TO AMEND
RISK-BASED CAPITAL GUIDELINES**

October 20, 1994

William W. Wiles
Secretary of the Board
Board of Governors of the Federal Reserve System
20th Street and Constitution Avenue, N.W.
Washington, D.C. 20551

Dear Mr. Wiles,

The Foreign Exchange Committee of the Federal Reserve Bank of New York (the "Committee") appreciates the opportunity to comment on the Board of Governors of the Federal Reserve System's (the "Board") Proposal to Amend the Board's Risk-Based Capital Guidelines. The following commentary expresses the collective opinions of its membership.

As a general premise, the Committee supports the Board's proposal to revise and expand the conversion factors used to calculate the potential future exposure of derivative contracts and recognize effects of netting arrangements in the calculation of potential future exposure for derivative contracts subject to qualifying bilateral netting arrangements.

The attachment to this letter discusses certain points raised above in more detail and provides our general

comments on specific issues discussed in the proposal. We hope the Board will find the attached comments helpful and we look forward to continued cooperation as we move toward the common goal of a healthy and sound system of international financial markets.

Also attached for your information is a list of the Committee's 1994 membership. Please feel free to contact me or the Committee's Executive Assistant regarding any aspect of our comments.

Sincerely yours,

Lewis W. (Woody) Teel
Chairman

COMMENTS ON THE FEDERAL RESERVE BOARD'S PROPOSAL TO AMEND RISK-BASED CAPITAL GUIDELINES

General Comments

As a general premise, the Committee supports the Board's proposal to amend the risk-based capital guidelines. We strongly agree with the proposal on recognizing the effect that qualifying enforceable bilateral netting arrangements have on the potential future exposure related to derivative contracts. We also understand the necessity of expanding the matrix of conversion factors in calculating risk-based capital. However, in our view, the effect of qualifying enforceable bilateral netting agreements reduces risk and should be given a full credit for such netting in all calculations. We also believe another class of residual maturity between one and two years should be added and the appropriateness of the proposed "add-on" conversion factors should be reconsidered.

Specific Issue comments

1. *Expansion of matrix of conversion factors*

The Committee understands the necessity of expanding the matrix of conversion factors in calculating risk-based capital. The Committee believes the assignment of conversion add-on factors and the development of the residual maturity schedules require further study and analysis. The proposed matrix does not reach an appropriate trade-off between simplicity and accuracy. Consideration should be given to add another class of residual maturity for those contracts maturing between one and two years with an adjustment of the "add-on" conversion factors.

2. *Multiple exchange of principal and equity-based contracts*

For contracts with multiple exchanges of principal, the Committee agrees that the level of potential future exposure rises but not in proportion to the number of remain-

ing payments in the contract. The potential future exposure related to these contracts is subject to the same counterparty credit risk. We believe increasing the conversion factors by multiplying the number of remaining payments in the contract is too conservative. For equity contracts that automatically reset to zero each time a payment is made, the Committee agrees that the credit risk associated with these contracts is similar to that of a series of shorter contracts beginning and ending at each reset date.

3. *Impact of legally valid bilateral netting agreements*

The Committee believes the "add-on" calculation which uses notional value as opposed to net credit risk may be inappropriate. In addition, the proposed formula is cumbersome and difficult to apply in the real business world. Furthermore, novation of financial products transactions fundamentally changes the notional amounts of transactions and the actual amounts at risk. To the extent that parties contractually provide for netting, and such netting meets the industry standards, the full credit for such netting should be reflected in the basis used for "add-ons". Therefore the add-on calculation should be based on a net credit risk which takes into account the reduction of legal and economic risks by using the qualifying enforceable bilateral netting agreements.

4. *Gross current exposure to net current exposure (the "NGR")*

The Committee believes both calculations should be based on a "netted credit" risk concept, accordingly, NGR should be calculated on a counterparty-by-counterparty basis to reflect the utilization of legally enforceable bilateral netting agreements. This process would more accurately reflect the economic risk of the transactions.

RISK MANAGEMENT SUBCOMMITTEE

REDUCING FOREIGN EXCHANGE SETTLEMENT RISK

EXECUTIVE SUMMARY

In recent years, enormous changes in the size and complexion of the foreign exchange market have created a heightened awareness of settlement risk. The volume of transactions settled daily has risen from approximately US \$1 billion in 1974 to almost US \$1 trillion today. Participation in the market has broadened to include many new players. Twenty years ago most foreign exchange trading was done by banks, recent times have seen increased participation by corporations, pension funds, hedge funds and investment companies.

Although front-office technology has kept pace with these changes, back office procedures and settlement-risk management have not. In exploring how the management of settlement risk could be improved, the Committee investigated what actually constituted common settlement procedures in the private sector and devised new methods of defining and quantifying settlement risk. Thus, the Committee surveyed the current settlement practices of its twenty-five members and developed an operational definition of settlement risk consistent with these practices. The Committee's findings on the causes and extent of settlement risk challenge conventional wisdom.

The Committee's study clearly shows that settlement risk in the foreign exchange market is much larger than the duration considerably longer than what market participants have traditionally believed. The results of the survey also show that a firm can substantially reduce its counterparty settlement exposures at a relative cost by improving settlement and reconciliation procedures. Several of the internal procedures found to reduce settlement risk are already in use in the market. Electronic netting of payments, a practice shown to be particularly effective in cutting risks, has not been implemented on a widespread basis.

This paper defines and analyzes settlement risk and offers a series of recommendations that firms can implement immediately to help reduce settlement exposures — in some cases by more than 80 percent. The Committee also found that several of the proposed public sector measures to reduce settlement risk have a much less significant impact than do changes that private sector firms could make themselves. The Committee urges market participants to review their own methods of controlling settlement risk with an eye towards adopting the best practices outlined in this paper.

REDUCING FOREIGN EXCHANGE SETTLEMENT RISK

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SETTLEMENT RISK IN THE FOREIGN EXCHANGE MARKET

I. INTRODUCTION

This year marked the twentieth anniversary of the failure of Bankhaus Herstatt, the event that first brought widespread attention to the risk of settlement failure in foreign exchange trading. On June 26, 1974, German banking regulators closed down the Herstatt bank at the end of the German business day — after it had taken in all of its foreign currency receipts in Europe but before it had made its U.S. dollar payments. Foreign exchange counterparties to the bank incurred substantial losses, and in the days following the closure, the markets experienced severe systemic problems as payments in the major currency payment systems virtually ground to a halt. The impact of the event focused attention on a problem inherent in the foreign exchange market: the need to settle different legs of a single transaction in different markets and in different time zones.

While the Herstatt case remains the classic example of counterparty settlement risk, it was followed by a number of events that had a comparably great impact on the foreign exchange market and on payment systems worldwide. These events include the insolvencies of several major market participants, the Iraqi invasion of Kuwait, and several private sector operational failures that required external intervention in order to avoid a large scale catastrophe.

The twenty years since Herstatt have witnessed dramatic changes in the foreign exchange markets. The volume of transactions settled daily has risen from approximately U.S. \$1 billion in 1974 to almost U.S. \$1 trillion today. The size of individual transactions has also increased, from a typical average spot transaction of \$750 thousand twenty years ago to \$10 million today. Participation in the market has expanded to include many new groups. Twenty years ago most foreign exchange trading was done by banks. Recent times have seen increased participation by corporations, pension funds, hedge funds and investment companies. Foreign exchange derivative products are more varied and complex than could have been imagined even a decade ago.

Although front office technology has kept pace with these many changes, back office procedures have not. Foreign exchange trades are still settled in much the same way as they were at the time of the Herstatt failure, and a solution to what is now often referred to as "Herstatt risk" continues to elude the market. Heightened concerns that the failure of a single participant could precipitate the failure of others and compromise payment systems globally have brought the issue of settlement risk into sharper focus. These shared concerns have led to discussion of this issue among regulators and market participants.

The Foreign Exchange Committee addressed the issue of foreign exchange pre-settlement credit risk in 1993. Following that effort, the Committee turned its attention to settlement risk, seeking to understand the process in detail and to raise awareness in the market. It became clear early in the Committee's effort that much of the debate about possible changes to the global payments system was not grounded in a clear understanding of the causes of settlement risk. A review of global foreign exchange settlement practices had never been done, nor did there exist a uniform definition by which settlement risk could be described and quantified.

Because no uniform definition of settlement risk existed, it was necessary to study what actually constituted common settlement procedures in the private sector and to devise methods of defining and quantifying settlement risk. To accomplish this, the Committee surveyed the current settlement practices of its twenty-five members and developed an operational definition of settlement risk consistent with these practices. The Committee used the survey results, settlement risk definition, and actual trade data to study settlement risk for various portfolios and under different assumptions.

In conducting this analysis, the Committee found that the conventional wisdom regarding settlement risk is only partly correct. Foreign exchange settlement risk has traditionally been viewed as purely a function of having to settle different currencies in different markets and time zones. In fact, the results of the Committee's analysis

show that the timing of settlement and reconciliation procedures has a large effect on both the duration and amount of risk faced by market participants. Accordingly, the Committee found that by improving settlement and reconciliation procedures, firms could make substantial reductions in their counterparty settlement-exposures. Similarly, netting of payments was found to significantly reduce risk for active market participants.

Recently, the discussion of foreign exchange settlement risk has focused on public sector solutions. A 1993 BIS report entitled "Central Bank Payment and Settlement Services with Respect to Cross-Border and Multi-Currency Transactions" (commonly known as the Noel Report) analyzed a number of central bank services that could be used to reduce settlement risk in foreign exchange transactions. Surprisingly, the Committee concluded that two of the options considered — extended operating hours of payments systems and intra-day finality of payment — had an important but much less significant impact on the reduction of actual settlement risk than did changes that private sector firms could make themselves.

The Committee has confined its study and recommendations to foreign exchange settlement as it is practiced in the markets today. It acknowledges that ongoing public and private sector discussion and initiatives for the establishment of multicurrency clearing and/or netting services could result in tools that could be used by market participants to reduce counterparty settlement risk even further. However, because of the complexity of such undertakings and the fact that no such system is currently in operation, the Committee felt it was not appropriate to comment on them in this paper.

In response to the discussion of public sector action, the Committee presents this paper to point out that the private sector can adopt some immediate and relatively inexpensive measures to reduce and control settlement exposure. The paper describes the Committee's analysis and definition of settlement risk and recommends best practices for the industry.

II. DEFINING FOREIGN EXCHANGE SETTLEMENT RISK

Before the problem of foreign exchange settlement risk can be addressed, a clear, market-based definition is needed. To this end, a simple example of a foreign exchange trade can provide a useful starting point. Consider, for instance, a spot trade executed two days before value date (V-2) to sell a certain amount of

Japanese yen and to buy \$10 million for settlement value date V.

Since, in this example, a firm has agreed to pay and receive \$10 million, this amount of dollars becomes "at risk" the moment the firm pays the yen. Furthermore, this \$10 million settlement risk lasts until the dollar is received irrevocably and unconditionally — that is, until the \$10 million payment is final.

Chart 1 depicts the risk in settling this spot transaction. The exposure in settling this trade could be minimized by paying out yen as late as possible (i.e., at the close of the yen payment system) and by receiving final dollars as early as possible (i.e., upon final settlement of the dollar payment system). The minimum exposure, therefore, clearly depends on the operating hours and finality of each payments system. The dark area in Chart 1 illustrates the minimum exposure a firm could face when settling this yen/dollar trade.¹

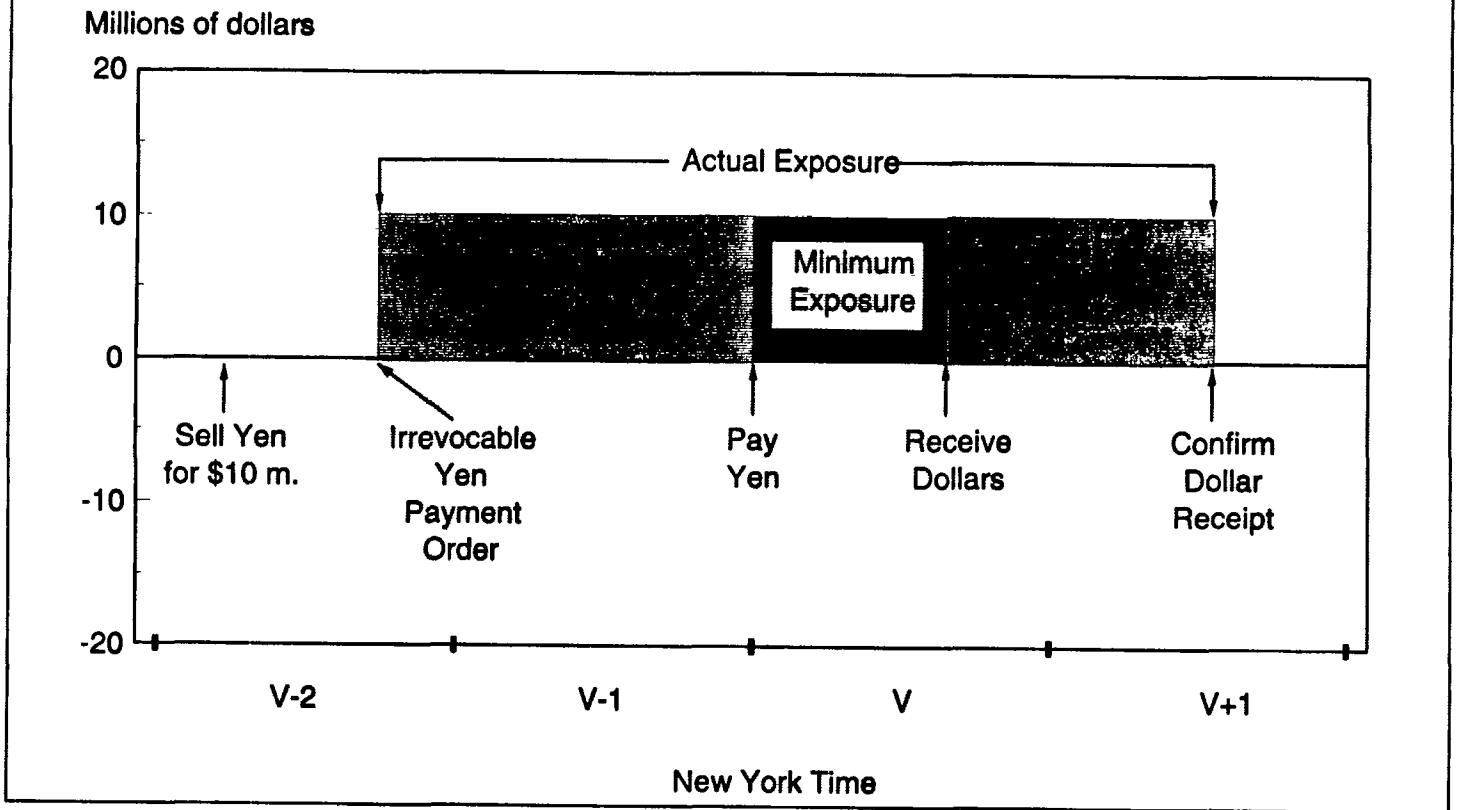
Chart 1 also shows that the actual settlement risk lasts much longer than this theoretical minimum. For instance, the yen payment instruction may, in practice, become irrevocable up to two days before value date.

In part, this time period would depend on a firm's internal operating procedures for issuing and cancelling yen payment instructions. It would also depend on how a firm's yen correspondent bank processes the yen payment instructions. For instance, a firm might send payment instructions to its yen correspondent several days or even days, before the yen payments system opens for business on day "V", at the same time, the auto-cancellation systems and operating procedures that the yen correspondent uses to handle these instructions may, at some point, make it virtually impossible to cancel payment instructions from being forwarded and processed by the yen payments system. In this situation, the yen payment instruction may, for all intents and purposes, become irrevocable well before the yen payments system opens.

¹ This analysis assumes that yen are paid through the Foreign Exchange Yen Clearing System (FEYCS) in Japan and that dollars are paid through the Clearing House Interbank Payments System (CHIPS) in the United States. Although local payments systems with different operating hours and finality rules are available in each country, FEYCS and CHIPS are the systems generally used to settle the yen and dollar portions of foreign exchange trades.

² A payment instruction is considered irrevocable when the issuer of the instruction is no longer certain that it can be cancelled or amended without the consent of the beneficiary receiving bank.

Chart 1
FX Settlement Risk
 Sell Yen/Buy Dollars



At the other end of the settlement process, the dollar reconciliation practices can also contribute to risk. For instance, a firm's internal procedures and correspondent banking arrangements may mean that it can take a day or two to confirm that a counterparty did, in fact, pay the \$10 million purchased. For instance, a dollar correspondent may be slow to credit and to notify its customer about the day's receipts. In addition, once notified, it may take a firm even more time to process this information to learn who has paid and who has not.

It is important to note that although a firm's counterparty may have paid the funds (in this case dollars) owed, from a settlement risk management perspective a firm must assume that it is "at risk" until the final receipt is confirmed. As noted below, the inability to state whether funds due from a counterparty have been received will impair the ability of a firm to make informed judgments on the level of actual exposure that exists. In

other words, when a firm might have trades settling on consecutive days with a particular counterparty it is important to know with certainty whether the nostro account has been credited. Otherwise, a firm might unwittingly increase its exposure to unacceptably high levels by paying out funds on subsequent transactions without having received payment on the initial transaction.

Thus, a firm should include unreconciled trades and known fails in its measurement of settlement exposures because a counterparty might not have paid on time and a firm might be uncertain that its counterparty has paid until it completes its nostro account reconciliation. In general, when considering steps to control settlement risk, a firm's actions will depend on whatever up-to-date information is available.

This simple example points to a market-based definition of settlement risk: *the full amount of the currency pur-*

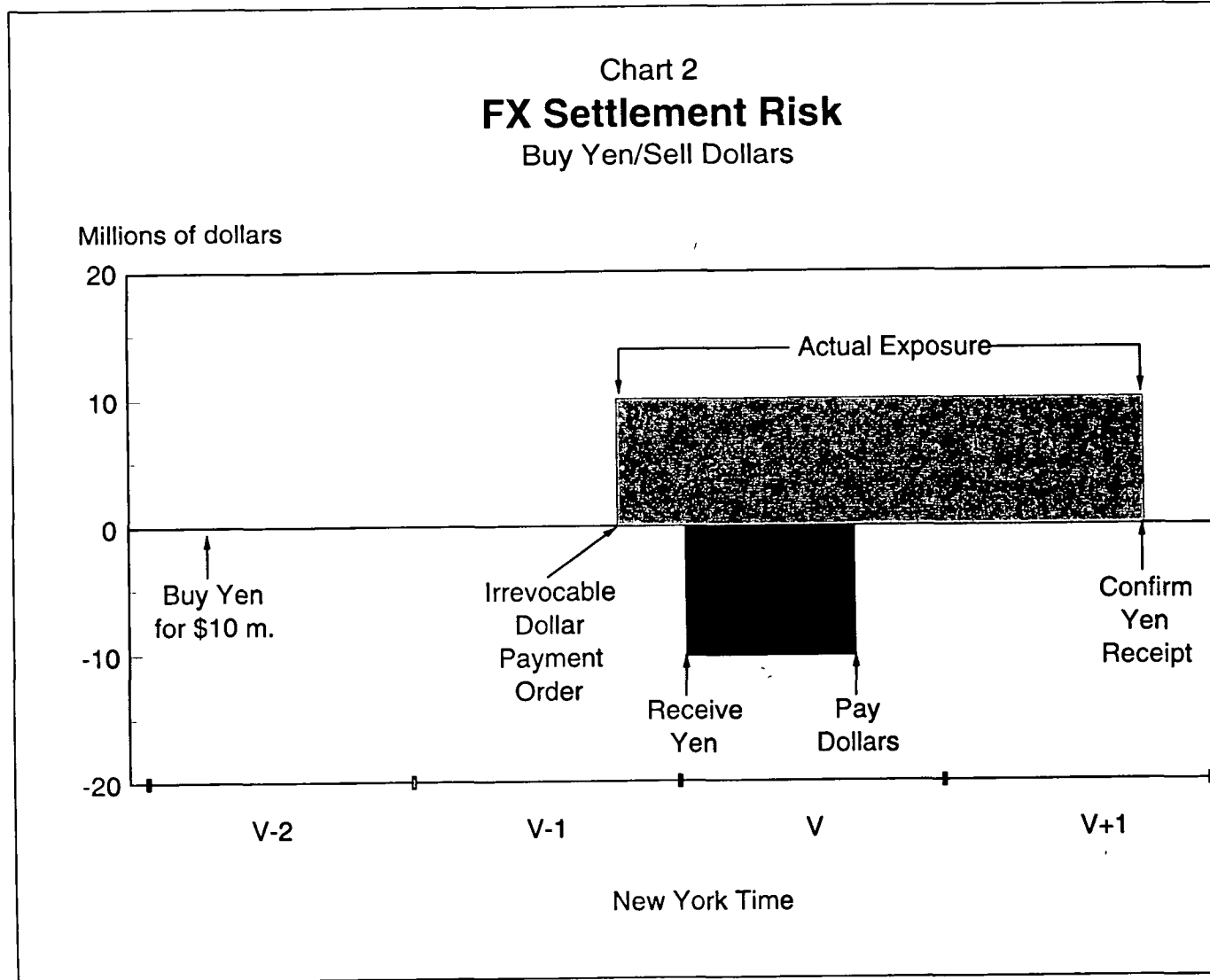
chased must be considered "at-risk" from the time a payment instruction for the currency sold becomes irrevocable until the time the final receipt of the currency purchased is confirmed. As the next section will explain, under this definition settlement risk can last up to three days when firms are selling yen and buying dollars, given current market practices.

Alternatively, settlement exposures can also arise in the case where a firm receives (buys) yen and pays (sells) U.S. dollars (Chart 2). This assertion may initially seem counterintuitive, because a firm should be able to receive the yen purchased before paying out the dollars sold. The dark area in Chart 2 confirms that, at least theoretically, a firm could face zero settlement risk during the settlement process (although the counterparty would

still face settlement risk). However, as in the first example, a firm's internal procedures and corresponding banking arrangements may mean in practice that a payment instruction can become irrevocable before it is confirmed that the yen have been paid. Even in this example, current market practices extend actual settlement risk up to two days.

Survey of Current Industry Practices

A clear, market-based definition of foreign exchange settlement risk is only the first step towards finding a solution. Industry practices also need to be assessed to determine the current scope and sources of settlement risk. When the Foreign Exchange Committee began its investigation of settlement risk, no detailed summary



foreign exchange settlement practices in different countries existed. To fill this void, the Committee conducted a targeted survey of its members.

Each commercial and investment bank on the Committee was asked when it issues its payment instructions, when it can cancel its payment instructions, and when it does its reconciliations to identify failed receipts. These answers were collected for payments and receipts in each of the currencies of the Group of Ten industrial countries. In addition, separate responses were elicited from the banks' operations in North America, Europe, and Asia.

Tables 1, 2, and 3 summarize the survey responses for each geographic region. Each table shows the earliest, median, and latest times that payment instructions can be sent, payment instructions cancelled, and failed receipts identified from the perspective of payers/receivers in North America, Europe, and Asia. The survey reveals a wide range of current market practices among the respondents, including the following key observations.

As opposed to being able to cancel payments on value date:

- over 50 percent of all firms face payment cancellation deadlines on the day before settlement (V-1), and
- approximately 10 percent of all firms face payment cancellation deadlines a full two days before settlement (V-2).

As opposed to the few firms that reconcile upon finality:

- over 80 percent of all firms reconcile receipts on the day after settlement (V+1);
- just under 10 percent of all firms do not reconcile receipts until two days after settlement, and
- approximately 10 percent of all firms reconcile receipts before finality.

The Committee recommends that each firm compare its own practices for each currency with the survey results illustrated in Tables 1, 2, and 3.

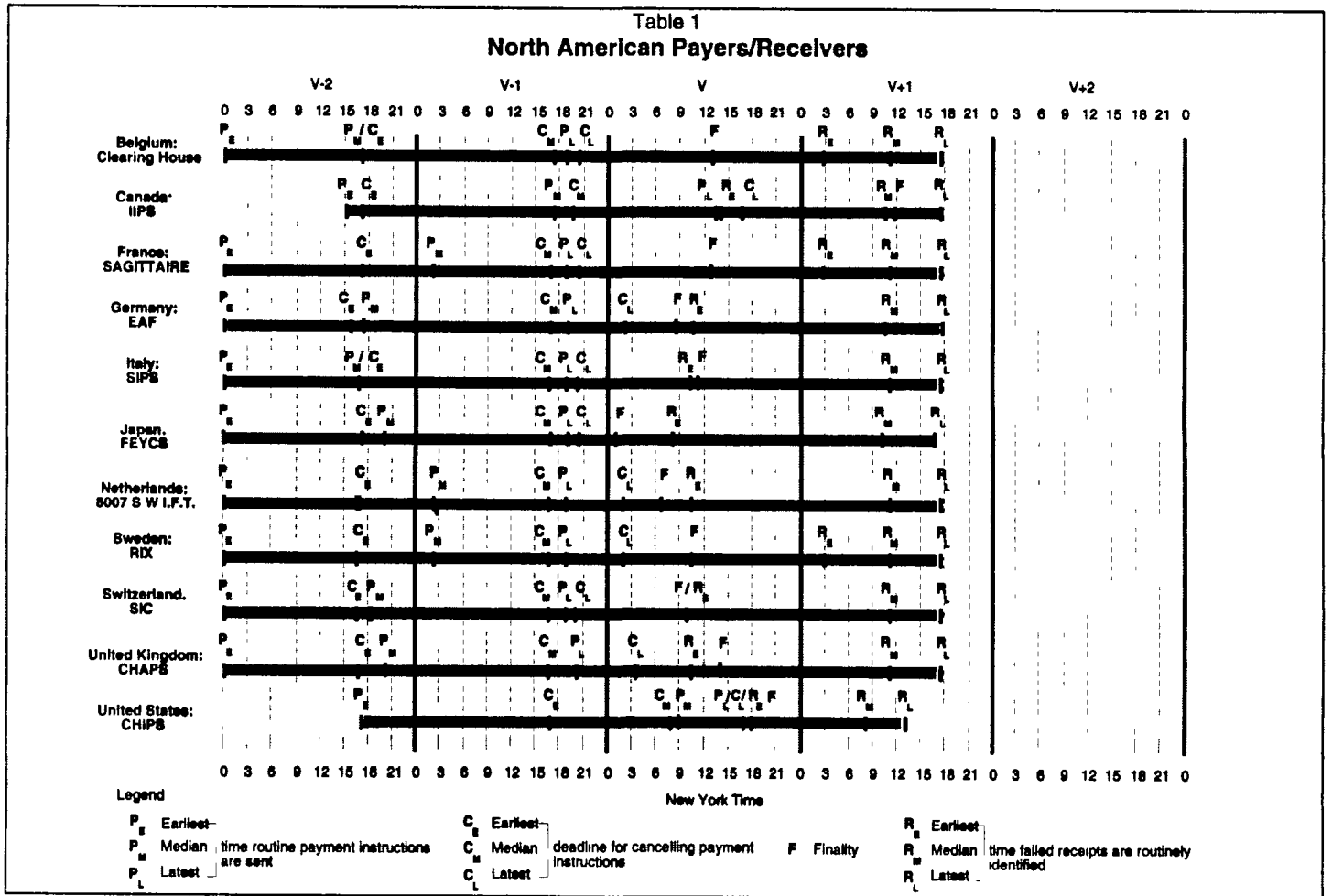
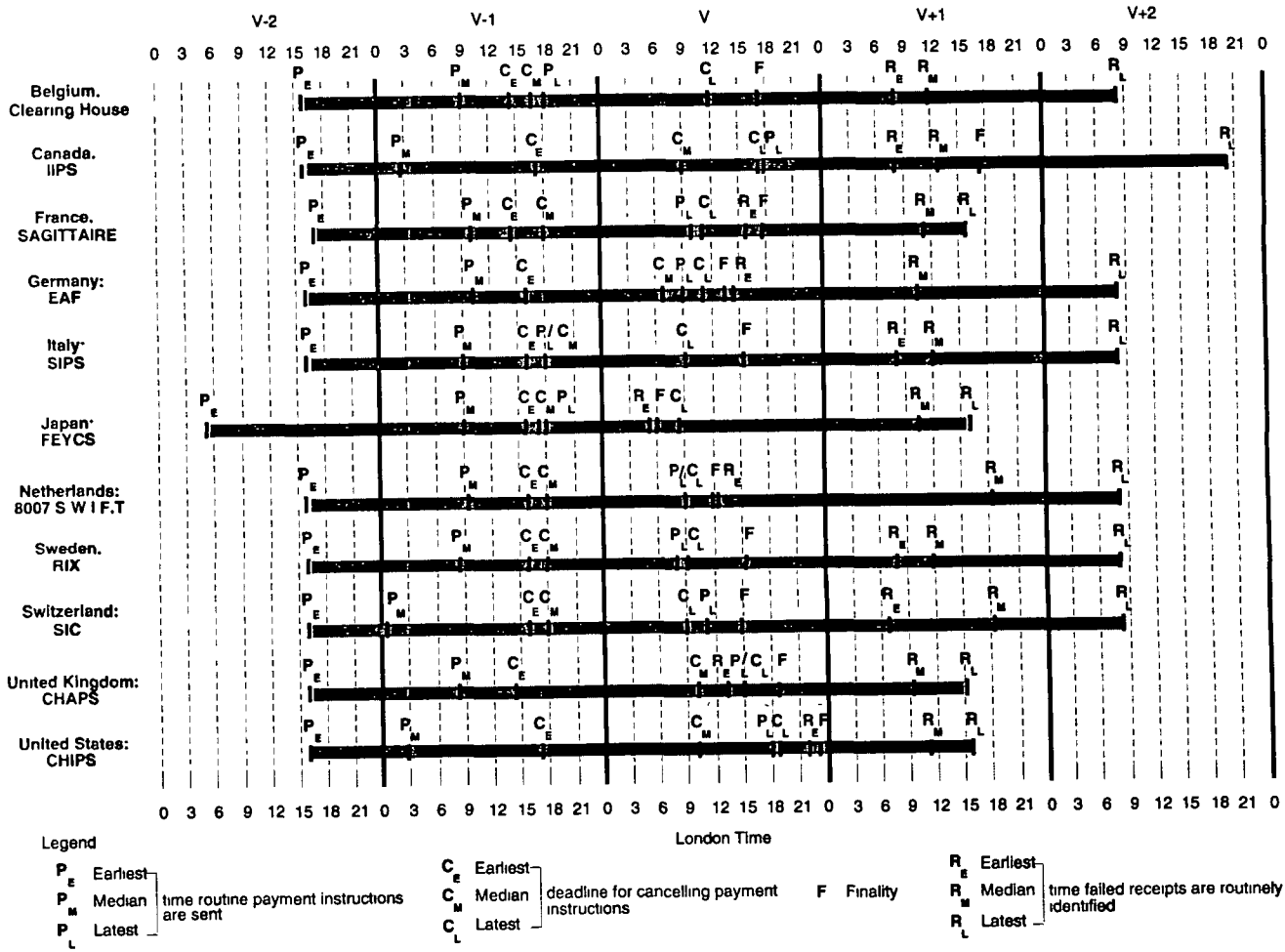
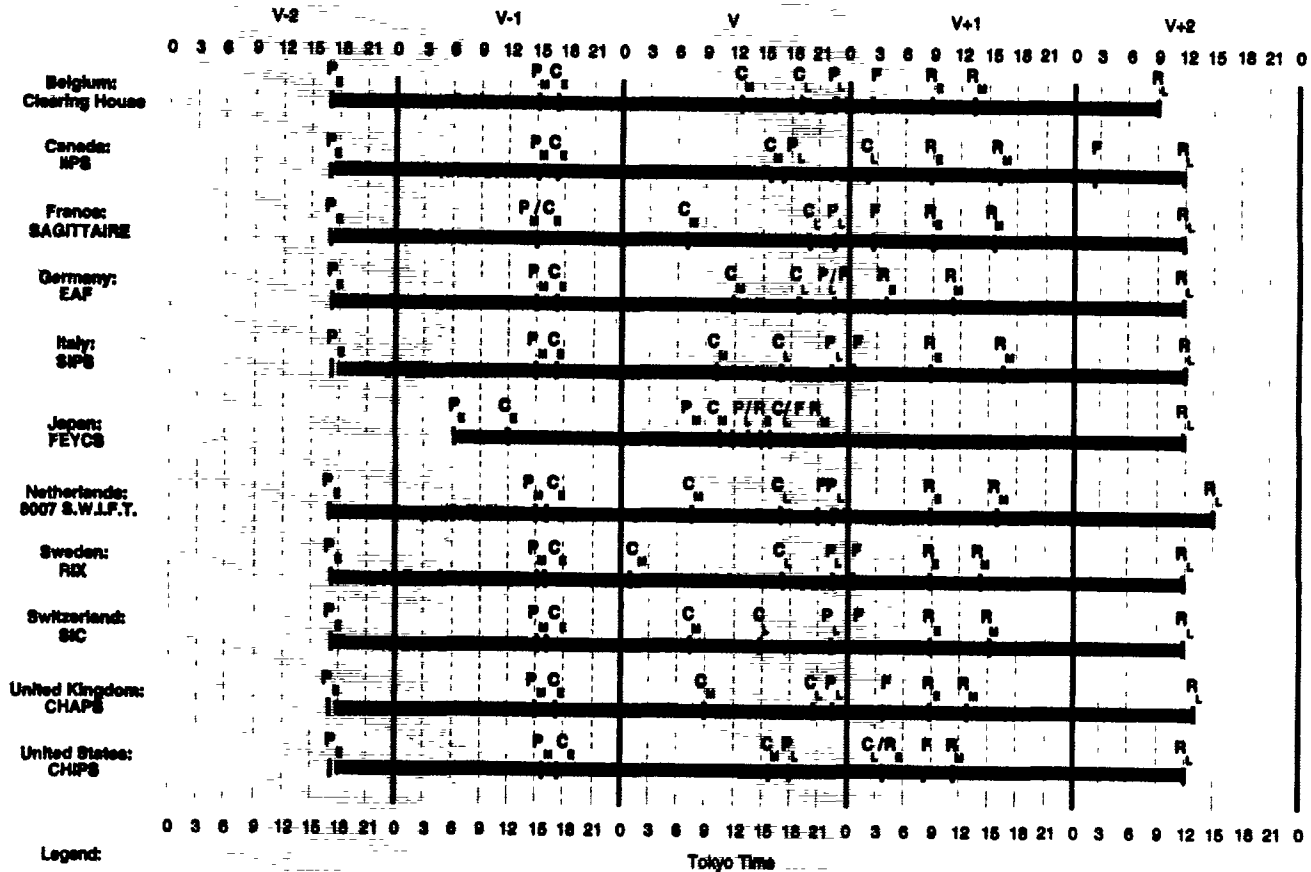


Table 2
European Payers/Receivers



**Table 3
Asian Payers/Receivers**



Legend:

- | | | |
|--|--|---|
| P_E Earliest | C_E Earliest | R_E Earliest |
| P_M Median | C_M Median | R_M Median |
| P_L Latest | C_L Latest | R_L Latest |
| P time routine payment instructions are sent | C deadline for cancelling payment instructions | F Finality |
| | | R time failed receipts are routinely identified |

Industry Profile of Settlement Risk

The next step in the Committee's analysis was to use the new market-based definition of settlement risk in conjunction with the information gained through the industry survey to determine the actual scope and source of foreign exchange settlement risk. The Committee collected sample trade data from several firms and created several simulated portfolios based on the April 1992 global survey of foreign exchange trading activity.

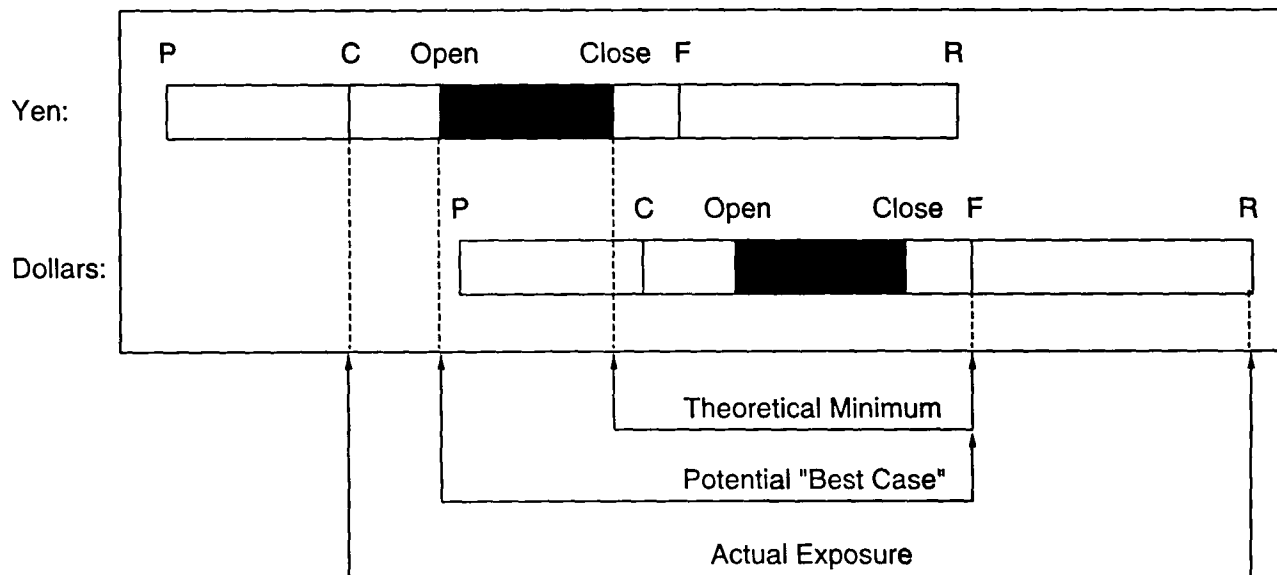
Since the duration of settlement risk can depend on many factors, several different calculations were made for each trade in each portfolio. Under the assumption that a firm is paying yen and receiving dollars as illustrated in Chart 3, the **theoretical minimum** duration of risk a firm could face was measured from the latest time that the yen sold could be paid (i.e., the closing time of the yen payments system) until the earliest time the final receipt of the dollars bought could be confirmed (i.e., the time when payments processed through CHIPS are final).

Because "gridlock" would result if all firms delayed their payments until the close of the local payments sys-

tem, late payments could not be used routinely by market participants to reduce settlement risk. The **potential best-case** duration of settlement risk could face was calculated as lasting from the close of the yen payments system for the yen sold until the time of finality on CHIPS for the dollars bought. The difference in duration between the "theoretical minimum" and the "potential best case" equals the length of time between the opening and the close of the payment system of the currency sold, in this example the yen.

In practice, the duration of a firm's actual exposure can be much longer than the potential best case, as well as the theoretical minimum. The market-based definition of settlement risk indicates that, a firm's actual exposure is the time from when the outgoing payment instruction can no longer be cancelled with absolute confidence and lasts until the expected receipt of final funds is confirmed. By comparing this definition with the results of the market survey, the **current best-case** duration of settlement risk was calculated as lasting from the latest cancellation deadline reported by any firm for the currency sold until the earliest receipt time reported by any firm for the currency bought.

Chart 3
FX Settlement Risk
Paying Yen/Receiving Dollars



Legend.

P Send payment order
C Cancellation deadline

Payment system operating hours

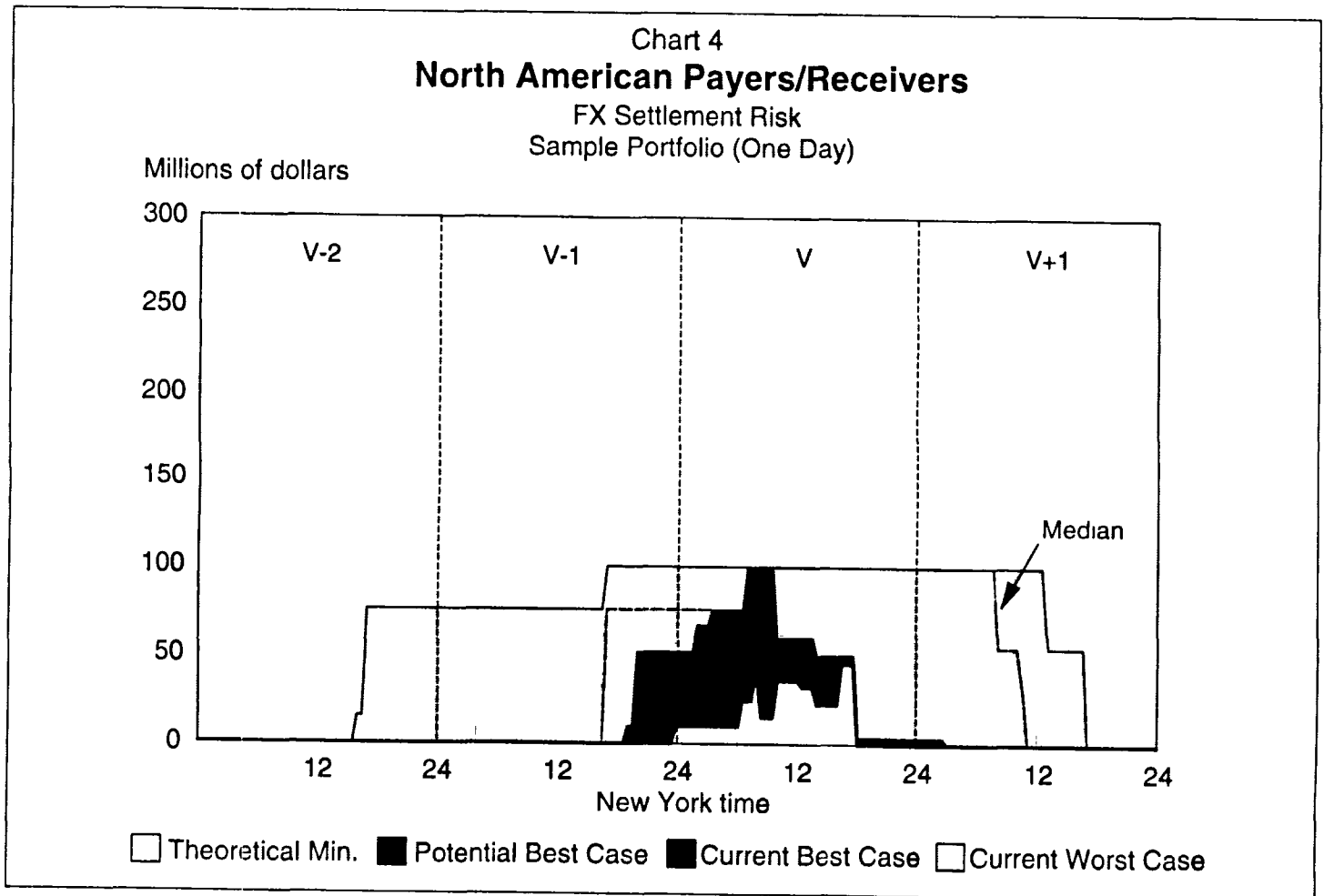
F Finality
R Identify failed receipts

In contrast, the **current worst-case** duration of settlement risk was measured from the earliest cancellation deadline reported by any firm for the currency sold until the latest reconciliation time reported by any firm for the currency bought. Similarly, the **median-case** duration of risk begins and ends at the median times reported for cancellation and reconciliation of the sold and bought currencies. *Note that the best-case and worst-case durations of risk are industry composites, since no single firm represented the extreme times for all currency pairs.*

Industry profile: one day. These different measures of duration were then used to construct an industry profile of settlement risk. In particular, based on the size and possible duration of settlement exposures of every individual trade, the amount potentially at risk when settling each sample and simulated portfolio of trades was computed. Because all the various sample and simulated portfolios provided similar profiles, one portfolio was selected to approximate the daily activity between two

market makers. The representative portfolio consists of 20 trades between two market makers, all settling on a single day "V." The trades involve seven currencies, and the total dollar value of the currencies purchased equals \$100 million. Chart 4 presents a North American industry profile of the amount at risk at each point in time when settling this \$100 million sample portfolio.

The most striking observation from Chart 4 is that the current worst-case exposure is over four times the current best-case exposure. Given today's market practices, settlement risk for this sample portfolio can reach \$100 million (i.e., the full value of the portfolio) for all firms. In the current worst case, however, the risk in settling a single day's trades can last nearly 72 hours. This reflects the fact that, for some firms, payment instructions become irrevocable on the afternoon of V-2 and receipts are not reconciled until the afternoon of V+1. In contrast, the bulk of the settlement risk in the current best case falls within a 24-hour period.



Half of the firms, as indicated by the dashed lines in Chart 4, incur settlement exposure for almost 48 hours, with the amount at risk close or equal to \$100 million most of the time. This finding means that the median exposure is over two and one-half times greater than the current best-case exposure

Firms based in Asia and Europe show industry profiles broadly similar to those of North American firms. By definition, all firms face the same theoretical-minimum and potential best-case risk (as described in detail on page 5). Furthermore, given today's market practices, the current best-case risk is also comparable across the three regions. Thus, although market practices vary across regions, these differences do not appear to be uniformly linked to geographical factors

Industry profile: steady state. Because it can take up to three days to settle a single day's trades, a firm active in the market can have up to three days' worth of trades in the settlement "pipeline" at any point in time. This compounding effect can have a tremendous impact

on settlement risk

To examine this potential compounding effect, a measurement was taken of the settlement risk created if a firm repeated — day after day — each of its current and simulated single-day trades. It is useful to compare the settlement risk in the "steady state" with the same \$100 million representative portfolio of trades. Again, all the various sample and simulated results provided comparable steady-state profiles

Chart 5 shows the results of this exercise for firms based in North America (similar results were obtained for firms operating in Asia and Europe)

Chart 5 shows that this compounding effect can transform \$100 million in daily trades into \$300 million in settlement risk. If a firm's settlement practices align with the current worst-case market profile, the steady-state exposure to a counterparty in this example is on average nearly \$270 million and would never fall below \$225 million

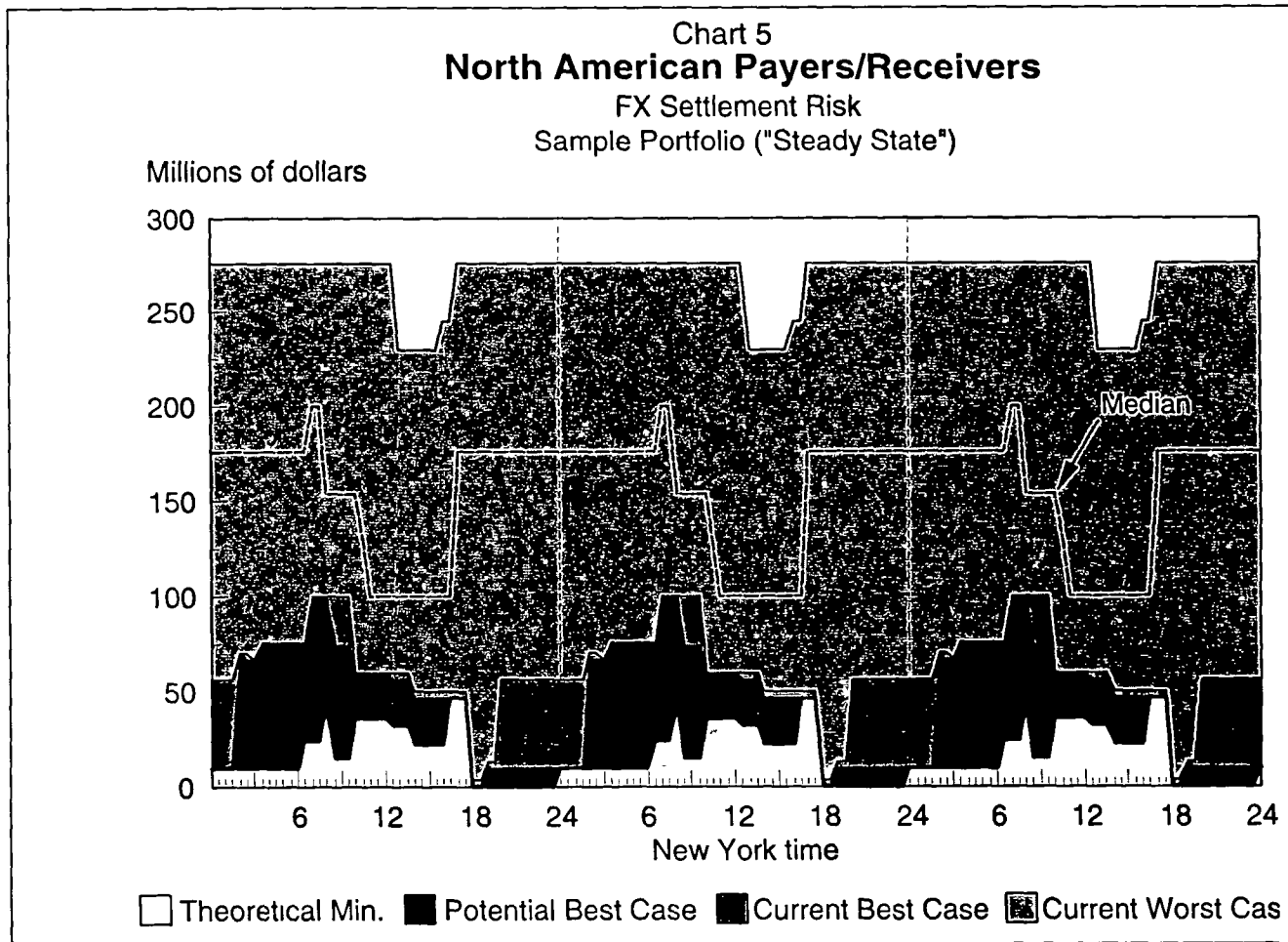
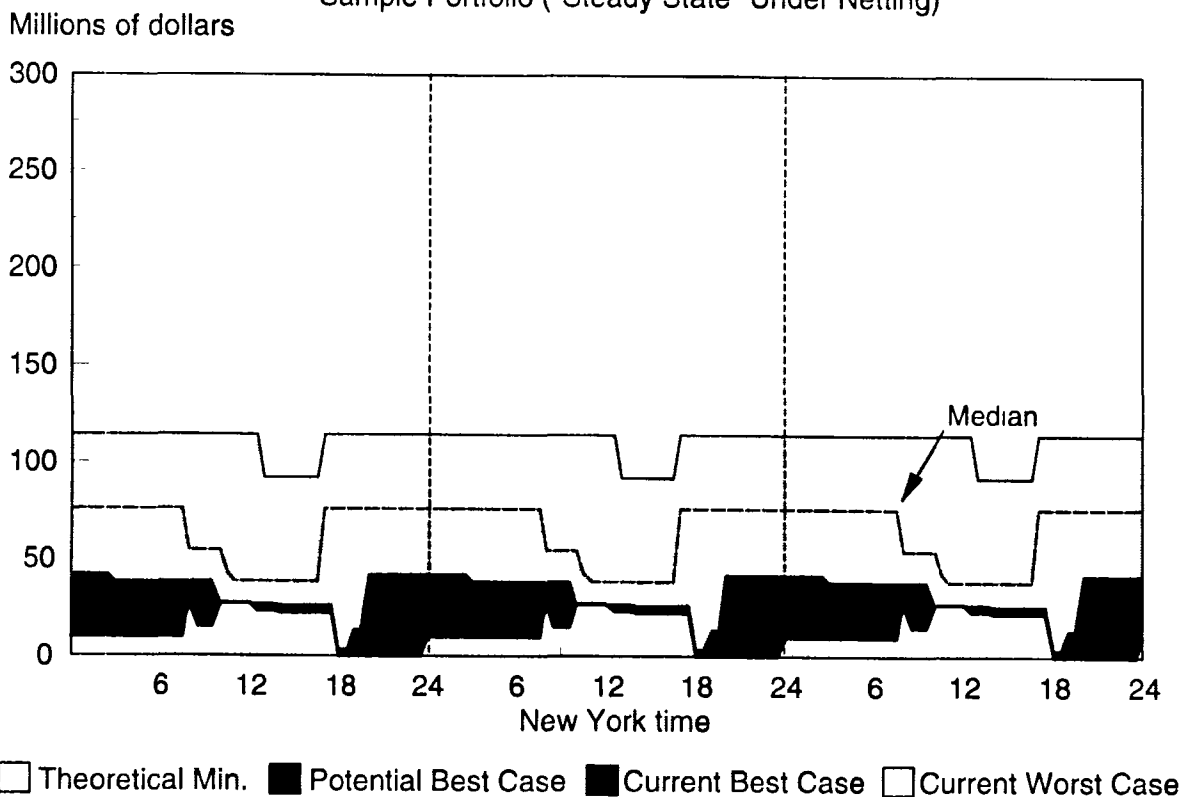


Chart 6
North American Payers/Receivers
 FX Settlement Risk
 Sample Portfolio ("Steady State" Under Netting)



As in the one-day profile, the current worst-case average risk in the steady state is over four times greater than the current best-case average risk of approximately \$61 million. Median exposure, which averages over \$155 million, is two and one-half times greater than in the current best case. Note that, for half the firms, steady-state settlement risk never falls below \$100 million (i.e., the full value of daily trading).

Industry profile: impact of netting. Both the one-day and steady-state industry profiles assume that each of the trades in the sample portfolio is settled individually. It is possible, however, that a firm and its counterparty could operate under a contract to settle all trades with payment netting.³

³ "Payment netting" refers to the practice of settling net currency amounts on value date rather than settling transactions individually. The International Foreign Exchange Master Agreement (IFEMA) issued by the Committee and the British Bankers' Association provides for close-out netting, netting by novation, or payment netting.

Under a netting contract, each day a firm would make or receive only one payment in each currency, based on the combined effect of all of its trades with one counterparty. For instance, if a firm and its counterparty did 20 trades involving the dollar and the yen, under a netting contract a firm would simply make or receive a single dollar payment, and make or receive a single yen payment. Without netting, each of the 20 trades would have to be settled separately, an arrangement that would require both a firm and its counterparty to make 20 payments and to process 20 receipts.

Given the recent and prospective growth of netting contracts in the foreign exchange market, a measurement was taken of the risk created when a firm and its counterparty settled the sample portfolio on a net basis. Chart 6 shows the steady-state industry profile of settlement risk under this assumption.

Netting clearly has great potential to reduce settlement risk. A comparison of Chart 6 with Chart 5 shows

that the amount at risk when settling this sample portfolio could drop 40 to 60 percent. If a firm switches from settling trades on a gross basis with current worst-case practices to settling on a net basis with current best-case practices, on average the steady-state exposure would fall nearly 90 percent. Note, however, that if a firm continued to use current worst-case practices to settle netted trades, the risk could continue to exceed \$100 million.

Although trade settlement must be conducted on a net basis to obtain the full benefits of netting, many firms use bilateral netting agreements such as the International Foreign Exchange Master Agreement (IFEMA) for close-out provisions that are required under FAS 105 for netting of balance sheet reportables. These bilateral agreements also allow the firms to comply with the amended Basle Accord for recognition of netting benefits for calculation of capital requirements. Because the back-office operations of many institutions have not been adapted to handle net settlements, firms continue to settle each trade individually and so do not yet receive the settlement-risk-reducing benefits of netting.

The biggest benefits from netting are reaped between two active market makers. The sample portfolio used in the analysis was between two active market makers and thus contained many offsetting trades that could be netted. By contrast, the potential benefits from netting could be limited for firms trading small positions or firms transacting on one side of the market (e.g., firms that only buy certain currencies).

Sources of Foreign Exchange Settlement Risk

Having defined the problem, assessed industry practices, and looked at the exposures of various sample portfolios, the Committee next sought to identify the most critical obstacles to reducing risk. Thus, it undertook to measure the relative contributions of the four key sources of settlement risk already identified:

- internal procedures (i.e., operating processes and correspondent banking arrangements for sending and receiving payments),
- intra-market payment patterns (i.e., the market practice of making routine payments throughout the day rather than waiting until the close of the local payments system),
- finality rules of the local payments systems, and
- operating hours of the local payments systems.

The total exposure of these four components can be broken down in a straightforward manner as illustrated in Chart 7. By construction, to the extent that a firm's actual

exposure is greater than the potential best case, an excess can be attributed to *internal procedures*. In particular, the extent to which a firm's actual exposure is greater than the potential best case means that the current operating procedures and correspondent banking arrangements do not permit either cancelling outgoing payments up until the opening of the local payments system or confirmation of receipts upon firm

The proportion of settlement risk due to *intra-market payment patterns* equals the difference between the potential best-case and the theoretical-minimum exposure of risk. By definition, this is the amount of risk a firm can avoid by making payments earlier, rather than later, during the operating hours of the local payments system. Unlike the risk associated with internal procedures, this source of risk can be controlled by firms (in this case, by paying as late as possible). However, because gridlock can result if everyone regularly delayed their payments, firms generally incur this risk on a routine basis to support current market payment patterns.

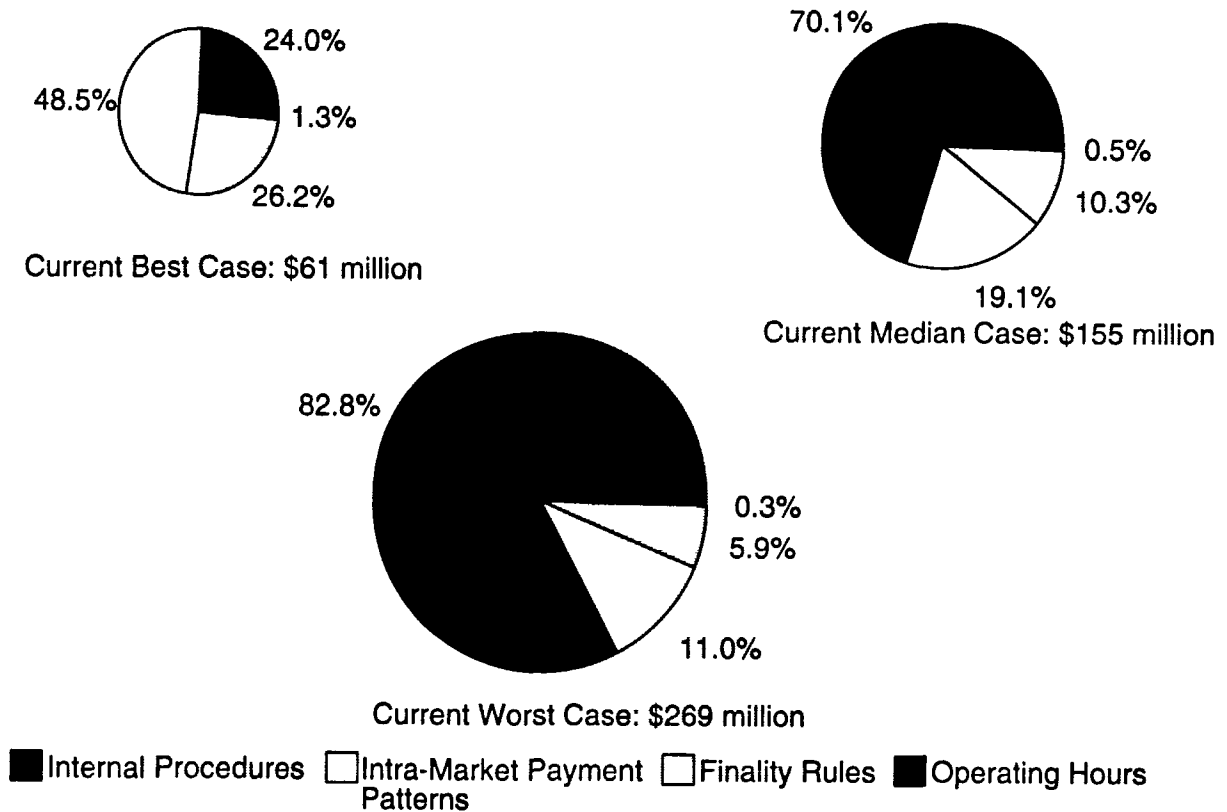
The remaining sources of risk, which create the theoretical minimum, can be divided between the *rules* and *operating hours* of the local payments systems. If all the local payments systems had overlapping operating hours and if payments over each system were final upon processing, then it would be possible for a firm (with the cooperation of its counterparty) to coordinate incoming and outgoing payments and thereby reduce the theoretical minimum risk to zero.

Settlement exposures were analyzed for the theoretical minimum exposure under several different assumptions (see Appendix A for a full description of this analysis). These results were then combined with measures of the impact of internal procedures and intra-market payment patterns to obtain a complete breakdown of the current sources of foreign exchange settlement risk. The results for North American firms are presented in Chart 7 and are summarized below. Similar results were found for firms operating in Asia and Europe.

Survey Conclusions

Although foreign exchange settlement risk is often underestimated and the duration is longer than commonly thought, market participants have the ability to remove the largest source of their exposure. Chart 7 shows that the largest source of settlement risk for most firms is internal procedures, namely, overly restrictive deadlines for cancelling payments and excessive delays in confirming receipts. For instance, internal procedures account

Chart 7
Sources of FX Settlement Risk
 Percent Share of Average Exposure



over 70 percent of the average "steady-state" risk for half the firms when settling the sample portfolio. Since firms can alter their own operating processes and renegotiate their correspondent banking arrangements, they have the power to dramatically reduce the largest source of their settlement risk.

Intra-market payment patterns. The next largest source of risk is posed by intra-market payment patterns, or the market practice of making routine payments throughout the day rather than waiting until the close of each local payments system. Chart 7 shows that for those firms with internal procedures similar to those of the current best case, intra-market payment patterns are the

largest source of their routine settlement risk. Theoretically, firms have the ability to eliminate this risk by delaying their payments as late as possible, and this may be a useful risk control device in unusual situations. However, if all firms did this on a regular basis, the local payments system would become gridlocked.

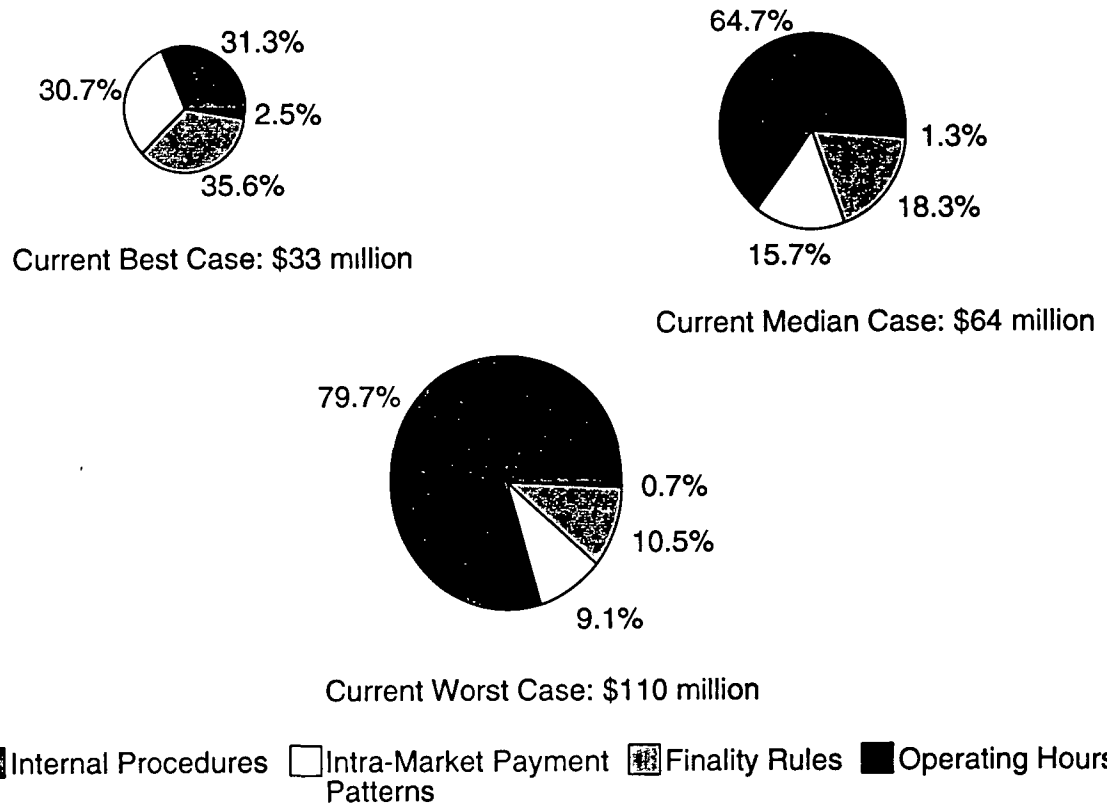
Finality and operating hours. Chart 7 also shows that for most firms, the current finality rules of the local payments systems account for a somewhat smaller but still important share of settlement risk. In fact, for firms operating close to the current best case, today's finality rules are the second largest source of settlement risk. If payments were finally settled as they were processed rather

than at the end of the day, firms would be able both to receive and to confirm the receipt of final funds that much earlier. This change in turn would shorten the duration of settlement risk. Chart 7 reveals that the current operating hours of the local payments systems are the least important source of settlement risk. This finding is less surprising than it first appears, because the operating hours of many of the local payments systems already overlap (see Appendix A for a more complete discussion of the impact of finality rules and operating hours).

Impact of payment netting. Although settling on a net basis has great risk-reducing potential, it does not

change the *nature* of settlement risk. Compare with Chart 7 although the *size* of each netted pie is smaller than its non-netted counterpart, it is roughly the same way. The major difference is that different finality rules are a relatively more important source of risk than intra-market payment patterns when transactions are settled on a net basis. The reason is that net settlements eliminate the need to pay and to receive in each currency, thereby removing the risk associated with intra-market payments. Nevertheless, with or without netting, the biggest source of settlement risk for most firms remains their internal procedures and corresponding banking practices.

Chart 8
Sources of FX Settlement Risk
Percent Share of Average Exposure Under Netting



III. RECOMMENDATIONS FOR PRIVATE-SECTOR BEST PRACTICES

The sixteen best practices cited below fall into four categories: internal procedures, netting, credit risk management, and crisis management. Many of the best practices can be easily implemented; others may entail expensive or complicated changes in back office operations and systems technology. While many of the best practices can be implemented by the firm internally, others require the cooperation of the firm's correspondent or counterparty. Several of the recommended practices are presently being followed in some parts of the industry. Most of the banks that participated in the Committee's study have implemented at least some of these practices.

The Committee urges market participants to review their own methods of quantifying and controlling settlement risk and to adopt the designated best practices in their operations, credit controls, and crisis management procedures.

Improve Internal Procedures and Correspondent Bank Services to Reduce Settlement Exposures

Together, improving internal procedures and obtaining the best available correspondent bank services have been shown to have the greatest impact in reducing settlement exposure. Because internal procedures are wholly within the control of the individual firm, an evaluation of current operational procedures and their impact on settlement exposure is recommended as the first step to reducing settlement risk. Similarly, services rendered by a firm's correspondent banks are critical in their impact on settlement risk. Accordingly, firms should seek the highest level of correspondent services available

Recommendation No. 1

Understand the settlement process

Senior management should promote a complete understanding of the settlement process at all decision-making levels.

To improve internal procedures and controls, decision-makers at all levels, from operations and administrative personnel to credit and senior management, should understand the settlement process fully. Knowledge of when payment instructions are made, when they become irrevocable, and when confirmation of counterparty payment is received with finality is key to determining both the duration and the value of foreign exchange settlement exposure.

Recommendation No. 2

Understand settlement exposure

Credit and risk managers should understand the impact of their internal procedures on settlement exposure and develop accurate methods of quantifying the extent of their risk.

Once a firm has released payment in one currency, its settlement risk with a counterparty is 100 percent of the full amount it expects to receive in another. At a minimum, the full amount is at risk for those hours between the actual payment of currency and the firm's receipt of final funds. More significantly, the period of potential exposure extends from the time that payment instructions become irrevocable until the firm knows that payment has been received. *The timing of the settlement process can extend the period of settlement risk on a single day's transactions from several hours to one or more days.* For example, if irrevocable instructions for tomorrow's payments have been sent out before the firm has reconciled today's receipts, the value of settlement exposure will increase to the total of two days' expected receipts. As a first step in reducing risk, therefore, credit and risk management personnel must understand and accurately measure the extent of their firm's settlement exposure

Recommendation No. 3

Review and upgrade correspondent services

The bank relations department should review the firm's correspondent bank relationships to ensure that the services provided give the firm maximum control over its nostro account. Emphasis should be placed on obtaining the latest possible cutoff times for cancellation and amendment of payment instructions and the earliest possible confirmation of final receipt.

Historically, many firms have based their choice of correspondent on relationship considerations, attaching less importance to the quality of settlement services provided. Bank relations management should shift that emphasis toward selecting the correspondent that can provide the highest level of services available. Bank relations personnel need to be aware of the cutoff times imposed by their correspondents on receipt of payment instructions, cancellations, and amendments, and they need to know how quickly a correspondent can provide notification of final receipts.

The Committee's survey results and discussions with providers of correspondent services suggest that firms

have usually been able to negotiate more favorable terms in more recently established correspondent relationships than exist in their longer standing relationships. Bank relations personnel should, therefore, review existing correspondent bank terms on a regular basis and negotiate improvements where necessary.

a Cutoff times for cancellations/amendments

A correspondent bank should provide the latest possible cutoff time for a firm to cancel or amend payment instructions *with same day effect*. Correspondent banks should distinguish cutoff times for cancellations that can be effected before funds have left their control (in other words, before instructions have been submitted to the payments system) from cutoff times for cancellations that are done after. The distinction is important: in the first case, counterparty exposure is avoided, but in the second case, it is not. A cancellation after payment has already been processed in the payments system may require the consent of the beneficiary or receiving bank, and the return of funds typically occurs on the following business day. For this reason correspondents' cutoff times for same-day cancellations usually fall some time before the opening of the payments system. Correspondents may also offer different cutoff times for cancellations of "book-entry" transfers (i.e., payments requiring only an internal transfer of funds to the recipient's account with the correspondent). These times may be earlier or later, depending on the individual correspondent's practices.

If the cutoff time for cancellation or amendment has passed, but payment has not yet been released, the correspondent bank may attempt to cancel or amend the instructions on a best efforts basis. Many times, a correspondent bank can cancel payment instructions after the cutoff time, but because it cannot guarantee a cancellation with 100 percent certainty, it sets a very early formal cutoff time. Firms should be aware of the distinctions in cutoff times and the additional management capability, particularly in crisis situations, that best efforts services may impart.

A firm that negotiates with the correspondent bank for cutoff times as close to the opening of the payments system as possible and for the latest possible cutoff times for book-entry transfers will have the greatest flexibility in managing crisis situations. All cutoff times should be confirmed in writing by the correspondent bank. Finally, firms should maintain high-level personal contacts at the correspondent bank and have access to correspondent bank personnel 24 hours a day in crisis situations.

b Intra-day notification of receipts

Correspondent banks should be able to provide day notice of receipt and to send account statements soon after finality of the relevant currency as possible. With the proper systems interface, intra-day notification can be used to reconcile payments and receipts on the same date. When the currency is settled through a gross time transfer system with intra-day finality, reconciliation can actually be done throughout the day. In a netting system, reconciliation can begin earlier in the day but can only be done with complete assurance of finality in the payments system.

Recommendation No. 4

Complete reconciliation as early as possible

Creating the system support necessary to provide intra-day notification of receipts and to begin the reconciliation process before the end of the day is an important goal that will significantly reduce the amount of counterparty risk that the total settlement receivable due from each counterparty must be considered at risk.

If reconciliation is completed by the close of the day, the firm's payments system, operations personnel can identify problems much earlier and prevent the need for additional payments if necessary. Automated reconciliation systems should be in place to take advantage of electronic bank statements so that the day-end matching process can begin as soon as possible against the firm's own internal records. Exception reports should be available as quickly as possible for investigation.

Recommendation No. 5

Monitor non-receipts and establish and practice clear follow-up procedures

Senior management should establish procedures to monitor and evaluate non-receipts of payments and to alert all concerned parties to potential problem situations.

An ongoing dialogue should exist between credit, risk management, trading and sales, and operations to identify potential problem situations as early as possible. Non-receipts should be prioritized using counterparty credit ratings, payment amount and currency, and counterparty name on a regularly generated counterparty watch list. The requirements for a fail, like the reporting of excesses, should follow standard protocols. In the event that a fail is not an isolated incident, clear problem management procedures should come into play; all outstanding trades should be reviewed, and consideration given to stopping the activity. Information heard in the market should be communicated from sales and trading to credit and

ment. The legal department should be notified of any fails that are not resolved through the regular investigation process.

The effectiveness of each of the controls discussed above is dependent upon the settlement operations and the communications and technical capabilities of the firm and its correspondent banks. Firms and their correspondents will need to weigh the costs of upgrading their settlement procedures and information flows against the long-term benefits. Senior management should make the necessary investment to ensure that the reconciliation process is completed as soon as possible.

Institute Payment Netting to Reduce Settlement Risk

Recommendation No. 6

Establish netting arrangements

Payment netting arrangements should be established with market participants to reduce settlement risk.

Well documented netting of payments (settling net currency amounts on value date rather than settling transactions individually) can dramatically reduce settlement risk in the foreign exchange market. The Committee's analysis demonstrates that netting payments can reduce settlement exposure substantially. Netting is most effective in reducing exposure when the counterparties to a transaction actively trade on both sides of the market.

Firms must ensure to the best of their ability that all netting arrangements are supported by agreements that are legally enforceable in all jurisdictions where the agreements will be operative.

However, senior management should understand that the *legal framework of an executed agreement does not by itself reduce settlement risk in the underlying transaction*. The driving force behind agreements such as the IFEMA (International Foreign Exchange Master Agreement) or other netting agreements has been for the bankruptcy close-out provisions required under FAS 105 for netting balance sheet reportables. These bilateral agreements also allow firms to comply with the amended Basle Accord for recognition of netting benefits for calculation of capital requirements. A number of firms are executing netting agreements but *not* physically netting settlements with the parties to those agreements. Greater risk reduction is offered by an agreement mandating that parties both net payments and provide for close-out netting.

Recommendation No. 7

Establish operational capability to net payments

Management should develop the operational capability to net payments.

Firms often resist netting on the grounds that it requires expensive and complex changes in systems technology. Firms might consider purchasing one of the commercially available netting systems as an alternative to upgrading existing in-house systems. In either case, initial investments in technology and operational training are returned in cost savings over a very short period of time. Dealers who net settlements with their major counterparties report significant operational cost savings not only because fewer payments are processed, but also because clear procedures for confirming and matching netted transactions result in fewer errors. Clearly, in the event of a non-receipt due to counterparty default, a netted amount due in all likelihood represents a significantly smaller loss than would otherwise have been suffered.

Formally documented, netting of payments is the most significant means of reducing routine settlement exposure among active participants in the foreign exchange market. Netting of payments enables market participants not only to reduce settlement volumes and risk, but also to realize substantial operational cost savings over time. The differences in size between settlement losses and pre-settlement close-out losses can be large. While documentation alone can give a firm the right to net pre-settlement gains and losses in the event of a counterparty default, reduction of settlement risk must additionally be addressed in actual practice.

Promote Sound Settlement Risk Management Practices

Recommendation No. 8

Make credit risk managers responsible for monitoring and controlling settlement exposure

Credit risk managers stationed on the trading floor should have primary responsibility for the monitoring and control of foreign exchange counterparty exposure.

Credit risk managers should have a thorough understanding of foreign exchange trading, including operations and settlement procedures, and associated pre-settlement and settlement risk. They should understand the various means available to mitigate or eliminate those risks and be familiar with the credit and legal issues addressed in netting agreements and other supporting documentation.

Responsibility for the day to day monitoring of counterparty exposure and compliance with credit limits falls to credit managers. They should ensure that settlements exceeding approved limits are addressed appropriately, either by obtaining the credit department's approval to settle excesses or by taking action to reduce exposure. They should also monitor trends in credit line use in order to identify repeated over-limit settlements. Credit risk managers should be apprised of all payment fails and respond directly to those requiring immediate management attention.

Another function of the credit risk manager is to oversee any measures necessary to reduce settlement exposure. To reduce exposure, counterparties may agree to roll trades out to settle on a different value date, close out positions by doing an offsetting transaction, or settle trades on a delivery-versus-payment basis (i.e., require the counterparty to deliver the currency bought before paying out the currency sold). Because such measures can involve changes to funding requirements and payment instructions and may entail interest compensation, the credit risk manager should keep the traders and operations personnel informed of these activities. If a counterparty refuses a request to reduce settlement exposure, credit risk managers should join with senior management in negotiating a resolution.

Credit risk managers should encourage ongoing dialogue between trading, sales, operations, credit, and management to ensure that information heard in the market is conveyed to credit and senior management and that the concerns of credit and management are being conveyed to trading, sales, and operations personnel.

Recommendation No. 9
Set prudent settlement exposure limits

The credit department, functioning autonomously from the trading and sales areas, should set settlement exposure limits for all counterparties regardless of size.

Limits should be based on the creditworthiness of the counterparty and should conform to the firm's guidelines on counterparty exposure. Follow-up reviews of existing counterparty relationships should be conducted regularly at prudent intervals.

Settlement limits should be applied to the full value of all currencies due from a counterparty but not confirmed paid with finality. If a firm irrevocably issues a given day's payment instructions before receipts from the preceding day or days have been reconciled, the amount of settlement exposure should include not just that day's expected receipts but all unconfirmed and non-final (provisional) amounts from preceding days as well.

Recommendation No. 10
Update exposures on-line and aggregate exposure globally across all dealing centers

When a firm has dealing centers located in different time zones, counterparty exposure should be monitored in real time and aggregated globally across the firm's dealing centers and the various trading positions of the counterparty.

Without on-line reporting capability, a trader in one time zone who has very limited knowledge of the activities of trading centers in earlier time zones has a significant disadvantage. Counterparty exposure and line usage in a timely manner. The Credit Risk Committee does recognize that it may be necessary to switch to an on-line system immediately because of these considerations.

Alternatively, in the absence of global reporting capability, credit risk managers should make use of lines for each of their dealing centers. This method of setting limits is less efficient than on-line global reporting, however, because manual intervention is required to reallocate line availability from one center to another on the basis of need.

Settlement positions should also be monitored not only for the spot date, but for each future date. If exposure is unacceptably high, there is sufficient time to arrange to reduce it. The potential settlement value should also be projected for all over-the-counter options on foreign exchange, regardless of whether an option is presently in the money.

A firm should have clear procedures in place for communicating limit violations to the appropriate personnel. These procedures should include the communication of all overages to the credit department for approval and the notification of senior management. Exceptionally high levels of exposure require immediate attention.

Recommendation No. 11
Enforce adherence to settlement limits

The credit department should ensure that traders have up-to-date information on counterparty limits and ensure that they do not execute a trade in excess of their limits.

Traders should adhere to settlement limits, and should not have obtained prior permission from the credit department to exceed them. Procedures should be in place to ensure a rapid response by credit officers to requests to exceed settlement limits on a one-off basis. Traders should not exceed limits on a permanent basis. Similarly, credit risk managers should clearly communicate to the traders and operations personnel the firm's policy on exceeding limits.

when over-limit settlement exposure with a counterparty will not be tolerated. The importance of this two-way communication must be emphasized. Taking exposure-reducing measures without the agreement of the counterparty can compromise the counterparty relationship or create other, more serious problems. At the same time, of course, the firm must recognize that withholding payment may cause liquidity problems for the counterparty and impede its ability to meet other obligations.

Recommendation No. 12

Mandate ownership of credit risk

Senior management policy should clearly indicate which area takes responsibility for losses stemming from counterparty failure.

Management may choose to allocate the losses resulting from a counterparty default directly to the area responsible for approving or controlling the exposure or to the trading or sales group responsible for maintaining the counterparty relationship. Losses directly attributable to an over-limit or unauthorized trade should be debited directly to the profit and loss of the trader responsible. However, if management chooses to allocate credit losses, its policy should be clearly defined and communicated to all personnel *before* a loss occurs.

Establish Contingency Plans for Crisis Management

Crisis situations can be either systemic or counterparty related. Systemic problems include technical failure, settlement system breakdown, settling agent failure, and force majeure. Counterparty situations include insolvency, repudiation of trades, liquidity problems, and large-scale operational failure.

In crisis situations of any kind, a firm must be sensitive to the potential ramifications of risk-reducing actions. A firm's decision to withhold a settlement payment from a counterparty could create liquidity problems for a single counterparty or in the payment system itself, setting off a domino effect that ultimately affects many participants. As events in the financial markets have demonstrated in recent years, the reaction of the market to a perceived crisis may actually exacerbate the situation.

Recommendation No. 13

Prepare for crisis situations

Firms should anticipate crises and prepare internally.

Each firm should assemble a crisis management team headed by a member of senior management and com-

posed of credit, risk management, and operations personnel. The team should simulate different crisis situations to identify weaknesses in internal communication and to practice a coordinated response. The team should know how and at what level to communicate effectively with other institutions, correspondent banks, regulators, and central banks.

Recommendation No. 14

Utilize all correspondent capabilities

The quality of services provided by a firm's correspondents should be proved well in advance of a crisis.

During a crisis, a correspondent's capabilities become critical to the firm's management of its settlement exposures. The firm should identify those individuals at its correspondent who can provide support off-hours, and most important, the individual who can accomplish the most within the operating constraints of both the correspondent and the payment system.

Recommendation No. 15

Involve senior management

Senior management should be apprised of a crisis situation at the outset and directly involved in controlling it.

The potential repercussions of major settlement failures require that senior management be directly involved in seeking a resolution. Much can be done at the senior level to verify news heard in the market or to coordinate a concerted response to a crisis situation by the industry.

Recommendation No. 16

Establish industry working groups

At the industry level, working committees should be formed to study the dynamics of crisis situations

Representation should include senior managers of the major market participants, correspondent agents, and payment service providers. The committee would explore coordinated responses to crises that would minimize disruption to the market, avert liquidity squeezes, and preserve the integrity of the market.

These groups should study past crises and their resolutions. Their goal should be to recommend or develop methods by which market participants can protect themselves at the same time they avoid exacerbating liquidity problems and disruption to the market.

IV. COMMENTS ON CENTRAL BANK PAYMENT AND SETTLEMENT SERVICE OPTIONS

The Committee began its work on settlement risk in the foreign exchange market shortly after the publication of the BIS report "Central Bank Payment and Settlement Services with Respect to Cross-Border and Multi-Currency Transactions" (the Noel Report). The Committee spent much time discussing the options outlined in the Noel report. The report identifies four central bank services that could be used to reduce settlement risk in foreign exchange transactions: 1) developing intra-day finality capabilities, 2) extending operating hours of home-currency large-value payments systems, 3) establishing links between large-value payments systems, and 4) creating a common agent controlled by the central banks that could accept deposits in multiple currencies and facilitate transfer of final payments between accounts.

After the Committee completed its research and considered the Noel Report options, it concluded that several of the central bank services had a much less significant impact on the reduction of settlement risk than changes that could be made by the individual market participants themselves. In fact, it found that in some cases, extending the operating hours of payments systems could actually increase settlement risk (see Appendix A).

The Committee's survey showed that, although intra-day finality had some potentially significant benefits, it could increase firms' funding costs. Banks might have to maintain higher clearing balances throughout the day to fund payments as they are made. Maintenance of higher clearing balances might in turn make it more difficult for a firm to manage its intra-day balances than to manage the amount required for an end-of-day net settlement. Although credit facilities might be used in lieu of higher balances, not all payments systems allow intra-day overdrafts.

The Committee found that joining intra-day finality with extended operating hours had mixed results (Appendix A). A combination of intra-day finality and overlapping operating system hours would eliminate the theoretical minimum of settlement exposure. If all local payments systems treated payments as final as they were processed and if these systems had overlapping hours, it would be theoretically possible to coordinate all incoming and outgoing payments and thereby eliminate settlement risk. In the normal course of business, however, the risk-reducing benefits of intra-day finality could be outweighed by the increased risk of making earlier

payments and receiving later receipts over extended hours of operation.

The Committee concluded that the last two options — linking payments systems and creating a multi-currency common agent — were of such scope that they would require many years and an expense to implement. Thus, the review of the options underscored the usefulness of the Committee's own recommended best practices: they are cost-effective and can be implemented immediately to help reduce settlement risk in the foreign exchange markets.

V. CONCLUSION

Although a number of advances have been made in reducing settlement risk in foreign exchange markets over the past twenty years, clearly much remains to be done. The Committee believes that the private sector best practices recommended in this report represent a substantial step forward in containing foreign exchange settlement risk in the market.

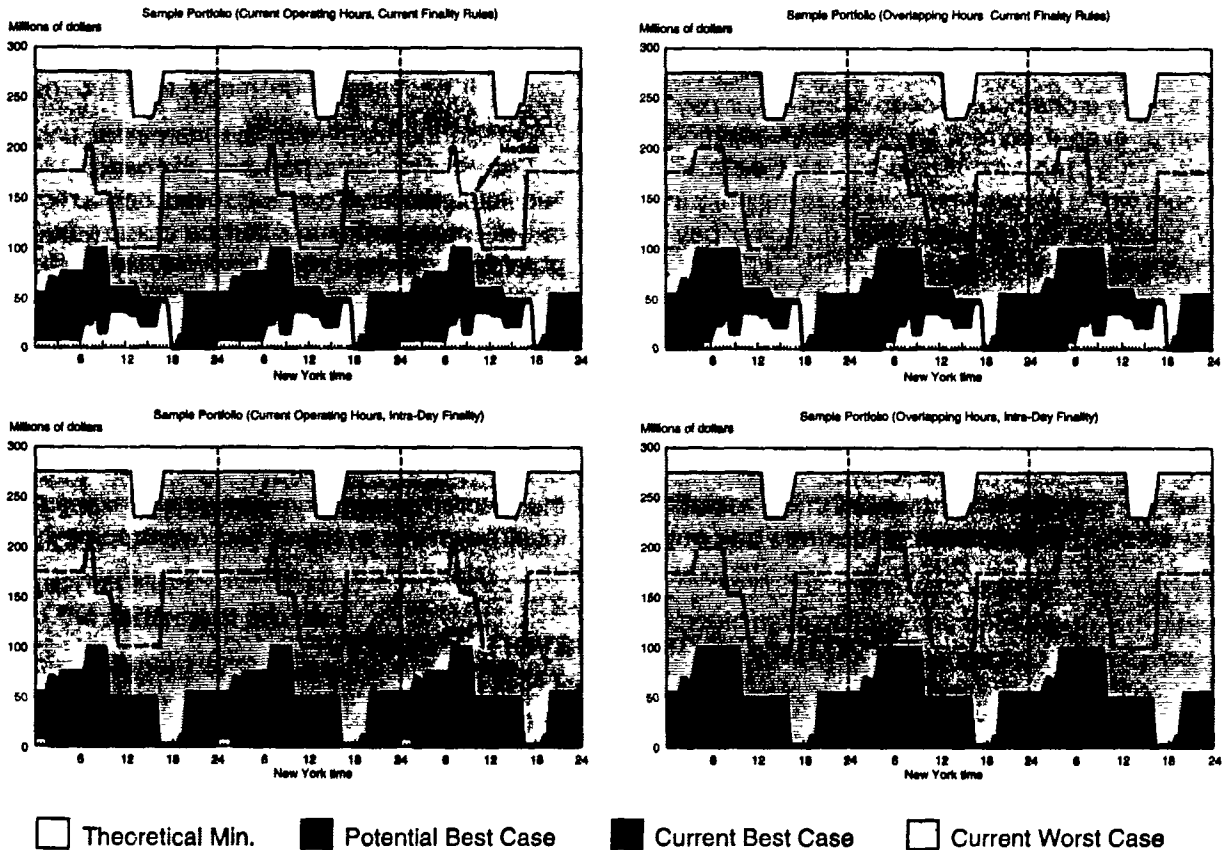
After completing its research, the Committee concluded that settlement risk is much greater and much longer than previously thought. Nevertheless, a great deal can and should be done immediately. The private sector to limit settlement exposure. The Committee's results showed that by improving settlement and reconciliation procedures, firms can substantially reduce their counterparty settlement exposure. For firms that net payments can significantly reduce

The Committee also found that several of the proposed public sector solutions to settlement risk are less effective than the changes that private sector firms can make themselves. The benefits of extending payments systems operating hours are negligible. Introducing intra-day finality might yield some benefits but the associated costs might be substantial.

Establishing links between large-value payments systems and creating a common agent controlled by central banks would be expensive and time-consuming. The Committee recognized however, that the proposed options could be useful in creating public or private sector services that would enable firms to settle foreign exchange on a delivery-versus-payment or similar settlement basis.

The Committee urges market participants to improve their own methods of quantifying and controlling settlement risk and to adopt the best practices outlined in this paper in their operations, credit controls, and clearing procedures.

Chart A-1
North American Payers/Receivers
 FX Settlement Risk



VI. APPENDIX A: OPERATING HOURS AND FINALITY RULES⁴

To calculate the impact of operating hours and finality rules, settlement exposures were measured under three hypothetical scenarios. One scenario assumed that the operating hours of the local payments systems were extended to create a one-hour overlap from 9:00 a.m. to 10:00 a.m. GMT. This change would require the yen payments system to delay its closing time until 7:00 p.m. Tokyo time and would require the U.S. and Canadian dollar systems to open early, at 4:00 a.m. New York time. In this scenario, current finality rules were assumed to be unchanged. A second scenario assumed that current operating hours were unchanged but that each system that now settles on a net basis introduced intra-day finality (i.e., payments are final as they are processed). A third scenario assumed that the local payments systems

4. Finality refers to the time at when any payment that is expected has been irrevocably and unconditionally received.

had both overlapping operating hours and intra-day finality. The one-day and steady-state industry profiles of risk for settling a representative portfolio were then constructed under each of these scenarios.

Chart A-1 presents the steady-state industry profiles under the three scenarios along with the profile of settlement risk under current operating hours and finality rules.⁵ The chart indicates that changing operating hours and finality rules would have very little impact on the current worst-case and median risks: since these exposures are driven by the long time span between overly restrictive cancellation deadlines and excessive delays in reconciling receipts, they would not be affected by changes within those intervals.

In contrast, changing the operating hours and finality

5. Charts A-1 and A-2 depict settlement risk for firms based in North America. Broadly similar results were obtained for firms operating out of Asia and Europe. In addition, this analysis yielded similar results under the assumption that the various sample and simulated portfolios were settled on a net basis.

rules of local payments systems would alter the current best-case, potential best-case, and theoretical-minimum levels of risk. Chart A-2 highlights this possible impact

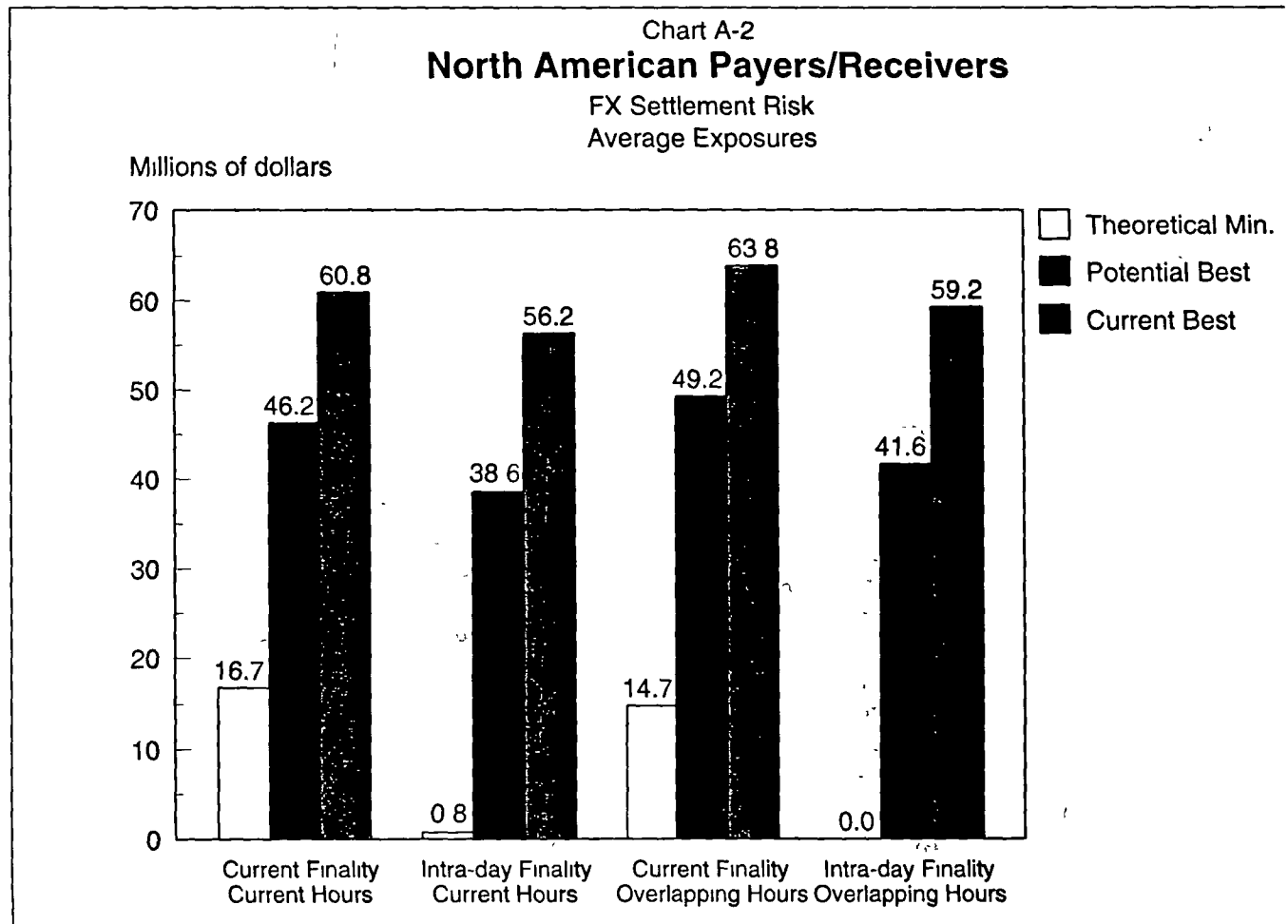
Impact of operating hours. Chart A-2 shows that the theoretical-minimum risk in settling the sample portfolio would decline modestly if current operating hours were extended to create a one-hour overlap of the major payments systems, even if current finality rules remained unchanged. This decline would occur because extended hours would permit firms to reduce their risk in emergency situations by delaying their outgoing payments even longer than they can today.

Ironically, extending hours would cause a modest rise in the current best-case and potential best-case exposures because some routine outgoing payments would tend to be made earlier and some incoming payments would tend to be received later. Thus, while lengthening the operating hours of local payments systems can help decrease the theoretical-minimum risk, it may actually increase day-to-day settlement risk.

Impact of finality rules. Chart A-2 also illustrates the impact of intra-day finality on settlement exposures for local payments systems that now settle on a net basis. If adopted intra-day finality even without changing current operating hours, the theoretical minimum could fall sharply. This drop would occur because final payments could, if necessary, be made and reconciled much sooner than they can today.

On a routine basis, however, the benefits are more limited. In particular, Chart A-2 shows only a moderate decline in settlement exposures for the current best-case and potential best-case risks because, within their current shorter settlement time-frame, these firms would still be subject to other factors that influence their routine settlement deadlines and reconciliation times.

Combined impact of operating hours and finality rules. Chart A-2 shows that a combination of extended operating hours and intra-day finality rules would exceed the theoretical-minimum settlement exposure. If local payments systems had overlapping hours:



payments over each system were final as they were processed, it would be theoretically possible to coordinate all incoming and outgoing payments and thereby eliminate settlement risk.

Although the combination of overlapping operating hours and intra-day finality could eliminate the theoretical minimum, it could also result in a modestly higher level of routine settlement risk than if current operating hours remained unchanged. In particular, Chart A-2 shows that the current best-case and potential best-case with overlapping hours and intra-day finality are somewhat higher than with current operating hours and intra-day finality. This finding indicates that in the normal course of business, the risk-reducing benefits of intra-day finality could be outweighed by the increased risk of making earlier payments and receiving later receipts over the extended hours of operation.

VII. APPENDIX B: SUMMARY OF RECOMMENDATIONS FOR PRIVATE SECTOR BEST PRACTICES

Recommendation No. 1

Understand the settlement process

Senior management should promote a complete understanding of the settlement process at all decision-making levels.

Recommendation No. 2

Understand settlement exposure

Credit and risk managers should understand the impact of their internal procedures on settlement exposure and develop accurate methods of quantifying the extent of their risk.

Recommendation No. 3

Review and upgrade correspondent services

The bank relations department should review its correspondent bank relationships to ensure that the services provided give the firm maximum control over its nostro account. Emphasis should be placed on obtaining the latest possible cutoff times for cancellation and amendment of payment instructions and the earliest confirmation of final receipt.

Recommendation No. 4

Complete reconciliation as early as possible

Creating the system support necessary to process intra-day notification of receipts and to begin the reconciliation process before the end of the day is an investment that will significantly reduce the amount of time that the total settlement receivable due from each counterparty is considered at risk.

Recommendation No. 5

Monitor non-receipts and establish and practice clear follow-up procedures

Senior management should establish procedures to evaluate non-receipts of payments and to alert all concerned parties to potential problem situations.

Recommendation No. 6

Establish netting arrangements

Payment netting arrangements should be established with market participants to reduce settlement risk.

Recommendation No. 7

Establish operational capability to net payments

Management should develop the operational capability to net payments.

Recommendation No. 8

Make credit risk managers responsible for monitoring and controlling settlement exposure

Credit risk managers stationed on the trading floor should have primary responsibility for the monitoring and control of foreign exchange counterparty exposure.

Recommendation No. 9

Set prudent settlement exposure limits

The credit department, functioning autonomously from the trading and sales areas, should set settlement-exposure limits for all counterparties regardless of size.

Recommendation No. 10

Update exposures on-line and aggregate globally across all dealing centers

When a firm has dealing centers located in different time zones, counterparty exposure should be monitored in real time and aggregated globally across the firm's own dealing centers and the various trading locations of the counterparty.

Recommendation No. 11

Enforce adherence to settlement limits

The credit department should ensure that traders have up-to-date information on counterparty limits and exposure before they execute a trade.

Recommendation No. 12

Mandate ownership of credit risk

Senior management policy should clearly indicate which area takes responsibility for losses stemming from counterparty failure.

Recommendation No. 13
Prepare for crisis situations

Firms should anticipate crises and prepare internally

Recommendation No. 14
Utilize all correspondent capabilities

The quality of services provided by a firm's correspondents should be proved well in advance of a crisis

Recommendation No. 15
Involve senior management

Senior management should be apprised of a crisis situation at the outset and directly involved in controlling it

Recommendation No. 16
Establish industry working groups

At the industry level, working committees should be formed to study the dynamics of crisis situations

VIII. RISK MANAGEMENT SUBCOMMITTEE

This Foreign Exchange Committee report was prepared by the Risk Management Subcommittee, chaired by John Finigan from Bankers Trust Company and Heinz Riehl from Citibank N A. The following members of the Subcommittee provided invaluable support for this project:

Cyrus Ardalan	Paribas Corporation
Chris Deuters	Lehman Brothers
Martin Dooney	Barclays Bank PLC
Thomas Hughes	The Bank of Boston
Ian MacKay	Royal Bank of Canada
Andrew Siciliano	Swiss Bank Corporation
Robert White	Standard Chartered

The majority of the work that was required to complete this project was done by a task force of people representing various institutions on the Foreign Exchange Committee. This task force was chaired by Eileen from Bankers Trust Company and was comprised of the following members:

Lisa Galaif	Federal Reserve Bank of New York
James Gertie	The Bank of Boston
Eileen Hodgkins	Fuji Bank
Alastair Mirrlees	Royal Bank of Canada
Claire Mordas	Lehman Brothers
William Mundt	Swiss Bank Corporation
Gary Smeal	Chemical Bank
Lawrence Sweet	Federal Reserve Bank of New York
Alice Wang	Morgan Guaranty Trust Company
James Watt	Royal Bank of Canada
Marlene Wiseman	Bankers Trust Company
Kurt Wulfekuhler	Federal Reserve Bank of New York

INTERNATIONAL BULLION MASTER AGREEMENT
for Spot and Forward Bullion Trades and Bullion Options
(New York Law Version)

MASTER AGREEMENT dated as of _____,
199__ by and between _____, a

_____ and

a _____.

SECTION 1. DEFINITIONS

Unless otherwise required by the context, the following terms shall have the following meanings:

"Agreement" has the meaning given to it in Section 2.2.

"American Style Option" means a Bullion Option which may be exercised on any Business Day up to and including the Expiration Time.

"Base Currency" means, as to a Party, the Currency agreed as such in relation to it in Part I of the Schedule hereto.

"Base Currency Rate" means, as to a Party and any amount, the cost (expressed as a percentage rate per annum) at which that Party would be able to fund that amount from such sources and for such periods as it may in its reasonable discretion from time to time decide, as determined in good faith by it.

"Bullion" means Gold or Silver, as the case may be.

"Bullion Obligation" means any obligation of a Party to deliver Bullion or Currency pursuant to a Bullion Trade governed by the Agreement (in the case of Currency being the Contract Price multiplied by the number of Ounces which are the subject of such Bullion Trade) or a Bullion Option governed by the Agreement which has been exercised or deemed exercised (in the case of Currency being the Strike Price multiplied by the number of Ounces which are the subject of such Bullion Option) or pursuant to the application of Sections 6.3(a) or 6.3(b).

"Bullion Option" means a transaction between the Parties under which the Seller agrees with the Buyer that the Buyer shall be entitled (but not obligated, except upon exercise) to purchase from or, as the case may be, sell to the Seller a specified number of Ounces of Bullion

at the Strike Price, and in respect of which transaction the Parties have agreed (whether orally, electronically or in writing). (a) the quantity (in Ounces) and type of Bullion to be purchased and sold upon exercise of such Bullion Option, (b) which Party is the Seller and which is the Buyer, (c) the Premium, (d) the Strike Price, (e) the Expiration Date, (f) the Expiration Time (provided that where the Parties do not expressly agree upon the Expiration Time, it shall be deemed to be 9:30 a.m. New York time on the Expiration Date), (g) whether the Bullion Option is a Call Option or a Put Option, (h) whether it is an American Style Option or a European Style Option (provided that where the Parties do not expressly agree upon the style of Bullion Option, it shall be deemed a European Style Option), and (i) the delivery location and form of delivery (provided that where the Parties do not expressly agree upon the delivery location and form of delivery, the Bullion to be delivered shall be delivered in accordance with Section 6.1)

"Bullion Trade" means any transaction (other than a Bullion Option, whether or not exercised) between the Parties for the purchase by one Party of an agreed quantity of Bullion against the payment by such Party to the other Party of an agreed amount of Currency, both such amounts being deliverable on the same Value Date, and in respect of which transaction the Parties have agreed (whether orally, electronically or in writing): (a) the quantity (in Ounces) and type of Bullion to be purchased, (b) which Party will purchase the Bullion, (c) the Contract Price, (d) the Value Date, and (e) the delivery location and form of delivery (provided that where the Parties do not expressly agree upon the delivery location and the form of delivery, the Bullion to be delivered shall be delivered in accordance with Section 6.1).

"Bullion Transaction" means any Bullion Trade or Bullion Option.

"Business Day" means, for the purposes of:

- (a) Section 3.2, a day which is a Local Banking Day for the applicable Designated Office of the Buyer;
- (b) Section 5.1 and the definition of American Style Option, Exercise Date and Expiration Date, a day which is a Local Banking Day for the applicable Designated Office of the Seller;

(c) in respect of (i) the definition of Settlement Date when used in respect of settlement of any Bullion Option by delivery of Bullion in accordance with Section 5.4, or (ii) in respect of settlement of any Bullion Obligation by delivery of Bullion, a day which is a Local Banking Day for the applicable Designated Office of both Parties and a trading day in the Bullion market in the delivery location, and

(d) any other provision of the Agreement, a day which is a Local Banking Day for the applicable Designated Office of both Parties,

Provided, however, that neither Saturday nor Sunday shall be considered a Business Day hereunder for any purpose

"Buyer" means the owner of a Bullion Option

"Call Option" means a Bullion Option entitling, but not obligating (except upon exercise), the Buyer to purchase from the Seller at the Strike Price a specified number of Ounces of Bullion.

"Close-Out Amount" has the meaning given to it in Section 8.1(a)(ii)

"Close-Out Date" means a day on which, pursuant to the provisions of Section 8.1, the Non-Defaulting Party closes out and liquidates Bullion Obligations and Bullion Options governed by the Agreement or such a close-out and liquidation occurs automatically

"Closing Gain" means, as to the Non-Defaulting Party, the difference described as such in relation to a particular Value Date under the provisions of Section 8.1(a).

"Closing Loss" means, as to the Non-Defaulting Party, the difference described as such in relation to a particular Value Date under the provisions of Section 8.1(a).

"Confirmation" means a writing (including telex, facsimile or other electronic means from which it is possible to produce a hard copy) which shall specify:

- (a) in the case of any Bullion Transaction, (i) the Parties to it and the Designated Offices through which they are respectively acting, (ii) the quantity (in Ounces) and type of Bullion the subject of the relevant Bullion Transaction and which Party is or would be the purchaser thereof, (iii) the Contract Price (in the case of a Bullion Trade) or the Strike Price (in the case of a Bullion Option), (iv) the Value Date, (v) the delivery location and form of delivery

(provided that where the Parties do not expressly agree upon the delivery location and the form of delivery, the Bullion to be delivered shall be delivered in accordance with Section 6.1);

- (b) in the case of any Bullion Option, in addition to the matters specified in (a) above, (i) which Party is the Seller and which is the Buyer, (ii) the Expiration Date and the Premium Payment Date, (iii) the Expiration Date, (iv) the Expiration Time (provided that where the Parties do not expressly agree upon the Expiration Time, it shall be deemed to be 9:00 AM New York time on the Expiration Date), (v) whether the Bullion Option is a Call Option or Put Option and (vi) whether the Bullion Option is an American Style Option or a European Style Option (provided that where the Parties do not expressly agree upon the style of Bullion Option, it shall be deemed a European Style Option).

"Contract Price" means, in respect of a Bullion Trade, the price per Ounce, expressed in a currency agreed as such by the Parties, being the price payable by the purchaser under that Bullion Trade shall pay and the seller under that Bullion Trade shall receive of Bullion which is the subject of such Bullion Trade

"Credit Support Document" means, as to a Party (the "first Party"), a guaranty, hypothecation agreement, margin or security agreement or document, or any other document containing an obligation of a third Party ("Credit Support Provider"), or of the first Party or of the other Party supporting any obligations of the first Party under the Agreement

"Credit Support Provider" has the meaning given to it in the definition of Credit Support Document

"Currency" means money denominated in a particular currency of any country or the ECU.

"Custodian" has the meaning given to it in the definition of Event of Default.

"Defaulting Party" has the meaning given to it in the definition of Event of Default.

"Designated Office(s)" means, as to a Party, the office(s), specified in Part II of the Schedule I attached to such Schedule may be modified from time to time by agreement of the Parties.

"Effective Date" means the date of the Agreement.

"European Style Option" means a Bullion Option which may only be exercised on the Expiration Date

to and including the Expiration Time, unless otherwise agreed.

"Event of Default" means the occurrence of any of the following with respect to a Party (the **"Defaulting Party"**, the other Party being the **"Non-Defaulting Party"**):

- (a) the Defaulting Party shall default in any payment or delivery under the Agreement to the Non-Defaulting Party with respect to any sum or Bullion when due under any Bullion Obligation, any Bullion Option (including, but not limited to, any Premium payment) or pursuant to the Agreement and such failure shall continue for two (2) Business Days after written notice of non-payment or non-delivery given by the Non-Defaulting Party to the Defaulting Party;
- (b) the Defaulting Party shall commence a voluntary case or other proceeding seeking liquidation, reorganization or other similar relief with respect to itself or to its debts under any bankruptcy, insolvency or similar law, or seeking the appointment of a trustee, receiver, liquidator, conservator, administrator, custodian or other similar official (each, a "Custodian") of it or any substantial part of its assets; or shall take any corporate action to authorize any of the foregoing;
- (c) an involuntary case or other proceeding shall be commenced against the Defaulting Party seeking liquidation, reorganization or other similar relief with respect to it or its debts under any bankruptcy, insolvency or similar law or seeking the appointment of a Custodian of it or any substantial part of its assets, and such involuntary case or other proceeding is not dismissed within five (5) days of its institution or presentation;
- (d) the Defaulting Party is bankrupt or insolvent, as defined under any bankruptcy or insolvency law applicable to such Party;
- (e) the Defaulting Party shall otherwise be unable to pay its debts as they become due;
- (f) the Defaulting Party or any Custodian acting on behalf of the Defaulting Party shall disaffirm, disclaim or repudiate any Bullion Obligation or Bullion Option;
- (g) (i) any representation or warranty made or deemed made by the Defaulting Party pursuant to the Agreement or pursuant to any Credit Support Document shall prove to have been false or misleading in any material

respect as at the time it was made or given or deemed made or given and one (1) Business Day has elapsed after the Non-Defaulting Party has given the Defaulting Party written notice thereof; or

- (ii) the Defaulting Party fails to perform or comply with any obligation assumed by it under the Agreement (other than an obligation to make payment or delivery of the kind referred to in clause (a) of this definition of Event of Default) and such failure is continuing thirty (30) days after the Non-Defaulting Party has given the Defaulting Party written notice thereof;
- (h) the Defaulting Party consolidates or amalgamates with or merges into or transfers all or substantially all its assets to another entity and (i) the credit-worthiness of the resulting, surviving or transferee entity is materially weaker than that of the Defaulting Party prior to such action or (ii) at the time of such consolidation, amalgamation, merger or transfer the resulting, surviving or transferee entity fails to assume all the obligations of the Defaulting Party under the Agreement by operation of law or pursuant to an agreement satisfactory to the Non-Defaulting Party;
- (i) by reason of any default, or event of default or other similar condition or event, any Specified Indebtedness (being Specified Indebtedness of an amount which, when expressed in the Currency of the Threshold Amount, is in aggregate equal to or in excess of the Threshold Amount) of the Defaulting Party or any Credit Support Provider in relation to it: (i) is not paid on the due date therefor and remains unpaid after any applicable grace period has elapsed, or (ii) becomes, or becomes capable at any time of being declared, due and payable under agreements or instruments evidencing such Specified Indebtedness before it would otherwise have been due and payable,
- (j) the Defaulting Party is in breach of or in default under any Specified Transaction and any applicable grace period has elapsed, and there occurs any liquidation or early termination of, or acceleration of obligations under that Specified Transaction or the Defaulting Party (or any Custodian on its behalf) disaffirms, disclaims or repudiates the whole or any part of a Specified Transaction; or
- (k) (i) any Credit Support Provider relating to the Defaulting Party or the Defaulting Party itself fails to comply with or perform any agreement

or obligation to be complied with or performed by it in accordance with the applicable Credit Support Document and such failure is continuing after any applicable grace period has elapsed,

- (ii) any Credit Support Document relating to the Defaulting Party expires or ceases to be in full force and effect prior to the satisfaction of all obligations of the Defaulting Party under the Agreement, unless otherwise agreed in writing by the Non-Defaulting Party;
- (iii) the Defaulting Party or any Credit Support Provider in relation to it (or, in either case, any Custodian acting on its behalf) disaffirms, disclaims or repudiates, in whole or in part, or challenges the validity of, any Credit Support Document,
- (iv) any representation or warranty made or deemed made by any Credit Support Provider in relation to the Defaulting Party pursuant to any Credit Support Document shall prove to have been false or misleading in any material respect as at the time it was made or given or deemed made or given and one (1) Business Day has elapsed after the Non-Defaulting Party has given the Defaulting Party written notice thereof, or
- (v) any event set out in (b) to (f) or (h) to (j) above occurs in respect of any Credit Support Provider in relation to the Defaulting Party

"Exercise Date" means, in relation to any Bullion Option, the Business Day on which a Notice of Exercise received by the applicable Designated Office of the Seller becomes effective pursuant to Section 5.1

"Expiration Date" means, in relation to any Bullion Option, the date agreed as such and as evidenced by a Confirmation therefor (which date shall be a Business Day) in relation to that Bullion Option, **provided that** in the case of any Bullion Option quoted for a specific month in relation to which no Expiration Date is specifically agreed, the Expiration Date shall be the Standard Date in relation to that month

"Expiration Time" means 9:30 a.m. New York time on the Expiration Date, unless the Parties otherwise agree

"Gold" means gold bars or unallocated gold complying with the rules of The London Bullion Market Association relating to good delivery and fineness from time to time in effect

"In-the-Money Amount" means.

- (a) in the case of a Call Option, the excess of Price over the Strike Price, multiplied by the aggregate number of Ounces of Bullion to be purchased under that Call Option, and
- (b) in the case of a Put Option, the excess of Price over the Spot Price, multiplied by the aggregate number of Ounces of Bullion to be sold under that Put Option.

"Local Banking Day" means.

- (a) for any Currency, a day on which commercial banks generally effect deliveries of that Currency in accordance with the market practice of the relevant foreign exchange market, and
- (b) for any Party, a day in the location of the applicable Designated Office of such Party on which commercial banks in that location are not permitted or required by law to close

"Master Agreement" means the terms and conditions set forth in this master agreement

"Matched Pair Novation Netting Office(s)" means, in respect of a Party, its Designated Office(s) specified in Part III of the Schedule hereto, as such Schedule may be modified from time to time by agreement of the Parties.

"Non-Defaulting Party" has the meaning assigned in the definition of Event of Default

"Notice of Exercise" means telex, teletype or other electronic notification providing acknowledgment receipt (excluding facsimile transmission), given by the Buyer prior to or at the Expiration Time of the exercise of a Bullion Option, which notification shall be irrevocable

"Novation Netting Office(s)" means, in respect of a Party, its Designated Office(s) specified in Part III of the Schedule hereto, as such Schedule may be modified from time to time by agreement of the Parties

"Option Currency" means, in relation to a Bullion Option, unless otherwise agreed by the Parties, the Currency in which the Premium and the Strike Price are expressed.

"Ounce" means a fine troy ounce, in the case of Gold, or a troy ounce, in the case of Silver

"Parties" means the parties to the Agreement, which shall include their successors and permitted assigns without prejudice to the application of clause 10.1 (the definition of Event of Default), and the term "Party" shall be construed accordingly

mean whichever of the Parties is appropriate in the context in which such expression may be used

"Premium" means, in respect of a Bullion Option, the purchase price of the Bullion Option as agreed upon by the Parties, and payable by the Buyer to the Seller thereof

"Premium Payment Date" means, in respect of a Bullion Option, the date on which the Premium is due and payable, being the second Business Day after the day on which the Bullion Option is granted, unless otherwise agreed by the Parties

"Proceedings" means any suit, action or other proceedings relating to the Agreement

"Put Option" means a Bullion Option entitling, but not obligating (except upon exercise), the Buyer to sell to the Seller at the Strike Price a specified number of Ounces of Bullion

"Seller" means the Party granting a Bullion Option.

"Settlement Date" means in respect of the exercise of a Bullion Option which is: (a) an American Style Option, the second Business Day after the Exercise Date of such Bullion Option; or (b) a European Style Option, the second Business Day after the Expiration Date of such Bullion Option.

"Settlement Netting Office(s)" means, in respect of a Party, its Designated Office(s) specified in Part V of the Schedule hereto, as such Schedule may be modified from time to time by agreement of the Parties.

"Silver" means silver bars or unallocated silver complying with the rules of The London Bullion Market Association relating to good delivery and fineness from time to time in effect.

"Specified Indebtedness" means any obligation (whether present or future, contingent or otherwise, as principal or surety or otherwise) in respect of borrowed money, other than in respect of money deposits or Bullion deposits received

"Specified Transaction" means any transaction (including an agreement with respect thereto) between one Party to the Agreement (or any Credit Support Provider of such Party) and the other Party to the Agreement (or any Credit Support Provider of such Party) which is a rate swap transaction, basis swap, forward rate transaction, commodity swap, commodity option, equity or equity linked swap, equity or equity index option, bond option, interest rate option, foreign exchange transaction, cap transaction, floor transaction, collar transaction, cur-

rency swap transaction, cross-currency rate swap transaction, currency option, spot or spot deferred bullion transaction, forward bullion transaction, bullion option, bullion lease, loan or consignment, EFP (exchange for physical), bullion swap, bullion forward rate transaction or any other similar transaction (including any option with respect to any of these transactions) or any combination of any of the foregoing transactions

"Spot Price" means, at any time, the bid price per Ounce (in the case of a Call Option) or offer price per Ounce (in the case of a Put Option) at such time for the relevant type of Bullion against U S dollars for delivery and payment two (2) Business Days later, converted, if necessary, into the Option Currency at the price at which, at such time, the Seller could enter into a contract in the foreign exchange market to buy the Option Currency in exchange for U S dollars for delivery and payment on such day which is two (2) Business Days later

"Standard Date" means, with respect to any month, two (2) Business Days before the last Business Day of the month

"Strike Price" means, in relation to a Bullion Option, the price per Ounce, expressed in the Option Currency, agreed as such by the Parties, being the price at which under that Bullion Option the Buyer shall be entitled to purchase (in the case of a Call Option) or sell (in the case of a Put Option) the Bullion which is the subject of such Bullion Option.

"Threshold Amount" means the amount specified as such for each Party in Part VI of the Schedule

"Value Added Tax" means value added tax as provided for in the Value Added Tax Act 1983 (as amended or re-enacted from time to time) and legislation supplemental thereto and any other tax (whether imposed in the United Kingdom in substitution thereof or in addition thereto or elsewhere) of a similar fiscal nature

"Value Date" means (a) in the case of a Bullion Trade, the Business Day agreed by the Parties for delivery of the Bullion to be purchased and sold against payment therefor on such Business Day pursuant to such Bullion Trade and, in the case of a Bullion Obligation, the Business Day upon which the obligation to deliver Bullion or Currency pursuant to such Bullion Obligation is to be performed; and (b) in the case of a Bullion Option, the Settlement Date therefor.

SECTION 2 BULLION TRANSACTIONS

2 1 Scope of the Agreement Unless otherwise agreed in writing by the Parties, each Bullion Transaction entered into between two (2) Designated Offices of the Parties on or after the Effective Date shall be governed by the Agreement. All Bullion Transactions between any two (2) Designated Offices of the Parties outstanding on the Effective Date which are identified in Part VII of the Schedule shall also be Bullion Transactions governed by the Agreement and every obligation of the Parties to deliver Bullion or Currency under any such Bullion Transaction that is a Bullion Trade shall be a Bullion Obligation under the Agreement

2 2 Single Agreement. This Master Agreement, the particular terms agreed between the Parties in relation to each and every Bullion Transaction governed by this Master Agreement (and, insofar as such terms are recorded in a Confirmation, each such Confirmation), the Schedule to this Master Agreement and all amendments to any of such items shall together form the agreement between the Parties (the "Agreement") and shall together constitute a single agreement between the Parties. The Parties acknowledge that all Bullion Transactions governed by the Agreement are entered into in reliance upon the fact that all such items constitute a single agreement between the Parties. In the event of any inconsistency between the provisions of the Schedule and the other provisions of the Agreement, the Schedule will prevail. In the event of any inconsistency between the provisions of any Confirmation and the Agreement (including the Schedule), such Confirmation will prevail for the purpose of the relevant Bullion Transaction.

2 3 Confirmations. Bullion Transactions governed by the Agreement shall be promptly confirmed by the Parties by Confirmations exchanged by mail, telex, facsimile or other electronic means. The failure by a Party to issue a Confirmation shall not prejudice or invalidate the terms of any Bullion Transaction governed by the Agreement. If the Parties so agree in Part VIII of the Schedule or otherwise in writing, the provisions in such Part VIII shall be applicable to Confirmations

SECTION 3 BULLION OPTIONS - PREMIUMS

3 1 Payment of Premium. Unless otherwise agreed in writing by the Parties, the Premium related to a Bullion Option governed by the Agreement shall be paid no later than the Premium Payment Date in relation to such Bullion Option, in the Option Currency

3 2 Late Payment or Non-Payment of Premium. If any Premium is not received on the Premium Payment

Date, the Seller may elect either (a) to accept a payment of such Premium, (b) to give written notice of non-payment and, if such payment shall not be received within two (2) Business Days of such notice, to treat such non-payment as an Event of Default under clause (a) of the definition of Event of Default. If the Seller elects to act under either clause (a) or (b) of the foregoing sentence, the Buyer shall pay all out-of-pocket and actual damages incurred in connection with such unpaid or late Premium or void Bullion Option, in addition, without limitation, interest on such Premium in the Option Currency as such Premium at the then prevailing market rate and any other costs or expenses incurred by the Seller in covering its obligations (including, without limitation, a delta hedge) with respect to such Bullion

SECTION 4 BULLION OPTIONS - DISCHARGE AND TERMINATION

If the Parties agree in Part IX of the Schedule to be applicable, then any Call Option written by a Party shall automatically be terminated and discharged, in whole or in part, as applicable, against a Call Option written by the other Party, and any Put Option written by a Party shall automatically be terminated and discharged, in whole or in part, as applicable, against a Put Option written by the other Party, such termination and discharge shall occur automatically upon the payment in full of the last Premium payable in respect of such Bullion Options; provided that such termination and discharge may only occur in respect of Bullion Options.

- (a) each being with respect to the same type of Bullion Option and having the same Option Currency,
 - (b) each having the same Expiration Date and Time;
 - (c) each being of the same style, i.e., either American Style Options or both being American Style Options,
 - (d) each having the same Strike Price,
 - (e) each to be settled in the same location,
 - (f) each being transacted through the same Designated Offices of both Buyer and Seller respectively,
 - (g) neither of which shall have been exercised or the subject of a Notice of Exercise;
- and, upon the occurrence of such termination

charge, neither Party shall have any further obligation to the other Party in respect of the relevant Bullion Options or, as the case may be, parts thereof so terminated and discharged. In the case of a partial termination and discharge (i.e., where the relevant Bullion Options are for different numbers of Ounces of Bullion), the remaining portion of the Bullion Option which is partially discharged and terminated shall continue to be a Bullion Option for all purposes of the Agreement, including this Section 4.

SECTION 5 BULLION OPTIONS - EXERCISE AND SETTLEMENT

5.1 Notice of Exercise. The Buyer may exercise a Bullion Option governed by the Agreement by delivery to the Seller of a Notice of Exercise. Subject to Section 5.3, if a Bullion Option governed by the Agreement has not been exercised prior to or at the Expiration Time, it shall expire and become void and of no effect. Any Notice of Exercise shall (unless otherwise agreed):

- (a) in respect of an American Style Option, if received prior to or at 2:00 p.m. (Seller's local time) on any Business Day prior to the Expiration Date or prior to or at the Expiration Time on the Expiration Date, be effective upon receipt thereof by the Seller and, for the avoidance of doubt, any Notice of Exercise received after 2:00 p.m. (Seller's local time) on any Business Day prior to the Expiration Date shall be effective only as of the opening of business of the Seller on the first Business Day (if any, being a Business Day prior to the Expiration Date) subsequent to its receipt, and
- (b) in respect of a European Style Option, if received on the Expiration Date prior to or at the Expiration Time, be effective upon receipt thereof by the Seller.

5.2 No Partial Exercise. Unless otherwise agreed by the Parties, a Bullion Option governed by the Agreement may be exercised only in whole.

5.3 Automatic Exercise. Unless the Seller is otherwise instructed by the Buyer, if a Bullion Option has an In-the-Money Amount at its Expiration Time that equals or exceeds the product of (a) 1% (or such other percentage as may have been agreed by the Parties) of the Strike Price, and (b) the number of Ounces of Bullion which are the subject of such Bullion Option, then the Bullion Option shall be deemed automatically exercised. In such case, unless otherwise agreed by the Parties, such Bullion Option shall be settled in accordance with Section 5.4 of the Agreement. For the purpose of determining whether or not any Bullion Option shall be deemed automatically exercised pursuant to this Section

5.3, the Buyer shall, unless otherwise agreed by the Parties, accept the Seller's calculation of the In-the-Money Amount.

5.4 Settlement of Exercised Bullion Options. Subject to Sections 5.2, 5.3 and 5.5, an exercised Bullion Option shall be settled on its Settlement Date as follows:

- (a) in the case of a Call Option, the Seller shall deliver in accordance with Section 6.1 to the Buyer the number of Ounces of Bullion in respect of which the Bullion Option is exercised and the Buyer shall pay to the Seller the product of such quantity and the Strike Price; and
- (b) in the case of a Put Option, the Buyer shall deliver in accordance with Section 6.1 to the Seller the number of Ounces of Bullion in respect of which the Bullion Option is exercised and the Seller shall pay to the Buyer the product of such quantity and the Strike Price.

5.5 In-the-Money Amount Settlement. A Bullion Option shall be settled at its In-the-Money Amount if the Buyer so elects in its Notice of Exercise. In such case, the In-the-Money Amount shall be determined based upon the Spot Price at the time of exercise or as soon thereafter as possible. The sole obligations of the Parties with respect to settlement of such Bullion Option shall be to deliver or receive the In-the-Money Amount of such Bullion Option on the Settlement Date. Notwithstanding the definition of Spot Price in Section 1, if the Buyer elects to settle a Bullion Option at its In-the-Money Amount, the Buyer shall be entitled when giving the Notice of Exercise to require that the In-the-Money Amount of the Bullion Option be ascertained with reference to the U.S. dollar bid or offer price, as appropriate, per Ounce quoted by the Seller to the Buyer at 9:30 a.m. New York time on the Exercise Date (in the case of an American Style Option) or the Expiration Date (in the case of a European Style Option) converted, if necessary, into the Option Currency at the price at which, at such time, the Seller could enter into a contract in the foreign exchange market to buy the Option Currency in exchange for U.S. dollars.

SECTION 6. BULLION TRANSACTIONS - SETTLEMENT AND NETTING

6.1 Settlement. Subject to Sections 4, 6.2 and 6.3, each Party shall deliver to the other Party the amount of the Bullion or Currency to be delivered by it under each Bullion Transaction on the Value Date for such Bullion Transaction. All Bullion to be delivered under any Bullion Transaction shall be delivered loco London by being credited to an unallocated account at a member of The

London Bullion Market Association agreed by both Parties (or, failing agreement, nominated by the delivering Party) or by delivery at such other location and/or in such other form as may be agreed

6.2 Net Settlement/Payment Netting. If on any Value Date more than one delivery of a particular type of Bullion or Currency is to be made between a pair of Settlement Netting Offices, then, on such date, each Party shall aggregate the amounts of such type of Bullion or Currency (i.e., Gold with Gold, Silver with Silver, and each Currency with other Currency of the same type) deliverable by it and only the difference between these aggregate amounts shall be delivered by the Party obligated to deliver the larger aggregate amount to the other Party and, if the aggregate amounts are equal, no delivery of the relevant type of Bullion or Currency, as the case may be, shall be made

6.3 Novation Netting.

(a) **By Type of Obligation.** If the Parties enter into a Bullion Trade governed by the Agreement through a pair of Novation Netting Offices or, if a Bullion Option governed by the Agreement and entered into by the Parties through a pair of Novation Netting Offices is exercised or deemed exercised, in each case giving rise to a Bullion Obligation for the same Value Date and in the same type of Bullion or Currency as a then existing Bullion Obligation between the same pair of Novation Netting Offices, then immediately upon entering into such Bullion Trade or exercise or deemed exercise of such Bullion Option, each such Bullion Obligation shall automatically and without further action be individually cancelled and simultaneously replaced by a new Bullion Obligation for such Value Date determined as follows: the amounts of such type of Bullion or Currency that would otherwise have been deliverable by each Party on such Value Date shall be aggregated (i.e., Gold with Gold, Silver with Silver, and each Currency with other Currency of the same type) and the Party with the larger aggregate amount shall have a new Bullion Obligation to deliver to the other Party the amount of such type of Bullion or Currency by which its aggregate amount exceeds the other Party's aggregate amount, provided that if the aggregate amounts are equal, no new Bullion Obligation shall arise. This clause (a) shall not affect any other Bullion Obligation of a Party to deliver any different Bullion or Currency on the same Value Date

(b) **By Matched Pair.** If the Parties enter into a Bullion Trade governed by the Agreement between a pair of Matched Pair Novation Netting Offices or, if a Bullion

Option governed by the Agreement and entered into through a pair of Matched Pair Novation Netting Offices is exercised or deemed exercised, the provisions of Section 6.3(a) shall apply in respect of Bullion Obligations arising by the exercise of Bullion Trades or exercised Bullion Options governed by the Agreement entered into between a pair of Matched Pair Novation Netting Offices involving the same type of Bullion and Currency on the same Value Date

6.4 General

- (a) **Inapplicability of Sections 6.2 and 6.3.** The provisions of Sections 6.2 and 6.3 shall not apply if an Event of Default has occurred or a voluntary or involuntary liquidation case or other proceeding of the kind described in clauses (b) or (c) of the definition of Event of Default has occurred without being dismissed in favor of either Party
- (b) **Failure to Record.** The provisions of Section 6.2 shall apply notwithstanding that either Party fails to record the new Bullion Obligations in its books
- (c) **Cut-off Date and Time.** The provisions of Section 6.2 are subject to any cut-off date and time agreed between the applicable Novation Netting Offices and Matched Pair Novation Netting Offices of the Parties.
- (d) **Netting of Premiums.** If the Parties so agree in Annex X of the Schedule or otherwise in writing, then, if otherwise agreed, if, on any date Premium(s) of the same Currency between the same pair of Offices of the Parties, then, on such date, the obligation to make payment of any such Premium(s) shall be automatically satisfied and discharged. Each Party shall aggregate the Premium(s) that would otherwise have been payable by it and only the difference between the aggregate Premium(s) payable by the Party owing the larger aggregate Premium(s) to the other Party and, if the aggregate Premium(s) are equal, no payment shall

SECTION 7. REPRESENTATIONS, WARRANTIES AND COVENANTS

7.1 Representations and Warranties. Each Party represents and warrants to the other Party that the information provided in the Agreement and as of the date of the Transaction governed by the Agreement is true and

- (a) it has authority to enter into the Agreement and such Bullion Transaction;
- (b) the persons executing the Agreement and entering into such Bullion Transaction on its behalf have been duly authorized to do so;
- (c) the Agreement and the Bullion Obligations and Bullion Options created under the Agreement are binding upon it and enforceable against it in accordance with their respective terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar laws affecting creditors' rights generally and applicable principles of equity) and do not and will not violate the terms of any agreements or laws to which such Party is subject;
- (d) no Event of Default or any event which with the giving of notice or the passage of time or both would constitute an Event of Default has occurred and is continuing with respect to it; and
- (e) it acts as principal in entering into, and (with respect to Bullion Options) exercising, each and every Bullion Transaction governed by the Agreement.

7.2 Covenants. Each Party covenants to the other Party that:

- (a) it will at all times obtain and comply with the terms of and do all that is necessary to maintain in full force and effect all authorizations, approvals, licenses and consents required to enable it lawfully to perform its obligations under the Agreement; and
- (b) it will promptly notify the other Party of the occurrence of any Event of Default with respect to itself or any Credit Support Provider in relation to it or any event which, with the giving of notice or the passage of time or both, would constitute an Event of Default with respect to itself or any Credit Support Provider in relation to it.

SECTION 8. CLOSE-OUT AND LIQUIDATION

8.1. Circumstances of Close-Out and Liquidation. If an Event of Default has occurred and is continuing, then the Non-Defaulting Party shall have the right to close out and liquidate in the manner described below all, but not less than all, outstanding Bullion Obligations and Bullion Options governed by the Agreement (except to the extent that in the good faith opinion of the Non-Defaulting Party certain of such Bullion Obligations and Bullion Options may not be terminated under applicable law) by notice to the Defaulting Party. If "Automatic Termination"

is specified as applying to a Party in Part XI of the Schedule hereto, then in the case of an Event of Default specified in clauses (b) or (c) of the definition thereof with respect to such Party, such close-out and liquidation shall be automatic as to all such outstanding Bullion Obligations and Bullion Options. Where such close-out and liquidation is to be effected, it shall be effected by.

(a) In the case of Bullion Obligations:

- (i) closing out each outstanding Bullion Obligation (including any Bullion Obligation which has not been performed and in respect of which the Value Date is on or precedes the Close-Out Date) so that each such Bullion Obligation is cancelled and the Non-Defaulting Party shall calculate in good faith with respect to each such cancelled Bullion Obligation, the Closing Gain or, as appropriate, the Closing Loss, as follows:
- (ii) for each Bullion Obligation in Bullion or in a Currency other than the Non-Defaulting Party's Base Currency, calculate a "Close-Out Amount" by converting:

- (A) in the case of a Bullion Obligation whose Value Date is the same or is later than the Close-Out Date, the amount of such Bullion Obligation (expressed in aggregate number of Ounces of the relevant Bullion or amount of the relevant Currency); or
- (B) in the case of a Bullion Obligation whose Value Date precedes the Close-Out Date, the amount of such Bullion Obligation increased, to the extent permitted by applicable law, by adding interest thereto from the Value Date to the Close-Out Date at the rate representing the cost (expressed as a percentage rate per annum) at which the Non-Defaulting Party would have been able, on such Value Date, to fund the amount of such Bullion Obligation for the period from the Value Date to the Close-Out Date (such cost, in the case of Bullion Obligations denominated in Bullion, taking into account the rates for bullion deposits);

into such Base Currency at the rate of exchange at which the Non-Defaulting Party can buy or sell, as appropriate, such Base Currency with or against the Bullion or Currency of such Bullion Obligation for delivery on the Value Date of that Bullion Obligation, or if such Value Date precedes the Close-Out Date, for delivery on the Close-Out Date,

(iii) determine in relation to each Value Date

- (A) the sum of all Close-Out Amounts relating to Bullion Obligations under which, and of all Bullion Obligations in the Non-Defaulting Party's Base Currency under which, the Non-Defaulting Party would otherwise have been entitled to receive the relevant amount from the Defaulting Party on that Value Date, adding (to the extent permitted by applicable law), in the case of a Bullion Obligation in the Non-Defaulting Party's Base Currency whose Value Date precedes the Close-Out Date, interest for the period from the Value Date to the Close-Out Date at the Non-Defaulting Party's Base Currency Rate as at such Value Date for such period, and
- (B) the sum of all Close-Out Amounts relating to Bullion Obligations under which, and of all Bullion Obligations in the Non-Defaulting Party's Base Currency under which, the Non-Defaulting Party would otherwise have been obligated to pay the relevant amount to the Defaulting Party on that Value Date, adding (to the extent permitted by applicable law), in the case of a Bullion Obligation in the Non-Defaulting Party's Base Currency whose Value Date precedes the Close-Out Date, interest for the period from the Value Date to the Close-Out Date at the Non-Defaulting Party's Base Currency Rate as at such Value Date for such period,
- (iv) if the sum determined under clause (iii)(A) above is greater than the sum determined under clause (iii)(B) above, the difference shall be the Closing Gain for such Value Date, if the sum determined under clause (iii)(A) is less than the sum determined under clause (iii)(B) above, the difference shall be the Closing Loss for such Value Date,
- (v) to the extent permitted by applicable law, adjusting the Closing Gain or Closing Loss for each Value Date falling after the Close-Out Date to present value by discounting the Closing Gain or Closing Loss from the Value Date to the Close-Out Date, at the Non-Defaulting Party's Base Currency Rate, or at such other rate as may be prescribed by applicable law,
- (vi) aggregating the following amounts so that all such amounts are netted into a single liquidated amount payable by or to the Non-Defaulting Party

in respect of Bullion Obligations (A) the Closing Gains for all Value Dates (discounted to present value, where appropriate, in accordance with the provisions of clause (a)(v) of this Section 8.1) (which for the purposes of this clause shall be a positive figure) and (B) the Closing Losses for all Value Dates (discounted to present value, where appropriate, in accordance with the provisions of clause (a)(v) of this Section 8.1) (which for the purposes of this clause shall be a negative figure), and

- (vii) if the resulting net amount is positive, it shall be payable by the Defaulting Party to the Non-Defaulting Party in respect of Bullion Obligations, and if it is negative, then the absolute value of such amount shall be payable by the Non-Defaulting Party to the Defaulting Party in respect of Bullion Obligations

(b) In the case of Bullion Options:

- (i) closing out each Bullion Option governed by the Bullion Option Agreement which has not been exercised or deemed exercised on or prior to the Close-Out Date so that each such Bullion Option is cancelled and market damages for each Party are calculated by determining the aggregate of:
 - (A) with respect to each Bullion Option purchased by such Party, the current market price of such Bullion Option,
 - (B) with respect to each Bullion Option sold by such Party, any unpaid Premium and, to the extent permitted by applicable law, interest on any unpaid Premium in the relevant Base Currency as such Premium at the then prevailing market rate, and
 - (C) any costs or expenses incurred by the Defaulting Party in covering its obligations (including a delta hedge) with respect to such Bullion Option, all as determined in accordance with the Bullion Option Agreement by the Non-Defaulting Party,
- (ii) converting any damages calculated in accordance with clause (b)(i) above into the Non-Defaulting Party's Base Currency at the spot price of such Base Currency at the time of close-out, the Non-Defaulting Party could enter into a contract in the foreign exchange market to buy the Base Currency in exchange for such Currency; and
- (iii) netting such damage payments with

each Party so that all such amounts are netted to a single liquidated amount payable by one Party to the other Party as a settlement payment in respect of Bullion Options governed by the Agreement which have not been exercised or deemed exercised on or prior to the Close-Out Date.

(c) **Final Netting.** The net amounts payable by each Party under clauses (a) and (b) of this Section 8.1 shall be aggregated and netted so that a single net amount in respect of Bullion Transactions governed by the Agreement is payable by one Party to the other Party.

8.2 Calculation of Interest. Any addition of interest or discounting required under Section 8.1 shall be calculated on the basis of the actual number of days elapsed and of a year of such number of days as is customary for transactions involving the relevant Currency in the relevant foreign exchange market.

8.3 Other Bullion Transactions. Where close-out and liquidation occurs in accordance with Section 8.1, the Non-Defaulting Party shall also be entitled to close out and liquidate, to the extent permitted by applicable law, any other Bullion Transactions entered into between the Parties which are then outstanding in accordance with the provisions of Section 8.1, as if each such transaction were governed by the Agreement.

8.4 Payment and Late Interest. The amount payable by one Party to the other Party pursuant to the provisions of Sections 8.1 and 8.3 above shall be paid by the close of business on the Business Day following such close-out and liquidation (converted as required by applicable law into any other Currency, any costs of such conversion to be borne by, and deducted from any payment to, the Defaulting Party). To the extent permitted by applicable law, any amounts required to be paid under Section 8.1 or 8.3 and not paid on the due date therefor shall bear interest at the Non-Defaulting Party's Base Currency Rate plus 1% per annum (or, if conversion is required by applicable law into some other Currency, either (a) the average rate at which overnight deposits in such other Currency are offered by major banks in the London inter-bank market as of 11:00 a.m. (London time) plus 1% per annum or (b) such other rate as may be prescribed by such applicable law) for each day for which such amount remains unpaid.

8.5 Suspension of Obligations. Without prejudice to the foregoing, so long as a Party shall be in default in payment or performance to the Non-Defaulting Party under the Agreement and so long as the Non-Defaulting Party has not exercised its rights under Section 8.1, the

Non-Defaulting Party may, at its election and without penalty, suspend its obligation to perform under the Agreement.

8.6 Expenses. The Defaulting Party shall reimburse the Non-Defaulting Party in respect of all out-of-pocket expenses incurred by the Non-Defaulting Party (including fees and disbursements of counsel and including attorneys who may be employees of the Non-Defaulting Party) in connection with any reasonable collection, preservation of rights or other enforcement proceedings related to the payments required under this Section 8.

8.7 Reasonable Pre-Estimate. The Parties agree that the amounts recoverable under this Section 8 are a reasonable pre-estimate of loss and not a penalty. Such amounts are payable for the loss of bargain and the loss of protection against future risks and, except as otherwise provided in the Agreement, neither Party will be entitled to recover any additional damages as a consequence of such losses.

8.8 No Limitation of Other Rights: Set-Off. The Non-Defaulting Party's rights under this Section 8 shall be in addition to, and not in limitation or exclusion of, any other rights which the Non-Defaulting Party may have (whether by agreement, operation of law or otherwise). To the extent not prohibited by applicable law, the Non-Defaulting Party shall have a general right of set-off with respect to all amounts owed by each Party to the other Party, whether or not due and payable (provided that any amount not due and payable at the time of such set-off shall, if appropriate, be discounted to present value in a commercially reasonable manner by the Non-Defaulting Party). The Non-Defaulting Party's rights under this Section 8.8 are subject to Section 8.7.

SECTION 9 ILLEGALITY, IMPOSSIBILITY AND FORCE MAJEURE

If either Party is prevented from or hindered or delayed by reason of force majeure or act of State in the delivery or receipt of any Bullion or Currency in respect of a Bullion Obligation or Bullion Option or if it becomes or, in the good faith judgment of one of the Parties, may become unlawful or impossible for either Party to deliver or receive any Bullion or Currency which is the subject of a Bullion Obligation or Bullion Option, then either Party may, by notice to the other Party, require the close-out and liquidation of each affected Bullion Obligation and Bullion Option in accordance with the provisions of Sections 8.1, 8.2 and 8.4 and, for the purposes of enabling the calculations prescribed by Sections 8.1, 8.2

and 8 4 to be effected, the Party unaffected by such force majeure, act of State, illegality or impossibility (or if both Parties are so affected, whichever Party gave the relevant notice) shall effect the relevant calculations as if it were the Non-Defaulting Party. Nothing in this Section 9 shall be taken as indicating that the Party treated as the Defaulting Party for the purposes of calculations required hereby has committed any breach or default.

SECTION 10 PARTIES TO RELY ON THEIR OWN EXPERTISE

Each Party shall enter into each Bullion Transaction governed by the Agreement in reliance only upon its own judgment. Neither Party holds itself out as advising, or any of its employees or agents as having the authority to advise, the other Party as to whether or not it should enter into any such Bullion Transaction or as to any subsequent actions relating thereto or on any other commercial matters concerned with any Bullion Transaction governed by the Agreement, and neither Party shall have any responsibility or liability whatsoever in respect of any advice of this nature given, or views expressed, by it or any of such persons to the other Party, whether or not such advice is given or such views are expressed at the request of the other Party.

SECTION 11 MISCELLANEOUS

11 1 Currency Indemnity. The receipt or recovery by either Party (the "first Party") of any amount in respect of an obligation of the other Party (the "second Party") in a Currency other than that in which such amount was due, whether pursuant to a judgment of any court or pursuant to Section 8 or 9, shall discharge such obligation only to the extent that, on the first day on which the first Party is open for business immediately following such receipt, the first Party shall be able, in accordance with normal banking practice, to purchase the Currency in which such amount was due with the Currency received. If the amount so purchasable shall be less than the original amount of the Currency in which such amount was due, the second Party shall, as a separate obligation and notwithstanding any judgment of any court, indemnify the first Party against any loss sustained by it. The second Party shall in any event indemnify the first Party against any costs incurred by it in making any such purchase of Currency.

11 2 Assignments. Neither Party may assign, transfer or charge, or purport to assign, transfer or charge, its rights or its obligations under the Agreement or any interest therein without the prior written consent of the other Party, and any purported assignment, transfer or charge in violation of this Section 11 2 shall be void.

11 3 Telephonic Recording. The Parties agree each may electronically record all telephonic conversations between them and that any such tape recording may be submitted in evidence in any Proceedings. In the event of any dispute between the Parties as to the terms of a Bullion Transaction governed by the Agreement, or any Bullion Obligations thereby created, the Parties shall use electronic recordings between the persons who entered into such Bullion Transaction as the preferred evidence of the terms of such Bullion Transaction notwithstanding the existence of any writing to the contrary.

11 4 No Obligation. Neither Party to the Agreement shall be required to enter into any Bullion Transaction with the other.

11 5 Notices. Unless otherwise agreed, all notices, instructions and other communications to be given by either Party under the Agreement shall be given to the address by telex (if confirmed by the appropriate answerback), facsimile (confirmed if requested) or telephone number specified to the individual or department specified by such Party in Part XII of the Schedule attached hereto. Unless otherwise specified, any notice, instruction or other communication given in accordance with this Section 11 5 shall be effective upon receipt.

11 6 Termination. Each of the Parties hereto may terminate the Agreement at any time by seven (7) days' written notice to the other Party delivered as prescribed above, and termination shall be effective at the end of the seventh day, provided, however, that any such termination shall not affect any outstanding Bullion Transactions and the provisions of the Agreement shall continue to apply until all the obligations of each Party to the other under the Agreement have been fully performed.

11 7 Severability. In the event any one or more provisions contained in the Agreement should be found invalid, illegal or unenforceable in any respect under the law of any jurisdiction, the validity, legality and enforceability of the remaining provisions under the law of any jurisdiction, and the validity, legality and enforceability of such and any other provisions under the law of any jurisdiction, shall not in any way be affected or impaired thereby.

11 8 Waiver. No indulgence or concession granted by a Party, and no omission or delay on the part of a Party in exercising any right, power or privilege under the Agreement, shall operate as a waiver thereof, nor shall any single or partial exercise of any such right, power or privilege preclude any other or further exercise thereof.

the exercise of any other right, power or privilege.

11.9 Master Agreement. Where one of the Parties to the Agreement is domiciled in the United States, the Parties intend that the Agreement shall be a master agreement, as defined in 11 U.S.C. Section 101(55)(C) and 12 U.S.C. Section 1821(e)(8)(D)(vii).

11.10 Time of Essence. Time shall be of the essence in the Agreement.

11.11 Headings. Headings in the Agreement are for ease of reference only.

11.12 Payments Generally. Every payment or delivery of Currency to be made by a Party under the Agreement shall be made in same day (or immediately available) and freely transferable funds to the bank account designated by the other Party for such purpose

11.13 Taxes. Where, pursuant to or in connection with any Bullion Transaction or the Agreement:

- (a) one Party (the "**Supplier**") makes a supply to the other Party (the "**Recipient**"), and (i) Value Added Tax is chargeable in respect of such supply and (ii) the Supplier is required to account to the relevant fiscal authority for such Value Added Tax, the Recipient shall on demand pay to the Supplier (in addition to the relevant consideration for such supply) an amount equal to such Value Added Tax, and the Supplier shall on receipt of such payment provide the Recipient with an invoice or receipt in such form as may be prescribed by applicable law; and
- (b) a person other than the Supplier and the Recipient is deemed or treated by applicable law or the practice from time to time of the relevant fiscal authority to make a supply to the Recipient for Value Added Tax purposes, and (i) Value Added Tax is chargeable in respect of such supply and (ii) such person is required to account to the relevant fiscal authority for such Value Added Tax, the Recipient shall on demand by the Supplier pay to such person an amount equal to such Value Added Tax, and the Supplier shall use its reasonable endeavors to procure that such person will on receipt of such payment provide the Recipient with an invoice or receipt in such form as may be prescribed by applicable law

Provided that the Recipient shall not be liable to make any payment to any person as aforesaid where it itself is (or is deemed or treated by applicable law or the practice from time to time of the relevant fiscal authority to be)

the person which makes the relevant supply for Value Added Tax purposes and which is required to account to the relevant fiscal authority for the Value Added Tax chargeable in respect of such supply, and the Recipient shall in such a case provide the Supplier with such relevant information as the Supplier shall reasonably require to show that the Recipient is (or is deemed or treated by applicable law or the practice from time to time of the relevant fiscal authority to be) the person making the relevant supply for Value Added Tax purposes as aforesaid.

11.14 Amendments. No amendment, modification or waiver of the Agreement will be effective unless in writing executed by each of the Parties

SECTION 12. LAW AND JURISDICTION

12.1 Governing Law. The Agreement shall be governed by, and construed in accordance with, the laws of the State of New York without giving effect to conflict of laws provisions

12.2 Consent to Jurisdiction. With respect to any Proceedings, each Party irrevocably (a) submits to the non-exclusive jurisdiction of the courts of the State of New York and the United States District Court located in the Borough of Manhattan in New York City, and (b) waives any objection which it may have at any time to the laying of venue of any Proceedings brought in any such court, waives any claim that such Proceedings have been brought in an inconvenient forum and further waives the right to object, with respect to such Proceedings, that such court does not have jurisdiction over such Party. Nothing in the Agreement precludes either Party from bringing Proceedings in any other jurisdiction nor will the bringing of Proceedings in any one or more jurisdictions preclude the bringing of Proceedings in any other jurisdiction.

12.3 Waiver of Immunities. Each Party irrevocably waives to the fullest extent permitted by applicable law, with respect to itself and its revenues and assets (irrespective of their use or intended use) all immunity on the grounds of sovereignty or other similar grounds from (a) suit, (b) jurisdiction of any court, (c) relief by way of injunction, order for specific performance or for recovery of property, (d) attachment of its assets (whether before or after judgment), and (e) execution or enforcement of any judgment to which it or its revenues or assets might otherwise be entitled in any Proceedings in the courts of any jurisdiction and irrevocably agrees to the extent permitted by applicable law that it will not claim any such immunity in any Proceedings. Each Party consents generally in respect of any Proceedings to the giving of any

relief or the issue of any process in connection with such Proceedings, including, without limitation, the making, enforcement or execution against any property whatsoever of any order or judgment which may be made or given in such Proceedings.

12.4 **Waiver of Jury Trial.** Each Party hereby irrevocably waives any and all right to trial by jury in any Proceedings

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their respective authorized officers as of the date first written above

By _____

Name:

Title

By _____

Name

Title

SCHEDULE

International Bullion Master Agreement

between _____ ("Party A") and
_____ ("Party B")

PART I Base Currency

Party A:
Party B:

PART II Designated Offices

Each of the following shall be a Designated Office:

Party A:
Party B:

PART III Matched Pair Novation Netting Offices

Matched pair netting by novation provisions of Section 6.3(b) shall apply to the following Matched Pair Novation Netting Offices and shall apply to [all Bullion Obligations] [Bullion Obligations with a Value Date more than two (2) Business Days after the day on which the Parties enter into such Bullion Obligations]

Party A:
Party B:

PART IV Novation Netting Offices

Netting by novation provisions of Section 6.3(a) shall apply to the following Novation Netting Offices and shall apply to [all Bullion Obligations] [Bullion Obligations with a Value Date more than two (2) Business Days after the day on which the Parties enter into such Bullion Obligations].

Party A:
Party B:

PART V Settlement Netting Offices

Net settlement provisions of Section 6.2 shall apply to the following Settlement Netting Offices:

Party A:
Party B:

PART VI Threshold Amount

The Threshold Amount applicable to Party A shall be:

The Threshold Amount applicable to Party B shall be:

PART VII Scope of Agreement

The Agreement shall apply to [all] [the following] Bullion Transactions outstanding between any two (2) Designated Offices of the Parties on the Effective Date

PART VIII Confirmation Procedures

The following provision [shall][shall not] apply to the Agreement

In relation to Confirmations, unless either Party objects to the terms contained in any Confirmation within three (3) Business Days of receipt thereof, or such shorter time as may be appropriate given the Value Date of the Bullion Transaction, the terms of such Confirmation shall be deemed correct and accepted absent manifest error, unless a corrected Confirmation is sent by a Party within such three Business Days, or shorter period, as appropriate, in which case the Party receiving such corrected Confirmation shall have three (3) Business Days, or shorter period, as appropriate, after receipt thereof to object to the terms contained in such corrected Confirmation

PART IX Discharge and Termination of Bullion Options

The provisions of Section 4 [shall] [shall not] apply.

PART X Netting of Premiums

The provisions of Section 6.4(d) [shall] [shall not] apply.

PART XI Automatic Termination

The "Automatic Termination" provision in Section 8.1 [shall] [shall not] apply to Party A and [shall] [shall not] apply to Party B

PART XII **Notices and Settlement Instructions**

Party A

Address
Telephone Number
Telex Number
Facsimile Number
Name of Individual or Department to whom
Notices are to be sent

Name of Bank and Office, Account Number
and Reference with respect to relevant
Currencies and/or Bullion

Party B

Address
Telephone Number
Telex Number
Facsimile Number
Name of Individual or Department to whom
Notices are to be sent

Name of Bank and Office, Account Number
and Reference with respect to relevant
Currencies and/or Bullion

PART XIII **Process Agent**

[Not applicable.]

[Party A appoints the following as its agent
for service of process in any Proceedings
in New York _____.]

[Party B appoints the following as its agent
for service of process in any Proceedings
in New York _____.]

PART XIV **Withholding Tax**

[Each of the] [The] following provision[s]
[shall] [shall not] apply to the Agreement.

All payments to be made by either Party
pursuant to or in connection with any
Bullion Transaction or the Agreement shall
be made free and clear of, and without
deduction or withholding for or on account
of, tax unless a Party (the "**Payer**") is
required by applicable law to make a pay-
ment (the "**Relevant Payment**") subject to
the deduction or withholding of tax, in
which case the sum of the Relevant
Payment shall be increased to the extent
necessary to ensure that, after the making
of such deduction or withholding, the Party

receiving the Relevant Payment (the
"**Payee**") receives and retains (free of
any liability in respect of such deduction
withholding) a net sum equal to the sum
which it would have received and retained
had no such deduction or withholding been
made or required to be made

[If and to the extent that the Payer's obli-
gation to pay an increased sum as aforesaid
can be mitigated by virtue of the provisions
of any applicable double tax convention,
the Payee shall use its reasonable endeav-
ors (including, without limitation, the sub-
mission to the relevant fiscal authorities of
all requisite forms and information) to
ensure the application of such double tax
convention.]

[In the event that an increased payment
made by the Payer as aforesaid, and the
Payee (acting in good faith) determines
in its sole opinion that it has received or
been granted (and has derived full use and
benefit from) any credit against tax, or rep-
ayment of tax, paid or payable by it in res-
pect of, or calculated with reference to,
such deduction or withholding giving rise to
such increased payment, the Payee shall
to the extent that it can do so without pre-
judice to the retention of the amount of
credit or repayment, pay to the Payer the
amount as the Payee (acting in good faith)
shall have concluded in its sole opinion
to be attributable to such deduction or
withholding, **Provided** that nothing in this
paragraph shall interfere with the right of
the Payee to arrange its tax affairs in the
manner it thinks fit nor oblige the Payee
to disclose any information relating to its
tax affairs (or any computation made in re-
spect thereof), and (in particular) the Payer
shall not be under any obligation to claim
such credit or repayment from or against its
corporate profit or similar tax liability in respect
of such deduction or withholding, or to
claim such credit or repayment as aforesaid
in priority to any other claims or
reliefs, credits or deductions available

PART XV **Adequate Assurances**

The following provision [shall][shall not]
apply to the Agreement

The failure by a Party ("**First Party**")

adequate assurances of its ability to perform any of its obligations under the Agreement within two (2) Business Days of a written request to do so when the other Party ("**Second Party**") has reasonable grounds for insecurity shall be an Event of Default under the Agreement, in which case during the pendency of a reasonable request by the Second Party to the First Party for adequate assurances of the First Party's ability to perform its obligations under the Agreement, the Second Party may, at its election and without penalty, suspend its obligations under the Agreement

PART XVI

FDICIA Representations

The following provisions [shall][shall not] apply to the Agreement.

For the purposes of the Federal Deposit Insurance Corporation Improvement Act of 1991, 12 U S C §4401 ("FDICIA").

[Delete provisions that are not applicable]

(a) Party A represents and warrants to Party B as of the date of the Agreement and as of the date of each Bullion Transaction governed by the Agreement that

[it qualifies as a "financial institution" by virtue of being a [broker or dealer] [depository institution] [futures commission merchant] within the meaning of FDICIA.]

[it qualifies as a "financial institution" as that term is defined in 12 C.F.R. §231.3 of Regulation EE issued by the Board of Governors of the Federal Reserve System ("Regulation EE") by virtue of the fact that it is willing to enter into "financial contracts" as a counterparty "on both sides of one or more financial markets" as those terms are used in Section 231.3 of Regulation EE and, during the 15-month period immediately preceding the date it makes or is deemed to make this representation, it has had on at least one day during such period, with counterparties that are not its affiliates (as defined in Section 231.3(b) of Regulation EE) either. (i) one or more financial contracts of a total gross notional principal amount of \$1 billion outstanding; or (ii) total gross market-to-market positions (aggregated across counterparties) of \$100 mil-

ion, and it will notify Party B if it no longer meets the requirements for status as a financial institution under Regulation EE]

(b) Party B represents and warrants to Party A as of the date of the Agreement and as of the date of each Bullion Transaction governed by the Agreement that

[it qualifies as a "financial institution" by virtue of being a [broker or dealer] [depository institution] [futures commission merchant] within the meaning of FDICIA]

[it qualifies as a "financial institution" as that term is defined in 12 C.F.R. §231.3 of Regulation EE issued by the Board of Governors of the Federal Reserve System ("Regulation EE") by virtue of the fact that it is willing to enter into "financial contracts" as a counterparty "on both sides of one or more financial markets" as those terms are used in Section 231.3 of Regulation EE and, during the 15-month period immediately preceding the date it makes or is deemed to make this representation, it has had on at least one day during such period, with counterparties that are not its affiliates (as defined in Section 231.3(b) of Regulation EE) either (i) one or more financial contracts of a total gross notional principal amount of \$1 billion outstanding, or (ii) total gross market-to-market positions (aggregated across counterparties) of \$100 million, and it will notify Party A if it no longer meets the requirements for status as a financial institution under Regulation EE]

(c) If paragraphs (a) and (b) apply, the Parties agree that the Agreement shall be a netting contract, as defined in FDICIA, and each receipt or payment or delivery obligation under the Agreement shall be a covered contractual payment entitlement or covered contractual payment obligation, respectively, as defined in and subject to FDICIA.

PART XVII

Other Metals

The Parties agree that the term "Bullion" in Section 1 is modified to include [platinum or] any [other] precious or base metal agreed by the Parties, which metal or metals shall be subject to such terms supplemental to the Agreement as agreed in writing

GUIDE TO THE 1994 INTERNATIONAL BULLION MASTER AGREEMENT ("IBMA")

I. INTRODUCTION

In March 1990, the London Bullion Market Association ("LBMA") introduced a document entitled "Bullion Options Guidelines" which details standard terms and conditions for bullion options. This document was intended to provide guidance and clarification for the trading community, to reflect and encourage good market practice and was considered by market participants to be helpful. These guidelines were, however, never intended to be a specific legal document and indeed, in its introduction, mention was made that "bilateral clauses referring to non-performance and margining of option positions must be the responsibility of individual parties as they are beyond the scope of this paper."

Subsequently, as the market has evolved and expanded, there has been increased pressure from market participants to correctly identify, quantify and, where possible, contain risks relating not only to bullion options, but also to spot and forward bullion trades in the bullion market. In the light of these developments, the Management Committee of the LBMA decided in 1993 to establish a working party to prepare a document which could be used by the international market for spot and forward bullion trades and bullion options. At the same time, the Financial Markets Lawyers Group, a group of lawyers representing US financial institutions, formed a working party to work on such a document. The Bank of England and the Federal Reserve Bank of New York were represented as observers on the working parties and the resulting document was reviewed by Clifford Chance and representatives of the Financial Markets Lawyers Group, both having been closely involved in drafting the International Currency Options Market Master Agreement ("ICOM") and the International Foreign Exchange Master Agreement Terms ("IFEMA"). The ICOM was published in 1992 and the IFEMA in 1993 in the UK by the British Bankers' Association ("BBA") and in the US by the Foreign Exchange Committee ("FXC") (an advisory committee which is independent of, but sponsored by, the Federal Reserve Bank of New York and whose members are participants in the inter-dealer foreign exchange market). The IBMA is being published as a result of these efforts.

The aim of the IBMA is to provide a common set of

terms for spot and forward bullion trades and bullion options in the international bullion market. The IBMA contains provisions which reflect best market practice which set out procedures that, in the event of a default by one Party, will govern the method by which the Non-Defaulting Party may close out and liquidate its trading positions and which sets out similar procedures for closing out and liquidating affected bullion transactions in the event that illegality, force majeure, or act of State occurs. Each Party will then be in a better position to take measures to quantify and control the risks that it faces.

The IBMA builds on the experience of the BBA and FXC in drafting earlier foreign exchange agreements such as ICOM and IFEMA. The IBMA represents a continuing effort to reduce the risks of market trading and costs to participants of negotiating bilateral agreements.

In interpreting the IBMA, practitioners may wish to consult this Guide. The Guide does not constitute part of the IBMA and should not be interpreted as modifying any contractual term contained in the IBMA.

The IBMA is published in two versions: one version governed by English law and the other by New York law. It is expected that market participants in the New York market will execute the New York law version in the form of a Master Agreement.

In the London market, the English law version may be executed in the form of a Master Agreement, and it is intended to be in a form allowing it to be used without this being required. Market participants should agree with their counterparties on the terms which will apply before trading commences. In the event that they do not, the Terms will be presumed to apply if one of the Parties is acting through an office in the UK (unless there is an agreement with broadly similar netting provisions between the contracting offices of the Parties applicable to spot and forward bullion trades **and** bullion options between the Parties). Unless the Parties otherwise agree, where the Parties already have in place a netting agreement between their respective contracting offices, the Terms apply only to spot and forward bullion trades (but not bullion options) or vice versa, the IBMA Terms nonetheless be presumed to apply (in place of such a netting agreement) to all such spot and forward bullion trades **and** bullion options entered or to be entered.

by the Parties between these respective contracting offices on or after the Effective Date. Where no Master Agreement is being executed, market participants should take steps to agree to the matters referred to in the form of the Schedule enclosed with the Terms. In the absence of such agreement, the Terms provide a number of fall-back provisions of which users should take note.

The following sections of this Guide are intended (i) to explain various provisions of the IBMA and the significance of their inclusion in the IBMA and (ii) to provide further clarification of normal market practice. This Guide should therefore be read carefully. Although the IBMA does, and is intended to, stand on its own as a legal agreement, the Guide provides important commentary on current market practices and certain provisions contained in the IBMA. The Guide uses terms which are defined in the IBMA.

II. IBMA PROVISIONS

A. Definitions

Every effort has been made to ensure that the definitions used in the IBMA are in close accord with the common understanding and usage of the Bullion market. However, in some cases no such understanding exists and the IBMA, has, in consequence, provided such a definition. Practitioners should ensure that they are sufficiently familiar with the definitions used in the IBMA to avoid any confusion or misunderstanding. The following guidance may be useful in explaining various provisions of the IBMA and in deciding what action to take in relation to certain definitions used in it.

1. Bullion

Bullion is defined in the IBMA to mean gold or silver in the form of bars or unallocated gold or silver complying with the rules of the LBMA relating to good delivery and fineness from time to time in force and does not extend to metals other than gold or silver.

Parties may, if they wish, use the IBMA as a framework for covering other metals provided that appropriate modifications and supplemental terms are adopted. Users of the IBMA that trade other metals who wish to cover such metals under the same master agreement as Bullion should discuss with their counsel the modifications and supplemental provisions necessary to do so.

2. Bullion Option, Bullion Trade, Bullion Obligation and Bullion Transaction

As mentioned earlier, the IBMA covers not only bullion options, but also spot and forward bullion trades. Different terminology is required to distinguish between bullion options on the one hand and spot and forward bullion trades on the other because some provisions in the IBMA are only relevant to bullion options (for example, provisions concerning the payment of Premium and the mechanisms for the exercise of bullion options), and not to spot and forward bullion trades (see III of this Guide for an overview of these provisions which are particularly relevant to bullion options).

In order to understand how the provisions contained in the IBMA work, it is important to appreciate at the outset the difference in the meaning of the following terms.

(i) Bullion Option

Bullion Option is defined as a transaction between the Parties under which the Seller agrees with the Buyer that the Buyer shall be entitled (but not obliged, except upon exercise) to purchase from or, as the case may be, sell to the Seller a specified number of Ounces of Bullion at the Strike Price, and in respect of which transaction the Parties have agreed (whether orally, electronically or in writing)

- (a) the quantity (in Ounces) and type of Bullion to be purchased and sold upon exercise of such Bullion Option;
- (b) which Party is the Seller and which is the Buyer,
- (c) the Premium,
- (d) the Strike Price,
- (e) the Expiration Date,
- (f) the Expiration Time (but where the Parties do not expressly agree upon the Expiration Time, it shall be deemed to be 9:30 a.m. New York time on the Expiration Date),
- (g) whether the Bullion Option is a Call Option or a Put Option;
- (h) whether it is an American Style Option or a European Style Option (but where the Parties do not expressly agree upon the style of Bullion Option, it shall be deemed a European Style Option); and

- (i) the delivery location and form of delivery (but where the Parties do not expressly agree upon the delivery location and the form of delivery, the Bullion to be delivered shall be delivered loco London by being credited to an unallocated account of a member of the LBMA agreed by both Parties (or, failing agreement, nominated by the delivering Party))

(ii) Bullion Trade

Bullion Trade is a term used to mean a spot or forward bullion trade. It is defined in the IBMA as any transaction (other than a Bullion Option, whether or not exercised) between the Parties for the purchase by one Party of an agreed quantity of Bullion against the payment by such Party to the other Party of an agreed amount of Currency, both such amounts being deliverable on the same Value Date, and in respect of which transaction the Parties have agreed (whether orally, electronically or in writing)

- (a) the quantity (in Ounces) and type of Bullion to be purchased,
- (b) which Party will purchase the Bullion,
- (c) the Contract Price,
- (d) the Value Date, and
- (e) the delivery location and form of delivery (but where the Parties do not expressly agree upon the delivery location and the form of delivery, the Bullion to be delivered shall be delivered loco London by being credited to an unallocated account of a member of the LBMA agreed by both Parties (or, failing agreement, nominated by the delivering Party)).

(iii) Bullion Obligation

Bullion Obligation is a term used to refer specifically to a Party's obligation to deliver Bullion or Currency under a Bullion Trade or a Bullion Option which has been exercised or deemed exercised. In the case of an obligation to deliver Currency, the amount of Currency to be delivered is (subject to Section 6 of the IBMA) the product of the Contract Price (in the case of a Bullion Trade) or the Strike Price (in the case of a Bullion Option) and the number of Ounces which are the subject of such Bullion Trade or Bullion Option, as the case may be

(iv) Bullion Transaction

Bullion Transaction is a term used to mean any Bullion Option or Bullion Trade

3. Base Currency

Where the IBMA is to be executed in the form of a Master Agreement, Base Currency is specified by each Party in accordance with Part I of the Schedule. If the Parties are dealing on the basis of the IBMA in the form of Terms, Pounds Sterling will be presumed to apply unless Parties agree otherwise. Upon the occurrence of an Event of Default, or some other event, resulting in a close-out and liquidation under the IBMA of outstanding Bullion Obligations and Bullion Options, the Base Currency of the Non-Defaulting Party is the Currency in which the final close-out amount will be calculated

Where this Base Currency is different from the Currency of the country in which the winding up of the Defaulting Party will take place, consideration should be given to whether local insolvency law will permit payments in other Currencies to creditors

The Base Currency Rate plus one percent per annum will be the interest rate used for the purposes of determining the late payment rate applied to the final close-out amount

4. Business Day

It is important to note that Business Day has alternative definitions depending on the context in which it is used.

5. Designated Office(s), Settlement Netting Office(s), Novation Netting Office(s), Matched Pair Novation Netting Office(s)

The IBMA contemplates that the Parties will enter into Bullion Transactions between pairs of offices (Designated Offices). Obligations to deliver a particular type of Bullion or Currency on the same Value Date between these Designated Offices may be settled by payment or settlement netting, in which case the Parties should agree which Designated Offices are Settlement Netting Offices. The Parties may also agree to novate Bullion Obligations, either in respect of transactions involving at least one common type of Bullion or Currency (in which case the relevant Designated Offices should be designated as Novation Netting Offices) or in respect of transactions involving the same type of Bullion and Currency (in which case the relevant Designated Offices should be designated as Matched Pair Novation Netting Offices). A general overview of the various provisions in the IBMA on settlement netting and novation is set out in II D of this Guide

If the Parties are trading on the basis of the IBMA executed in the form of a Master Agreement, it is important

that the Designated Offices which will enter into Bullion Transactions to be covered by the IBMA are agreed between the Parties before trading takes place and specified in accordance with Part II of the Schedule. Parties should also agree which pairs of Designated Offices will trade as Settlement Netting Offices (Part V of the Schedule), Novation Netting Offices (Part IV of the Schedule) and Matched Pair Novation Netting Offices (Part III of the Schedule) Any changes relating to any of these offices should also be agreed between the Parties.

If the Parties are dealing under the IBMA in the form of Terms, the Parties should specify in writing which offices are to be their Designated Offices, failing which the definition of "Designated Office" provides that those offices which enter into Bullion Transactions will be deemed to be the Designated Offices, so long as at least one is in the UK and there is no existing comparable netting agreement applicable to Bullion Transactions between them (see also I of this Guide).

Careful consideration should be given to the effect of local insolvency law and other relevant law (such as exchange control regulations) on the Designated Offices covered by the IBMA. For example, certain jurisdictions might not accept the netting of amounts due under Section 8.

6. Effective Date

The Effective Date where the IBMA has been executed in the form of a Master Agreement is the date of that Master Agreement. In the case where the IBMA is being utilized in the form of Terms, the Effective Date is the date agreed in writing by the Parties, failing which the Effective Date is the date designated as such by the LBMA in a notice to its members.

7. Events of Default

The Events of Default are generally credit-related events, which include non-payment, insolvency, cross-defaults affecting Credit Support Providers (such as guarantors) and cross-defaults under Specified Indebtedness and Specified Transactions. The Events of Default do not include events over which the Parties do not have control: illegality, impossibility, force majeure or act of State, which are described in and covered by Section 9 of the IBMA.

The Parties may elect in Part XV of the Schedule to include a provision whereby a Party may request adequate assurances from its counterparty as to that counterparty's ability to perform its obligations under the IBMA. If no such assurances are forthcoming, or the rel-

evant assurances are not, in the good faith opinion of the Party requesting the assurances, adequate, then two Business Days after the request for adequate assurance has been given the First Party may close-out and liquidate all outstanding Bullion Obligations and Bullion Options. Such a provision might allow a Party grounds to protect itself against uncertainties which do not, by themselves, otherwise constitute an Event of Default. During the pendency of the request for adequate assurances, the Party requesting adequate assurances may suspend its obligations under the IBMA. Such a provision is sometimes seen in agreements subject to US law, but it is not considered good market practice in the London market.

Where such a provision has been included, senior management is encouraged to review the desirability of making such a request and suspending payments, particularly where unsubstantiated rumor might be involved, and will wish to place particular weight on the potential effect on the counterparty of such a request. The request for adequate assurances must be reasonable given all the facts and circumstances. In all cases, the determination of both the reasonableness of the request and the adequacy of the assurances should depend on the facts of the situation.

8. Threshold Amount

Clause (h) (in the English law version) or Clause (i) (in the New York law version) of the definition of Event of Default provides that an Event of Default will occur if, by virtue of a default, event of default or other like event, Specified Indebtedness equal to, or in excess of, the Threshold Amount becomes, or becomes capable of being declared, due and payable before the Specified Indebtedness would otherwise have been due and payable. The Threshold Amount for each Party where the IBMA has been executed in the form of a Master Agreement should be specified in accordance with Part VI of the Schedule. Where the Parties are dealing on the basis of the IBMA in the form of Terms (and unless otherwise agreed in writing) the Threshold Amount will be assumed to be 3 percent of a Party's net worth (gross assets less gross liabilities), or if such amount cannot be determined by reference to published audited financial statements of that Party, 100,000 Pounds Sterling or Currency equivalent.

9. Value Date

Value Date is defined in the IBMA to mean:

- (i) in the case of a Bullion Trade, the Business Day agreed by the Parties for delivery of, and payment for, the Bullion to be purchased and sold;

- (ii) in the case of a Bullion Obligation, the Business Day upon which the obligation to deliver Bullion or Currency is to be performed;
- (iii) in the case of a Bullion Option which is an American Style Option, the second Business Day after the Exercise Date of such Bullion Option, and
- (iv) in the case of a Bullion Option which is a European Style Option, the second Business Day after the Expiration Date of such Bullion Option

Note that Business Day means, in this context, a Local Banking Day for the applicable Designated Office of both Parties and a trading day in the relevant Bullion market if settlement of the relevant Bullion Transaction involves the delivery of Bullion (the relevant Bullion market being the London Bullion market where delivery is loco London). In the case of a Bullion Option to be settled at the In-the-Money Amount, Business Day simply means a Local Banking Day for the applicable Designated Office of both Parties and does not also have to be a trading day in the London Bullion market.

B. Scope of the IBMA; Single Agreement

The IBMA generally governs all Bullion Transactions (i.e., Bullion Trades and Bullion Options) between two Designated Offices of the Parties entered into on or after the Effective Date. The Parties may, however, agree in accordance with Section 2.1 that specified Bullion Transactions then outstanding between any two Designated Offices of the Parties are to be subject to the provisions of the IBMA. Where the IBMA has been executed in the form of a Master Agreement, the Parties will do this by completing Part VII of the form of Schedule enclosed with the IBMA, in the case of the IBMA utilized in the form of Terms, the Parties should agree separately in writing. In both cases, upon such an agreement, all outstanding Bullion Transactions so specified shall be governed by the IBMA and the netting provisions of Sections 4, 6 and 8 of the IBMA will then apply to such transactions.

Section 2.2 provides that the IBMA, the Schedule (if any), the details relating to each Bullion Transaction governed by the IBMA, each Confirmation (insofar as the terms of such Bullion Transactions are recorded therein), and all amendments to such items together form the agreement between the Parties (the "Agreement"). Together these items constitute a single agreement between the Parties. The IBMA further states that the Parties enter into Bullion Transactions under the Agreement in reliance upon these facts. The intent of these provisions is to provide a legal basis for the close-out, liquidation and netting of all Bullion Transactions (as provided by Section 8) upon the

occurrence of an Event of Default with respect to one of the Parties. These provisions are considered important as part of the provisions intended to avoid the possibility that a trustee, receiver or conservator of a Defaulting Party would be upheld by a court in affirming and enforcing some Bullion Transactions (e.g., those as to which it is in-the-money) and rejecting and repudiating others (e.g., those as to which it is out-of-the-money), the practice commonly known as "cherry-picking."

C. Confirmations

Confirmations are an important defense against error and fraud. Section 2.3 provides that Confirmations of a Bullion Transaction should be exchanged promptly, although failure to do so will not negate the obligations arising from a Bullion Transaction. Any use of telephonic confirmations on the trade date should be followed on the same day by written Confirmations, exchanged through a means of immediate communication such as a telex, SWIFT, or fax transmissions, or by various automated dealing and confirmation systems.

If there has been a misunderstanding between the Parties as to the terms of a Bullion Transaction this will usually be discovered upon the review of the Confirmations. The non-receipt of expected Confirmations should be questioned or objected to within the time period recognized by local market practice.

Confirmations should identify in the case of any Bullion Transaction: (i) the Parties to it and their Designated Offices through which they are respectively acting, (ii) the quantity (in Ounces) and type of Bullion which is the subject of the relevant Bullion Transaction and which Party or would be the purchaser thereof, (iii) the Contract Price (in the case of a Bullion Trade) or the Strike Price (in the case of a Bullion Option), (iv) the Value Date, (v) the delivery location and form of delivery (but where the Parties do not expressly agree upon the delivery location and form of delivery, the Bullion to be delivered shall be delivered loco London by being credited to an unallocated account of a member of the LBMA agreed by the Parties (or, failing agreement, nominated by the delivering Party)), and (vi) any other term generally included in such a writing in accordance with the practice of the London Bullion market.

In the case of any Bullion Option, in addition to the above specified information, the Confirmation should also identify (i) which Party is the Seller and which is the Buyer, (ii) the Premium and the Premium Payment Date, (iii) the Expiration Date, (iv) the Expiration Time, and (v) where the Parties do not expressly agree upon

Expiration Time, it shall be deemed to be 9.30 a.m. New York time on the Expiration Date), (v) whether the Bullion Option is a Call Option or a Put Option, and (vi) whether the Bullion Option is an American Style Option or a European Style Option (but where the Parties do not expressly agree upon the style of Bullion Option, it shall be deemed a European Style Option).

The IBMA does not require Parties to send Confirmations for Bullion Transactions resulting from novation netting under Sections 4, 6.3(a) or 6.3(b) (see II D of this Guide).

Market participants are discouraged from including other terms and conditions in the Confirmation which would have the effect of amending the Agreement. You may wish to note, in connection with this, that Section 2.2 states that in the event of a conflict between a Confirmation and the other provisions of the Agreement, the Confirmation will govern with respect to that transaction. This gives the Parties the flexibility to agree to non-standard provisions for specific transactions (such as in the case of Asian style or exotic options) and still have the transactions governed by the more general provisions of the Agreement such as those relating to close-out. Note that this provision of Section 2.2 concerning conflicts between the Confirmation and the other provisions of the Agreement is intended primarily to apply to the economic terms of a transaction and not, in the absence of clear specific agreement between the Parties, to other provisions of the Agreement such as Events of Default or close-out.

Furthermore, brokers should be mindful of, and adhere to, market practice in dealings with counterparties (including the prompt issuance of Confirmations) in the New York market, the Parties to the Bullion Transaction should exchange Confirmations (including for spot Bullion Trades), notwithstanding the fact that the Parties have received Confirmations from a broker. Parties dealing in the London market, whether directly or through brokers, should note the requirements of the London Code of Conduct regarding confirmations.

No form of Confirmation for either Bullion Trades or Bullion Options has been suggested because market participants use a variety of forms of acceptable Confirmations.

D. Settlement and Netting

1. Settlement - Section 6.1

Section 6.1 of the IBMA anticipates that each Party will deliver to the other Party the amount of the Bullion or

Currency to be delivered by it under each Bullion Transaction on the Value Date relating to it and that any amount of such Bullion will be delivered loco London by being credited to an unallocated account at a member of the LBMA agreed by both Parties (or, failing agreement, nominated by the delivering Party), unless the Parties agree to deliver at another location and/or in other form.

2. Net Settlement/Payment Netting - Section 6.2

Parties may provide for net settlement in accordance with the provisions of Section 6.2 if each Party has agreed Settlement Netting Offices in accordance with Part V of the Schedule. Under the concept of settlement netting, on each Value Date each Party will aggregate the amounts of a type of Bullion or Currency (i.e., Gold with Gold, Silver with Silver and payments in one Currency with other payments in the same Currency) to be delivered by it on that date, and only the difference between these aggregate amounts will be delivered by the Party with the larger aggregate amount.

The amounts of Bullion or Currency deliverable on settlement following settlement netting will not differ from those that would be deliverable following novation netting where that applies (see II D 3 of this Guide). Novation netting, however, involves the legal netting and replacement of individual delivery obligations on the trade date (as distinct from the Value Date in the case of a settlement netting).

3. Novation Netting - Sections 4, 6.3(a) and 6.3(b)

The IBMA provides for a two-part regime for effecting novation netting:

(I) Unexercised Bullion Options - Section 4

Section 4 provides for the automatic discharge and termination of Call Options written by both Parties and Put Options written by both Parties **provided that:**

- (a) the Parties agree in writing that Section 4 shall apply (by so specifying in accordance with Part IX of the Schedule if the Parties trade on the basis of IBMA executed in the form of a Master Agreement or by so specifying in any other form of writing if the Parties deal under the IBMA in the form of Terms);
- (b) the material terms (as set out in Section 4 in greater detail) of the relevant Bullion Options are the same;
- (c) Premiums with respect to such Bullion options have been paid;

(d) each such Bullion Option is being transacted through the same Designated Offices of both Buyer and Seller respectively, and

(e) such Bullion Options have not been exercised

The sole remaining rights and obligations of the Parties, with respect to Bullion Options discharged and netted under Section 4, are to exercise that portion, if any, of one of the Bullion Options that is not discharged and terminated and to settle such portion upon the exercise thereof. Section 4 effectively allows counterparties to close out existing Bullion Options or to reduce their exposure to each other by entering into offsetting Bullion Options

(ii) Bullion Trades and Exercised Bullion Options - Sections 6.3(a) and 6.3(b)

Existing Bullion Obligations (i.e., obligations of a Party to deliver Bullion or Currency pursuant to a Bullion Trade or a Bullion Option which has been exercised or deemed exercised pursuant to Section 5.3 (Automatic Exercise)) will be automatically cancelled and replaced in accordance with Section 6.3(a) by a new Bullion Obligation which is the portion of such existing Bullion Obligations that is not cancelled or replaced **provided that:**

(a) the Parties agree in writing that Section 6.3(a) shall apply (by specifying Novation Netting Offices in accordance with Part IV of the Schedule if the Parties trade on the basis of the IBMA executed in the form of a Master Agreement or by so specifying in any other form of writing if the Parties deal under the IBMA in the form of Terms),

(b) the relevant Bullion Obligations are entered into by the Parties through the same pair of Novation Netting Offices, and

(c) the relevant Bullion Obligations have the same Value Date and are in the same type of Bullion or Currency.

The provisions of Section 6.3(b) are broadly similar except that novation netting by matched pair involves the same type of Bullion and Currency. Parties are also required to designate Matched Pair Novation Netting Offices (instead of Novation Netting Offices) in accordance with Part III of the Schedule or in any other form of writing, as appropriate

Whether the Parties enter into the IBMA in the form of a Master Agreement or deal on the basis of the IBMA in the form of Terms, the Parties must, if they wish to apply the novation netting provisions of Sections 6.3(a) and/or 6.3(b), elect whether the provisions of Sections 6.3(a)

and/or 6.3(b) will apply to all Bullion Obligations or only to Bullion Obligations with a Value Date more than two Business Days after the day on which the Parties enter into such Bullion Obligation. This provision reflects market practice in the Bullion market that, although spot and forward Bullion Trades and exercised Bullion Options are similar agreements which create obligations to exchange Bullion or Currency on a Value Date, market participants classify these transactions according to their maturity. A spot Bullion Trade is generally one whose Value Date is two Business Days after the trade date of the Bullion Trade. Similarly, an exercised Bullion Option is generally settled two Business Days after the Exercise Date (in the case of an American Style Option) or the Expiration Date (in the case of a European Style Option). For operational or other reasons, market participants may not wish such transactions to be subject to novation netting. For other purposes of the IBMA, including the close-out provisions, spot Bullion Trades will be dealt with on the same terms as forward Bullion Trades

As noted under the discussion of Confirmations (Part IV of this Guide), where Bullion Obligations arise pursuant to the novation netting provisions contained in the IBMA, no exchange of netting Confirmations is required

Net Settlement/payment netting and/or novation netting will be suspended upon the occurrence of a Close Out Date or if any involuntary case or other proceeding described in clause (c) of the definition of Event of Default has occurred without being dismissed (within a specified number of days) in relation to either Party.

E. Representations, Warranties and Covenants

The representations and warranties contained in Section 7 are made by each Party on each occasion when the Parties enter into a Bullion Transaction

Under Section 7.1(c), each Party represents, among other things, that the Agreement and each Bullion Transaction governed by the Agreement do not violate any laws to which the Party is subject. Such representation would include, for example, a representation that the Agreement and the Bullion Transactions are permitted for the Party under any applicable commodities law as the U.S. Commodity Exchange Act

An important representation is made pursuant to Section 7.1(e), where each Party warrants to the other that it acts only as principal in entering into each Bullion Transaction. This representation could not be made by a fund manager or other person acting as an agent or principal

Where a representation or warranty is shown to have been materially false or misleading then, after the applicable grace period has elapsed, the other Party may, by notice, designate an Event of Default pursuant to clause (f)(i) of the definition of Event of Default, close-out and liquidate all outstanding Currency Obligations.

Under Section 7.2, each Party covenants to the other that it will do all that is necessary to ensure that it has the relevant authority to be able to perform its obligations under the Agreement and that it will notify the other Party of the occurrence of an Event of Default in respect of itself or any Credit Support Provider or any event which with the giving of notice or the passage of time or both would constitute an Event of Default with respect to itself or its Credit Support Provider.

F. Close-Out and Liquidation

The provisions of Section 8 should be read carefully and understood as they set forth the rights and obligations of the Parties upon the occurrence of an Event of Default with respect to either of them. (In addition, the close-out and liquidation procedures set forth in Sections 8.1, 8.2 and 8.4 will also be followed in relation to the affected transaction in the event that it becomes illegal or impossible for a Party to perform its obligations under a Bullion Transaction (see Section 9 of the IBMA).)

Section 8.1 sets out the steps which a Non-Defaulting Party must take in closing out and liquidating Bullion Obligations (including Bullion Obligations arising from the exercise or deemed exercise of Bullion Options) on the one hand (under paragraph (a)) and Bullion Options which have neither been exercised nor deemed exercised on the other (under paragraph (b)). In each case, the Non-Defaulting Party is required to close-out and liquidate all outstanding Bullion Obligations or all unexercised Bullion Options, as the case may be.

Under the IBMA Terms, in the case of certain specified Events of Default relating to the insolvency of the Defaulting Party, the close-out and liquidation will be automatic with respect to all outstanding Bullion Obligations and Bullion Options.

Section 8.1 provides for the calculation and aggregation of market damages for each Party for each Bullion Obligation or Bullion Option closed-out and liquidated. The Non-Defaulting Party should endeavor to close-out and liquidate all outstanding Bullion Obligations and all Bullion Options on a single day. However, if this is impracticable, the close-out and liquidation should be completed as soon as possible. The determination of market damages for each Party in each instance must be made

in good faith, including the use of market rates.

In the case of Bullion Obligations (including Bullion Obligations arising from the exercise or deemed exercise of Bullion Options), close-out and liquidation is to be effected by calculating the Closing Gain and Closing Loss on each transaction and converting the resulting amounts to the Non-Defaulting Party's Base Currency (where different). Thereafter, all Closing Gains and Closing Losses payable to the Defaulting Party and vice versa are summed by Value Date and adjusted to present value by discounting, or, in the case of overdue obligations, adding interest. All the Value Date amounts (with interest or discount as applicable) are then aggregated to produce a single figure. The net figure becomes the amount (in respect of Bullion Obligations) to be paid (if negative) by the Non-Defaulting Party to the Defaulting Party or to be paid (if positive) by the Defaulting Party to the Non-Defaulting Party.

In the case of Bullion Options which have not been exercised or deemed exercised, close-out and liquidation is to be effected (broadly) by:

- (i) calculating for each Party the sum of current market premiums (in respect of Bullion Options purchased), unpaid premiums together with any interest thereon (in respect of Bullion Options sold), and (if such Party is the Non-Defaulting Party) any costs or expenses incurred by it in covering its obligations (including a delta hedge) with respect to such liquidated Bullion Options;
- (ii) converting the sum arrived at in (i) above into the Non-Defaulting Party's Base Currency (where different), and
- (iii) netting the sums calculated in respect of each Party to arrive at a single liquidated amount

Under Section 8.3, the Non-Defaulting Party may close-out and liquidate in accordance with the provisions of Section 8.1 any other Bullion Transactions not governed by the IBMA then outstanding between the Parties (for example, Bullion Transactions booked at offices that are not Designated Offices or certain exotic or Asian style options which are not otherwise covered by the IBMA).

Section 8.4 provides that the net amount of market damages payable pursuant to Sections 8.1 and 8.3 shall be paid by one Party to the other by the close of business on the Business Day following the close-out and liquidation of the Bullion Obligations and Bullion Options. In some countries, a judgment can be rendered only in the Currency of that country. Therefore, Section 8.4 provides

that, if required by applicable law, the net amount payable by one Party to the other will be converted into a Currency other than the Non-Defaulting Party's Base Currency. Any costs of such conversion will be borne by the Defaulting Party. If this amount is not paid when due, Section 8.4 provides for the payment of interest at the applicable interbank rate plus 1% per annum for each day for which the amount remains unpaid or at such other rate as may be prescribed by applicable law.

Section 8.5 establishes the right of one Party to suspend performance of its obligations under the IBMA if the counterparty is currently in default in the payment or performance of any of its obligations under the IBMA and the Non-Defaulting Party has not exercised its rights under Section 8.1. The provision does not provide for the payment of interest for the period during which performance of obligations is suspended by the Non-Defaulting Party.

Section 8.8 provides that the rights of the Non-Defaulting Party under Section 8 of the IBMA are in addition to any other rights which the Non-Defaulting Party may have by way of agreement, operation of law or otherwise, including, but not limited to, a general right of set-off. Parties may wish to apply their rights of set-off under this Section 8.8, for example, to obligations in respect of Bullion loans, leases or consignments.

G. Illegality, Impossibility and Force Majeure

Section 9 provides that, if either Party is unable to perform, or is hindered or delayed in performing, its obligations in respect of any Bullion Obligation or Bullion Option due to force majeure or act of State, or if it otherwise becomes illegal or impossible for either Party to make or receive any payment in respect of a Bullion Obligation or Bullion Option, then either Party may, after notice of the occurrence of such event, close-out and liquidate affected Bullion Obligations or Bullion Options. It is worth noting that this Section is intended to apply where a Party is prevented from performing because, for example, sanctions have been imposed by one country on another or a state of war has been declared.

Although such events do not constitute Events of Default, the close-out and liquidation procedures to be followed are those provided for in Section 8. Either of the Parties may initiate such action upon notice to the other, although (to emphasize the point) only in relation to the affected Bullion Obligations or Bullion Options. It is important that the Parties have the ability to liquidate positions promptly in order to limit their exposure to Bullion Obligations or Bullion Options which one of the Parties may be unable to perform. If Section 9 is applic-

able to the obligations of both Parties, the Parties should mutually agree upon the close-out and liquidation of the affected Bullion Obligations and Bullion Options.

H. Parties to Rely on Their Own Expertise

Section 10 establishes that each of the Parties has relied on its own expertise and judgment in entering into each Bullion Transaction and as to all other subsequent actions or matters related thereto. The intent of this provision is to protect each of the Parties from a claim of action by the other Party where it is alleged that the first Party exercised such influence or control that it should be liable for losses incurred or that the first Party sold to the other an unsuitable product.

I. Miscellaneous

1. Currency Indemnity

In part, the intent of Section 11.1 is to ensure that any payment resulting from close-out and liquidation of Bullion Obligations and Bullion Options arising either as a result of an Event of Default, or illegality, act of State, impossibility or force majeure, and pursuant to the operation of Sections 8 or 9, is made in the receiving Party's Base Currency (i.e., the Non-Defaulting Party's Base Currency) and is paid in the full amount in such Base Currency. If payment is made in some other Currency, such payment is deemed to discharge the obligation of the payer only to the extent that the payee could purchase the full amount of the Base Currency (or the Non-Defaulting Party's Base Currency) with the amount of the Currency received on the Business Day following the date of receipt. If the amount of the Currency received is insufficient to purchase the full amount of the Base Currency, the payer indemnifies the payee against such loss and, in any event, the payer indemnifies the payee against any costs incurred in purchasing the Base Currency. Parties should, in appropriate cases, check with local counsel the enforceability of such a provision under local law.

2. Telephonic Recording

Pursuant to Section 11.3, the Parties agree to the recording of any telephone conversations between them and agree that such tape recordings can be submitted as evidence in any proceeding relating to the IBMA. It is standard market practice that the conversations between traders and between traders and brokers are recorded. This practice is encouraged, as such recordings substantially reduce the number of disputes that arise between market participants and the time which it takes to resolve such disputes.

3. Notices

Section 11.5 provides that a Party executing the IBMA in the form of a Master Agreement should specify in accordance with Part VII of the Schedule (and a Party dealing under the IBMA in the form of Terms should notify in writing) its address, telex number, facsimile or telephone number and the appropriate individual or department for the giving of notices under the IBMA. Changes to such information should be given by notices made pursuant to the provisions of Section 11.5.

4. FDICIA Representations

The Parties may agree to include a representation (set out in Part XVI of the Schedule to the New York law version of the IBMA) that they are financial institutions and express their agreement that the IBMA constitutes a netting contract subject to the provisions of the netting provisions of Title IV of the United States Federal Deposit Insurance Corporation Improvement Act of 1991 ("FDICIA"), which gives increased certainty as to the enforceability of netting contracts between financial institutions. In order to benefit from the provisions of FDICIA, a netting contract, such as the IBMA, must be governed by the law of a United States jurisdiction and the agreement must accordingly be executed in the form of a Master Agreement. Under FDICIA, the term "financial institution" includes depository institutions (insured banks, thrifts and credit unions; US branches and agencies of non-US banking institutions; and Edge Act and agreement corporations), brokers or dealers in securities licensed as such under US federal or state law, futures commission merchants licensed under US federal law to engage in the business of selling futures and options in commodities, and other entities specified as financial institutions by the Federal Reserve. The Federal Reserve has issued Regulation EE, which includes certain other institutions, including institutions organized under non-US law, under the definition of "financial institution" for the purposes of the FDICIA netting provisions, provided that certain qualitative and quantitative tests are met. Part XVI of the Schedule to the New York law version of the IBMA gives Parties the option of making representations that such tests are satisfied if such is the case.

5. Value Added Tax ("VAT")

VAT is (broadly) a European turnover tax chargeable in respect of supplies of goods and services. The person making a VATable supply is usually the person responsible for charging the VAT and accounting to the relevant fiscal authority for the VAT chargeable, and the person receiving such a VATable supply may (depending, gen-

erally, on the nature of his business) be able to recover the whole or part of such VAT

UK VAT is chargeable in respect of dealings in Bullion at either the standard rate (of 17.5%) or the zero rate. Dealings on the London Bullion market are in the main zero-rated. Nevertheless, provisions have been incorporated in the IBMA (see Section 11.12) to cover those circumstances where VAT is chargeable at the standard rate. Such provisions place the burden of the tax on the recipient of the relevant supply (which is usual, given that such a person may be able to recover the whole or part of any VAT paid).

Briefly, the provisions deal with the following main situations:

- (i) where VAT is chargeable and accountable by the party which is, for example, selling Bullion pursuant to the IBMA;
- (ii) where VAT is chargeable and accountable by an LBMA member (for example, where Bullion belonging to one party, not being an LBMA member, leaves the effective physical control of an LBMA member for delivery in the UK to the other party, also a non-LBMA member); and
- (iii) where VAT is accountable by the party which is, for example, purchasing and taking delivery of gold in the UK pursuant to the IBMA (there is a special regime in the UK relating to supplies of gold which in certain circumstances places the responsibility for accounting to Customs & Excise for the VAT chargeable on the recipient of the supply, as opposed to the supplier, which is more usually the person who is liable to account of the tax)

6. Withholding Tax

The Parties may elect in Part XIV of the Schedule to include provisions to cover any withholding tax which may be chargeable in respect of payments made under the IBMA. From the UK perspective under present law, such provisions will only really be relevant in the case of payments of interest (such as default interest) under the IBMA.

Briefly, such provisions provide for:

- (i) the party which is required to withhold tax to gross up the payment concerned;
- (ii) the party receiving a payment on which withholding tax is chargeable to use reasonable endeavors to apply for double tax treaty relief (where available); and

(iii) the party receiving a grossed-up payment to pass back to the party which grossed up any tax credit, etc which the former obtains as a consequence of the withholding

J. Law and Jurisdiction

It is expected that counterparties, and especially those physically located in either the UK or the US, will choose either English law or New York law to govern the IBMA. It is also expected that Parties will submit to the jurisdiction of either the courts in England or in the State of New York, consistent with their choice of governing law. However, as such submission to jurisdiction is expressed to be non-exclusive, Parties are intended to be free to bring actions, suits or proceedings in other jurisdictions, subject to applicable procedural requirements of the relevant jurisdiction. Where Parties deal on the basis of the IBMA in the form of Terms, English law will be assumed to be the governing law, unless otherwise agreed.

In the New York market, in the case of any dispute relating to Bullion Transactions governed by the IBMA, the Parties are encouraged to mitigate their respective losses and to act in good faith promptly to identify and resolve the dispute. It is customary in the New York market for disputes to be resolved by allocating between the Parties any losses arising out of such disputes by assessment of the relative fault of each Party in contributing to such losses. Examples of situations where a Party contributed to the loss might include a failure of a Party to verify the terms of the Confirmation or the failure of a Party in a Confirmation to state the correct terms of the Bullion Transaction, which failure might be compounded by the failure of the other Party to recognize the mistake of the first Party.

Pursuant to Section 12.3, each Party explicitly waives any sovereign immunity it may be entitled to assert in any legal proceeding arising out of the IBMA.

K. Schedule

Where the IBMA is executed in the form of a Master Agreement, the Parties should complete a Schedule in the form included with the IBMA. The Schedule contains, amongst other things, particulars concerning each Party, such as the address, telephone, telex and facsimile number, and contact person for notices and other communications, and each Party's Base Currency. In Parts II-V of the Schedule, the Parties must designate their branches or offices whose transactions and dealings are intended to be covered by the IBMA as Designated Offices, Settlement Netting Offices, Novation Netting Offices and

Matched Pair Novation Netting Offices, respectively.

Part XIII of the Schedule gives a Party the option of appointing an agent for service of process. Any Party relying on such an appointment by the other Party should verify to its satisfaction that the appointment has been accepted by the agent so designated.

III. BULLION OPTIONS - RELEVANT PROVISIONS AND MARKET PRACTICE

The IBMA contains provisions which are particularly relevant to Bullion Options. These are outlined as follows:

Section 3	Premiums
Section 4	Discharge and Termination
Section 5	Exercise and Settlement
Section 6.3	Novation Netting
Section 6.4(d)	Netting of Premiums
Section 8.1(b)	Close-Out

Section 4 (Discharge and Termination), Section 5 (Exercise and Settlement) and Section 8.1(b) (Close-Out) have already been dealt with in this Guide (see II D and II E respectively).

A. Premiums - Sections 3 and 6.4(d)

Section 3.1 provides that, unless the Parties otherwise agree, the Premium shall be paid in the Option Currency (i.e., the Currency in which the Premium and the Settlement Price are expressed) no later than the second Business Day after the day on which the relevant Bullion Option is granted. (Note that, in this context, Business Day means a day which is a Local Banking Day for the applicable Designated Offices of both Parties).

Market practice is that Bullion Options are quoted in terms of specific monetary amounts of Premium (for example, US dollars and cents per Ounce). The foreign exchange market norm of quoting on a volatility basis is not general practice.

Section 3.2 provides for alternative courses of action in the event that a Premium is not received on the Premium Payment Date. As Premiums are sometimes paid late (due primarily to operational problems or clerical mistakes), under appropriate circumstances, a Seller is generally willing to accept a late payment, and it is a common practice in the market for a Seller to do so. However, where the failure to pay the Premium has not been remedied after a short period of time or is otherwise related, the Seller may choose either to void the Option or to take the more drastic step of declaring

Event of Default. In the case of either a late payment or the decision to treat the relevant Bullion Option as void, the Seller is entitled to recover its out-of-pocket costs and actual damages incurred, specifically including interest on the amount of any Premium (which would be calculated in the same manner as any other late payment in the inter dealer Bullion market) and any costs or expenses in covering its obligations (including, without limitation, a delta hedge). Where the Seller chooses to declare an Event of Default, such amounts are recoverable under the provisions of Section 8.

Section 6.4(d) provides for the netting of Premiums if (a) the Parties so agree in writing (by specifying in Part X of the Schedule if the IBMA is executed by the Parties in the form of a Master Agreement or by specifying in any other form of writing if the Parties are dealing on the basis of IBMA in the form of Terms); (b) the Premiums are payable on the same Premium Payment Date, in the same Currency and between the same Designated Offices of the Parties.

B. Exercise and Settlement - Section 5

1. Notice of Exercise

A Bullion Option may be exercised by delivery of a Notice of Exercise in accordance with Section 5.1.

In the case of an American Style Option, if a Notice of Exercise is delivered on any Business Day prior to the Expiration Date, the cut-off time is 2:00 p.m. (Seller's local time) on such Business Day. Any Notice of Exercise received after the cut-off time will be effective only as of the opening of business of the Seller on the first Business Day subsequent to its receipt. (Subject to III B 2(ii) of this Guide, Business Day means, in this context, a day which is a Local Banking Day for the applicable Designated Office of the Seller). If, on the other hand, a Notice of Exercise is delivered on the Expiration Date, the cut-off time is the Expiration Time (i.e., 9:30 a.m. (New York time) on the Expiration Date, which is the market practice, unless the Parties otherwise agree).

In the case of a European Style Option, the cut-off time is also 9:30 a.m. (New York time) on the Expiration Date, unless the Parties otherwise agree.

2. Quotation of Expiration Date - Market Practice

Generally there are two methods for quotation of Expiration Dates - quotation of Expiration Dates by calendar month and quotation of specific dates. (Note that, as in the context of delivery of a Notice of Exercise, subject to III B 2(ii) of this Guide, Business Day is defined, for the purpose of the definition of Expiration Date, as a

Local Banking Day for the applicable Designated Office of the Seller.)

(I) Expiration Dates by Calendar Month

Currently, it is market practice to quote for expiration in a particular month without reference to the actual date. This convention gives rise to Standard Dates which are two Business Days before the last Business Day of the month.

(II) Expiration Dates for Specific Dates

For Expiration Dates other than Standard Dates, Parties must take special care to agree upon a date which is a Business Day. Although the IBMA does not provide that the Expiration Date must be a Business Day, this will customarily be the case. However, some dealers occasionally sell Bullion Options with Expiration Dates that are not Business Days. Similarly, some dealers will accept Notice of Exercise on a day which is not a Business Day. If the Expiration Date is not a Business Day or if the Seller is not willing to accept Notice of Exercise at its Designated Office on a day which is not a Business Day, it is incumbent upon the Seller to make other arrangements (such as designating a different office or an agent for receipt) to enable the Buyer to exercise the Bullion Option. In these circumstances, the Seller should notify the Buyer of such arrangements as soon as possible and reconfirm them to the Buyer prior to the Expiration Date.

3. No Partial Exercise

Section 5.2 provides that, unless otherwise agreed by the Parties, a Bullion Option may be exercised only in whole and not in part.

4. Automatic Exercise

Section 5.3 provides for automatic exercise of Bullion Options which are at least 1% in-the-money at the Expiration Time and which have not been exercised by delivery of a Notice of Exercise. The provision is **not** meant to be a substitute for the delivery of a Notice of Exercise by the Buyer, which is good market practice and is encouraged. For this reason, (a) a Bullion Option will only be deemed exercised under Section 5.3 if at the Expiration Time, it has an In-the-Money Amount that equals or exceeds the product of 101% (or such other percentage as may have been agreed by the Parties) of the Strike Price and the number of Ounces of Bullion which are the subject of such Bullion Option and (b) the Seller determines the Spot Price that is used to calculate the In-the-Money Amount.

5. In-the-Money Amount Settlement

Section 5.5 provides that if the Buyer so elects in its Notice of Exercise, a Bullion Option shall not be settled by way of physical delivery of the Bullion but will instead be net cash settled by a payment to the Buyer of the Bullion Option's In-the-Money Amount (or intrinsic value). The intrinsic value of a Bullion Option will be equal to the difference between the Spot Price and the Strike Price multiplied by the number of Ounces of the Bullion to be delivered upon exercise of the Bullion Option. An example of the calculation of the intrinsic value of a US Dollar Gold Call is as follows:

US Dollar Gold Call	·	Spot Price (\$395.00) - Strike Price (\$370.00)
Amount traded		25,000 Ounces
In-the-Money Amount		$\$25 \times 25,000 = \$625,000$

The level of the Spot Price at the time of exercise is therefore, crucial to the ultimate value of the net cash settlement. Unless the Buyer specifies otherwise (which it is entitled to do (see Section 5.5)), the Spot Price that is used for such purposes is generally determined in good faith by the Seller. The Buyer should, therefore, ascertain **at the outset** how the Seller will determine the Spot Price.

There are some slight differences between the English law and the New York law versions of the IBMA. Copies of the English law version and a summary of the differences (Part IV of their guide) can be obtained by contacting the Committee's Executive Assistant.

GUIDELINES FOR THE MANAGEMENT OF FOREIGN EXCHANGE TRADING ACTIVITIES

As Amended in March 1992

This is the Committee's third revision of a paper first published in 1980. The Committee's discussions of market practice during that year centered on management issues relating to the control and supervision of foreign exchange trading activities that were not adequately addressed in existing codes of good trading practices or guidelines for foreign exchange operations. Since then, the Committee has addressed numerous questions regarding market practice and reviewed changing techniques for evaluating and managing risk exposures. As a consequence, the current version of the Committee's guidelines is both more comprehensive and up-to-date.

These guidelines present the views of representatives of a number of commercial banks, investment banks, and brokerage firms participating in the U.S. foreign exchange market. The guidelines are primarily directed to the managers of institutions actively trading foreign exchange (including both commercial banks and, where appropriate, investment banks) and also to the managers of foreign exchange brokerage firms. However, others may also find it a useful document. Individual traders and brokers may benefit from a discussion of these issues. In addition, much of the material is sufficiently general to apply to trading operations other than foreign exchange.

CONFIDENTIALITY

Confidentiality and customer anonymity are essential to the operation of a professional foreign exchange market. Market participants and their customers expect to have their interest and activity known only by the other party to the transaction and an intermediary if one is used.

Managers are responsible for ensuring that their employees have been trained to identify and to treat accordingly information that is confidential and to deal appropriately with situations that require anonymity. A trader may have access to a considerable amount of confidential information. In addition to the trades he prices, he may know of confidential material prepared within his own organization or obtained from those with whom his institution does business. Such information might pertain directly to the foreign exchange market or to other financial markets. While not explicitly stated to be

confidential, it may not be publicly available.

Managers should expect that their employees will not pass on confidential information outside of their institution except with the permission of the party or parties directly involved. Nor should a trader or broker distribute confidential information within his institution except on a need-to-know basis. Managers should not tolerate traders or brokers utilizing confidential material for personal benefit nor in any manner that might compromise their institution. Of course, it should be recognized that disclosure of certain information may occasionally be required by law or regulation. But in the event that confidentiality is otherwise broken, it is the role of management to act promptly to correct the conditions that permitted such an event to occur.

Management should be alert to the possibility that the changing mechanics of foreign exchange trading might jeopardize their efforts to preserve confidentiality. As technological innovations are introduced into the trading environment, managers should be aware of the security implications of such changes. The use of two-way speaker phones initially generated considerable concern, but their use has since been abandoned or controlled to safeguard confidentiality. Ongoing advances in telecommunications systems, computer networks, trade processing systems, market analysis systems, and the integration of these systems with others within an institution all can lead to inadvertent breaches of security. The potential loss of confidentiality represented by complex systems — with multiple users, multiple locations, and ongoing data base or operating program changes — may be further complicated when the central processing unit or software is managed by an outside vendor.

Managers should also act to protect sensitive information when visitors are present in trading rooms or brokerage operations. There is always the possibility that visitors will be exposed to information not intended for them; names of participants, amounts of trades, and currencies traded could accidentally be disclosed. Whether or not disclosed information is ever put to use, and however unintentional disclosure may be, the simple fact that confidentiality between counterparties has been violated is grounds for concern. Visits should be prearranged and visitors should be accompanied by an employee of the

host institution. A visitor from another trading institution should not be permitted to trade for his own institution from the premises of the host.

TRADING FOR PERSONAL ACCOUNT

In general, managers should expect that traders will give their full attention to their employing institution's business activities and not be distracted by their own personal financial affairs. Managers should also expect that traders will fulfill their institutional responsibilities objectively, unbiased by their own financial position.

Managers should be aware that, if traders are permitted to deal for themselves in those commodities or instruments closely related to the ones they deal for their institution, a conflict of interest or an appearance of a conflict of interest might arise that could be detrimental or embarrassing for the institution, the trader, or both. It is a management responsibility to develop and disseminate a clear institutional policy on these matters and, if such trading for personal account is permitted at all, to establish procedures to avoid actual conflicts of interest. At a minimum, an institution should require senior management to give traders explicit permission to engage in trading for personal account and require traders to execute such transactions in a manner that allows management to monitor these trading activities. Some institutions have recently gone further by taking steps to prohibit their traders from any trading for personal account that could give rise to even the appearance of a conflict of interest.

Traders should recognize that they, too, have a responsibility to identify and avoid conflicts or the appearances of conflicts of interest. A trader should bring to management's attention any situation about which there is a question of propriety. In no instance should a trader use his institutional affiliation, or take advantage of non-public or exclusive foreign exchange transaction information involving a third party, to create trading opportunities for personal gain.

ENTERTAINMENT/GIFTS

Management should assure themselves that their institution's general guidelines on entertainment and the exchange of gifts are sufficient to address the particular circumstances their employees may encounter. Where appropriate, such general guidelines should be supplemented for trading personnel to help them avoid the dangers of excessive entertainment. Special attention needs to be given to the style, frequency, and cost of entertainment afforded traders. Many trading institutions have mechanisms in place to monitor entertainment. Although

it is customary for a broker or trader to entertain market contacts at lunch or dinner on occasion, entertainment even in this form becomes questionable when it is undocumented, unwritten but not attended by the host.

In turn, foreign exchange market personnel should conduct themselves in such a way as to avoid potentially embarrassing situations and to reduce the chances of incurring a presumption of indebtedness. They should fully understand their institution's guidelines on what constitutes an appropriate gift or entertainment as well as the bounds of law and reasonable propriety. They should also be expected to notify management regarding unusual favors offered traders by virtue of their professional position.

PERSONNEL ISSUES FOR MANAGEMENT

The work environment for trading personnel has some very important characteristics. Trading room positions are by their nature positions of great trust. The pace of work for traders is intense. They operate under strong internal pressures to make profits in a market that is open 24 hours a day. Yet the process of developing a trader has become compressed. Today, traders are either hired from other institutions or they are developed internally from individuals thought to have either on-the-job experience or academic training in areas that would prepare them quickly for market-making and/or position-taking activities.

Selection. The process of selecting new employees is an important management responsibility. Management should ensure that prospective trading room staff meet pre-determined standards of aptitude, integrity, and suitability for trading room jobs at all levels. Managers should exercise caution in delegating hiring decisions. To the extent possible, job candidates should be interviewed, several staff members of the institution, and references should be checked. The managers' expectations concerning a trader's responsibilities, profitability, and behavior should be discussed thoroughly before a candidate is hired.

Policies and procedures of the organization. The mobility of trading personnel within the financial industry has a material effect on a trader's perception of his relationship to his employer. It is possible for an employee to begin trading an instrument for an institution without having an intimate knowledge of the traditions and practices of that market or of the traditions and corporate culture of his current employer. This situation can give rise to misunderstandings about management's expectations of traders.

Managers should ensure that each trader is fully acquainted with the policies, procedures, and style that their institution chooses to employ in the conduct of its business. Management should consider providing complete orientation procedures for new employees of all levels and formal procedures to ensure periodic review of the institution's rules and policies by each trader.

Stress. Stress may lead to job performance problems. Managers need to be able to identify symptoms of stress among trading personnel and then act to mitigate any incipient problem. Management should consider educating trading room staff in personal stress management techniques.

Drug abuse. Managers should educate themselves and their traders or brokers to the signs of drug use and to the potential damage resulting from the use of drugs and other forms of substance abuse. Policies should be developed and clearly announced for dealing with individuals who are found to be substance abusers.

TRADING PRACTICES

The smooth functioning and integrity of the interbank market, whether direct dealing or through the intermediation of brokers, depends on trust, honesty, and high standards of behavior by all market participants.

Traders' responsibility for prices. It is a management responsibility to ensure that traders who are authorized to quote dealing prices are aware of and comply with internal policies and procedures that apply to foreign exchange dealing.

In the interbank market, dealers are expected to be committed to the bids and offers they propose through brokers for generally accepted market amounts unless otherwise specified and until the bid or offer is (1) dealt on, (2) canceled, (3) superseded by a better bid or offer, or (4) the broker closes another transaction in that currency with another counterparty at a price other than that originally proposed. In the latter two cases, the broker should consider that the original bid or offer is no longer valid unless reinstated by the dealer.

Need to avoid questionable practices. When markets are unsettled and prices are volatile, opportunities may arise for traders to engage in practices which may realize an immediate gain, or avoid a loss, but which may be questionable in terms of a trader's reputation — as well as that of the trader's institution — over the long run. The kinds of questionable practices are many. Some, like perpetrating rumors, may reflect adversely on the professionalism of the trader. Others, like reneging on deals, may give rise to liability.

Management should be alert to any pattern of complaints about a trader's behavior from sources outside the institution such as customers, other trading institutions, or intermediaries. Information available within the organization should be reviewed to determine if individual traders or brokers become frequently involved in disputes over trades or tend to accept deals at rates which were obvious misquotes, accidental or otherwise, by counterparties. Complaints about trading practices may be self-serving, however, and should be handled judiciously.

Off-market rates. Dealers may occasionally face requests from customers to use an "off-market" exchange rate. Such requests should be accommodated only after resolving issues concerning credit policy and propriety.

"Historical-rate rollovers" are an important example of off-market rate transactions. (See Foreign Exchange Committee letter entitled "Historical-Rate Rollovers: A Dangerous Practice," December 26, 1991.) Historical-rate rollovers involve the extension of a forward foreign exchange contract by a dealer on behalf of his customer at off-market rates. The application of non-market rates can have the effect of moving income from one institution to another (perhaps over an income reporting date) or of altering the timing of reported taxable income. Such operations, in effect, result in an extension of unsecured credit to a counterparty.

The use of historical-rate rollovers involves two major risks: (i) either counterparty could unknowingly aid illegal or inappropriate activities, and (ii) either counterparty could misunderstand the special nature of the transaction and the associated credit exposures. Given these risks, the rolling over of contracts at historical rates is a dangerous practice that should be avoided absent compelling justification and procedural safeguards. While the nature of certain commercial transactions may justify the use of historical rates with some customers, use of historical rates with other trading institutions should not be permitted. Even when used with customers, historical-rate rollovers are appropriate only if (i) customers have a legitimate commercial justification for extending the contract, and (ii) senior management of both the customer and the dealer are aware of the transaction and the risks involved.

All dealer institutions permitting requests for historical-rate rollovers should have written procedures guiding their use. An example of such procedures is as follows:

- (a) A letter from the customer's senior management

(treasurer or above) should be kept on file explaining (i) that the customer will occasionally request to rollover contracts at historical rates, (ii) the reasons why such requests will be made, and (iii) that such requests are consistent with the customer firm's internal policies, this letter should be kept current,

- (b) The dealer should solicit an explanation from the customer for each request for an off-market rate deal at the time the request is made,
- (c) Senior management and/or appropriate credit officers at the dealer institution should be informed of and approve each transaction and any effective extension of credit,
- (d) A letter should be sent to senior customer management immediately after each off-market transaction is executed explaining the particulars of the trade and explicitly stating the implied loan or borrowing amount, and
- (e) Normally, forward contracts should not be extended for more than three months, nor extended more than once, however, any extension of a rollover should itself meet the requirements of (b), (c) and (d) above

Stop-loss/profit orders. Trading institutions may receive requests from customers, branches, and correspondents to buy or sell a fixed amount of currency if the exchange rate for that currency reaches a specified level. These orders, which include stop-loss and limit orders from trading counterparties, may be intended for execution during the day, overnight, or until executed or canceled.

Stop-loss or specified level orders are a frequent source of tension between counterparties. These orders create a potential for loss or liability which can be substantial if they are mishandled or there is a misunderstanding about the terms and conditions for their execution and confirmation.

Management should ensure that there is a clear understanding between their institution and their counterparties of the basis on which these orders will be undertaken. In accepting such an order, an institution assumes an obligation to make every reasonable effort to execute the order quickly at the established price. However, a specified rate order does not necessarily provide a fixed-price guarantee to the counterparty.

TRADER-TRADER RELATIONSHIP

For several years, trading institutions have been dealing directly with each other, at least at certain agreed upon times during the dealing day. The nature of the direct dealing relationship will vary according to the interests of the two parties. Management should be sure that the terms of each relationship are clearly understood and accepted by both institutions and that these terms are respected in practice.

A possible element of a direct dealing relationship between two institutions is reciprocity. That is, each institution in a direct dealing pair may agree to reciprocate upon request in providing timely, competitive rate quotations for marketable amounts when it has received such a service from the other. Differences in the relative size of the institutions, together with their expertise or specialization in certain markets, will influence what is perceived by the two parties as an equitable reciprocity. If there are limitations on reciprocity, or times of the day when the two do not wish to be bound by the obligation of reciprocity, these should be explicitly agreed upon in advance by the management of both institutions.

Management should analyze trading activity periodically. Any unusually large concentration of direct trade with another institution or institutions should be reviewed to determine that the level of activity is appropriate.

TRADER-BROKER RELATIONSHIP

Senior management of both trading institutions and brokerage firms should assume an active role in overseeing the trader-broker relationship. They should establish the terms under which brokerage service is to be rendered, agree that any aspect of the relationship can be reviewed by either party at any time, and be available to intercede in any disputes that may arise. (See the discussion below on the resolution of disputes.)

The management of both trading institutions and brokerage firms should assure themselves that their staffs are both aware of and comply with internal policies governing the trader-broker relationship. They should make clear to their staffs the importance of acting professionally and with discretion in all circumstances. Senior management of trading institutions are ultimately responsible for the choice of brokers to be used. They should also monitor the terms of broker usage and be alert to possible undue concentrations of business. Brokerage management should impress on their employees the need for them to represent the interests of all of the institutions which their firm se

Name substitution. Brokers are intermediaries who communicate bids and offers to potential principals and otherwise arrange transactions. In the traditional foreign exchange market, the names of the institutions placing bids or offers are not revealed until a transaction's size and exchange rate are agreed upon, and then only to the counterparties. Should one of the counterparties turn out to be unacceptable to the other, they might agree to the substitution of a new counterparty between them.

This practice of "name substitution" — or of interposing a new counterparty (a "clearing bank") between the two original parties — developed because, at the stage of a transaction when names are introduced, each counterparty is already committed to the trade and aware of its details, information that is considered confidential. Many institutions believe that, once they have shown their hand in this way, they should complete a trade with the same specifications.

Name substitution in spot transactions is an acceptable practice provided that: (1) both counterparties receive the name of an acceptable counterparty within a reasonable amount of time, (2) the clearing bank is in full knowledge of the trade, and (3) the clearing bank is operating in accordance with its normal procedures and limits. Under these circumstances, the clearing bank's risk is no different than it would be on any other trades involving the respective trading institutions

Given the risks involved and the disruptions that can occur when transactions cannot be completed expeditiously, foreign exchange managers should clearly define with their brokers the approach their institution will generally follow in handling specific name problems. Managers should provide their brokers with the names of institutions with which they are willing to deal or, alternatively, the names of the institutions they will virtually always reject. Brokers should use this information to try to avoid name problems.

If a broker proposes a transaction on behalf of an institution not usually regarded as an acceptable counterparty, it is appropriate for that broker to make a potential counterparty aware that the transaction may need to be referred to management for credit approval — that the transaction may be "referable" — before the trade can be agreed to.

Name substitution rarely, if ever, occurs in the brokered forward market. Participants in this market recognize and understand that brokers' forward bids and offers, even though firm, cannot result in an agreed trade at matching prices unless it comes within the internal credit limits of each counterparty.

Missed prices and disputes. Difficulties may arise when a trader discovers that a transaction he thought he had entered was not completed by the broker. Failure to complete a transaction as originally proposed may occur for a variety of reasons. The price may be simultaneously canceled, an insufficient amount could be presented to cover dealers' desired transactions, or an unacceptable counterparty name might be presented. Disputes may also arise over misunderstandings or errors by either a trader or a broker.

Whenever a trade is aborted, managers and traders must recognize that it may be impossible for the broker to find another counterparty at the original price. Managers should ensure that their traders understand the principle that brokers are not required to substantiate prices until canceled or changed. They should also make clear to their traders that it is inappropriate for them to force a broker to accept a transaction in which a counterparty has withdrawn its interest before the trade could be consummated — a practice known as "stuffing".

For their part, brokerage firm management should establish clear policies prohibiting position taking by brokers. They should also require that any position unintentionally assumed be closed out at the earliest practical time after the problem has been identified.

The management of both trading institutions and brokerage firms should take steps to reduce the likelihood of disputes. They should, for example, assume a key role in training new employees in the use of proper terminology. They should require their traders and brokers to use clear, common terminology; to be aware of standard market practice; and to follow the procedures of their institution. Trading institution management should also consider implementing more frequent intraday reconciliations with other counterparties, including those arranged through brokers; once-a-day checks may be inadequate.

Even if these procedures are followed disputes will arise and management should establish clear policies for their resolution. Informal accommodations, which sometimes develop in the brokered market, can be inconsistent with sound business practice.

The practice of "points". Such was the case, for example, with the practice of "points." This practice may have started as a mechanism to permit a disputed brokered transaction to be completed while deferring settlement of the difference (measured in points) until those points were settled in another trade. But as the practice developed, it came to involve the arranging of proportionately advantageous or disadvantageous future trades,

the unrecorded extension of credit between counterparties, and all of the problems associated with unrecorded transactions.

The obligations arising from the points procedure did not have a clear legal basis and may have compromised the neutrality of the broker. The procedure was potentially costly to all market participants because institutions did not know when they were the unwitting victim of a scheme to pass on an advantageous trade to someone else. The use of points on an unrecorded basis was particularly dangerous because it may have been outside management review, may have undermined the financial integrity of an institution's records, and may have generated other troublesome dimensions. (See Federal Reserve Bank of New York, "Policy Statement on the Use of 'Points' in Settling Foreign Exchange Contracts," August 1, 1990.)

Resolution of disputes. When disputes arise or differences occur, there are acceptable procedures for compensation.

- Differences should be routinely referred to senior management for resolution, thereby transforming the dispute from an individual trader-broker issue to an inter-institutional issue.
- All compensation should take the form either of payment in cash or adjustment to brokerage bills. The settlement of differences should be even-handed, allowing for compensation to go both ways.
- All such transactions should be fully documented by each firm.

For more detailed suggestions on the resolution of differences and disputed trades, see 1989 Foreign Exchange Committee Annual Report, pp. 16-17.

TRADER-CUSTOMER RELATIONSHIP

Strains are inherent in the relationship between trading institutions and their customers. As a consequence, the management of customer relationships requires a high degree of integrity and mutual respect as well as effective communication of each party's interests and objectives.

Customers may expect that the growing size of their transactions should be reflected in a narrowing of spreads to levels approaching those which interbank dealers quote among themselves. What customers may not realize is that they do not behave in other ways like interbank dealers, most notably in extending reciprocity

that is, they do not make markets nor do they provide rate quotations with narrow spreads to assist trading institutions in managing exposures. This conflict in expectations can be frustrating for dealers who must cope with internal profit pressures.

Disputes that may arise between a trader and a customer concerning the terms of a transaction, such as the price dealt on a stop-loss order, should be referred to the appropriate level of management for resolution.

It is normal practice for non-financial organizations to delegate trading authority formally to specific individuals within the organization and to advise their bankers accordingly. At the same time, trading institutions are obliged to make reasonable efforts to comply with corporate dealing authorization instructions. Trading personnel who deal with customers should be familiar with current corporate instructions and those instructions should be readily accessible. Sales and trading personnel should bring to management's attention changes in counterparties' trading patterns or the accumulation of significant book profits or losses.

OPERATIONAL ASPECTS OF TRADING

Risk management. Institutions should be duly aware of the various types of risk to which they are exposed when engaging in foreign exchange transactions — including exchange rate (or market) risk, counterparty credit risk, "clean risk" at liquidation (or settlement risk), liquidity risk, and country (or sovereign) risk. Sound management controls to monitor and evaluate the risk exposures associated with foreign exchange and related trading operations can assist in keeping these exposures within management's specifications. Management information tools need to be reinforced with effective mechanisms for monitoring compliance.

There is a great diversity of approaches that institutions may adopt to monitor and reduce risk exposure. Some institutions still rely principally on the establishment of lines of credit for each customer or trading partner, such as limits for total contracts outstanding or sub-limits for clean risk at liquidation, as well as limits for individual instruments. Some institutions may also require collateral or compensating balances.

Recently, a number of the larger trading institutions have changed their approach for internally evaluating and controlling risk exposures. In an effort to apply a single approach across different instruments and different risks, they have adopted volatility-based guidelines for evaluating risk. The Foreign Exchange Committee has

published descriptions of these new techniques for monitoring risk exposures. (See 1983 *Annual Report*, p.15; 1984, p.15; 1988, p.19; and 1989, p.26.)

Netting. Interest in foreign exchange netting has increased as institutions have sought to reduce counterparty credit risk exposure, interbank payments, and the amount of capital allocated to foreign exchange activity. While netting arrangements may have operational similarities, they can differ significantly in their legal and risk-reduction characteristics. Some forms of netting reduce the number and size of settlement payments while leaving credit risk at gross levels. The masking of risk, however, is not consistent with sound banking practice. Other forms of netting, such as netting by novation, can reduce credit risk as well as payment flows by legally substituting net obligations in place of gross obligations.

The Foreign Exchange Committee has had a long-standing interest in foreign exchange netting. Further information about the types of netting arrangements are found in the Committee's *Annual Report* for 1988, p.9, and for 1989, p.8. and also the Report of the Committee on Interbank Netting Schemes of the G-10 central banks published by the Bank for International Settlements in November 1990.

New product development. The growing complexity of new financial instruments and services requires that detailed research and documentation, together with internal cross-functional reviews and personnel training, be completed before a product is marketed. Formal programs to control the introduction of a new product help verify that the new activity is likely to be sufficiently profitable, that associated risks will be manageable, and that all legal, regulatory, accounting, and operating requirements are met. While many requirements must be fulfilled before the introduction of a product, the existence of formal, new product programs can actually speed and facilitate the product development cycle. (For further discussion, see 1988 *Annual Report*, p.11.)

Taping of telephone conversations. Many trading institutions tape record all telephone lines used for trading and confirmation. Taping conversations in foreign exchange trading rooms and confirmation areas helps resolve disputes quickly and fairly. Whether or not traders need access to untaped lines in order to carry out unrecorded conversations on sensitive topics is a matter of individual preference.

Access to tapes containing conversations should be granted only for the purpose of resolving disputes and should be strictly limited to those personnel with super-

visory responsibility for trading, customer dealing, or confirmations. Tapes should be kept in secure storage for as long as is sufficient for most disputes to surface. Whenever taping equipment is first installed, trading institutions should give counterparties due notice that, henceforth, conversations will be taped.

Deal confirmations. Institutions active in the foreign exchange market should exchange written confirmations of all foreign exchange transactions — including both interbank and corporate, spot and forward. Any use of same-day telephone confirmations should be followed with written confirmations, exchanged through a means of immediate communication, on the transaction date. Such timely confirmations can be provided by telex, SWIFT, fax transmissions, as well as by various automated dealing and confirmation systems. These forms of communication are more appropriate than mailed confirmations which, particularly on spot transactions, often do not arrive in time to bring problems to light before the settlement date. Trading institutions have found that the sooner a problem is identified, the easier and perhaps less expensive it is to resolve. Prompt and efficient confirmation procedures also are a deterrent to unauthorized dealing.

In the United States brokered foreign exchange market, when both parties to a transaction are offices of institutions located in the United States, the counterparties — and not the broker — are responsible for confirming the transaction directly to one another. But when a broker arranges an "international" transaction, where either one or both of the parties does not have a U.S. "address", it is the broker's responsibility to provide each of the counterparties with written confirmations of the transaction. Brokers should ensure that confirmations of spot transactions are given on the same day that a trade is consummated. Trading institutions have the responsibility to check that the confirmations brokers provide are received and reconciled on a timely basis. They also have the responsibility to reconcile promptly the activity going through their nostro accounts with their trading transactions.

Third-party payments. Management should have a clear policy for traders concerning the appropriateness of honoring requests for "third-party payments." A third-party payment is a transfer of funds in settlement of a foreign exchange transaction to the account of an institution or corporation other than that of the counterparty to the transaction. A subsidiary of the counterparty is a legally separate third party but a foreign branch of an institution is not.

The normal payment risk inherent in foreign exchange — the risk that funds are paid out to a counterparty but not received — is most acute when the funds, in either local or foreign currency, are transferred to a party other than the principal to the transaction. These third-party payments are more susceptible than normal transactions to (1) fraud perpetrated by a current or former employee of the counterparty who is diverting payment to a personal account, (2) fraud perpetrated by an employee of the bank who is altering the payment instructions, or (3) misinterpretation of the payment instructions whereby the funds are transferred to an erroneous beneficiary. In many cases the ability to recover the funds paid out will depend upon the outcome of legal proceedings.

As a matter of policy, many institutions establish special controls for this type of transaction. The control procedures appropriate to address the associated risks include various measures to authenticate or verify third-party payments such as

- Requiring the counterparty to provide standing payment and settlement instructions,
- Requiring an authenticated confirmation on the transaction date,
- Requiring the counterparty to submit a list of individuals authorized to transact business and to confirm deals, or
- Confirming by telephone all deals on the transaction date to the individual identified by the counterparty

Importance of support staff. Management's attention to a foreign exchange trading operation is usually directed toward establishing trading policies, managing risk, and developing trading personnel. Equally important is an efficient "back office" or operating staff. Details of each trading transaction should be accurately recorded. Payment instructions should be correctly exchanged and executed. Timely information should be provided to management and traders. The underlying results should be properly evaluated and accounts quickly reconciled. Time-consuming and costly reconciliation of disputed or improperly executed transactions mar the efficiency of the market, hurt profitability, and can impair the willingness of others to trade with the offending institution.

Accordingly, management must be aware of its responsibility to establish a support staff consistent with the scope of their trading desk's activity in the market. Conversely, management should ensure that trading is commensurate with available back office support.

Audit trail. Management should ensure that procedures are in place to provide a clear and fully documented audit trail of all foreign exchange transactions. The audit trail should provide information identifying the counterparty, currencies, amount, price, trade date, and value date. Such information should be captured in the institution's records as soon as possible after the trade is completed and should be in a format that can be read and reviewed by the institution's management as well as by internal and external auditors. These procedures should be adequate to inform management of trading activities and to facilitate detection of any lack of compliance with policy directives.

Recent technological innovations in trading and execution systems tend to improve data capture and allow for the creation of more precise audit records. For example, some electronic dealing systems independently generate trade data that serve as an effective audit trail. Trades executed via telex, automated dealing systems, or an internal source document provide better verification than trades executed over the telephone. An accurate audit trail significantly improves accountability and documentation and reduces instances of questionable transactions which remain undetected or improperly recorded. Management may therefore wish to emphasize such systems when considering trading room configuration and mechanics for dealing with counterparties.

Twenty-four hour trading. With foreign exchange trading now taking place on a continuous 24-hour basis, management should be certain that there are adequate control procedures in place for trading that is conducted outside of normal business hours — either at the office or at traders' homes. Management should clearly identify the types of transactions that may be entered into after the normal close of business and should ensure that there are adequate support and accounting controls for such transactions. Management should also designate and inform their counterparties of those individuals, if any, who are authorized to deal outside the office. In any case, all confirmations for trades arranged off-premises should be sent promptly to the appropriate staff at the office site.

Increasingly, institutions in the United States are receiving, during the U.S. workday, requests to trade from overseas traders who are operating outside of their own normal business hours. Management should consider how they want their traders to respond. It is possible that, for selected counterparties, arrangements can be discussed in advance and a *modus operandi* can be established that will accommodate the counterparty's needs and successfully identify and protect all parties to the transaction.

DOCUMENT OF ORGANIZATION

CONCLUSION OF FEASIBILITY STUDY TO ESTABLISH THE FOREIGN EXCHANGE COMMITTEE

(June 1978 as amended in October and December 1987, December 1989, January 1991,
January 1992 and January 1994)

It was generally agreed that any new forum for discussing matters of mutual concern in the foreign exchange market (and where appropriate off-shore deposit markets) should be organized as an independent body under the sponsorship of the Federal Reserve Bank of New York. Such a Committee should:

1. be representative of institutions participating in the market rather than individuals;
2. be composed of individuals with a broad knowledge of the foreign exchange markets and in a position to speak for their respective institutions;
3. have sufficient stature in the market to engender respect for its views, even though the Committee would have no enforcement authority;
4. be constituted in such a manner as to insure at all times fair presentation and consideration of all points of view and interests in the market, and
5. notwithstanding the need for representation of all interests, be small enough to deal effectively with issues that come before this group.

The objectives of the Committee would be:

To provide a forum for discussing technical issues in the foreign exchange and related international financial markets.

To serve as a channel of communication between these markets and the Federal Reserve and, where appropriate, to other official institutions within the United States and abroad.

To enhance knowledge and understanding of the foreign exchange and related international financial markets, in practice and theory.

To foster improvements in the quality of risk management in these markets.

To develop recommendations and prepare issue papers on specific market-related topics for circulation to market participants and their management.

It is understood that the Committee would seek to work closely with the FOREX and other formally established

organizations representing the other relevant financial markets.

The Committee

In response to the results of the study, the Federal Reserve Bank of New York agreed to sponsor the establishment of a Foreign Exchange Committee. It was agreed that:

1. The Committee should consist of no more than 16 members and at least an equal number of alternates. In addition, the president of FOREX would be invited to participate.
2. Institutions participating in the Committee should be chosen in consideration of their participation in the exchange market here as well as of the size and general importance of the institution. Selection of participants should remain flexible to reflect changes as they occur in the foreign exchange market.
3. Responsibility for choosing member institutions and alternates rests with the Federal Reserve Bank of New York. The Federal Reserve may solicit the advice of current Committee members.
4. Initially, the terms of half of the members will be for two years and half for three. Thereafter, to provide for maximum participation in the Committee by institutions eligible for membership, the term of membership would be two years. It is envisaged that at the expiration of each member's term an alternate would succeed to full membership.

The composition of the Committee should be as follows:

5-6 East Coast Banks

2-3 Other U.S. Banks

2-4 Foreign Banks

1-2 Investment Banks

1-2 Brokers (preferably to represent both foreign exchange and Euro-deposit markets)

the president of FOREX USA, Inc (*ex officio*) and the Federal Reserve Bank of New York (*ex officio*)

Committee Procedures

The Committee will meet with a specified agenda of items at least every alternate month. The format of the discussion, however, will be informal.

In the event that a member is unable to attend a meeting, an alternate for that member may attend.

Any recommendation the Committee wishes to make on market related topics will be discussed and decided upon only at its meetings. Any recommendation or issue paper agreed to by the Committee will be distributed not only to member institutions and their alternates, but also widely to institutions that participate in the foreign exchange market in the United States.

The Committee will have four standing Subcommittees: Membership, Trading Practices, Market Structure, and Risk Management. A representative of the Federal Reserve Bank of New York will serve as chairman of the Membership Subcommittee. The Membership Subcommittee will aid in the selection and orientation of new members and assign members to the other standing Subcommittees. Each Subcommittee other than the Membership Subcommittee will meet at least quarterly and report periodically to the full Committee.

The Committee or any of its standing Subcommittees may designate *ad hoc* working groups to focus on specific issues.

Depending on the agenda of items to be discussed, the Committee or its standing Subcommittees may choose to invite other institutions to participate in discussions and deliberations.

Summaries of discussions of topics on the formal agenda of Committee meetings will be made available to market participants by the Federal Reserve Bank of New York on behalf of the Committee. The Committee will also publish an annual report which will be distributed widely to institutions that participate in the foreign exchange market in the United States.

Meetings of the Committee will be held either at the Federal Reserve Bank of New York or at other member institutions.

In addition to the meetings provided for above, a meeting of the Committee may be requested at any time by two or more members.

Responsibilities of Committee Members

The Foreign Exchange Committee is composed of institutions who participate actively in the foreign exchange markets as well as other financial markets world-wide. As a senior officer of such an institution, the Committee member has acquired expertise that is invaluable to attaining the Committee's objectives. The member's continuous communication with the markets world-wide generates knowledge which is necessary to the Committee's deliberations of market issues or problems. Effective individual participation is critical if the collective effort is to be successful.

The responsibilities of membership apply equally to all associated with the Committee, whether they are serving currently as a formal member or an alternate member.

The specific responsibilities of each member are:

- To function as a communicator to the Committee and to the marketplace on matters of mutual interest, bringing issues and information to the Committee, contributing to discussion and research, and sounding out colleagues on issues of concern to the Committee.
- To represent to the Committee the concerns of his own institution. In addition, to reflect the concerns of a market professional as well as the constituency from which his institution is drawn or the professional organization on which he serves.
- To participate in Committee work and to volunteer the resources of his institution to support the Committee's projects and general needs.
- To coordinate between the formal member and alternate attendance at meetings and to communicate to the absent member on a timely basis the discussions and other items of import that occurred at each meeting. This responsibility is reciprocal with each designated set of formal and alternate members.

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FOREIGN EXCHANGE COMMITTEE

(JANUARY 1994)

MEMBERS LISTING

I. NEW YORK BANKS

James P. Borden
Senior Vice President
The Chase Manhattan Bank
One Chase Manhattan Plaza
New York, NY 10081
Phone: (212) 552-7543
Fax: (212) 552-5540

William A. Dueker, Jr.
Executive Vice President
Republic National Bank of NY
452 5th Avenue, 10th Floor
New York, NY 10018
Phone: (212) 525-8152
Fax: (212) 525-6900

John Finigan
Managing Director
Bankers Trust
1 Bankers Trust Plaza
New York, NY 10006
Phone: (212) 250-1710
Fax: (212) 250-7032

Richard Mahoney
Senior Vice President
Global Foreign Exchange
The Bank of New York
48 Wall Street, 13th Floor
New York, NY 10286
Phone: (212) 804-2018
Fax: (212) 495-1019

David Puth
Managing Director, NY
Foreign Exchange
Chemical Bank
270 Park Avenue, 7th Floor
New York, NY 10017
Phone: (212) 834-5060
Fax: (212) 834-5057

Heinz Riehl
Senior Vice President
Citibank, N.A.
399 Park Avenue
5th Floor, Zone 5
New York, NY 10043
Phone: (212) 559-0864
Fax: (212) 207-3135

Klaus Said
Managing Director
Morgan Guaranty Trust Co
60 Wall Street
New York, NY 10260
Phone: (212) 648-2526
Fax: (212) 648-5818

II. OTHER U.S. BANKS

Bruce Cobb
Vice President,
ForeignExchange
PNC Banks
5th & Wood Streets
26th Floor
Pittsburgh, PA 15222
Phone: (412) 762-4951
Fax: (412) 762-4307

David Harvey
Corporate Sr. Vice President
First Chicago Trading
Consultants
2525 Greentech Drive
State College, PA 16803
Phone: (814) 231-1830
Fax: (814) 231-1802

Thomas Hughes
Managing Director
Global Financial Markets
The Bank of Boston
100 Federal Street
Mail Stop 01-12-08
Boston, MA 02110
Phone: (617) 434-4884
Fax: (617) 434-0501

Lars Lidberg
Senior Vice President
Foreign Exchange
First Bank, NA
100 South 5th Street
14th Floor
Minneapolis, MN 55402
Phone: (612) 973-3821
Fax: (612) 973-4080

William Rappolt
Executive Vice President
Manufacturers & Traders Bank
654 Madison Avenue
New York, NY 10021
Phone: (716) 842-5553
(212) 350-2000
Fax: (212) 350-2118

Woody Teel (Lewis W.)
Executive Vice President
World Banking Group
Bank of America
555 California Street
San Francisco, CA 94104
Phone: (415) 622-1677
Fax: (415) 622-1066

III. FOREIGN BANKS

Cyrus Ardalan
President, Paribas Capital
Markets
Paribas Corporation
787 7th Avenue
New York, NY 10019
Phone: (212) 841-3403
Fax: (212) 841-3260

Anthony Bustamante
Executive Vice President
Midland Bank
140 Broadway, 17th Floor
New York, NY 10015
Phone: (212) 658-5731
Fax: (212) 658-5364

Ian MacKay
Senior Vice President
Treasury - Americas
Royal Bank of Canada
Royal Bank Plaza
200 Bay Street
16th Floor, South Tower
Toronto, Ontario M5J2J5
CANADA
Phone: (416) 974-8342
Fax: (416) 974-3142

Mr. Klaus-Peter Moritz
Senior Vice President
Deutsche Bank
Taususanlage 12, D-6000
Frankfurt am Main, Germany
Phone: (49) (69) 910-35001
Fax: (49) (69) 910-35085

Martin Dooney
Managing Director
Global Money Markets
Barclays Bank PLC
Murray House
1 Royal Mint Court
London EC3N 4HH
ENGLAND
Phone: (44) (71) 696-2268
Fax: (UK) (44) (71) 696-2331

Kikou Inoue
Deputy General Manager
Treasury Department
The Bank of Tokyo, Ltd
1251 Avenue of the Americas
11th floor
New York, NY 10017
Phone: (212) 782-6701
Fax: (212) 782-6438

Andrew Popper
Treasurer & Deputy General
Manager
Credit Commercial de France
NY
450 Park Avenue, 7th Floor
New York, NY 10022
Phone: (212) 848-0523
Fax: (212) 832-7469

III. FOREIGN BANKS (continued)

Yoneo Sakai
Treasurer & Joint General
Manager
International Treasury Division
The Fuji Bank, Ltd.
Two World Trade Center
New York, NY 10048
Phone: (212) 898-2007
Fax: (212) 321-9411

Mr. Andrew Siciliano
Managing Director
Foreign Exchange & Precious
Metals
Swiss Bank Corporation
Swiss Bank House
1 High Timber Street
London EC4X 3SB
ENGLAND
Phone: (44) (71) 711-3827
Fax: (44) (71) 711-2874

Joseph Spendley
Deputy General Manager &
Treasurer
GiroCredit Bank
65 E. 55th Street
29th Floor
New York, NY 10022
Phone: (212) 909-0724
Fax: (212) 421-2719

Robert A. White
Sr. Vice President & Manager
Standard & Chartered
160 Water Street
New York, NY 10038
Phone: (212) 612-0296
Fax: (212) 612-0520

IV. INVESTMENT BANKS

Lloyd C. Blanklein
Partner
Goldman, Sachs & Co
85 Broad Street, 5th floor
New York, NY 10004
Phone: (212) 902-0593
Fax: (212) 797-7533

Chris Deuters
Managing Director
Global Foreign Exchange
Lehman Brothers
1 Broadgate
London EC2M 7HA
ENGLAND
Phone: (44) (71) 260-3174
Fax: (44) (71) 260-2483

Timothy A. Hultquist
Managing Director
Morgan Stanley & Co Inc
Foreign Exchange Dept.,
5th Floor
1221 Avenue of the Americas
New York, NY 10020
Phone: (212) 296-5120
Fax: (212) 296-5733

V. FOREIGN EXCHANGE BROKERS

Mickey Chase
Chief Executive
Foreign Exchange Division
Lasser Marshall
75 Park Place
4th floor
New York, NY 10007
Phone: (212) 385-7376
Fax: (212) 385-7275

John Nixon
President & Chief Executive
Officer
Tullett & Tokyo Forex
80 Pine Street, 30th Floor
New York, NY 10005
Phone: (212) 208-2014
Fax: (212) 558-6546

VI. OBSERVER-PRESIDENT OF FOREX USA, INC.

John Galbraith
c/o FOREX USA
742 Summit Avenue
Franklin Lakes, NJ 07417
Phone: (201) 848-0485
Fax: (201) 891-8020

VII. FEDERAL RESERVE BANK OF NEW YORK (ex officio)

Peter R. Fisher, Executive Vice
President
Markets Group
33 Liberty Street
New York, NY 10045
Phone: (212) 720-5003
Fax: (212) 720-8892

Ernest T. Patrikis, Executive
Vice President
Legal Department
59 Maiden Lane
New York, NY 10045
Phone: (212) 720-5022
Fax: (212) 785-5748

Michael Nelson, Attorney
(Alternate for Mr. Patrikis)
Legal Department
59 Maiden Lane
New York, NY 10045
Phone: (212) 720-7798
Fax: (212) 785-5748

Lisa Galaif, Executive Assistant
Foreign Exchange
33 Liberty Street
New York, NY 10045
Phone: (212) 720-6651
Fax: (212) 720-1205

FOREIGN EXCHANGE COMMITTEE

(JANUARY 1995)

MEMBERS LISTING

I. NEW YORK BANKS

James P. Borden
Senior Vice President
The Chase Manhattan Bank
One Chase Manhattan Plaza
New York, NY 10081
Phone (212) 552-7543
Fax (212) 552-5093

William A. Dueker, Jr.
Executive Vice President
Republic National Bank of NY
452 5th Avenue, 10th Floor
New York, NY 10018
Phone (212) 250-8152
Fax (212) 252-6900

John Finigan
Managing Director
Bankers Trust
1 Bankers Trust Plaza
New York, NY 10006
Phone (212) 250-1710
Fax (212) 775-2487

Richard Mahoney
Senior Vice President
Global Foreign Exchange
The Bank of New York
48 Wall Street, 13th floor
New York, NY 10286
Phone (212) 804-2018
Fax (212) 495-1019

David Puth
Managing Director, NY
Foreign Exchange
Chemical Bank
270 Park Avenue, 7th Floor
New York, NY 10172
Phone (212) 834-5060
Fax (212) 834-6554

Heinz Riehl
Senior Vice President
Citibank, N.A.
399 Park Avenue
5th Floor, Zone 5
New York, NY 10043
Phone (212) 559-0864
Fax (212) 793-3953

Klaus Said
Managing Director
Morgan Guaranty Trust Co
60 Wall Street
New York, NY 10260
Phone (212) 648-2526
Fax (212) 648-5818

II. OTHER U.S. BANKS

Bruce Cobb
Vice President, Foreign
Exchange
PNC Banks
5th & Wood Streets
26th Floor
Pittsburgh, PA 15222
Phone (412) 762-4951
Fax (412) 762-4307

Thomas Hughes
Managing Director
Global Financial Markets
The Bank of Boston
100 Federal Street
Mail Stop 01-10-09
Boston, MA 02110
Phone (617) 434-4884
Fax (617) 434-0501

Lars Lidberg
Senior Vice President
Foreign Exchange
First Bank, NA
100 South 5th Street
14th floor
Minneapolis, MN 55402
Phone (612) 973-3821
Fax (612) 973-4080

William Rappolt
Executive Vice President
Manufacturers & Traders Bank
654 Madison Avenue
New York, NY 10021
Phone (716) 842-5553
(212) 350-2000
Fax (212) 350-2118

Woody Teel (Lewis W.)
Executive Vice President
World Banking Group
Bank of America
555 California Street
San Francisco, CA 94104
Phone (415) 622-1677
Fax (415) 622-1066

III. FOREIGN BANKS

Cyrus Ardalan
President, Paribas Capital
Markets
Paribas Corporation
787 7th Avenue
New York, NY 10019
Phone (212) 841-3403
Fax (212) 841-3555

Anthony Bustamante
Executive Vice President
Midland Bank
140 Broadway, 17th Floor
New York, NY 10015
Phone (212) 658-5731
Fax (212) 658-5364

Martin Dooney
Managing Director
Global Money Markets
Barclays Bank PLC
Murray House
1 Royal Mint Court
London EC3N 4HH
ENGLAND
Phone (44) (71) 696-2268
Fax (UK) (44) (71) 696-3895

Kikou Inoue
Deputy General Manager
Treasury Department
The Bank of Tokyo, Ltd
1251 Avenue of the Americas
11th floor
New York, NY 10017
Phone (212) 782-6701
Fax (212) 782-6438

Klaus-Peter Moritz
Senior Vice President
Co-head Global Foreign
Exchange
Deutsche Bank
Taubusanlage 12, D-6000
Frankfurt am Main, Germany
Phone (49) (69) 910-35001
Fax (49) (69) 910-35085

Ian MacKay
Senior Vice President
Treasury - Americas
Royal Bank of Canada
Royal Bank Plaza
200 Bay Street
16th Floor, South Tower
Toronto, Ontario M5J2J5
CANADA
Phone (416) 974-8342
Fax (416) 974-3142

III. FOREIGN BANKS (continued)

Yoneo Sakai
Treasurer & Joint General
Manager
International Treasury Division
The Fuji Bank, Ltd
Two World Trade Center
New York, NY 10048
Phone (212) 898-2007
Fax (212) 321-9411

Andrew Siciliano
Managing Director Foreign
Exchange & Precious Metals
Swiss Bank Corporation
Swiss Bank House
1 High Timber Street
London EC4X 3SB
ENGLAND
Phone (44) (71) 711-3827
Fax (44) (71) 711-2874

Susan Storey
Vice President and Director
Financial Products Division
CIBC - Wood Gundy
161 Bay Street
Toronto, Ontario M5J 2S8
Canada
Phone (416) 594-8100
Fax (416) 594-7342

Robert A. White
Sr. Vice President & Manager
Standard & Chartered
160 Water Street
New York, NY 10038
Phone (212) 612-0296
Fax (212) 612-0520

Jamie K. Thorsen
Managing Director
Treasury Group
Bank of Montreal
115 South LaSalle Street
19th Floor
Chicago, IL 60603
Phone (312) 461-6592
Fax (312) 461-7382

IV. INVESTMENT BANKS

Lloyd C. Blankfein
Partner
Goldman, Sachs & Co
85 Broad Street, 5th floor
New York, NY 10004
Phone (212) 902-0593
Fax (212) 797-7533

Chris Deuters
Managing Director
Global Foreign Exchange
Lehman Brothers
1 Broadgate
London EC2M 7HA
ENGLAND
Phone (44) (71) 260-3174
Fax (44) (71) 260-2483

Dennis Keegan
Managing Director
Salomon Brothers Inc
7 World Trade Center
New York, NY 10048
Phone (212) 783-6458
Fax (212) 783-2534

Paul Kimball
Managing Director
Morgan Stanley & Co., Inc
Foreign Exchange Dept.,
5th Floor
1221 Avenue of the Americas
New York, NY 10020
Phone (212) 296-7470
Fax (212) 296-7315

V. FOREIGN EXCHANGE BROKERS

Mickey Chase
Chief Executive Foreign
Exchange Division
Lasser Marshall
75 Park Place
4th floor
New York, NY 10007
Phone (212) 385-7376
Fax (212) 385-7275

John Nixon
President and Chief Executive
Officer
Tullett & Tokyo Forex
80 Pine Street, 30th floor
New York, NY 10005
Phone (212) 208-2014
Fax (212) 558-6546

**VI. OBSERVER-PRESIDENT
OF FOREX USA, INC.**

Matthew Lison
Vice President
The Chase Manhattan Bank
One Chase Manhattan Plaza
New York, NY 10061
Phone (212) 662-6331
Fax (212) 662-0279

**VII. FEDERAL RESERVE
BANK OF NEW YORK
(as affiliate)**

Peter R. Fisher, Executive Vice
President
Markets Group
85 Liberty Street New York, NY
10046
Phone (212) 770-6003
Fax (212) 770-6892

James J. Perrone, Executive
Vice President
Legal Department
85 Liberty Street
New York, NY 10046
Phone (212) 770-6082
Fax (212) 770-6891

Michael H. Rosen, Counsel
at Large (for Finance)
85 Liberty Street
New York, NY 10046
Phone (212) 770-6118
Fax (212) 770-6749

John J. Harte, Executive Assistant
Legal Department
85 Liberty Street
New York, NY 10046
Phone (212) 770-6861
Fax (212) 770-1306