

IMPROVING
COUNTERPARTY RISK MANAGEMENT
PRACTICES

Counterparty Risk Management Policy Group
June 1999

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COUNTERPARTY RISK MANAGEMENT PROJECT

Working Groups

<i>I</i>	<i>II</i>	<i>III</i>
Risk Management Practices	Information Sharing and Reporting	Market Practices and Conventions
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COUNTERPARTY RISK MANAGEMENT PROJECT

Working Groups - Continued

<i>I</i>	<i>II</i>	<i>III</i>
Risk Management Practices	Information Sharing and Reporting	Market Practices and Conventions
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Summary and Recommendations

In January 1999, a group of 12 major, internationally active commercial and investment banks announced the formation of a Counterparty Risk Management Policy Group (CRMPG). The objective of the Policy Group, whose formation was endorsed by Chairman Greenspan, Chairman Levitt and Secretary Rubin, has been to promote enhanced strong practices in counterparty credit and market risk management. This was to be achieved by building on the self-improvement efforts being undertaken by individual firms in the immediate aftermath of last year's severe market disruptions, by extending those efforts through collective evaluation of potential new strong practices, by evaluating and proposing improvements in market-wide practices and conventions, and by compiling information on new strong practices and, where appropriate, sharing such information with regulators. This report sets forth the Policy Group's review of key risk management issues, its evaluation of emerging strong practices, and its recommendations for action.

The Policy Group approached its work as an initiative by market practitioners mainly targeted at improving internal counterparty credit and market risk management practices. It did so with appreciation for several important principles. First, those practices must not be thought of as either static or "one size fits all". Rather, they must be adapted to the circumstances and practices of individual firms and the markets in which they operate. They also require continuous adaptation and enhancement. As such, the Policy Group views many of its recommendations as suggestions for improvements best evaluated by the senior managers of each firm -- not as an all or none proposition, but rather in the context of their evolving policies, practices and risk profile. Second, the Policy Group's recommendations should not be viewed as a roadmap for new regulation or even as a mandated checklist for supervision. It would be a mistake to attempt to codify risk management practices in that fashion. Third, the Policy Group's recommendations are not in any way intended to standardize credit terms and conditions, as credit decision making must remain the domain of reasoned, professional credit risk managers at individual firms. Finally, since the intent is for this initiative to have a broad reach across many disciplines and types of firms, the Policy Group has reached out to involve directly in its various working groups senior practitioners from a broader cross section of U.S. and foreign financial institutions, including banks, investment banks, investment managers, insurance companies and hedge funds. The Policy Group appreciates the involvement and contribution of these people and firms. The Policy Group, of course, is responsible for this report and its recommendations.

This report is organized in four sections. The first explores initiatives to improve the effectiveness, transparency and quality of counterparty credit assessments. The second part evaluates techniques for improving important elements of internal risk measurement, management and information flows aimed

at improved risk awareness and decision making within individual firms. The third section focuses on aspects of common market practices and conventions which, if improved, would facilitate the management of counterparty credit risk, including as it relates to dealings with distressed counterparties. The final section explores a limited range of initiatives for improving the quality, timeliness and relevance of information flows between major market participants and their primary regulators. The appendices provide more detailed analysis of the key risk estimation and reporting issues.

The package of recommendations of the Policy Group represents a comprehensive set of proposals, many of which build upon improvements to risk management practices already initiated by individual firms. As such, many of the specific recommended practices may already be in place, to one degree or another, in different firms, even if no one firm presently utilizes all these practices. They also reflect new ideas for further enhancements, growing out of the creative interaction of the many skilled professionals who participated in our various working groups.

Overall, the Policy Group believes that its recommendations represent the basis for a significant further enhancement of risk management practices which will, in turn, help strengthen the market disciplines related to counterparty and market risk management. While each of the recommendations will contribute to meeting this objective, the Group wishes to emphasize a contextual framework that ties the key elements of the individual recommendations together. There are six significant building blocks to that framework. They are:

First, implementation of the significant enhancements to information sharing between counterparties, as better knowledge of one's counterparty (recommendation 1) represents the foundation upon which the other pillars of risk management rest;

Second, applying an integrated analytical framework to the evaluation of market risk, liquidity risk and leverage -- one that treats leverage not as an independent source of risk, but as a factor that can accentuate market and liquidity risk (recommendation 3);

Third, a systematic evaluation of the integrated elements of market, liquidity and credit risk factors to develop liquidation based estimates of potential counterparty credit exposures, as well as integrated efforts at market and credit risk stress testing (recommendations 5 and 6);

Fourth, a linking of all these pieces into stronger internal credit practices, which explicitly take account not only of current judgments of creditworthiness but also potential liquidation cost estimates in setting limits and collateral standards (recommendation 7);

Fifth, significant enhancements in the quality of risk information, both for the firm's senior management and Board of Directors, as well as, potentially, for the regulatory authorities (recommendation 10); and

Sixth, improvements to and harmonization of standard industry documents, as well as standards for better performance in the completion and control of documents. Of the many specific documentation recommendations, the two key elements are: ensuring that close-out arrangements using commercially reasonable valuations can be carried out in a practical and time critical fashion during periods of market distress, with a high degree of legal certainty; and harmonizing key provisions of standard industry documentation (recommendations 16 and 18).

Recommendations:

I Transparency and Counterparty Risk Assessment

A Information Sharing (pages 12 to 13)

- 1a Financial Intermediaries ("FI's") should perform robust credit evaluations of trading counterparties prior to engaging in dealings likely to entail significant credit exposure. In doing so, they should obtain and evaluate the following types of information from counterparties, particularly those whose credit worthiness depends heavily upon the performance of a leveraged portfolio of financial assets:

In the initial credit evaluation:

- Material financing and counterparty relationships;
- Specific trading and investment strategies and asset allocations;
- Operating controls, including valuation procedures, processing and settlement procedures, trade verification and margining procedures and collateral management procedures; and
- Information on risk management approach and controls, as well as risk measurement methods and risk measurements.

On an ongoing basis:

- Capital condition;
- Performance;
- Market risk;
- Asset liquidity risk and funding liquidity risk assessments; and
- Material events.

1b The scope, quality and timeliness of information availability should be an important ongoing consideration in determining the amount and terms of credit to be provided.

B Confidentiality (pages 14 to 16)

2a FI's should have internal written policies and procedures in place governing the use of and access to proprietary information provided to them by trading counterparties as a basis for credit evaluations.

2b To encourage the flow of adequate proprietary information, FI's should be prepared to reach understandings with their counterparties regarding the use of counterparty proprietary information and on safeguards against its unauthorized use.

C Leverage, Market Risk and Liquidity (pages 16 to 23)

3 FI's should deepen and strengthen the ongoing monitoring of their own risk and the risk posed by their large trading counterparties by utilizing an integrated framework for evaluating the linkages between leverage, liquidity and market risk. Specifically:

3a FI's and large trading counterparties should manage the risk arising from their use of leverage by considering, among other factors, the magnifying and interconnected effects of leverage, under normal and stress conditions, on their (i) market risk, (ii) funding arrangements and collateral requirements, and (iii) asset liquidity risk. They should also evaluate factors that may mitigate the effects of leverage.

3b FI's and large trading counterparties should prepare regular, comprehensive estimates of their market risk, applied systematically across their trading portfolios. They should be prepared to share with key credit providers, as appropriate, information on the methodologies employed and periodic updates on the level of their market risk.

3c FI's and large trading counterparties should conduct regular and rigorous assessments of their funding and asset liquidity risk that take into account: (i) the duration, stability and breadth of their funding, (ii) their degree of reliance on collateral, (iii) the strength and permanence of their capital, and (iv) the potential for market losses under stress conditions including the additional impact of partial asset liquidation. They should be prepared to share with key credit providers information on their liquidity risk assessment methods, periodic updates of summary results and key elements of their contingency funding plans.

4 FI's should ensure an appropriate level of experience and skills in the risk managers involved in credit decisions on trading counterparties for whom this expanded information is significant and provide those managers with access to: analytical capabilities in derivatives and other financial instruments; and risk management expertise sufficient to assess the robustness of the risk management frameworks and methods employed by such counterparties.

II Internal Risk Measurement, Management and Reporting

A Counterparty Exposure and Risk Estimation (pages 24 to 27)

5a When exposures to a counterparty are large or illiquid, the information provided by current mark-to-market replacement value should be supplemented by an estimate of liquidation-based replacement value. Such an estimate should incorporate:

- The potential for adverse price movement during the period until liquidation value of the contracts with the counterparty is set and value from the counterparty collateral can be realized; and
- The liquidity characteristics of the contracts and collateral involved under both normal and stressed market conditions.

5b FI's should upgrade their ability to monitor and, as appropriate, set limits for various exposure measures including:

Current Replacement Cost: measured at market to include the benefit of netting agreements if legally enforceable with high confidence but before consideration of any related collateral.

Current Net of Collateral Exposure: measured as current replacement cost minus the net value of collateral in respect of which there is high confidence about enforceability and perfection of security interest.

Current Liquidation Exposure: measured as current net of collateral exposure based upon estimates of liquidity-adjusted contract replacement cost, the liquidation value of collateral received and the buy-in cost of collateral pledged.

Potential Exposure: measured on the basis of potential future market moves adjusted for collateral rights, threshold agreements, optional unwind rights, as well as the shorter timeframes these rights imply.

B Market and Credit Risk Stress Testing (pages 27 to 28)

6a When measuring exposure to stress events, FI's should estimate both market and credit risks. Tests should assess:

- Concentration risk both to a single counterparty and to groups of counterparties;
- Correlation risk among both market risk factors and credit risk factors; and
- Risk that liquidating positions could move the market.

To make tests results useful, firms should select test procedures that reveal whether risks are material and facilitate tracing excessive risks to their sources.

6b Risk managers should work with trading and credit book managers to develop stress scenarios that probe for vulnerabilities within and across key portfolios, with particular analytical focus on the impact of stress events on large or relatively illiquid sources of risks.

C Credit Practices (pages 28 to 29)

7a Recognizing the need for individual counterparty creditworthiness assessments, FI's should, as a general practice, require initial collateral for credit intensive transactions with counterparties whose creditworthiness depends heavily upon the performance of leveraged portfolios of financial assets.

7b When initial collateral is called for, the amount may be set on a transaction or portfolio basis and should take into account the factors used to develop estimates of liquidation-based replacement values.

- 7c Especially when initial collateral is not called for, the credit decision should reflect explicit risk tolerance limits for the size of potential liquidation (close-out) costs.
- 7d In cases where documentation specifies a threshold level of exposure that triggers an obligation to transfer collateral, limits on unsecured exposure should reflect updated estimates of liquidation costs and not just current mark-to-market values.
- 7e In cases where FI's participate in two-way variation collateral arrangements, estimates of liquidation costs and related credit limits should take account of the buy-in costs of collateral pledged.

D Valuation and Exposure Management (pages 29 to 31)

- 8a FI's should establish internal counterparty credit risk cost allocation and valuation practices that provide incentives for trading business and credit risk managers to manage proactively their counterparty credit risks. This could include methods for recognizing the cost of credit risk in internal risk or capital charges, proactive adjustments to limits, as well as tools for periodically evaluating the adequacy of credit valuation adjustments to asset carrying values.
- 8b Both FI's and large trading counterparties should develop and apply strong, consistent independent price verification procedures. These procedures should include fair value adjustments to mid-market values which should be assessed dynamically and consistently to account for:
- Open risks that are marked to either the bid or offer side of the market;
 - Illiquidity characteristics of complex instruments or positions;
 - Credit valuation adjustments to address credit quality, generic credit market spreads and any substantial specific repayment concerns;
 - Operational and model risks associated with complex or large positions; and
 - Servicing costs associated with the ongoing hedging of transactions.

Efforts should be made to apply external sources, as well as independent valuation services, as appropriate.

E Management Reporting (pages 31 to 36)

- 9 *Responsibilities:* As part of its responsibility for overall risk management policies and practices, senior management should convey clearly information on its overall tolerance for risks, including loss potential in adverse markets. This type of information should also be conveyed to the firm's Board of Directors, as appropriate. The independent risk management function should be responsible for designing a flexible reporting framework to enable senior management to monitor its risk profile relative to its expressed risk tolerance.
- 10 *Large Exposure/Risk Reporting:* Senior management should receive periodic information on large counterparty exposures/risks. These reports should meet the following standards:
- Aggregate exposure to a counterparty should include all material on-and off-balance sheet exposures relating to such counterparty.
 - Exposures should be measured under conservative assumptions as to the efficacy of netting and collateral arrangements.
 - Position replacement cost and collateral values should be measured both at market and estimated liquidation value.
 - Potential exposure measures should be robust and appropriately reflect risk reduction and risk mitigation arrangements.

- Quantitative and qualitative analysis should be used to identify counterparties for which large moves in specific market risk factors would result in large exposure levels, a material deterioration in credit quality or both.

Where a firm has introduced credit risk measures that capture both exposure and credit quality, it could rely upon those measures to determine appropriate coverage in senior management reporting.

- 11 *Concentration Analysis*: Senior management information should highlight possible concentrations of market and credit risk resulting from positive correlation among the firm's own principal positions, counterparties' positions with the firm and collateral received or posted. In preparing such reports, due regard should be given to understandings reached with counterparties on access to and uses of counterparty proprietary information.
- 12 *Contextual Information*: Senior management should periodically receive contextual information sufficient to assess the degree of reliance placed on quantitative risk management information, to highlight key judgments and assumptions involved in developing the quantitative risk information, and to shed additional light on a firm's overall risk profile.

III Market Practices and Conventions

A Documentation Policies and Practices (pages 37 to 41)

- 13 FI's should have in place written policies to manage documentation risk. Such policies should be approved by senior management and reflect the nature and scope of their business and risk profile.
- 14a FI's should adopt a goal to execute new master agreements within 90 days of a transaction and, pending such execution, utilize a "long form" confirmation that incorporates the industry standard form of master agreement.
- 14b FI's should send out confirmations for privately negotiated OTC transactions by the business day following the trade date and, within five business days thereafter, assure themselves that there is agreement with their counterparty on the material terms of the trade and that they have written evidence of their binding agreement. There should also be agreement at the outset of a relationship on which party will initiate the confirmation.
- 14c FI's should track unexecuted masters, unsent confirmations and unaffirmed trades, develop a risk-based approach to clearing backlogs and report to senior management material deviations from internal documentation policy. Furthermore, they should develop incentives for business units and clients to correct material deficiencies in their documentation practices, which might include trading restrictions, mandatory unwinds and reserves for losses.
- 15 Industry participants should support efforts to introduce greater automation in the documentation process for privately negotiated OTC contracts. The Policy Group also encourages service providers to consider new opportunities that may exist in these markets, and it encourages regulators to work in cooperation with industry participants and service providers to facilitate these efforts and refrain from erecting regulatory barriers that may impede service innovations.

B Documentation Content (pages 41 to 49)

16a *Close-out and Valuation*: Documentation should be revised as necessary to ensure that a non-defaulting party has the flexibility to value transactions in a good faith and commercially reasonable manner. This should be a common industry standard, as is incorporated in the TBMA/GMRA, and FEOMA agreements and ISDA's Loss methodology.

16b To the extent that market quotations are employed to achieve commercially reasonable valuations, ISDA agreements should be modified to provide that:

- Potential quotes provided by third parties may include not only price, but also yields, yield curves, volatilities, spreads or other relevant inputs. These inputs should be based on the size of the transaction, the liquidity of the market and other relevant factors.
- The number of third parties from whom inputs are sought may be reduced.
- Third parties from whom inputs may be sought may include not only dealers, but also major end-users, third party pricing sources or other relevant sources.
- Market quotations are but one means to achieve good faith valuations and may be by-passed when, in the judgment of the non-defaulting party, they are unlikely to produce a timely and commercially reasonable result.

17 Credit features in standard industry documentation, and related firm documentation practices, should be strengthened by implementing the detailed specific suggestions discussed in Section III B. of this report (pages 44 to 47) regarding:

- Permissible form for delivery of notice;
- Payment netting documentation and practices;
- Cross-product obligation and collateral netting;
- Rights of set-off provisions;
- Events of default provisions;
- No-fault termination events;
- Acts of God provisions; and
- Coordination procedures between documentation control and credit risk management functions.

In addition, the recent ISDA recommendations on collateral management practices should be implemented.

18 *Documentation Harmonization*: Industry associations should undertake an initiative to harmonize standard documentation across products, and, where possible jurisdictions in areas including: clauses covering notices, grace and cure periods, definitions of events of default and insolvency, and close-out valuation standards.

IV Regulatory Reporting (pages 50 to 55)

A Qualitative Reporting

19 FI's with significant counterparty credit and/or market exposure should be prepared to meet informally with their primary regulator on a periodic basis to discuss their principal risks as well as market conditions and trends with potential market disruption or systemic effects. To be effective, such meetings should involve only a small number of senior officials from both sides.

B Counterparty Exposure Reporting

20a If requested by its primary regulator, FI's with significant counterparty credit exposures should voluntarily provide reports to that regulator detailing certain large exposure information on a consolidated group basis. A suggested uniform format, derived from suggested enhancements to senior management reporting, is provided for consideration.

20b Regulatory agencies requesting such information should reach clear understandings with providing institutions on permissible uses of such information, arrangements for sharing and aggregating such information, and safeguards against its misuse.

The recommendations flowing from the first two parts of the Policy Group's work can be largely, if not completely, acted upon by individual firms. Many of the recommendations for changes in industry practices and standard documentation will require concerted industry follow-up, to which the firms in the Policy Group commit their support. The suggestions for regulatory reporting improvements obviously require evaluation by the authorities. The Policy Group believes there should be extensive practitioner input to, and coordination with, the regulators in evaluating these and other proposals for improved reporting, as well as possible new public disclosure requirements. The firms in the Policy Group stand ready to provide assistance to those efforts.

The Policy Group also recognizes that significant resources will be required to implement a number of its recommendations, particularly those related to improved exposure measurement and reporting, stress testing and concentration analysis, as well as improved documentation practices and controls. A phased approach to implementation will be necessary, as resource needs are balanced against Y2K and other internal systems needs.

The Policy Group is under no illusion that the package of recommendations contained in this report will eliminate the bouts of volatility and market instability we occasionally experience. While the methods suggested here for improving evaluations of market and liquidity risk along with leverage and credit exposure will raise the bar in terms of risk estimation standards, we stress that risk management is not simply a matter of better computer models to measure volatility and correlations more rapidly and precisely. Indeed, too much public focus has been placed on the sophistication and precision of risk estimation models, and not enough on the more important managerial and judgmental elements of a strong risk management framework. In the end, experience, market knowledge, management discipline, internal risk transparency and strong internal controls will be the more important determinants of how well financial institutions fare when the next storm comes.

Nor should we expect any reversal of the trend toward increasingly complex and interdependent financial markets in which we operate. Change and innovation are constant and healthy aspects of a market based competitive financial system. With that innovation will come a reminder of the need for continuous enhancements to risk management practices, such that, in time, today's emerging best practices will have to be reviewed and strengthened further. While we cannot say today when that should occur or what will be the best forum to accomplish that future review, we strongly suggest that industry leaders not wait for another market crisis to take up these questions.

Finally, our market based system depends upon risk intermediation to facilitate an efficient and productive flow of savings into value adding investments. The vitality and effectiveness of that process is enhanced when private market firms are free to continuously evaluate risk/reward opportunities and commit their capital or the investment assets under their management. However, the essence of a market based system of discipline must also require that these participants face exposure to the ultimate discipline of failure. While implementation of the steps recommended here should help reduce somewhat the potential for such failures, their more important value lies in helping to improve our ability to manage and contain the risks of such failures when they do occur. This, of course, is central to the goal of reducing systemic risk. Indeed, while the probabilities of a financial shock occurring that has the potential to unleash systemic damage will never reach zero, the Policy Group strongly believes that, taken as a whole, its recommendations are consistent with achieving a further reduction in systemic risk over time.

I Improving Transparency and Counterparty Credit Assessment

Within this element of its review, the Group has focused on issues related to three important aspects of the counterparty risk management process: information sharing between credit providers and credit users; confidentiality arrangements for ensuring proper handling of proprietary client information; and improving the transparency and quality of understanding of the interplay between market risk, leverage and liquidity, and their impact on a counterparty's creditworthiness.

A Information Sharing

In approaching these issues, the group views the quantity, quality and timeliness of information sharing between credit users and credit providers as a continuum, with a credit user's positioning along that continuum ranging from near complete transparency (in the case of a "captive fund") to rather opaque. The Group believes that there must be flexibility to move along that continuum, in balancing degrees of credit availability and terms (especially collateral) with degrees of openness and risk. A number of factors will determine where along that continuum a credit provider should be. These include the credit intensity of the expected transaction activity, the liquidity of the underlying transactions and related collateral, the degree of independent oversight of the counterparty (such as by rating agencies, public securities markets, public disclosures, or regulators) and, of course, the underlying creditworthiness of the counterparty. Clearly the information needed to conduct delivery-versus-payment trading in liquid high quality assets will differ significantly from that required for long dated illiquid exposures. Also, at some level of perfected interest in excess liquid collateral, there is an adequate degree of protection to compensate for information shortcomings. Nevertheless, there is a broad based consensus among members of the Policy Group that there were significant weaknesses in the scope, quality and timeliness of information available to credit providers, relative to the nature and size of risks being taken with some highly leveraged counterparties. Those weaknesses relate not only to information available for due diligence prior to establishing credit facilities, but equally to the timing and scope of ongoing information used to monitor changing borrower circumstances.

In evaluating actions to improve this situation, the Group took into account both efforts underway by credit providers to strengthen information availability for their counterparty risk assessments, as well as the extensive suggestions from the regulators such as those incorporated in the Basle Committee on Banking Supervision's paper on "Sound Practices for Banks' Interactions with Highly Leveraged Institutions". While information sharing between credit counterparties must ultimately be a matter of mutual agreement, in the Group's view a healthy convergence is developing regarding the types of

information that should be available to credit providers, such that they would be at a sound position along the transparency continuum for normal credit sensitive dealings with highly leveraged counterparties.

In evaluating how best to frame its recommendation, the Policy Group concluded it should suggest what it regards as a benchmark for adequate levels of information sharing in support of normal levels of credit sensitive dealings. In doing so, the Group recognizes the particular sensitivity of information about specific portfolio positions held by a counterparty. The Group has sought to suggest arrangements which need not require that type of detailed information to be shared routinely with all credit providers. Nevertheless, there will be cases in which credit providers will and should feel a need for regular access to that type of information -- in effect moving further along a transparency continuum -- in order to manage properly more credit intensive activities, larger than normal exposures or exposures to high risk counterparties. The Group would encourage the sharing of that information in appropriate circumstances, provided adequate arrangements are in place to ensure its proper confidential handling.

Specifically, as regards credit evaluation and information sharing arrangements, the Policy Group recommends:

1a Financial Intermediaries ("FI's") should perform robust credit evaluations of trading counterparties prior to engaging in dealings likely to entail significant credit exposure. In doing so, they should obtain and evaluate the following types of information from counterparties, particularly those whose credit worthiness depends heavily upon the performance of a leveraged portfolio of financial assets:

In the initial credit evaluation:

- Material financing and counterparty relationships;
- Specific trading and investment strategies and asset allocations;
- Operating controls, including valuation procedures, processing and settlement procedures, trade verification and margining procedures and collateral management procedures; and
- Information on risk management approach and controls, as well as risk measurement methods and risk measurements.

On an ongoing basis:

- Capital condition;
- Performance;
- Market risk;
- Asset liquidity risk and funding liquidity risk assessments; and
- Material events.

1b The scope, quality and timeliness of information availability should be an important ongoing consideration in determining the amount and terms of credit to be provided.

B Confidentiality

A significant obstacle to improved information sharing has been concerns on the part of credit users as to how the information they provide might be used by a creditor firm. These concerns go beyond the possibility that such information might be unintentionally leaked into the market. They extend to include the following:

- The effectiveness of information barriers between the firm's traders, on the one hand, and the credit managers who determine counterparty credit and the market risk managers who set trading limits and review positions, on the other;
- Use of position or risk information by senior management to alter or reduce the credit provider's own market risk; and
- Use of information about contract terms with another credit provider to negotiate similar terms with the credit user.

Information confidentiality is not a new issue in banking and finance. Indeed, it has long been present and dealt with effectively in areas such as custody services, asset management services, prime brokerage and futures brokerage services, mergers and advisory practices and traditional commercial credit relationships. Two factors make the issue potentially complex in these situations: (a) the intensely competitive nature of the relationships between credit providers and credit users in other aspects of their respective market businesses; and (b) the advances being made in the integration of market and credit risk management and the improvements in internal risk transparency, which increase the likelihood that client sensitive market information would be available to managers outside the ranks of those making client specific credit decisions.

In seeking solutions to this issue, it is useful to recognize at least two different levels of information sensitivity. One is the sensitivity required in the handling of non-public information provided by a credit user which is not a by-product of direct transaction activity. This would include current information on risk levels, NAV, liquidity positions and detailed portfolio composition. Not only is this type of information generally regarded as the most sensitive by the provider, but it is also provided only to facilitate bilateral credit decisions. The other type of information is that which is a direct by-product of transaction activity between the two parties. This would include information on current trading flows, collateral margin calls, and the size and market sensitivity of receivables/payables associated with outstanding OTC derivative contracts. In this case, there are legitimate internal risk management uses of such information that go beyond direct credit risk decisions, but there are also legitimate limitations to be placed on those uses -- for example, in terms of availability to the firm's own proprietary risk takers.

In evaluating the balance to be struck between these considerations, there is general agreement within the Policy Group that the credit provider's risk management department may use all information provided by the credit user about the credit user's transactions with third parties for establishing, increasing or decreasing credit or trading lines to the counterparty, or for determining the terms of dealing with the counterparty, such as tenor, collateral, margin thresholds and haircuts. There is also agreement that the risk management department should not be allowed to share information about the counterparty's strategies or holdings to the credit provider's other risk taking businesses, so as to avoid the risk of those businesses reducing or adjusting positions based on information regarding the counterparty's portfolio. Questions concerning the appropriate scope for use of counterparty proprietary information in analyzing risk concentrations at the credit provider are best evaluated in the context of understandings with the counterparty.

Recognizing that the precise balance that needs to be struck between client interest and internal risk management needs is best left to private negotiations, the Policy Group recommends:

- 2a FI's should have internal written policies and procedures in place governing the use of and access to proprietary information provided to them by trading counterparties as a basis for credit evaluations.
- 2b To encourage the flow of adequate proprietary information, FI's should be prepared to reach understandings with their counterparties regarding the use of counterparty proprietary information and on safeguards against its unauthorized use.

In a number of cases, leveraged investors have developed formal confidentiality agreements for their credit providers to sign. While these have the benefit of providing a further degree of clarity and transparency regarding the expectations and responsibilities of the parties to the relationship, they can also create unintended or undesired consequences by either failing to anticipate all of the nuances to potential use of information or by restricting internal information sharing that has a legitimate risk management purpose. For this reason, the Policy Group is reluctant to endorse the use of these agreements as a general market practice, but recognizes that they may be appropriate in especially extensive and/or sensitive relationships.

As discussed below in the context of regulatory reporting, a somewhat related dimension of this issue concerns the potential impact of requests from official institutions to credit providers for access to proprietary and client sensitive information, including requests for information originating from host country regulators in foreign countries. These requests are most likely to arise regarding activities of unregulated counterparties that are viewed as aggressive market risk takers. When received, they pose

especially complex issues for regulated credit providers. While the authorities have an understandable interest in the activities of large participants in their markets, they need also to recognize the legitimate obligations credit providers have to their customers.

C The Effects of Leverage on the Assessment of Market and Liquidity Risks

One of the most complex challenges of counterparty risk assessment is to understand the effects of leverage through the measurement of market risk, funding liquidity risk and asset liquidity risk and their interactions. There are several sources of complexity. The first is the difficulty that exists in defining and measuring leverage. The second is the complexity of developing comprehensive measures of market and liquidity risks. The third is the considerable amount of judgment and experience required of risk managers to assess the level and interactions of these risks to arrive at an overall risk assessment. As information sharing improves and counterparties upgrade the quality and reliability of their risk measures, it will remain important to understand the methods used to estimate risks and the remaining inherent limitations in those methods, lest the information provide an undue sense of comfort. Toward this end, the Policy Group has prepared an appendix to this report (Appendix A) which describes a series of leverage, market risk and liquidity risk measures, discusses their usefulness and limitations as indicators of a counterparty's risk, and sets out a conceptual framework for relating the effects leverage can have on both market and liquidity risk.

Leverage and its Effects

Much of the analysis of 1998's market disruptions has focused on leverage as a primary source of problems. The Report of the President's Working Group on Financial Markets concludes that the "... principal policy issue arising out of the events surrounding the near collapse of LTCM is how to constrain excessive leverage". While that report and reports issued by various supervisory bodies stress the need for better measures of leverage, they also acknowledge that significant measurement difficulties exist. The Policy Group agrees that leverage, as a concept, presents both definitional and measurement difficulties, which are more fully discussed in Appendix A.

Leverage is generally considered to exist when: (a) an institution's financial assets exceed its capital; (b) an institution is exposed to the change in value of a position beyond the amount, if any, initially paid for the position; or (c) an institution owns a position with "embedded leverage", i.e., a position with a price volatility exceeding that of the underlying market factor. These definitions highlight aspects of leverage

– the first based on balance sheet concepts, the second on market-dependent future cash flows, and the third on market risk. No single definition is able to capture all aspects of leverage.

The measurement of leverage or, more precisely, the interpretation of leverage measures also poses problems. A high level of balance sheet leverage says little about the level of market risk of an institution. Conversely, a high level of market risk can co-exist with little or no balance sheet leverage. The characteristics of resources employed, other than capital, has a bearing on how risky leverage may be: long-term unsecured sources of funding attenuate the effects of leverage compared to short-term secured funding. Capital resources themselves bring a different perspective on the risk of leverage inasmuch as they depend upon shareholders' ability to withdraw capital. Likewise, the liquidity characteristics of a portfolio of positions affect the riskiness of leverage. Thus, the Policy Group believes that leverage, while an extremely important concept with broad intuitive appeal, is not an independent risk factor whose measure can provide useful insights to risk managers and supervisors alike. Rather, leverage is best assessed by its effects which can be observed in the possible amplification of market risk, funding liquidity risk and asset liquidity risk.

It is common wisdom that leverage has the potential to increase market risk. As a result, the general public associates high levels of leverage with high levels of market risk. Yet in a world of active portfolio management an increase in leverage may be associated with a decrease in market risk. For example, it is common for financial intermediaries to manage the market risks they assume from their customers by taking offsetting market risk positions. By the same token, a reduction in leverage (as traditionally measured) can be associated with a rise in market risks, a result that was seen at some institutions last year. Thus, in the context of market risk, leverage is best viewed as a tool to achieve a desired risk profile relative to capital, and its impact is best assessed by measures of market risk, such as VAR and stress testing discussed below under "Market Risk".

However, measuring leverage in terms of market risk alone is insufficient: two portfolios with identical measures of market risk, one leveraged and the other unleveraged, may differ greatly in other dimensions of risk. Leverage introduces third-party liabilities -- counterparty or direct financing obligations -- which introduce funding risk. Furthermore, the satisfaction of such liabilities and conditions thereon may require early liquidation of positions comprising the portfolio, thereby introducing asset liquidity risk. Therefore, the effect of leverage must also be examined along the dimensions of these additional two risks.

The link between leverage and funding liquidity risk is relatively straightforward: leverage amplifies funding liquidity risk. It can do so either directly, through its effects on collateral requirements or margin payments, or indirectly through its potential to amplify losses and accelerate the depletion of capital or erosion of net asset value which, in turn, may activate collateral threshold agreements, NAV triggers or other covenants, and prompt capital withdrawals. However, for a given level of leverage, the magnitude of funding liquidity risk will vary depending upon many factors. Some factors, such as low risk strategies, use of highly liquid instruments, solid access to long-term unsecured funding sources and protections against capital withdrawal, can be very effective in mitigating the effects of higher levels of leverage.

Beyond funding sources, the ultimate source of liquidity is the capacity to liquidate the assets comprising a portfolio. The ability to access market liquidity generally becomes more important as leverage, and hence third-party liabilities, increase especially when such liabilities are collateralized at current market prices. Furthermore, if leverage is employed to achieve higher levels of market risk, the potential reduction in net asset value is greater. Unless a leveraged investor is able to operate at higher levels of leverage subsequent to market losses, possibly accompanied by a partial withdrawal of capital, such an investor will have to liquidate a portion of its portfolio. A partial portfolio liquidation may result in realizations below market levels, especially under stressed market conditions, hence creating further realized and unrealized losses which, in turn, may force additional liquidations. At the same time, the situation on the funding side may grow worse, particularly if unrealized losses must be secured with collateral, as counterparties and creditors take steps to protect themselves. Further discussion of asset liquidity risk and its measures is set forth below under “Liquidity Risk”.

Avoidance of the scenario just described is not achieved by setting some exogenous limit on leverage but by careful balancing of the market and liquidity risks borne by a leveraged investor. This requires an appropriate assessment of these various risks, combining both quantitative measures and qualitative judgments. In addition, the interactions between these risks must be understood lest mitigation of one risk inadvertently exacerbate another. A sound assessment of counterparty risk includes the evaluation of the complete set of steps taken to contain these risks individually and collectively.

Accordingly, the Policy Group recommends that:

- 3 FI's should deepen and strengthen the ongoing monitoring of their own risk and the risk posed by their large trading counterparties by utilizing an integrated framework for evaluating the linkages between leverage, liquidity and market risk.

There are three substantial elements to that integrated framework, the first of which is:

3a FI's and large trading counterparties should manage the risk arising from their use of leverage by considering, among other factors, the magnifying and interconnected effects of leverage, under normal and stress conditions, on their (i) market risk, (ii) funding arrangements and collateral requirements, and (iii) asset liquidity risk. They should also evaluate factors that may mitigate the effects of leverage.

Market Risk

Most financial intermediaries and a growing number of leveraged investors utilize one or more variants of Value at Risk (VAR) methodologies to estimate, monitor and limit their market risk. VAR is a statistical estimate of the potential change in the value of a position or portfolio resulting from an adverse market move. It has become widely used because of its accuracy in assessing the normal changes in value of a portfolio, its capacity to aggregate risks across many asset classes, and show risk concentrations as they arise, and its adoption by supervisors in setting market risk capital standards. Although firms still use more traditional sensitivity measures, such as repricing gap and duration, the ability of VAR to express a wide range of risks in a common measure is a significant advantage.

If VAR's strength is in measuring a probability boundary – e.g., 99% -- it is less useful for estimating how great the loss will be for outlier events. Furthermore, since all forms of VAR estimates have limitations relating to assumptions used about market parameters, market normality and liquidity, many users of VAR estimates supplement them with the results from an array of stress tests. Stress tests attempt to provide information on potential outsized losses that could occur in the wake of extreme market moves and unusually large shifts in implied volatilities and market correlations. At present, firms are beginning to share information on how they determine which events should be simulated in their stress tests and no consensus has yet emerged: some simulate historical market shocks, some distill major market factors into a manageable set of largely independent factors and shock them individually and in combinations, some stress the factors underlying their major market or counterparty risk positions, and finally others stress those factors which exhibit the most volatility in the current market. As progress is made in the art of stress testing, firms will become comfortable supplementing their existing risk limits with ones based on stress tests.

The Policy Group believes it is best left to market participants to determine the combination of methods most appropriate under their own circumstances to measure their market risks and recommends, as the second element of the integrated framework, that:

3b FI's and large trading counterparties should prepare regular, comprehensive estimates of their market risk, applied systematically across their trading portfolios. They should be prepared to share with key credit providers, as appropriate, information on the methodologies employed and periodic updates on the level of their market risk.

Liquidity Risk

There are two separate but ultimately inter-related dimensions of liquidity. One is the ability to fund positions held and to meet, when due, the cash and collateral demands of counterparties, other credit providers and investors – so-called funding liquidity. The other is the ability to liquidate positions in various asset markets – so-called asset liquidity – which ultimately impacts the ability to manage and hedge market risk as well as the capacity to satisfy any shortfall on the funding side. The viability of a financial intermediary or large trading counterparty could be compromised by poor management of its liquidity risk, even if it is solvent on a mark-to-market basis or its leverage is relatively modest.

Funding liquidity risk is affected by many factors including the tenor of liabilities, the extent of reliance on secured sources of funding, the terms of financing and counterparty arrangements, including collateral trigger clauses, the existence of capital withdrawal rights, the availability of non-cancelable lines of credit, and the breadth of funding sources, including the ability to access public markets. In assessing funding liquidity risk one needs to understand not only what cash and credit resources are available during a period of market stress, but also what demands may arise from the providers of those resources.

On the supply side, conventional measures of cash and available credit resources include cash and cash equivalents, “buying power” and available credit lines. Buying power refers to the amount a trading counterparty can borrow against assets on a secured basis which, for purposes of assessing funding liquidity risk, is best measured assuming stress conditions. Cash capital is the term generally used to refer to capital resources needed to supplement buying power. Available credit resources are committed unsecured, undrawn credit lines. The availability of such lines under stress conditions should be critically examined.

The demand side of funding consists of potential realized losses, margin and collateral requirements, liabilities which cannot be rolled over and capital withdrawals, all assuming stressed market conditions. Margin and collateral requirements include variation margin, or mark-to-market collateral; potential increases in haircut levels, or initial margin requirements, which may occur when positions are rolled or, at other times, if counterparties or creditors have retained the right to change such requirements; additional collateral becoming due when thresholds are reached; and leads and lags in the movement of

collateral which may result from valuation disputes or the cautious behavior of creditors. Margin and collateral requirements may exceed potential unrealized losses by a considerable amount, especially if economically offsetting positions have different collateral implications or the counterparty has negotiated one-way margining arrangements.

While equity is generally thought of as permanent funding, many hedge funds allow for periodic withdrawals by investors subject to relatively short notice periods. While some funds attempt to mitigate this potential drain on liquidity by having the right to invoke an emergency to suspend such withdrawals or to make distributions in kind, these solutions present significant drawbacks and may be hard to implement.

The starting point for measuring funding liquidity risk may be a VAR calculation or stress test. However, the calculation should be adjusted to reflect the margin and collateral considerations discussed above, as well as liabilities which cannot be rolled over and potential capital withdrawals. This quantitative analysis should be supplemented by a review of the structure of liabilities and capital. Institutions should be encouraged to incorporate these elements into comprehensive contingency funding plans.

As previously stated, any funding shortfall must ultimately be satisfied through asset liquidations. Asset liquidity risk takes various forms. First, some markets are inherently illiquid or subject to frequent discontinuous shifts in liquidity. Credit providers should be especially aware of a client's normal involvement in these markets. Second, even normally liquid markets are vulnerable to temporary liquidity shocks that may be caused by such factors as major economic or political news, sudden supply shocks or unexpected official policy actions. These transient shocks ought to be expected from time to time in any market. Third, a market participant's exposure to a particular asset market may be so large that the liquidity in that market is at risk, and any attempt at position reduction triggers a liquidity disruption. Whatever the source, lack of liquidity in markets causes seemingly uneconomic and irrational decisions to be made because the price discovery process becomes dysfunctional.

There is consensus among market participants that single horizon VAR should be scaled up to account for differences in asset liquidation periods based on each asset's liquidity characteristics and the size of positions, but experts disagree on methodology. Likewise, stress tests should incorporate judgments as to price levels at which liquidity might be found. This may appear harsh for trading counterparties whose funding situation is such that, even under stress conditions, they would see no need to liquidate positions. However, since other counterparties might well be forced to liquidate similar positions,

market prices would still be depressed, resulting in an unrealized mark-to-market loss for the counterparty purportedly able to ride out the adverse market.

A robust stress test for a leveraged investor would incorporate the following elements: (a) an initial stress loss; (b) potential capital withdrawal; and (c) liquidation induced losses (both realized and unrealized). The extent of liquidation would be proportional to the percentage reduction in NAV, augmented as required by any shortfall in funding requirements not satisfied by the proceeds of such liquidation. The resulting NAV would then be compared to NAV trigger levels or to whatever minimum level would have been targeted.

Understanding the key elements of liquidity risk represents the third element of the integrated framework, and the Policy Group recommends:

3c FI's and large trading counterparties should conduct regular and rigorous assessments of their funding and asset liquidity risks that take into account: (i) the duration, stability and breadth of their funding, (ii) their degree of reliance on collateral, (iii) the strength and permanence of their capital, and (iv) the potential for market losses under stress conditions, including the additional impact of partial asset liquidation. They should be prepared to share with key credit providers information on their liquidity risk assessment methods, periodic updates of summary results and key elements of their contingency funding plans.

In summary, experience with past market crises suggests that the most useful way to evaluate leverage is not as an independent source of risk, but as a factor that can accentuate market, credit and liquidity risk. When those crises occur, these three elements of risk interact and the following forces are often set in motion:

- The distinction between market risk and credit risk blurs. That is, changes in market risk factors such as foreign exchange rates, interest rates, equity prices, and spreads, as well as in volatilities and correlations, become key determinants of how much a firm would lose if default occurs. In addition, changes in markets can affect the likelihood of default.
- Market liquidity is sharply reduced, or, as in 1998's events, virtually eliminated. Once this occurs, the amplitude and predictability of the size of financial asset price changes becomes much more uncertain; and
- Once seemingly adequate amounts of collateral and/or margin are quickly and substantially called into question, thus altering perceptions of both credit and liquidity risk and amplifying the effects of leverage, if it has not been prudently managed.

The combination of these forces represents perhaps the single greatest risk to the functioning of relationships between creditors and their trading clients. Having a conceptually sound analytical framework to understand the potential impact of these forces (as summarized here and set forth in

Appendix A), along with recommended improvements in information sharing to apply that framework, are critical elements of the Policy Group's recommendations for improved risk management practices.

Credit Risk Analysis Skills

While greater information availability and improved risk estimation tools will help, there is much more to risk management than improved data collection and risk measurement. The most important additional ingredients are experience and judgment. A lack of product and risk management expertise in the credit function, for example, might have added to the difficulties caused by the limited information obtained from hedge funds. A robust risk management process depends not only on the independence of the risk management function and the amount of information available to support their decisions, but on having the expertise necessary to analyze such information and to make informed recommendations to senior management.

In the past few years, firms have enhanced qualifications and formal training of their credit risk management staffs, but more remains to be done. Toward this end, the Group recommends:

- 4 FI's should ensure an appropriate level of experience and skills in the risk managers involved in credit decisions on trading counterparties for whom this expanded information is significant and provide those managers with access to: analytical capabilities in derivatives and other financial instruments; and risk management expertise sufficient to assess the robustness of the risk management frameworks and methods employed by such counterparties.

II Improving Counterparty Risk Estimation, Management and Reporting

In this section of the report, we shift our focus from issues related to improving the quality of counterparty credit risk assessments to opportunities for improving internal risk management tools for counterparty exposure and risk estimation and for using those tools to improve credit practices, risk analysis and senior management reporting. As noted in the prior section, when market shocks occur, three frequent interrelated consequences are: (a) a blurring of market and credit risk distinctions; (b) a sharp contraction in market liquidity; and (c) a sudden actual or potential shortfall in the adequacy of collateral. All three consequences have significant implications for internal counterparty risk management practices.

A Counterparty Exposure and Risk Estimation

As noted in the Group of Thirty's 1993 report on Derivatives: Practices and Principles, the generally prevailing market practice for measuring credit exposure related to OTC derivatives contracts starts with the use of two exposure measures: current exposure and potential exposure. Current exposure is the current market value of a derivative payable or receivable and is generally regarded as the current replacement cost. Potential exposure is an estimate of the future replacement cost. Two measures of potential exposure are typically estimated. One is expected exposure, which is an estimate of the average of (non-negative) market values over the (remaining) life of the transaction. When combined with some estimate of default probabilities, expected exposure can be used in pricing credit risk. The other is peak exposure, which is an estimate of the maximum future exposure over the (remaining) life of the transaction, using statistical analysis based on pre-determined confidence intervals. Peak exposure is typically used for limit setting and, when combined with default probabilities, for estimating the risk intensity of transactions. In cases where collateral is to be provided and updated, secured and unsecured calculations of these three exposure estimates are typically made. Finally, where multiple transactions exist with the same counterparty, and where a binding and enforceable netting agreement is in place, the transactions are typically aggregated into a portfolio and netted, with netted estimates of the exposure measures calculated. (For a more complete description of these measures and examples of how they are applied, see Appendix B.)

While there are a number of complex risk management issues raised by the application of these exposure measurement techniques to large, multi-counterparty credit portfolios, four particular issues stood out in the market crisis events of last year as warranting special attention. First, in some circumstances, current (net of collateral) exposure measures did not represent a realistic estimate of the replacement value of the

contract (or the liquidation value of the collateral), due to the impact that the size and illiquidity of the contract (and collateral) would have on market prices if immediate replacement (liquidation) had to occur. Second, peak exposure methods were generally unreliable, since they did not take adequate account of the extreme size of stress market moves or the ability to receive collateral. Third, net of collateral exposure measures did not capture either the operational and legal risks associated with collateral or the potential for limited availability of collateral. Fourth, often typical assumptions that the market risk and credit risk components of an exposure were independent proved inadequate, as there were, in a number of cases, very high and rising correlations between the size of counterparty credit exposures and the inability of those individual counterparties to meet their obligations under those exposures. In the latter case, this was further exacerbated by concentrations of similar exposure to what turned out to be highly correlated counterparties in a similar industry/country.

These are the counterparty exposure measurement issues upon which the Policy Group has focused. The stronger risk management practices which are developing to address these issues include:

- Measuring and setting limits on the degree of reliance upon collateral to mitigate credit risk, while controlling the operational and legal risk associated with collateral;
- Estimating current replacement cost and collateral value at potential liquidation (and buy-in) values, and not just current market prices;
- Using liquidation estimation techniques which reflect the potential for adverse price movements until a liquidation can occur (a VAR-type measure); as well as the potential impact liquidation might have on contract close-out and collateral valuations, either by applying judgmental stress tests or a liquidity adjusted VAR estimate which further extends time horizons;
- Evaluating initial collateral determination and any unsecured credit limits in light of the results of potential liquidation analysis;
- Estimating potential exposure based on a more realistic market model and reflecting risk reduction and risk mitigating arrangements, including the shorter timeframes these entail;
- Performing stress test evaluations of counterparty credit exposures which evaluate the potential correlation between market risk factors and the credit quality of the counterparty; and
- Establishing more comprehensive limit structures relating to (i) pre-collateral exposures; (ii) estimated liquidation exposures; and (iii) potential exposures.

Reflecting these developing strong practices, the Policy Group recommends:

5a When exposures to a counterparty are large or illiquid, the information provided by current mark-to-market replacement value should be supplemented by an estimate of liquidation-based replacement value. Such estimate should incorporate:

- The potential for adverse price movement during the period until liquidation value of the contracts with the counterparty is set and value from the counterparty collateral can be realized; and

- The liquidity characteristics of the contracts and collateral involved under both normal and stressed market conditions.

5b FI's should upgrade their ability to monitor and, as appropriate, set limits for various exposure measures including:

Current Replacement Cost: measured at market to include the benefit of netting agreements if legally enforceable with high confidence but before consideration of any related collateral.

Current Net of Collateral Exposure: measured as current replacement cost minus the net value of collateral in respect of which there is high confidence about enforceability and perfection of security interest.

Current Liquidation Exposure: measured as current net of collateral exposure based upon estimates of liquidity-adjusted contract replacement cost, the liquidation value of collateral received and the buy-in cost of collateral pledged.

Potential Exposure: measured on the basis of potential future market moves adjusted for collateral rights, threshold agreements, optional unwind rights, as well as the shorter timeframes these rights imply.

The Policy Group notes that there is no one correct way to calculate liquidation based replacement cost measures. Most approaches to incorporate market liquidity considerations into VAR type measures do so by extending the time horizon of the estimate, rather than by directly estimating the illiquidity impact on market prices. In extending the time horizon (for example from one day to two weeks) one is still assuming that the size of market moves remains normal, as a position liquidation gradually works down an oversized position, but that the liquidator is exposed to the cumulative effect of potential adverse market moves over the assumed liquidation period. The liquidity adjusted VAR measure discussed in Appendix A to this report attempts to allow for this by scaling up a two week time horizon VAR estimate by an additional factor to take account of a longer potential liquidation time horizon, but still based on assumed normal market volatility.

In practice, when confronting the sudden failure of a large counterparty or other major market shocks, market price moves can (indeed most likely will) become quite abnormal, as the markets anticipate the potential for large forced position liquidation. Also in practice, once a default has occurred, a counterparty creditor is unlikely to want to assume the market risk of taking several weeks to do a gradual unwind of collateral and contract replacements in order to determine the adequacy of any collateral it holds or to limit the size of its unsecured claim on a failing counterparty. For these reasons, estimating liquidation based replacement values may be much more like conducting a judgmental stress test of instantaneous abnormal market moves, than by doing extended time horizon analysis of normal market moves. In conducting these judgmental evaluations, which will be a valuable but difficult internal risk management task, the three key factors to take account of are: (a) potential adverse price

movements over the period of liquidation; (b) the specific liquidity characteristics of the underlying contracts and collateral; and (c) the potential for market illiquidity based on position size or transient shocks. Given the highly subjective nature of the evaluations, great care will have to be taken in interpreting the results.

B Market and Credit Risk Stress Testing

In considering the extension of stress testing techniques, the Policy Group recognizes that stress testing consumes real resources and management time on the part of businesses and control groups. It is of little value if not integrated meaningfully into a firm's risk management process. Typical weaknesses include:

- Business managers do not "buy in" to the stress testing process.
- Stress tests involve scenarios that appear implausible to business managers.
- Pre determined stress scenarios do not lead to losses, so managers deem the portfolio "safe" and conduct no further tests.
- The source of vulnerabilities of a portfolio are hard to predict.
- The results are not evaluated by a manager with authority to take remedial actions.

These weaknesses are frequently associated with stress testing that is viewed more as an exercise in regulatory compliance than as an action in a firm's self-interest.

In order to make stress testing a more meaningful exercise, risk managers are not relying solely on pre-specified risk scenarios, but are constructing customized stress scenarios that probe for weaknesses in a specific portfolio. This indicates that stress testing is being used not just to help answer "how much could I lose if..." questions, but to answer "how could I lose more than X..." questions as well. Finally, firms are increasingly testing the economic effects of stress events not just on trading portfolios, but also on credit and investment portfolios, notwithstanding the accounting conventions for those assets.

Market participants are also constructing targeted stress tests of their counterparty credit exposure, based on the recognition that: (1) the market risk factors which cause exposures to change may be correlated to the credit risk factors which cause its quality to decline, as illustrated in the integrated analytical framework discussed in Section I; and (2) there may be further positive correlation between the firm's own positions and the market factors which would impair the quality of its counterparty exposures. Stress tests of this type attempt to assess these related forms of concentration risk.

In support of these practices, the Policy Group recommends:

6a When measuring exposure to stress events, FI's should estimate both market and credit risks. Tests should assess:

- Concentration risk both to a single counterparty and to groups of counterparties;
- Correlation risk among both market risk factors and credit risk factors; and
- Risk that liquidating positions could move the market.

To make tests results useful, firms should select test procedures that reveal whether risks are material and facilitate tracing excessive risks to their sources.

6b Risk managers should work with trading and credit book managers to develop stress scenarios that probe for vulnerabilities within and across key portfolios, with particular analytical focus on the impact of stress events on large or relatively illiquid sources of risks.

C Credit Practices

In linking stress testing back to their counterparty credit risk taking decisions, credit providers recognize that trading with relatively risky counterparties without an initial commitment of their capital raises the provider's exposure to loss, particularly when financial markets are volatile. Under such conditions, variation collateral, that is, exchanging collateral as the transaction market value fluctuates, is very likely to be insufficient protection against losses. Initial collateral can be useful both to cover exposures created during the normal delay periods in delivering variation collateral and to cushion the effect of large market moves during periods of high volatility and declining liquidity.

Based on assessments of transaction riskiness and counterparty credit quality, credit providers are increasingly requiring initial collateral, in addition to variation collateral. They are also developing guidelines for initial collateral requirements based not only on volatility but also on the size and liquidity of underlying instruments, as well as the creditworthiness of a trading counterparty. In cases where initial collateral is not judged essential, limits are being linked not just to potential exposure measures but also to liquidation estimates of exposure (as discussed earlier). Finally, where collateral thresholds are being employed to frame limits for unsecured exposure, firms are evaluating them in terms of estimates of potential liquidation cost, and not just current mark-to-market values.

Firms should have the flexibility to decide, based on individual circumstances and relevant credit considerations, whether to require initial collateral and how much if any to require. In the context of the emerging strong risk management practices described above, the Policy Group recommends:

- 7a Recognizing the need for individual counterparty creditworthiness assessments, FI's should, as a general practice, require initial collateral for credit intensive transactions with counterparties whose creditworthiness depends heavily upon the performance of leveraged portfolios of financial assets.
- 7b When initial collateral is called for, the amount may be set on a transaction or portfolio basis and should take into account the factors used to develop estimates of liquidation-based replacement values.
- 7c Especially when initial collateral is not called for, the credit decision should reflect explicit risk tolerance limits for the size of potential liquidation (close-out) costs.
- 7d In cases where documentation specifies a threshold level of exposure that triggers an obligation to transfer collateral, limits on unsecured exposure should reflect updated estimates of liquidation costs and not just current mark-to-market values.
- 7e In cases where FI's participate in two-way variation collateral arrangements, estimates of liquidation costs and related credit limits should take account of the buy-in costs of collateral pledged.

D *Valuation and Exposure Management*

As firms recognize the need for greater integration of market and credit risk management, and as they apply more market risk management tools to the assessment of counterparty credit exposures, those same firms are likely to explore ways in which they might become more proactive in the management of that type of credit exposure. To some degree, that is already occurring, as a number of structured credit securitizations have included within those structures claims represented by OTC derivative receivables.

In the past, prevailing market practices for managing counterparty credit risks have not provided incentives for proactive management of such risks. In part, this may reflect limited use of market-based internal risk transfer charges to reflect initial and ongoing differences in credit quality, as well as liquidity considerations. Large OTC derivative dealers face the challenge of providing incentives for business managers to pursue profitable business by assuming counterparty credit risk, while at the same time keeping such risk under control. While improved risk monitoring and internal controls will help, proper alignment of internal incentives could make counterparty risk management even more effective.

Many firms have taken the first step in this regard by recognizing and setting aside an estimate of the credit cost associated with these risks in the form of a credit valuation adjustment to the fair value of its receivables. An emerging strong practice is to charge this cost back to the relevant businesses, in order to give risk-taking businesses incentives to choose and adequately price the risks they incur. When exposure and expected loss estimates are updated as market factors and counterparty quality change, the impact is reflected in changes to the credit valuation adjustment and in the profit and loss of the relevant businesses.

For credit risk, expected losses are best viewed as a cost. The role of capital is to provide a buffer to cover unexpected losses. Capital, of course, also has a cost. In order to create incentives for managers of risk-taking businesses to take account of the capital at risk to support counterparty credit exposure, some firms are developing methodologies to charge businesses for their use of economic capital set aside to cover greater-than-expected counterparty losses at the confidence interval and time horizon appropriate to the firm. Because the purpose of economic capital is to absorb risk, an emerging strong practice is to allocate the firm's economic capital and its costs among various businesses according to the riskiness of each business. Much remains to be done before these practices reach full acceptance within the market and there is no one correct way to provide these incentives. Recognizing the need for different, firm specific approaches, the Policy Group recommends:

- 8a FI's should establish internal counterparty credit risk cost allocation and valuation practices that provide incentives for trading business and credit risk managers to manage proactively their counterparty credit risks. This could include methods for recognizing the costs of credit risks in internal risk or capital charges, proactive adjustments to limits, as well as tools for periodically evaluating the adequacy of credit valuation adjustments to asset carrying values.

Another element of valuation management concerns the extent to which both FI's and counterparties follow rigorous independent position valuation practices that reflect realistic estimates of the realizable value of their positions. Some FI's and many counterparties only mark securities and derivative contracts to internal mid-market prices, which may well overstate their realizable value. In addition, there may be a lack of clear and consistent procedures for making fair value adjustments to mid-market values, especially for instruments that lack readily observable secondary market prices.

The 1993 Group of Thirty report recognized the need for strong internal valuation practices at OTC derivative dealers. Since then, a number of firms have drawn on their experiences in a wide variety of market shocks and crises to further enhance and strengthen their internal practices. Specifically, firms are establishing clear guidelines for applying fair value adjustments to internal, mid-market valuations. Such practices are characterized by: (1) independent checks conducted by internal financial controllers; (2) the use of external third party price sources, primarily from the broker community; and (3) the growing use of independent derivative valuation services.

To reinforce the importance of strong internal valuation practices at dealers and to encourage the adoption of broadly similar practices at large trading counterparties, the Policy Group recommends:

8b Both FI's and large trading counterparties should develop and apply strong, consistent independent price verification procedures. These procedures should include fair value adjustments to mid-market values which should be assessed dynamically and consistently to account for:

- Open risks that are marked to either the bid or offer side of the market;
- Illiquidity characteristics of complex instruments or positions;
- Credit valuation adjustments to address credit quality, generic credit market spreads and any substantial specific repayment concerns;
- Operational and model risks associated with complex or large positions; and
- Servicing costs associated with the ongoing hedging of transactions.

Efforts should be made to apply external sources, as well as independent valuation services, as appropriate.

E Management Information Improvements

Senior management is ultimately responsible for determining the firm's capacity and tolerance for risk and for ensuring proper implementation of risk management policies, procedures and controls, including for its principal risk taking and counterparty credit activities. It is also responsible for ensuring a proper flow of risk information to the firm's Board of Directors to facilitate the Board's ability to conduct adequate oversight. An important attribute of a strong risk management framework is the degree of internal risk transparency, including the quality and timeliness of risk management information available to various members of a firm's senior management group. In most firms, the independent risk management unit is charged with responsibility for designing and enhancing a flexible risk reporting framework to achieve the desired degree of transparency. This inevitably entails finding a balance between information overload and oversimplified aggregate data; between consistent, integrated risk reporting and customized reports adapted to new product developments and changing market circumstances; between quantitative measures of risk and qualitative contextual information; and between timely, largely accurate risk information and stale but precise, verified reports.

The first step toward a strong internal risk reporting program is clarity on responsibilities. In this regard, the Policy Group recommends:

9 *Responsibilities:* As part of its responsibility for overall risk management policies and practices, senior management should convey clearly information on its overall tolerance for risks, including loss potential in adverse markets. This type of information should also be conveyed to the firm's Board of Directors, as appropriate. The independent risk management function should be responsible for designing a flexible reporting framework to enable senior management to monitor its risk profile relative to its expressed risk tolerance.

As firms enhance their risk management practices along the lines discussed in this report, opportunities will arise to refine and further improve on the considerable amount of risk information already provided to senior management. Among the risks that senior management information should help to assess are:

- Market risks that are large relative to allocated capital resources;
- Current and potential counterparty exposures that are large relative to allocated capital resources, including very large exposures associated with low probabilities of default and smaller exposures with high probabilities of default;
- Large correlated risks, including correlated market and counterparty credit risks; and
- Uncorrelated risks that may become large if they become correlated under stressed market conditions.

Most firms' internal risk reports provide good coverage of large market risk positions relative to internal limits and allocated capital resources. Moreover, as practical advances are made in stress testing for market risks, the results of those analyses typically are included in high level management reporting. The more complex management reporting issues arise from large credit exposure and risk reporting and the emerging correlations between market and credit risks. Specifically, with regard to large exposure reporting, the senior management reporting challenges include:

- Inconsistencies and deficiencies in the completeness of reported exposures, primarily caused by the complexities involved in aggregating exposures which arise from activities that are separately managed and use systems that are not fully integrated;
- Information that has been netted down to reflect netting agreements and collateral arrangements which depend upon judgments made as to enforceability of netting and collateral arrangements, not all of which may reflect high confidence in the enforceability mechanism;
- Reporting credit exposure measured only at current mid-market when the actual exposure to a counterparty may turn out to be substantially higher due to losses that may be incurred during the course of liquidating a counterparty position or associated collateral;
- Limited use of potential future exposure information because of misunderstanding about the nature of the calculation or lack of confidence in its methodology. In particular, the use of long horizon modeling without appropriate adjustments in situations involving collateral, mark-to-market agreements, or optional unwinds can lead to unrealistically large potential future exposure amounts; and
- Insufficient analysis of the market sensitivity of the size and quality of exposures to a large counterparty and across a group of correlated counterparties.

The complexity of many credit exposures requires that senior management information report different but complementary large exposure measures in order to develop a well-rounded assessment of aggregate credit risk. Ultimately, firms will move to an approach based on large risk reporting, not just large exposure reporting.

The definition of large exposure is relative. Large exposures might include exposures that are large in absolute size, large relative to their applicable limits, large within their rating categories or large in terms of economic capital usage (large risks). Exposure reporting should cover all activities with a counterparty and reflect the replacement cost of derivative contracts, repo agreements, stock borrow and loan agreements, margin loans, and nonregular-way settlement trades, as well as the market value or stated value, as appropriate, of other financial instruments such as loans and securities, in respect to which the counterparty is the obligor. Given the range and complexities of the different products that can give rise to exposure to a counterparty, as well as the different ways to regard collateral relative to those products, there is no easy way to aggregate exposures across products and to highlight excess or deficient collateral positions. Ideally, the information in senior management exposure reports should be sufficient to highlight follow-on questions, rather than seek to provide all product level detailed answers.

In this regard, it may be appropriate to exclude from routine senior management reports, or treat separately, highly transient and potentially very large exposures representing pre-settlement risk of regular-way transactions and settlement risk of all transactions - e.g., Herstatt risk and non-delivery-versus-payment risk. Regardless of how these exposures are treated in reports to senior management, they should be monitored against existing limits by business units and the credit department.

As set forth in Recommendation 5b, appropriate generic components of credit exposure to use for senior management information include current replacement cost, current net of collateral exposure, current liquidation exposure, and potential exposure. For any counterparty, each of these is best analyzed in combination with the others, each component providing a different and complementary insight about the nature of the exposure to the counterparty.

The credit quality of certain counterparties and the size of the exposures they create for their providers of credit are very sensitive to movements in specific market risk factors. Senior management information should contain qualitative and quantitative analysis that helps to identify such counterparties where the application of specified movements in certain market risk factors would cause either (i) an increase in the provider of credit's exposure to such counterparties beyond certain thresholds, (ii) a material deterioration in the credit quality of such counterparties, or (iii) a simultaneous material increase in exposure and deterioration in credit quality.

Developing such exposure, credit quality and market/credit correlation watch lists requires performing market stress tests on a firm's counterparty positions and potentially using the information obtained from

counterparties on their overall risk profiles. To the extent such information is confidential, FI's should conform to the agreed upon uses of such information and respect the safeguards against its misuse, all as discussed in Recommendations 2a and 2b of this report.

It should be recognized that few firms' credit risk management systems can now provide on a timely basis all of the information called for above. Firms should evaluate the need to upgrade their capabilities and, in the interim, senior management should receive the portion of this information that can be generated, even if that involves less extensive and more manual, approximate, and infrequent production than is ultimately planned. Specifically, the Policy Group recommends that:

10 *Large Exposure/Risk Reporting*: Senior management should receive periodic information on large counterparty exposures/risks. These reports should meet the following standards:

- Aggregate exposure to a counterparty should include all material on-and off-balance sheet exposures relating to such counterparty.
- Exposures should be measured under conservative assumptions as to the efficacy of netting and collateral arrangements.
- Position replacement cost and collateral values should be measured both at market and estimated liquidation value.
- Potential exposure measures should be robust and appropriately reflect risk reduction and risk mitigation arrangements.
- Quantitative and qualitative analysis should be used to identify counterparties for which large moves in specific market risk factors would result in large exposure levels, a material deterioration in credit quality or both.

Where a firm has introduced credit risk measures that capture both exposure and credit quality, it could rely upon those measures to determine appropriate coverage in senior management reporting.

Last year's market crisis has highlighted the risks resulting from positive correlation among a dealer's principal positions, counterparty positions and collateral received or posted, whether the counterparty defaults or merely is forced to liquidate certain positions. Traditional division of labor between credit and market risk management functions, as well as the inherent computational difficulties, have hampered the development of estimates of such risks. To remedy this, a firm should undertake integrated analyses of its own market and counterparty credit risk by exposing its counterparty positions (on a bilateral basis) and collateral and its principal positions to stress tests of the primary risk factors to which the firm's principal positions are sensitive. Firms need to consider the legitimate confidentiality needs of their counterparties as they build bridges between their counterparty exposure and market risk measurement competencies to facilitate the management and measurement of integrated risk concentration analyses. Specifically, the Policy Group recommends:

- 11 *Concentration Analysis*: Senior management information should highlight possible concentrations of market and credit risk resulting from positive correlation among the firm's own principal positions, counterparties' positions with the firm and collateral received or posted. In preparing such reports, due regard should be given to understandings reached with counterparties on access to and uses of counterparty proprietary information.

Advances in quantification of market and credit risk in recent years have substantially enhanced the ability of senior management to monitor and control a firm's aggregate risk profile. These quantitative measures, however, cannot be expected to encompass every risk facing the firm and they will generally involve the use of methodologies and assumptions that may not be robust in some circumstances. Without appropriate contextual information, senior management may not be able to interpret these measures correctly in light of their strengths and weaknesses. Furthermore, senior management information must avoid two common predicaments: oversimplification, which may give management false comfort, and undecipherable complexity, which may lead senior management to ignore the information altogether. Finally, there is a great need to avoid a "silo" approach to risk management and reporting, that is, an approach which treats often interdependent elements of risk as separate and independent categories. Avoiding such an approach involves coordination across traditional market and credit risk management disciplines as well as inclusion of the collateral management, client documentation, and operation control groups.

For these reasons, senior management should periodically receive and review relevant qualitative risk information that provides context for and supplements the quantitative risk information it receives.

Among the more important topics that should be addressed periodically are:

Data Integrity and Completeness: including the sources from which reported data is drawn; the quality, completeness and timeliness of data; and the nature of controls to ensure data integrity and completeness.

Model Assumptions and Limitations: including strengths and weaknesses of risk quantification and aggregation methods; what risks are not captured; what risks are poorly captured; and how models are back tested.

Valuation Methods and Limitations: including controls over the marking process; exceptions to normal mark-to-market policies; methodology for fair value adjustments, methodology of illiquidity and/or concentration adjustments; validation and calibration of valuation models; and valuation of collateral.

Legal Uncertainties: including enforceability assessments with regard to netting and collateral; assessments of ability to perfect security interests in collateral under the circumstances relevant to a firm's various positions; and how well judgments on such issues are reflected in exposure measurement systems.

Documentation: including the status of documentation covering, for example, the number and importance of undocumented transactions, unsigned masters or collateral agreements; the degree of

involvement of credit department in reviewing credit terms in documentation; and how well credit terms are reflected in exposure measurement systems.

Margin and Collateral Management: including the degree of involvement of credit department in setting margin and collateral terms for individual transactions; how well margin and collateral activities are integrated in exposure measurement systems; and the adequacy of monitoring of collateral concentration and liquidity.

Specifically, the Policy Group recommends:

- 12 *Contextual Information*: Senior management should periodically receive contextual information sufficient to assess the degree of reliance placed on quantitative risk management information, to highlight key judgments and assumptions involved in developing the quantitative risk information, and to shed additional light on a firm's overall risk profile.

III Improving Market Practices and Conventions

Within this part of its review, the Policy Group has evaluated opportunities for improving risk management through improvements in general market practices and conventions. The Group focused on three broad areas: (a) improvements in documentation policies and practices, with special attention to timeline issues; (b) improvements in documentation content, with special attention to close-out and valuation issues as well as the "basis risk" arising from inconsistencies across standard forms of industry documentation; and (c) improvements in collateral management practices, building upon the excellent review recently completed by ISDA. All of the many recommendations for change have two common objectives: (1) to improve a creditor's ability to deal in a timely and effective way with distressed/failing counterparties; and (2) to enhance the market's capacity to contain the risks of failures of large leveraged participants -- be they intermediaries or end investors. The Policy Group believes that all of these detailed recommendations have merit and warrant careful evaluation by firms and industry trade associations. The Group stresses the particular importance of enhancing standard industry close-out mechanisms. It is in the market's best interest to have close-out arrangements that produce commercially reasonable valuations that can be implemented quickly, even in stressed market conditions, and that have a high degree of legal certainty in the resulting claims.

Documentation Policies and Practices

The global financial markets operate through an interconnected series of contracts among market participants ranging from global commercial and investment banks, to corporate end-users, to individual investors. Although written documents may not be, per se, necessary to establish a contract, they are the best evidence of the terms of a contract and the best way to ensure that parties agree on the specific terms of a transaction. Failure to document a transaction appropriately or expeditiously, therefore, creates risk. To that end, lapses between the time a transaction is entered into and the execution of documents evidencing the transaction can give rise to the risk that one of the parties could walk away from the trade or dispute its terms. In a related manner, inaccurate or incomplete documents could lead to litigation when parties misunderstand their obligations and, as a result, fail to perform as expected. Equally significant, market participants can confront unexpected market and credit risk as a result of misunderstandings about how documents work, particularly in disrupted markets. Close-outs of transactions in which trading desks experience unanticipated market and credit losses during contractual grace and notice periods provide a good example of this risk. In addition, in litigation, documents are frequently put under a microscope and any flaw is magnified and used as an excuse for non-performance.

Documentation risk can be controlled with adequate staffing and strong practices. These practices have several benefits. First, they can effectively reduce the time between trade date and the codification in writing of the trade. Second, the documentation process permits parties to address, upfront, issues that may seem distant or irrelevant at the time of negotiation, but could become material in the event of a dispute. Third, the process provides a forum for parties to agree upon numerous issues in a non-litigious setting. Finally, it permits the discussion of the legal nature of the relationship between the parties and codification of that relationship before problems arise.

Recognizing that documentation risk is controllable, the Policy Group recommends that:

13 FI's should have in place written policies to manage documentation risk. Such policies should be approved by senior management and reflect the nature and scope of their business and risk profile. Such policies should address the following factors:

- Creation and execution of documents pertaining to privately negotiated OTC transactions, including master agreements and confirmations;
- Sensitivity to documentation risk factors, such as counterparty credit quality, jurisdiction and transaction complexity;
- Procedures for identification of principals acting through agents;
- Timelines for completion of master agreements and confirmations;
- Procedures for granting exemptions and exceptions; and
- Procedures for tracking backlogs and violations.

Individual firms will, of course, make different determinations regarding the provisions contained in such policies, the nature and weight of risk factors, as well as the application of risk factors in implementing and enforcing the policy.

Timeframes and Monitoring

With respect to documentation practices, the Policy Group noted that completing confirmations and master agreements sometimes takes longer than expected, both in transactions between FI's and with end-users. Delays in the documentation process can delay the identification and resolution of misunderstandings, potentially increasing risk. Delays in executing master agreements with counterparties, for instance, can contribute to increased legal uncertainty that may undermine the potential benefits of netting in the event of a close-out. In certain cases, the failure to obtain appropriate evidence of counterparty authorization could expose dealers to the risk that a counterparty disavows a losing trade on the basis that it was unauthorized. Some firms have developed internal policies requiring specified time frames for executing master agreements and sending out confirmations. In the latter

regard, many cash and securities products and some plain vanilla OTC derivative products already benefit from short, well-established time frames for initiating confirmations.

The Policy Group believes that executing master agreements and sending out confirmations in a timely fashion are key factors in reducing documentation risk. At the same time, the Group recognizes that prudent credit and related considerations should not be sacrificed for timeliness alone and that timeliness is but one element of an effective documentation policy.

Mindful that timeframes cannot and should not apply on a “one size fits all” basis, the Policy Group recommends that:

14a FI's should adopt a goal to execute new master agreements within 90 days of a transaction and, pending such execution, utilize a "long form" confirmation that incorporates the industry standard form of master agreement.

14b FI's should send out confirmations for privately negotiated OTC transactions by the business day following the trade date and, within five business days thereafter, assure themselves that there is agreement with their counterparty on the material terms of the trade and that they have written evidence of their binding agreement. There should also be agreement at the outset of a relationship on which party will initiate the confirmation.

The Policy Group emphasizes that these timeframes are aspirational. Firms make risk-based trade-offs between adhering to set timeframes for completing largely standard documents and seeking enhanced credit or other contractual provisions that may require extended negotiations. For example, there will be some circumstances where it is appropriate to execute masters prior to entering into a new counterparty transaction relationship, as well as other instances where longer timelines may be appropriate to ensure adoption of customized credit terms or to address complexities specific to a counterparty or jurisdiction. These types of risk-based decisions should be encouraged, so long as senior management understands the nature and extent of the trade-offs. Documentation policies should be expected to reflect such trade-offs, including exemptions or exceptions for new or complex products or counterparties from jurisdictions that present language or cultural hurdles to expeditious completion of documentation. Examples could include exemptions from standard deadlines for confirmations for structured credit and equity derivatives, for which industry standard templates do not yet exist or are not widely accepted.

The Policy Group, nevertheless, believes that it is fundamental to confirm the terms of a binding contract between counterparties swiftly after the transaction. The Group accordingly wishes to use this opportunity to raise the bar on timeframes as a goal, recognizing that some policies will differ and that appropriate and soundly based exceptions and exemptions play a critical role in the process.

The process for confirming trades can also be improved in several additional respects. For instance, with respect to certain OTC derivatives products (e.g., equity derivatives and credit derivatives), FI's often prefer to use their own confirmation template or to modify a standard industry template. Reasons for doing so include legal risk tolerance, regulatory considerations, organizational structure, and internal policies. Also, standard industry templates often do not keep pace with the rapid innovation that characterizes the privately-negotiated OTC derivatives market. These considerations can significantly lengthen the confirmation process.

Recognizing the risks inherent in delayed confirmations, the Policy Group encourages industry associations (e.g., TBMA, ISDA, EMTA, BBA, IBMA) to identify and address potential obstacles to timely confirmations in their market segments and consider developing market conventions regarding who prepares the confirmation. For products that are simple, well understood or standardized, many firms already operate well within short time frames through automated means. The Policy Group encourages expansion of these practices.

A particularly important element in an effective documentation policy is clarity on procedures for granting exemptions and exceptions to policy. Exemptions may be thought of as classes of activities, transaction types or counterparties for which elements of general policy need not apply (i.e., an exemption from the requirement for an approved credit facility to conduct regular way DVP trading of government bonds). Exceptions represent situations where the elements of general policy should and would normally apply but a conscious risk based decision is made to waive or delay the application of policy to a specific transaction or counterparty. Firms with strong documentation practices have developed internal policies specifying roles and responsibilities for granting exemptions and exceptions, for identifying factors to be considered in the process (e.g., counterparty credit rating, maturity, existence of related documentation, and operational risks), and quickly elevating disputes. Adopting a workable exemption and exception process is critical to an effective documentation policy. Once this is established, firms can put in place effective risk-based monitoring and reporting mechanisms, as well as incentives and/or constraints on future business dealings to reinforce desired behavior. Reflecting these considerations, the Policy Group recommends that:

14c FI's should track unexecuted masters, unsent confirmations and unaffirmed trades, develop a risk-based approach to clearing backlogs and report to senior management material deviations from internal documentation policy. Furthermore, they should develop incentives for business units and clients to correct material deficiencies in their documentation practices, which might include trading restrictions, mandatory unwinds and reserves for losses.

Similarly, the Policy Group notes that manual processes involved in some market segments (e.g., equity derivatives, credit derivatives and non-deliverable forwards) also contribute to documentation delays. A number of market segments already benefit from automation in the matching/confirmation process (e.g., FX spot, cash debt and equities in several countries). The Policy Group believes there is scope for further improvements, both for risk management and control efficiency, by extension of these automation techniques to additional segments of the OTC markets. Accordingly, the Policy Group recommends that:

- 15 Industry participants should support efforts to introduce greater automation in the documentation process for privately negotiated OTC contracts. The Policy Group also encourages service providers to consider new opportunities that may exist in these markets, and it encourages regulators to work in cooperation with industry participants and service providers to facilitate these efforts and refrain from erecting regulatory barriers that may impede service innovations.

B. Documentation Content

Over time, various trade associations have developed standard form documentation, such as the 1996 TBMA Master Repurchase Agreement, PSA/ISMA Global Master Repurchase Agreement, 1992 ISDA Master Agreement, and the 1997 FEOMA Agreement. These industry-wide standard documents are all aimed at particular market segments; market participants expended extensive efforts in helping to draft these documents. The Policy Group reviewed all of these documents in light of market practices and the market disturbances of 1998 to determine instances in which: (i) provisions of agreements did not function as expected, (ii) lack of consistency among product documentation led to incongruous results, (iii) certain provisions which are not commonly included in such documentation were identified as necessary, or (iv) as a result of documentation provisions, credit or market exposure was greater than intended or previously understood.

The Policy Group focused on the following areas involving documentation content: (i) close-out and valuation procedures, (ii) risk reduction arrangements, including netting, and (iii) contract termination provisions. These areas presented the greatest challenges in the market environment of 1998. The Policy Group engaged in extended discussions with working group member firms, as well as end-users and certain of the trade association sponsors of the standard documents.

Close-Out and Valuation

The events of 1998 revealed that close-out and valuation procedures do not always function well, particularly in adverse market conditions. Market disruptions also underscored inconsistencies among agreements that led to differences in the valuation of functionally equivalent transactions documented with different standard agreements, giving rise to documentation “basis risk”. Parties had difficulty valuing transactions, were unable to do so, and, in some cases, confronted contractual provisions that specified procedures that could have produced manifestly inappropriate valuations. For example, under ISDA’s Market Quotation valuation methodology, which is prevalent in the swaps market, parties generally are required to obtain five dealers’ price quotes for closed-out transactions. This mechanism proved difficult and sometimes impossible to implement when trading desks at dealers across the globe struggled to manage their own positions and could not value trades for others, and when irregular, illiquid or non-transparent markets were involved, such as the Russian markets in the summer of 1998. When the Market Quotation method did not work, market participants became concerned that they might be second-guessed by defaulting parties in litigation as to the appropriate or permissible steps to be taken to value affected transactions. In particular, market participants had concerns that questions would arise regarding their decisions as to when it was appropriate to revert to the Loss method (based on a commercially reasonable and good faith standard) contained in ISDA documentation as an automatic fallback. Some market participants perceived that these questions added a dimension of legal risk that further complicated an already difficult situation.

Inconsistencies across standard documents also gave rise to documentation “basis risk”, particularly in the case of close-outs of ISDA-documented swap transactions based on a particular asset using Market Quotation, hedged by TBMA-documented repos on that same asset. In that scenario, firms valued close-outs of repos in a commercially reasonable, good faith manner as prescribed by the applicable TBMA form and were able to do so quickly and efficiently, while the swap valuation was subject to delays and, in some instances, produced an implied value of the underlying asset that was different from that produced in the repo hedge valuation.

As an emerging practice, individual dealers have begun to address close-out and valuation concerns on a cross product basis. Some dealers have begun to select ISDA’s Loss method instead of Market Quotation.

As a guiding principle, the Policy Group believes that there should be a common standard for close-out and valuation procedures across documents and related financial instruments. In the Policy Group’s view, this standard should be that such procedures are commercially reasonable, expeditious and

practically workable, in addition to maintaining a high degree of legal certainty. The Policy Group notes that ISDA's Market Quotation method sometimes failed to operate in a workable, expeditious fashion during the market disruptions of 1998. Moreover, it is significant that the Market Quotation method, as a prescribed technique, is the exception to the standard contained in TBMA/GMRA and FEOMA documentation. The flexibility granted non-defaulting parties under the TBMA/GMRA and FEOMA documents, as well as the ISDA Loss method, plays an extremely important role in promoting well-functioning markets. Again, as a guiding principle, the Policy Group believes the use of a market quotation technique should be viewed as one way to achieve, via contractual agreement, a commercially-reasonable, good faith valuation of damages under a loss method standard, rather than as a competing methodology. In that regard, the flexibility to value or close-out defaulted transactions for purposes of assessing damages in good faith and in a commercially reasonable manner under these standardized documents should be maintained and should be respected by courts and in other dispute resolution contexts.

The Policy Group, therefore, recommends that:

16a *Close-out and Valuation*: Documentation should be revised as necessary to ensure that a non-defaulting party has the flexibility to value transactions in a good faith and commercially reasonable manner. This should be a common industry standard, as incorporated in the TBMA/GMRA, and FEOMA agreements and ISDA's Loss methodology.

In many instances, an effective way to achieve the commercially reasonable valuation contemplated by the Loss method will involve reliance upon market quotations. For that reason, the Policy Group believes that the effectiveness of a market quotation technique should be enhanced. Specifically, the Policy Group recommends that:

16b To the extent that market quotations are employed to achieve commercially reasonable valuations, ISDA agreements should be modified to provide that:

- Potential quotes provided by third parties may include not only price, but also yields, yield curves, volatilities, spreads or other relevant inputs. These inputs should be based on the size of the transaction, the liquidity of the market and other relevant factors.
- The number of third parties from whom inputs are sought may be reduced.
- Third parties from whom inputs may be sought may include not only dealers, but also major end-users, third party pricing sources or other relevant sources.
- Market quotations are but one means to achieve good faith valuations and may be by-passed when, in the judgment of the non-defaulting party, they are unlikely to produce a timely and commercially reasonable result.

These clarifications of, and improvements to, the market quotation technique will prove useful to parties with ISDA Masters already in place or those selecting that technique, while at the same time facilitating a move to common industry standards for close-out. The Policy Group wishes to emphasize that these enhancements should not reduce the flexibility to value transactions without third-party inputs under TMBA, FEOMA, Loss or any other commercially reasonable, good faith standard. In that connection, the Policy Group notes that parties selecting Loss may wish to use the mechanics of market quotation to evidence a commercially reasonable good faith valuation, although they should not be required to do so. Equally significant, the Policy Group emphasizes that market quotation in its current form is legally enforceable and future revisions to the market quotation method should not undermine this enforceability. Finally, the Policy Group recognizes that achieving enhancements and harmonization to standard industry close-out procedures could take considerable time. Given the importance of these procedures, all relevant industry associations are urged to turn their attention to this, and the twelve member firms in the Group commit their support to such a joint effort.

Other Credit Related Provisions

While improving close-out practices is the single most important change in documentation content, there are a number of other credit related features of industry documentation in which the Policy Group feels significant improvements can be made. As noted in summary Recommendation 17, this covers a broad range of both complex legal issues as well as detailed operational risk controls. Taken together, the specific suggestions for improvement which follow represent a comprehensive framework for significant reductions in counterparty credit related legal and operational risk. These particular points should be viewed as representing the detailed elements in support of that summary recommendation:

- 17i *Delivery of Notice*: Documentation should be revised as necessary to permit delivery of notice by any commercially reasonable method that is legally sound in the relevant jurisdictions (e.g., facsimile or e-mail sent with telephone confirmation satisfying sender's burden of proof as to delivery).
- 17ii *Payment Netting*: Documentation should be revised as necessary to provide for the netting of all amounts (in a single currency) that are payable on the same day. At the most elementary level, documentation should provide for payment netting across like kind transactions. To be more effective, documentation should provide for payment netting across multiple products appropriately linked under a master agreement, or by a master-master.

The Policy Group also recognizes that netting and set-off are extremely valuable methods of reducing risk. Specifically, with respect to payment date netting, there generally exists the ability to net same day payments. Some firms have modified TBMA/GMRA annexes to reinforce and implement payment date

netting. Even where the ability exists in the governing agreement, many parties have limited systems capabilities to calculate net payments. Failure to net same day payments for either reason leads to potentially increased exposures. The Policy Group understands that not all firms' systems can currently support payment date netting. In such cases, other settlement risk mitigation measures could be developed which require less extensive systems support. These might include: (a) use of escrow arrangements to ensure that deliveries or amounts are released only against receipts; and (b) supplemental collateral requirements to cover intraday settlement risk.

17iii Cross-Product Obligation and Collateral Netting: Parties should make the best possible use of multi-product master agreements, and master-masters, to facilitate obligation netting and collateral netting across product lines. Where the parties do not have the ability to net collateral, documentation should be modified, subject to applicable law, to entitle the secured party to retain excess collateral to secure other obligations of the pledgor to that party.

As in the case of payment date netting, parties should develop the systems support needed to calculate, on as close to a real time basis as is practical, the net amount of collateral deliverable to or by a counterparty on any given day under all outstanding agreements and in respect of all product categories. As enhanced systems support becomes available, documentation should be modified to effect, to the fullest extent possible, cross-product collateral netting. The scope of such netting ultimately should be as broad as the legally supported scope of close-out netting.

17iv Set-off: Where permissible under applicable law, documentation should be modified to allow the non-defaulting party to exercise broad rights of set-off. These include:

- The right of the non-defaulting party to set-off against obligations of the defaulting party.
- Obligations of the non-defaulting party to the defaulting party under other transactions or other documentation.
- Collateral or property of the defaulting party held by the non-defaulting party in connection with other transactions or under other documentation.
- Obligations of affiliates of the non-defaulting party to the defaulting party under other transactions or under other documentation.
- Collateral or property of the defaulting party held by affiliates of the non-defaulting party in connection with other transactions or under other documentation.
- Obligations of the non-defaulting party to affiliates of the defaulting party under other transactions or under other documentation.
- Collateral or property of affiliates of the defaulting party held by the non-defaulting party in connection with other transactions or under other documentation.
- The right of the non-defaulting secured party to transfer excess collateral to an affiliate of the secured party to secure obligations of the pledgor to such affiliate.

Despite the best use of master agreements, parties may have to rely on post close-out set-off rights to net termination amounts attributable to (i) products beyond the scope of those master agreements or (ii) transactions involving non-parties to the master agreements (most importantly, affiliates). The

enforceability of these set-off rights under current laws may be more limited than is consistent with the need to manage risk exposure on a cross-product, cross-affiliate group basis. Accordingly, market participants should work to change existing law to permit increased cross-product, cross-affiliate set-offs. In this connection, the Policy Group endorses the recommendation to strengthen netting and set-off legislation set forth in the Report of the President's Working Group on Financial Markets.

17v *Events of Default*: Cross-default provisions in each agreement should, at a minimum, include as an event of default thereunder any default by the counterparty under any other transaction or agreement with the non-defaulting party or the non-defaulting party's affiliates. Parties should consider the need for broader cross-default provisions in individual cases.

Cross-default provisions exist in some, but not all, agreements, rendering non-defaulting parties uncertain of their ability to terminate agreements in certain circumstances, notwithstanding concurrent defaults under other agreements with the defaulting counterparty. Existing cross-default provisions vary in breadth of application; some are limited to counterparty default, while others may be triggered by counterparty affiliate defaults. Some are limited to defaults between the parties (or perhaps their affiliate groups), while others reach defaults under agreements with unaffiliated third parties. Generally speaking, the Policy Group believes that documentation should expand the use of cross-default provisions.

17vi *No-Fault Termination*: Documentation should be modified as necessary to specify the consequences of events such as changes in law, changes in tax rules, regulatory changes, or governmental actions that render performance substantially more difficult or expensive or introduce substantial uncertainty.

The concept of "no-fault" termination events (such as a change in tax laws), exists in ISDA's standard documentation, but not in TBMA/GMRA or FEOMA. The Policy Group believes it is appropriate to include this concept in all standard documentation, and its corollary of mid-market termination pricing of transactions should be evaluated by each association for possible use.

17vii *Acts of God*: Documentation should be modified as necessary to define and capture various such events to the extent that they are not clearly covered by existing provisions. It is imperative that contracts remain enforceable according to their terms, notwithstanding the occurrence of such events and that counterparties have a clear agreement at the time the contract is made as to the consequences of such events and the method of valuation in the case of such events. In no event should either party be entitled to walk away from its obligations as a result of the occurrence of such an event.

During 1998, it became apparent that contractual provisions regarding the consequences of "Acts of God" or "impossibility" of performance play a key role in ensuring contractual expectations are fulfilled.

Trade associations should study the recommendations to be proposed by the FMLG/FXC/ISDA/EMTA working group to address this issue and develop and implement similar recommendations and procedures for other markets.

17viii *Coordination:* The documentation and credit functions within each firm should be coordinated to ensure that any required credit condition, such as an obligation to provide specified financial information, to maintain a specified financial condition, or to provide notice of any failure to maintain a specified financial condition, is appropriately incorporated in the firm's documentation and the consequences thereof specified.

Strong documentation content is of limited value if there is an absence of effective coordination between the credit function and the documentation control group. This last point becomes particularly important given the increased emphasis on improved information sharing. That is, financial information and documentation (as opposed to authorization information and documents) are not consistently requested, provided or reviewed. Adequate penalties for the failure to deliver financial and other credit related information and documents generally do not exist or are not enforced. The Policy Group believes that to encourage transparency, documents should specify the kinds of information that a firm should provide (along the lines suggested in Recommendation 1 of this report) so that its counterparty can make an informed credit judgment, as well as the consequences of not providing agreed to information.

Harmonization

As noted earlier, an important potential source of credit problems is the lack of consistency of key provisions across standard documentation. There are differences not only with respect to valuation procedures, but also, time-sensitive notice periods for close-outs following a failure to make payments or deliver collateral. These inconsistencies give rise to discrepancies between the market risk to which parties were actually exposed and the measurement of those risks by internal risk monitoring systems, diminishing the reliability of the risk management process. This lack of uniformity in timing accordingly exacerbates documentation basis risk, which is the risk that one leg of a transaction could be unwound at a different time and at a different price from a related leg, in a way that is not reflected in firms' risk management systems. This is particularly true where there is a payment or margin failure and the documents contain different grace periods. Individual dealers have begun to address these problems through the use of master-masters that encompass multiple master agreements and by revising individual master agreements to include cross-default provisions. The Bond Market Association is developing a standardized cross-product master netting agreement that will trigger a cross-default and preempt notice periods in the event of a default under a document. The Policy Group supports the TBMA's efforts and encourages other trade associations to endorse the final document.

Events of Default are another example of the lack of consistency across products that results in anomalies in close-outs. Different standard agreements contain different events of default, leading to incongruous results or unexpected risks upon close-out. The differences across agreements regarding Events of Default present another example of documentation basis risk.

A clear example of inconsistencies concerning Events of Default relates to insolvencies, which are addressed differently across standardized documentation. Events of Default with respect to financial condition also vary among standard documentation, with respect to both the scope of the coverage and the consequences of the defaults. Indeed, Events of Default with respect to financial condition can differ from document to document with respect to the same firm.

Given the extent and significance of the inconsistencies between key provisions of these standard forms of industry documentation, the Policy Group recommends that:

18 *Documentation Harmonization*: Industry associations should undertake an initiative to harmonize standard documentation across products, and, where possible jurisdictions in areas including: clauses covering notices, grace and cure periods, definitions of events of default and insolvency, and close-out valuation standards.. The focus should be to:

- Reduce notice and grace periods and make both more consistent where appropriate;
- Ensure that the grace period for failure to make a payment or delivery or to transfer collateral should not exceed one business day after notice;
- Clarify the specific points at which grace periods commence and expire to avoid confusion arising from differences in time zones, currencies of payment and close of business conventions, and the timing of notices of non-performance;
- Harmonize definitions of events of default and insolvency and include as a broad range of such events as possible (i.e., general inability to pay debts, written or oral admission of inability to pay, failure to pay debts as they come due, etc.);
- Provide for a consistent 15 day maximum cure period for involuntary insolvencies, with the ability to close-out if the counterparty has not challenged the insolvency within five days; and
- Improve and harmonize close-out valuation standards.

Collateral Management

The Policy Group also briefly examined collateral management arrangements, mainly in light of the recent study of those arrangements conducted by ISDA.

The Policy Group observes that procedures available under standard documentation in combination with market practice for valuing transactions for purposes of determining the sufficiency of collateral may not function well in certain circumstances, may lack certainty of application and may lack consistency.

A review of various standardized documents indicates that the timing of calls for and delivery of collateral differs across documentation and, especially in the case of adverse market conditions, may not function in a timely fashion. This is particularly dangerous when transactions documented on different standardized forms are used to “hedge” one another. For instance, last year some parties hedged GKO-linked swaps documented on ISDA with Ruble options documented on FEOMA or GKO repos documented on GMRA. This is another form of documentation basis risk that is not included in the normal market and credit risk calculations.

An emerging practice has developed where individual dealers have begun to address such problems on a product by product basis, such as through the use of dealer created master-masters that encompass multiple master agreements, by establishing consistency and standardization across documentation and by revising individual master agreements.

The 1999 Collateral Review prepared by ISDA set forth a variety of proposals for improving collateral procedures. The Policy Group generally endorses those proposals and stresses particularly the importance that documentation be modified to afford parties calling for collateral or its return greater flexibility in determining the measures that are appropriate in light of prevailing circumstances. Valuations concerning existing transactions or collateral should be made in a commercially reasonable manner.

IV Regulatory Reporting

In approaching its evaluation of steps that might be taken to improve the quality and timeliness of information available to regulatory authorities, the Policy Group focused on two basic objectives. The first was to suggest ways to facilitate the timely sharing of qualitative information on market conditions and trends, and not just quantitative information on recent firm specific performance and risk profile developments. This reflects the judgement that few, if any, standardized forms of regulatory reporting can anticipate emerging sources of significant potential market problems, let alone systemic risks. The second was to respond to the desire, expressed in the report of the President's Working Group, to facilitate regulatory monitoring of counterparty credit risk management developments, as they relate to the range of issues and subjects discussed in this report, with particular emphasis on issues of leverage and concentrations of risks.

In considering how best to meet these objectives, the Policy Group was guided by a few basic principles. First, the most useful potential source of regular information for these purposes should be the relevant information firms provide to their own senior management. Second, any regular provision of information for these purposes should be on a consolidated, group wide basis, not disaggregated by the various different legal entities into which the group is organized for regulatory and tax related purposes. It also should be reported only once to the group's principal regulator. Third, utilizing internal management sources of information entails placing a premium on relevance, flexibility, timeliness and low costs, at the expense of accepting differences in methodology and limitations as to the ability to aggregate information which may not be exactly comparable. Fourth, greater regulatory access to internal risk management information requires increased discipline on the part of regulators to limit tendencies to interfere in matters best left to management and to have clear understandings with those providing information on how the regulators might use and share that information. Finally, greater information availability to the regulators is a two edge sword, in that having greater information without the means to properly evaluate it or clear authority to act upon it can create unrealizable expectations as to what the regulators can do to prevent or contain future problems.

The members of the Policy Group believe that it is very difficult to expect any formal standardized reporting system to provide all the information needed to spot emerging trouble spots capable of giving rise to systemic risk issues. A potentially more useful channel of early warning information could be to build on informal contacts between senior risk managers at the key financial intermediaries and appropriate senior counterparts at the regulatory agencies. In order to promote frank discussion between

institutions and their regulators, such meetings should be limited to no more than three or four senior representatives on each side, with the market participants represented by officials with responsibility for global risk taking businesses or firmwide risk policy matters. Such meetings should enable institutions and regulators to share informally their views on issues of current concern and aid the primary regulator in determining risk trends and market sector developments of particular interest in the future. This would be more useful than a forum that just focuses on firm specific information such as recent financial performance and risk profile changes. Specifically, the Policy Group recommends:

- 19 FI's with significant counterparty credit and/or market exposure should be prepared to meet informally with their primary regulator on a periodic basis to discuss their principal risks as well as market conditions and trends with potential market disruption or systemic effects. To be effective, such meetings should involve only a small number of senior officials from both sides.

In considering the expressed regulatory interest in better means to monitor and evaluate credit practices related to large leveraged trading counterparties, the Policy Group has considered steps that could be voluntarily undertaken to improve this information flow. To begin with, current regulatory approaches to collecting information on large counterparty exposures suffer from many of the same limitations described earlier as regards internal management reporting of such exposure information. Just as the expanded information being recommended should be useful to senior managers, a subset of that information could also improve existing regulatory information sources on large exposures. If requested by its lead regulator, the Group believes financial intermediaries with significant credit and/or market exposure should voluntarily provide large counterparty exposure reports on a consolidated group basis. Such reports would include a list of counterparties comprising the firm's ten largest exposures in any of four dimensions: (1) current replacement cost (measured at market), including the benefit of netting agreements if legally enforceable with a high degree of confidence, but before consideration of any relevant collateral, (2) current net of collateral exposure, measured as replacement costs minus the market value of collateral, where there is a high degree of confidence about the enforceability of the security interest, (3) current liquidation exposure, measured as net of collateral exposure using estimated liquidation values of contracts and collateral, rather than current market values, and (4) potential exposure of OTC derivatives positions and non-regular way settlement trades (i.e. forward). Within each such exposure dimension, the report would list the ten largest exposures for counterparties internally rated investment grade (or equivalent) and the ten largest exposures with non-investment grade ratings. For any counterparty appearing as one of the ten largest exposures in any exposure dimension, the report would show such counterparty's exposure for each of the four exposure dimensions.

There are a great many complex definitional issues to be addressed in structuring such a report. These include how best to combine exposures that arise from a vast array of different market products; how to account for different assumptions as to legal and operational treatment of these varied products; and how to understand the methods of aggregation used in estimating different measures of exposure for any given counterparty, where there are a large number of underlying contracts being combined and netted. There would be even greater complications associated with any attempt at aggregation of such information across counterparties. Notwithstanding these issues, and to provide a common starting reporting framework (but not a mandated common measurement methodology), the Policy Group has prepared a sample potential report form and product exposure definitions (see Appendix C).

In designing the report form, the Policy Group assessed the difficulties of aggregating different product exposures given the objective of providing useful high-level exposure statistics. In deciding to aggregate exposures across products, the Policy Group recognizes that the various suggested calculations are subject to interpretative dangers. In choosing to report current replacement cost exposure without the benefit of collateral as one dimension of exposure, the Policy Group opted for a presentation that is consistent with a structural and legal analysis of products being aggregated, more so than one based on an economic analysis, which could lead to potentially significantly different exposure estimates. For example, the credit terms of a margin loan and a derivative transaction may be economically similar, but the margin loan will tend to have a much higher pre-collateral exposure. Yet, for margin loans, a large pre-collateral exposure number could be associated with substantial excess collateral, in which case the net of collateral, liquidation or potential exposures would be negligible. Thus, it should be clear that no single exposure measure can provide a reliable assessment of the credit risk of a counterparty. A more comprehensive assessment requires an analysis of all four exposure measures shown in the report. The report should be regarded as a starting point for raising questions, rather than as the last word on the detailed nuances of a firm's counterparty risk profile. Consistent with the earlier recommendation that senior management evaluate quantitative exposures in the context of various qualitative risks, firms are encouraged to provide explanatory notes to the report, especially if they believe there is a particular danger of misinterpretation of the information by the regulators.

In offering the possibility of initiating voluntary regulatory reports along these lines, the Policy Group is very mindful of the limitations of any reporting system, even one based on internal management reports. As noted above, in evaluating the report from any one firm, the information needs to be viewed in its entirety and with the benefit of contextual information, rather than focus on any one dimension of exposure. Also, it would be a mistake for the regulators to simply sum the liquidation exposure estimates and potential exposure estimates across counterparties of the same firm, since the market factor

movements reflected in those estimates will be different for each individual counterparty (as explained further in Appendix B). For all these reasons, the Policy Group wishes to emphasize that the information contained in the report must remain confidential and that the report, or any modified version, should not be used as a blueprint for public disclosure. Any release of client specific information would represent a breach of confidentiality. Furthermore, even if names were withheld, the inherent complexity of judgments made for various estimates, as well as the difficulties of the interpretations of the information provided, makes its use much more suitable for supervisory purposes rather than for public disclosure.

There are even broader limitations involved in attempting to use this information on a cross-firm basis. For example, given the global nature of the markets --not only the market participants but the instruments in which they trade -- it seems improbable that reports from even a key subset of one country's large participants will give regulators a true picture of the entire market. Consequently, if regulators determine to request global exposure reports from FI's, they will need to develop the systems and personnel to take advantage of the new information, and to create domestic and international information sharing agreements to give regulators a more complete picture of the global financial system. Yet those very same arrangements would have to deal not only with the limitations noted above in aggregating information provided by one firm, but also the fact that liquidation and potential exposure estimates cannot be added across firms, even for the same counterparty. This is because the counterparty is likely to have different underlying positions with the various reporting institutions (for example, fixed income market positions with one firm and equity market positions with another; or even two off-setting legs of a fixed income arbitrage position, one in futures with one firm and the other in cash markets with another). Simply adding these position specific estimates of liquidation or potential exposure across reporting firms could well present a very misleading picture. Moreover, if regulatory information sharing arrangements are not structured with care, they can give rise to serious client confidentiality concerns about appropriate use of that information, as well as potential national legal obstacles to sharing information in some centers. Finally, there is the open question posed earlier about the risk of unrealizable expectations being created based on regulators receiving this information.

The Policy Group is also sensitive to that fact that many forms of regular regulatory reports quickly outlive their usefulness, either because the perceived need is diminished or because market innovations and changes render the information less relevant. Too often, however, the reporting requirements live on, burdening both sides with the expense of preparation, processing and evaluation. By suggesting this report as voluntary and by linking it to management reports, perhaps it will be easier to adapt it or sunset it if it loses its value.

Reflecting all these considerations and limitations, the Policy Group believes, on balance, that it would be helpful to provide regulators with voluntary access to reports with information along these lines and so the Group recommends:

20a If requested by its primary regulator, FI's with significant counterparty credit exposures should voluntarily provide reports to that regulator detailing certain large exposure information on a consolidated group basis. A suggested uniform format, derived from suggested enhancements to senior management reporting, is provided for consideration.

20b Regulatory agencies requesting such information should reach clear understandings with providing institutions on permissible uses of such information, arrangements for sharing and aggregating such information, and safeguards against its misuse.

Finally the Policy Group discussed the two key public disclosure recommendations in the report of the President's Working Group. One such recommendation is that:

"Public companies, including financial institutions, should publicly disclose a summary of direct material exposures to significantly leveraged financial institutions. To the extent covered, these entities should be aggregated by sector (e.g. commercial banks, investment banks, insurance companies, hedge funds and others). Public companies' exposures to significantly leveraged financial entities, including commercial banks, investment banks, finance companies, and hedge funds, may be in the form of equity, loans, or other credit exposures. Currently, neither SEC rules nor generally accepted accounting principles directly address disclosure requirements for companies with material exposures to significantly leveraged financial institutions. The interlocking nature of the financial exposures of highly leveraged financial institutions with each other leads to the potential contagion effect of financial difficulty originating initially in one firm. Requiring public companies to disclose their direct material exposures to significantly leveraged financial entities could serve to reinforce private market discipline upon these firms.

- The proposed disclosure could be required to be incorporated in the Management's Discussion and Analysis or Description of Business in periodic financial statements. Such disclosures should be accompanied by appropriate information and analyses regarding how exposures are measured as well as the quality and diversification of exposures to highly leveraged institutions. The disclosures would be included in the periodic reports (e.g., Form 10-K, Form 10-Q) filed by public companies with the SEC.
- The proposed disclosures would be expected to apply to all public companies, including non-financial public companies, that have direct exposures to significantly leveraged financial institutions, as defined, that are individually or in the aggregate (a) material to the investor's financial statements, or (b) could have a material effect on the investor's financial statements resulting from losses due to possible economic events or conditions.
- The precise nature of these regulations would be determined by the SEC, taking into account public comments through the normal rule-making process."

Any such form of mandated public disclosure will raise all the complex definitional and aggregation issues noted earlier, as well as additional issues about public use of information which may rest upon

very judgmental assessments of future, uncertain market events. More importantly, in the Policy Group's view, it is very unlikely that aggregate information on exposures to broad classes of financial counterparties would prove at all useful to investors in trying to monitor independently the counterparty risk profile of the disclosing institutions. For these reasons, the Policy Group feels it is very important that, before any new regulatory disclosure requirements are proposed, the regulators work informally with market practitioners to develop a full grasp of the complex definitional and aggregation issues these reports and disclosures will entail. The firms in the Policy Group are prepared to provide such assistance, if requested by the regulators.

The other proposed new public disclosure requirement would apply directly to private, unregulated leveraged investment funds and to existing commodity pool operators. While the President's Working Group report is not specific on the type of information which would be required to be disclosed, the broad suggestion is that it be top-down risk (rather than proprietary position or strategy) information. The intent of such disclosure presumably is not to protect private investors in the funds, or to protect creditors or substitute for information that should be available to creditors. Rather, it appears intended to help better inform markets, in order to limit the potential for future market disruptions.

In the Policy Group's view, there are major questions as to the likely usefulness of this information for its presumed intended purpose. There are also questions of uneven application of such a rule, since other forms of regulated active institutional asset managers would presumably have no such disclosure requirement, yet manage positions which could also pose market disruption potential. There is also some concern that the funds in question would regard any such disclosure requirement as a substitute for the more robust and customized creditor information sharing proposals contained in this report. Thus, it may well be that the combination of improved creditor information sharing, along with the improved risk analysis and senior management and regulatory reporting contemplated in this report, would provide more effective risk control mechanisms than new public disclosure rules.

V Implementation

Broadly speaking, there are two dimensions to implementation considerations for the recommendations in this report: authority and resources. As regards authority, essentially all the recommendations in Section I (Transparency and Counterparty Risk Assessment), Section II (Internal Risk Measurement, Management and Reporting) and some of the recommendations in Section III (Market Practices and Conventions) can be acted upon on a firm-by-firm basis or in bi-lateral negotiations with specific counterparties. While the Policy Group urges all market participants to consider positively these recommendations, it is important that these remain firm specific decisions, best made by senior management in the context of their evolving risk management policies, practices and risk profiles. While the Policy Group would also welcome positive support for its recommendations from interested regulators, it urges that the authorities take a flexible, judgmental approach to evaluating the responses of regulated market participants to these recommendations.

Several key recommendations in Section III can only be implemented with coordinated industry support via the key trade associations whose documents have become basic industry standards. In this regard, the Policy Group has benefited from informal cooperation and support from both ISDA and the Bond Market Association in its evaluation of these documentation issues. With the consensus that is developing around the value of both harmonizing key features of those documents and strengthening their key credit control features (most especially close-out provisions), the Policy Group urges that a high priority joint industry association effort be organized to carry forward with further evaluation and implementation of these recommendations. Such an effort will, of course, take time to complete and, given the practical considerations involved in wholesale replacement of existing executed documents with new, improved versions, it will be important to consolidate all intended documentation changes in one new updated version of each standard agreement.

The recommendations on voluntary regulatory reporting obviously require consideration by the authorities, as well as extensive systems changes by the reporting organizations. The Policy Group believes there should be substantial practitioner input to, and coordination with, the regulators in evaluating these and other proposals for improved reporting, as well as possible new public disclosure requirements, as suggested in the President's Working Group Report. The firms in the Policy Group stand ready to assist in those coordination efforts.

The second dimension of implementation relates to resource considerations. A number of the recommendations related to exposure measurement, stress testing, concentration analysis, management reporting and documentation policies and controls will require internal systems changes, the scope of which will vary considerably from firm-to-firm. In just about all cases, however, the timing considerations for making these changes will have to be evaluated in the context of on-going Y2K preparations, including pending internal policy freezes on changes to Y2K compliant systems. Thus, the Policy Group feels it should stress that there will be meaningful time lags before certain of its recommendations can be implemented. In regard to the proposed goals for timely completion of key documents, the Policy Group emphasizes the stretch nature of these goals, relative to current general practices, and the importance of a risk based approach to the use of policy exceptions and exemptions.