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Improving regulatory standards for clearing facilities

This *Fed Letter* summarizes a working paper released by the Economic Research Department of the Federal Reserve Bank of Chicago which applies an economic analysis to the subject of clearing facilities for multilaterally net trades.[1] By highlighting the aspects of such facilities that may increase the vulnerability of the financial markets to systemic risk, Hanley et al. (1995) establish the interest of central banks in monitoring and/or regulating their activities.

Multilateral netting is the process of offsetting gross payment obligations among several counterparties with new transactions which may serve to either increase or decrease the original obligations. It can be thought of as keeping a running total of monies owed between all participants in a facility. Where bilateral netting is conducted only between two counterparties, multilateral netting allows for three or more parties to reduce multiple transactions to one net pay (or collect) amount.

Multilateral clearing facilities offer many services—trade acknowledgment, netting arrangements, guarantees of contractual performance and surveillance of counterparties—which must be carefully structured to minimize financial disruptions. In addition, the rapid growth of derivative products requires careful consideration of the unique risks associated with clearing and guaranteeing these instruments. Multilateral netting facilities offer significant benefits and risk-reducing attributes. However, without appropriate structural characteristics, these facilities may increase the fragility of the financial system by concentrating risk in a single entity. Clearing facilities' routing of payments and deliveries through a central point (or node) creates a choke point. A facility's design determines its ability to withstand market disruptions which may carry systemic implications.

In November 1990, a report by a committee of representatives from the Bank for International Settlements and the central banks of the G-10 nations (the "Lamfalussy Report") proposed six minimum operating standards for foreign exchange clearing facilities.[2] Attempts to apply those standards to all types of multilateral netting, however, have not always produced satisfactory results. The application of these standards to facilities and situations which differ from the original target of the study has given rise to inconsistencies in interpretation. Currently, more comprehensive standards are required, which would not only extend the analysis to clearing of all financial products, but would also raise the minimum operating standards to a higher level. Standards proposed by Hanley et al. (1995) would apply to all facilities that conduct multilateral clearing. These standards would provide stronger safeguards against systemic risk than presently exist, as well as a measure of consistency across facilities.

Risks arising from multilateral clearing

The risks associated with the presence of multilateral clearing facilities are cross-system, operational, credit, and legal.

Cross-system risk promises to become increasingly important as exchanges try to enhance their services by allowing margin offsets of like products traded on different exchanges, and as increased internationalization of markets continues to blur the lines between similar products on different exchanges. A real-world example of the damage that can result from a lack of attention to this area was offered early in 1995 when the derivatives positions of Barings Bank caused its collapse. The lack of formal cooperation between the two futures exchanges involved definitely contributed to the enormous size of the bank's concealed losses.

Satisfactory standards for legal and operational risk have been established by industry practitioners and regulators. However, Hanley et al. (1995) suggest enhancements to the standards in these areas, aimed at improving the management of these risks. The issue of international cooperation in developing more standardized legal treatment of financial obligations is beginning to receive greater attention, but material progress may take several years.

Credit risk and liquidity risk have often been treated as a single issue, largely because in a payments situation, it is difficult (and inadvisable) to distinguish between the two. In netting schemes involving contracts for deferred payments, however, credit and liquidity risks are best considered separately. Hanley et al. (1995) emphasize

those distinctions and develop comprehensive standards to address each risk independently.

Facility attributes that guide standards

The primary functions that are important in assessing the potential systemic risk associated with a clearing facility include: the loss-sharing arrangement (centralized or decentralized); the management of risk (centralized or decentralized); and the management of liquidity exposure, if administered centrally.

The type of loss-sharing arrangement has significant risk implications for facilities' membership. *When loss-sharing is centralized* (mutualized among survivors), all members bear exposure to all others, regardless of whether they specifically transacted with the defaulting counterparty. In most cases, substitution of a central counterparty (the facility) means that pledged assets of the members will be exhausted before additional assessments are made of the membership. With such an arrangement, individual members have weak incentives to bear the cost of determining the financial strength of each member in the facility. However, their ancillary exposure to all others in the facility gives them an incentive to cooperate in managing their mutual exposure to risk. It is important that the safeguards employed to manage this risk—capital standards, collateral standards, marking to market and position limits—are administered carefully and systematically to minimize the potential risk to the financial system. The standards Hanley et al. (1995) propose include specific guidelines for the management of those safeguards.

When the loss-sharing arrangement is decentralized, members bear exposure only to those counterparties with whom they transact directly. This arrangement means that independent credit monitoring of counterparties should be conducted as stringently as it is on a purely bilateral basis, since participants continue to be exposed to net bilateral obligations. Thus, it is essential that, despite the netting of payment and settlement obligations, participants fully understand the effect of the netting on their credit exposures and monitor that exposure rigorously. Obligations to the clearing facility and to other members must be transparent at all times—never obscured by the netting scheme. Because parties bear the risk associated with their choice of counterparty, they have the incentive to manage those risks as well rather than relying on a third party. This is referred to as *decentralized risk management* and it is compatible only with decentralized loss-sharing arrangements.

Centralized risk management is a complement to a centralized loss-sharing design. Because risk is posed primarily to the viability of the facility itself, management must choose the risk-management tools that are best suited to insulate the facility from a debilitating exposure. This implies that the facility's management must bear the responsibility for monitoring the solvency and exposures of all members, relieving the membership of the need to monitor each other. Thus, the interests of management (preserving the facility as an ongoing concern) are aligned with the risks they seek to mitigate.

Certain facilities, however, may offer *centralized risk management* (transactions are novated[3]) *in combination with a decentralized loss-sharing arrangement.* In this scenario, contract "fails" return the credit exposures of the contracting parties to the status they had prior to the novation. This arrangement could cause obfuscation when participants track their *net* exposures, but bear residual exposure to gross credit risks. Such an arrangement raises questions: How vigorous will the risk management be when the facility itself is not exposed to risk in a fail situation? Will individual members reduce their own risk monitoring in favor of that conducted by the central facility, despite the fact that they ultimately are exposed to the same degree as in a bilateral netting situation? There is an inherent misalignment of interests created by the absence of the risk mutualization provision (which would place the facility itself at risk). Consequently, the standards suggested by Hanley et al. (1995) offer guidance to regulators faced with approving/monitoring schemes offering centralized risk management and decentralized loss-sharing.

In addition, systemic issues could arise if a facility adopts *central management of liquidity exposure.* Participants may be called upon to provide liquidity as a result of actions of others in the facility with whom they did not transact. The presence of the safety net may diminish their incentives to adopt robust liquidity provisions, heightening the need for regulation. The Lamfalussy Report suggested a liquidity standard which would guarantee that the facility could make timely settlement, even if the participant with the biggest "pay" to the facility—the "largest net debit"—defaulted. Two important problems arise when applying this standard: 1) It is difficult to ensure and demonstrate adherence to a designation based on a dollar amount that is not static and is impossible to forecast; and 2) When access to liquid assets is correlated across participants, the likelihood of multiple participants being unable to make timely payment is increased. Consequently, adherence to the standard may provide fairly limited protection in certain cases. While acknowledging that protection from failure can never be assured, one standard proposed by Hanley et al. (1995) approaches this problem from a different—economic—perspective.

Adequate liquidity provisions should reflect the nature of the products cleared as well as the composition of the membership.

Conclusion

Regulators and financial industry participants have learned a great deal about sound risk-management procedures in recent years. For regulators, the threat of systemic risk has burgeoned with the massive advances in product design and risk allocation. Tests of existing safeguards have, thus far, proven to be adequate. Nevertheless, we cannot adopt a complacent attitude when it comes to issues of systemic risk; there is always room for improvement. Hanley et al. (1995) have addressed the specific areas of vulnerability and proposed necessary standards which, if consistently applied, would serve to lessen risk of systemic failure as it now exists.

Rigorous management of the risks associated with multilateral clearing facilities is of keen interest to central banks. Their role as lender of last resort requires vigilance in all areas that could threaten the viability of the world's financial markets. In addition, moral hazard problems associated with risk-pooling arrangements designed under the existence of a central bank "safety net" establish the need for regulation. The increasing globalization of financial markets serves to heighten regulators' concerns; defaults which affect only one or two counterparties or only counterparties in one jurisdiction are largely a thing of the past. Structures and functions of financial clearing facilities can vary broadly, requiring standards that can apply to the unique risks associated with the services that individual entities provide. Hanley et al. (1995) identify particular structures for which the standards would apply; facilities not meeting a particular description would not be bound by those standards.

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[1]William J. Hanley, Karen McCann, and James T. Moser, "Public benefits and public concerns: An economic analysis of regulatory standards for clearing facilities," working paper, No. WP-95-12, Federal Reserve Bank of Chicago, September 1995.

[2]"Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries," Bank for International Settlements, November 1990.

[3]The term novation, when applied to clearing systems, describes a *legal* substitution of gross obligations by the net of these obligations, subject to a netting agreement.

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Tracking Midwest manufacturing activity

Manufacturing output indexes (1987=100)

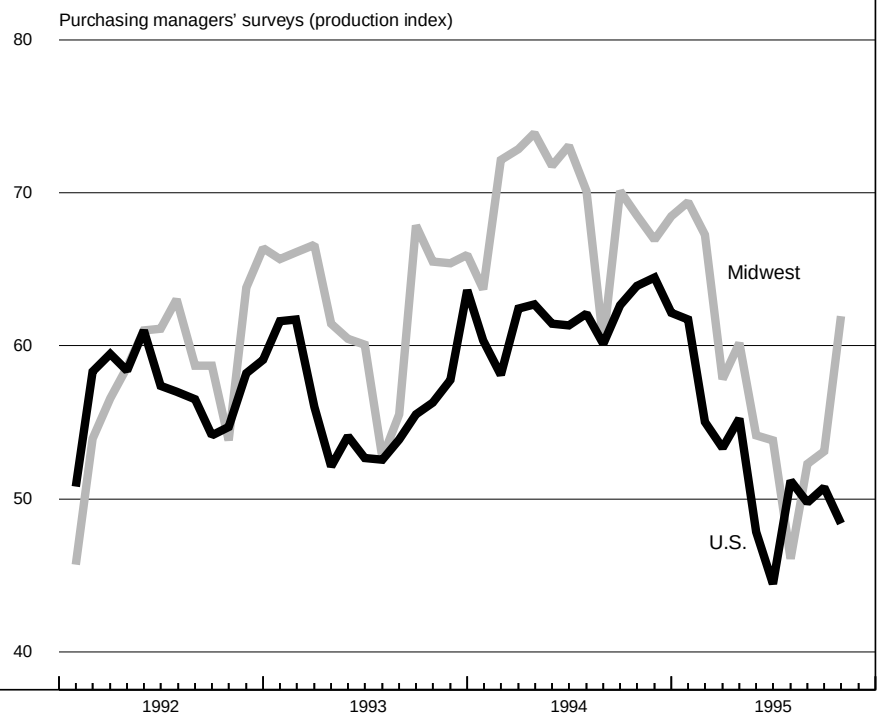
	Oct.	Month ago	Year ago
MMI	143.5	143.9	137.9
IP	124.7	125.0	122.0

Motor vehicle production (millions, seasonally adj. annual rate)

	Oct.	Month ago	Year ago
Cars	6.1	6.2	6.4
Light trucks	5.3	5.3	5.0

Purchasing managers' surveys: net % reporting production growth

	Oct.	Month ago	Year ago
MW	62.0	53.1	68.5
U.S.	48.4	50.8	63.9



Manufacturing activity in the Seventh District continued to improve in October, despite signs of slowing nationwide. The production component of the District's composite purchasing managers' index jumped nine points, led in part by gains in auto-related industries. The auto component of the Detroit index increased about twice as much as its overall measure for production. Light vehicle production declined slightly in October, but at about half the nation's rate.

Preliminary reports for November suggest that District production has begun to plateau. Nationally, the purchasing managers' index for production has shown contractions (a value below 50) in five of the last seven months through November. If auto production in the District continues to contract, the District may soon follow suit.

Sources: The Midwest Manufacturing Index (MMI) is a composite index of 15 industries, based on monthly hours worked and kilowatt hours. IP represents the Federal Reserve Board industrial production index for the U.S. manufacturing sector. Autos and light trucks are measured in annualized units, using seasonal adjustments developed by the Board. The purchasing managers' survey data for the Midwest are weighted averages of the seasonally adjusted production components from the Chicago, Detroit, and Milwaukee Purchasing Managers' Association surveys, with assistance from Bishop Associates, Comerica, and the University of Wisconsin–Milwaukee.

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