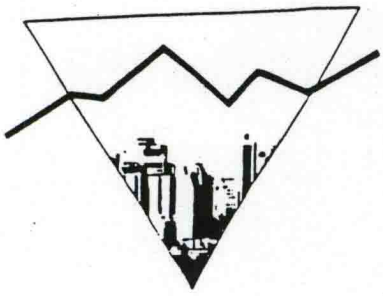

XV CONFERENCIA ANUAL DE LA ORGANIZACION
INTERNACIONAL DE COMISIONES DE VALORES (OICV - IOSCO)

SANTIAGO - CHILE 1990

REPORT OF THE TECHNICAL COMMITTEE OF IOSCO

CLEARING & SETTLEMENT

Contents:

0. Introduction.

The task of the working party was to:

Contribute to the process of creating an efficient Central Securities Depository System from a national regulatory point of view. On an international level, it aims at offering views at those securities markets, who, in the case of a business opportunity would like to link internationally, on how to create such links in accordance with the recommendations, which have been issued on the subject. More specifically the Working Party supports the recommendations put forward by G30 and the FIBV.

During its work the Working Party has also taken into consideration the existing and generally accepted relations between the derivative and the cash markets in the context of clearance and settlement issues. Unless explicitly stated the proposals contained in this report are also applicable for the derivative markets. In some cases the derivative markets already have implemented the recommended actions by G30 and FIBV.

The Working party agreed that this report would focus principally upon clearance and settlement systems in the equity markets. While many of the components of a prudent clearing system may be the same, clearance and settlement systems in derivative markets, due to such facts as that they operate by means of book entry and employ generally shorter settlement cycles than equity products, pose different issues from those currently being addressed with respect to equity clearance systems.

The G30 recommendations, for example, have been already achieved in some derivative markets. Thus, to a degree, derivative markets may reflect the next generation of issues facing equity markets. The extent to which the G30 recommendations would apply to derivative markets generally would be a subject for further study as the G30 Report does not survey derivative markets.

Recommendations tailored to the derivative markets, such as for -
increased information sharing among derivative and equity markets,
coordination of payments among markets,

- standardization of clearing guarantees,
- coordinated treatment of defaults including defaults involving participants controlling substantial open interest,
- risk control measures appropriate to non-asset transfer markets, payment concerns applicable to daily and intra-day settlement markets and circuitbreakers and other emergency or market disruption also could be addressed separately.

In this connection, the Working Party notes that to the extent that equity clearance systems convert to book entry - same day funds systems, such systems may raise questions concerning the interface of such systems with the banking payments systems that are similar to those raised by derivative markets.

The Technical Committee of IOSCO has noted that if a truly global securities market were to develop, it will be essential, in order that

viable linkages be created, to reduce the differences between national clearance and settlement systems.

The Working Party, considering all relevant factors when addressing the issue, believes that the development of worldwide compatible standards for efficient, comparable and automated clearance, settlement and payment systems -both nationally and internationally-, is the ultimate goal that should be encouraged. In this regard, the Working Party acknowledges the valuable contributions of the many major reports in the area of clearance and settlement.

The starting point was to take a risk avoiding approach and if that seems inefficient or too costly to optimize the risk management techniques. It has considered quite some possible alternatives and in the following report it proposes the most favourable solution. Rather than discussing and commenting on the G30 recommendations and offering possible alternatives, the Working Party concentrated on the encouragement that progress be made prior to looking ahead to the next steps.

However, once the G30 recommendations have been implemented, further steps may be required over the long term to achieve and improve safe and efficient national clearing and settlement systems and across border links between those systems. The Working Party therefore attempt to outline longer-term objectives or ideals and where possible analyze the costs and benefits of achieving those goals.

The Working Party has met 4 times (Amsterdam, London, Washington and Singapore).The meetings were used to discuss the different issues, divide work to be done and discuss the results of the different activities. The overall result of the effort is contained in this report.

This report could not have been written without the valuable contributions of its members:

Gerrit H. de Marez Oyens,	Amsterdam Stock Exchange
Philippe Andrieux	Paris Bourse
Michael V. Baker	International Stock Exchange
Susan Ervin	CFTC, Washington
Wolfgang Vader	Kassenverein Frankfurt
Jonathan Kallman	SEC, Washington
Charles Williams	NCSC, Melbourne

Apart from these Working Party members contributions have been welcomed from Richard Ketchum (SEC), Andrea Corcoran (CFTC), Julius R. Leiman Carbia and Judith Poppalardo (both SEC).
In the final stage Anthony Ain (SEC) has made a major contribution in rewriting and re-editing the different contributions.

1. What are the regulatory issues involved in efficient international clearing & settlement?

From a regulatory perspective, development of compatible worldwide standards for efficient clearance, settlement and payment systems raises a number of issues. It is the regulator's role to assure that issues such as operational capacity, care and custody of funds and securities, and adequacy of safeguards are addressed. The Working Party takes no position as to whether enforcement of these standards should be carried out by a governmental body or through a system of self-regulation with governmental oversight; this is for each market to decide. Nevertheless, securities regulators should strive to ensure efficiency, stability, soundness, and an adequate level of investor protection and confidence in their national systems. Such well-designed systems will strengthen the international competitiveness of a country's financial institutions and markets, and will facilitate efficient and effective linkages with other like markets.

At a minimum, a prudential clearance and settlement system should satisfy the following general criteria:

1.1. Safeguarding of Securities and Funds and Prompt and Accurate Clearance and Settlement of Securities Transactions.

The organization should be so organized and have the capacity to be able to facilitate the prompt and accurate clearance and settlement of securities transactions, and to safeguard securities and funds in its custody or control or for which it is responsible. Safeguards should anticipate, and be designed to provide protection against, the possibility of theft, accidental or malicious destruction or loss of securities or funds and the possibility of accidental or intentional, but unauthorized, modification, disclosure or destruction of data. In many markets, significant segments of securities clearance and settlement are carried out and controlled through automatic data processing ("ADP") systems. In these cases, safeguards would include the overall management responsibility of assuring the integrity and accuracy of ADP operations, including back-up facilities.

In connection with these objectives, the organization should have an adequately and competently staffed internal audit department which reviews, monitors and evaluates the organization's system of internal accounting control. Where use of ADP systems is widespread, the internal audit department staff should possess, in addition to sufficient technical training and proficiency in accounting and auditing, expertise in the ADP application of accounting and auditing necessary to perform internal audit functions. In a clearing or depository organization, the primary objective of a system of internal accounting control should be the safeguarding of participants' securities and funds moving through or held by the organization and the reliability and security of related records. In addition to the on-going duty of ensuring the operational capability and the integrity of the clearing or depository system, this department should perform formal periodic risk assessments of the organization's operations, systems and facilities. In addition, the organization's system of internal accounting control should be subject to review and evaluation, either by supervisory personnel or independent parties with sufficient expertise and competence to determine the adequacy of those controls.

Finally, the organization should have detailed plans to assure the recovery under a variety of contingencies from loss or destruction of securities, funds or data. The organization should have adequate back-up facilities to permit continued operations in the event of foreseeable adverse events, such as power failures, to the extent that the risk of such events justifies the system costs.

1.2. Obligations to Participants

The Working Party believes that it is appropriate for a clearing or depository organization to maintain adequate sources of liquidity to permit the organization to meet its financial obligations on a timely basis even if one or more of its participants defaults. Possible sources include participant deposits to meet margin requirements; clearing or depository organization credit lines; participant deposits to clearing or guarantee funds maintained by the clearing or depository organization; and shareholder deposits to secure shareholder guarantees or funding commitments.[1] The organization, subject to supervisory review or approval, should determine which of these sources, or combination of sources, are best suited to the needs of that organization, its participants and the markets. Reliance on one source, however, may pose significant risks in the event of financial crisis, and consideration should be given to diversifying liquidity sources to reduce such risks. The level of necessary liquidity sources should be based on an assessment of the risks to which the organization is subject.

Additionally, the rules of the organization should provide that it must promptly deliver securities in its custody or control to, or as directed by, the participant for whom they are held. Where the organization fails to deliver for any cause for which the organization has assumed responsibility, the organization should be liable to the participant.

1.3. Capacity to Enforce Rules and to Discipline Participants in Accordance with Fair Procedures.

Each organization in a prudential clearance and settlement system should have the organization and capacity to determine whether its rules are being complied with and to discipline non-complying participants. This should include, among other things, the ability to determine whether a participant is experiencing financial or operational difficulties. Appropriate discipline may include expulsion, suspension, limitation of activities, functions, and operations, fines, censure, or any other fitting sanction. The organization, however, should provide fair procedures (due process) for disciplining participants, denying participation, or prohibiting or limiting access to the organization's services in the context of a disciplinary action.

1.4. Access and Minimum Participation Standards.

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[1] The Working Party believes that an organization's rules should permit a participant at any given time, to ascertain its maximum potential liability.

Certain minimum standards of financial responsibility, operational capacity (including system security and integrity), experience and competence should be prescribed for participation in the system in order to protect the system's financial and operational integrity. The rules of the clearing and depository organizations comprising the system, however, should not be designed to permit unfair discrimination in the admission of participants or among participants in the use of the system. The rules of those organizations should provide fair procedures for review of decisions concerning denials of access. Moreover, to the extent that a system consists of multiple, interfaced organizations, each organization should be able to require reasonable assurance of the other organizations' ability to meet their obligations or the obligations of their participants.

1.5. Fair Representation.

Each organization in the system should provide participants with a meaningful opportunity to participate in the administration of the organization's affairs. This is not to say that such organizations should or should not be operated for profit, [2] it merely assures that participants are provided a fair voice regarding the manner in which decisions are made. In addition, participants should be kept adequately informed of proposed rule changes, and should be furnished with annual audited financial statements, an annual report on internal accounting controls prepared by an independent public accountant, and other relevant reports on a regular basis.

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2 In the U.S., for example, clearing agencies currently in existence include profit making entities, user cooperatives and affiliates of exchanges.

2. Regulatory issues in a dematerialized environment.

2.1. Introduction.

2.1.1. Objectives.

When discussing the role of regulators in the creation of efficient and safe clearing & settlement systems, the Sub-committee considered it to be worthwhile to offer in this chapter a description of the regulatory issues in a dematerialized environment.

In a dematerialized environment, the objectives pursued by securities regulators remain those set out in chapter 1 of this report. However, in pursuing them, regulators must be conscious of the need for balance: to focus chiefly on efficiency and competitiveness may involve excessive exposure to systemic risk and allow investor protection and investor confidence to fall short of acceptable standards. Achieving proper balance requires an appreciation of the impact which dematerialization has upon these areas of regulatory concern.

In particular regulators must be conscious of the concern which investors may feel at the absence of documentary evidence of title, in the form of certificates. Concern can easily turn to alarm and distrust if the dematerialized system breaks down, or proves vulnerable to fraud.

Regulators must therefor give full weight to avoidance of risk and maintenance of confidence in dematerialized systems, which will in many cases be the chosen means to achieve the T+3 settlement objective.

2.1.2. What are the relevant characteristics of dematerialization from the regulatory viewpoint?

In literal terms, dematerialization means that physical certificates are no longer required for the ownership of securities. Some systems have, and still do possess this characteristic while retaining paper-based arrangements for transfer of the securities. Such systems can offer gains in efficiency and in the moderation of systemic risk. Because paper still plays a part, maintaining investor protection may in these circumstances seem to be not significantly more difficult than in a certificated system: the absence of certificates may seem chiefly as an investor confidence issue.

Increasingly however, the term dematerialization is being extended to mean not only the absence of certificates but also the transfer of securities by electronic bookentry. This is indeed the most important characteristic. Essentially the same are depository systems in which securities, though paper based, are immobilised and transfer is by electronic means. Either of these approaches can greatly improve efficiency, but both give use to regulatory issues of great importance and considerable complexity.
The transfer of ownership rights by electronic means necessarily requires that between clearing and settlement system participants there are linkages between them. It is the resultant interdependence of the participants and the central system which gives rise to most of the regulatory concerns. In practice the nature of those concerns will depend very much on the pre-existing arrangements and the design of the

dematerialized clearing and settlement system which replaces them.

2.1.3. Efficiency considerations.

A major source of operational efficiency through computerization of market processes arises from avoidance of data re-entry and consequential processing errors. Dematerialization, as defined for the purpose of this report, is an important step towards the objective of reducing or avoiding processing errors. Furthermore, the ability to capture trade details electronically and to compare data about the seller and his market activity with records of ownership of the relevant securities contributes both to efficiency of market functioning as well as to a number of the other objectives.

However, it must be recognised that in a system where evidence of ownership is by electronic book entry and transfer is achieved electronically, any error may have serious consequences, for the parties to a transaction and possibly for other associated parties, than otherwise may be the case.

In addition a dematerialized system may involve additional costs if there is a need to store a large volume of records for low value irregularly traded shares or it results in a higher level of enquiries by shareholders or brokers because they do not have the physical evidence of certificates.

Some of these costs would be incurred by alternatives to dematerialization such as a central depository where certificates are immobilised but which remain paper-based. There are also costs involved in a depository approach which are unique to that environment, and would not be incurred if the system were totally dematerialized.

2.1.4. Investor protection and confidence.

Reference has subsequently been made to the importance of reassuring investors at the outset, and subsequently giving justifiable confidence in the security of a dematerialized system. These objectives are promoted by risk reduction, which in turn flows from the removal of processing errors referred to above, and from the security arising form appropriate system design. As well, a dematerialized system may facilitate direct issuer access to shareholders. However, this will depend on whether the system incorporates transparency arrangements which enable companies, regulators and other to go behind nominee holdings. (see under 2.2.10. Transparency below)

2.1.5. Promoting the soundness of the financial system - the systemic risk issue.

The importance of this issue to regulators was emphasized in the introduction to this section. This importance arises both from the direct economic consequences of instability and also because absence of risk is a major contributor to investor protection and investor confidence. An efficient dematerialized system, insofar as it reduces the time between trade and settlement will reduce the chance of failure of system participants, and thereby enhance the security of the system as whole. However this welcome characteristic does not justify lack of attention to other security factors.

The way in which confidence in a paper-based system may be impaired by the appearance of forged documents is unquestionable. Worse, if anything, would be the failure of a dematerialized system for transferring, settling and recording the ownership of securities. Such an occurrence, especially if followed by the transmission of financial problems as a result of system failure or fraud could have devastating short-term consequences and give rise to profound long-term problems through the destruction of confidence.

2.1.6. International competitiveness.

Dematerialization is increasingly seen as being, through its contributions to efficiency, investor protection and stability, a means to enhance order flow through national markets in which it is implemented. Immobilization and centralization of securities depositories can also contribute to achieving this goal. This will encourage improvement in national systems: in an increasingly globalized securities market only those systems that meet minimum standards of efficiency and systems safeguards will be able to participate in arrangements designed to facilitate cross-border settlement of transactions.

Such linkages will increase the efficiency and reduce the risks involved in raising capital internationally and have been supported in recent reports by the G30 and the FIBV. While these outcomes will facilitate the development of international trade in securities generally, the distribution of benefits among national markets may not be uniform.

It should be noted that increased order flow through any particular national market as a result of cross-border linkages is not guaranteed. Linkages between national clearing and settlement systems may simply facilitate off-shore dealing and the settlement of those transactions through an off-shore system linked back into the national clearing and settlement operation. In tackling the issues of cross-border linkages these concerns will need to be addressed. As well, regulators and participants in national markets will need to ensure that the trading and other components of their markets are efficient and internationally competitive.

2.2. Regulatory concerns and issues.

2.2.1. Aspects of the regulator's role.

The above considerations make it reasonable clear that the regulatory effort must have regard both to efficiency and risk limitation. It may also be accepted that those criteria need to be further defined in terms of the national and international dimensions. But they also make clear that the task is a highly complex one, since it depends on the weight which is given to the various objectives and to the way local circumstances influence their implementation. To a large extent the details of regulation will depend on the pre-existing environment, for example whether it is bearer or name on register or a combination of the two, and the detailed design characteristics of the new clearing and settlement system.

System design factors that will influence the regulator's role include whether:

- dematerialization applies to all security holders or only some

subset of holders, such as institutions, and whether a dual system is maintained;
- the system applies to both "on-market" and "off-market" transactions;
- the system facilitates direct registration of holders on company registers, or alternatively interposes a central nominee holding that isolates the transfer process from company registries. These alternatives influence the nature of the links between the participants.

Decisions in respect of these design features will have a major influence on the nature of the participants and their respective roles as well as on issues of system security and integrity.

Some of the key regulatory concerns include:
- conversion to a dematerialized system;
- participant standards
- risk of fraud resulting from the absence of a unique piece of paper evidencing ownership;
- system security and integrity;
- representative certificates;
- record keeping requirements;
- internal and external audit controls;
- issues in relation to stock pledging;
- transparency.

2.2.2. Conversion to a dematerialized system.

To initiate the change considerable amounts of bearer or registered securities have to be collected, stored and checked, new accounting systems must be introduced, there will be changes in order handling and post transaction routines and the substitution of new job qualifications for old ones. Regulators must be satisfied that the constraints imposed by these changes do not cause system break-down or provide opportunities for fraud, otherwise investor confidence will be undermined at the outset. However, since at least two jurisdictions have successfully achieved this conversion these difficulties are not insuperable.

2.2.3. Participant standards.

While all clearing and settlement systems introduce degrees of interdependence which give rise to concern about participant standards, dematerialization as defined here must sharpen those concerns. The ability of participants to transmit electronic signals leading to changes in the records of ownership of securities is the fact responsible for this. The regulator of a dematerialized system must therefore ask:

- who can access it;
- are there explicit and meaningful participant standards;
- do those standards include:
  * strong capital adequacy requirements;
  * proven operational soundness;
  * high standards of professional and ethical management?

The nature and role of participants will largely reflect choices made about the design of the system discussed above. In general, the larger

the number of participant members and the wider their diversity the higher will be complication and risk, especially where the system is constrained by the standards and procedures of its weakest critical component.

A regulator's concern will be less where all participants are already subject to stringent regulatory requirements by that regulator or other regulatory bodies than if the system enables participants with less stringent requirements to participate.

2.2.4. Risk of fraud.

The security afforded by a unique piece of paper (a certificate) is far from absolute: it does not remove the need for measures to gain assurance as to the identity of counterparties, their bona fides and the accuracy of information supplied by them. Nor does it mean that fraud cannot take place in intermediaries and registries.

Nevertheless there are additional problems created by dematerialization which warrant further safeguards. These are further discussed below.

2.2.5. System security and integrity.

This will in part be a product of the participant and member standards established and enforced. However, interdependence means that it is exceptional important for the sponsors and managers of the system to understand its technical and operational characteristics and for the regulator to understand the influence which these characteristics should have on prudential regulation. The system must be designed with adversity in mind and have a high degree of availability, reliability, flexibility an integrity. There is a need for systems of multi-level back-up that can cope with a wide range of potential problems. All parties concerned must accept that system integrity and true efficiency require up-to-date computer facilities that warrant the highest possible security and reliability.

Particular attention will need to be paid to protections designed to reduce fraud. Issues that need to be addressed include:

- the operational security of the system including identification systems, message authentication and protection measures and standards of care to be put in place by participants in safeguarding access to the systems;
- the incorporation into the system design of accepted procedures to ensure protection against insider fraud by separation of the design and implementation functions relating to the basic system on the one hand and to the security procedures on the other;
- the regular independent audit of the system to ensure continued system integrity;
- the determination of liability for loss or technical failure including the allocation of responsibility among the parties and decisions as to whom the burdens of proof should rest upon.

2.2.6. Record keeping.

The degree of built-in safety features which are required will vary according to the degree to which the securities record-keeping function is integrated into the clearing and settlement function. Just as the whole or part of an issue may be represented by certificates in a

depository, so part or all of a dematerialized record-keeping system may be directly linked on a daily basis with the system by which securities are exchanged for cash. The greater the proportion of the records directly involved in the central system, the greater will be the need for rigorous operating standards and compliance with them.

While much can be learned from the achievements in computerization of the banking sector, it must be admitted that bank accounts, in whatever currency they may be denominated, relate to a medium that can be termed uniform in comparison to the great variety of securities whose different types, classes, change in terms and conditions pose complex problems of heterogeneity and non-assimilation.

Consequently regulators must be satisfied that a system correctly classifies securities in terms of their fungibility. There is also a need to be able to reconcile records held in different parts of the system so as to ensure that the total amount of the issues cleared through the system corresponds with the records held by the participants. In turn those participants must comply with a set of centrally mandated accounting specifications.

2.2.7. Representative certificates.

As an interim step where there are professed public obstacles to the international circulation of securities originating in a particular national jurisdiction, it may be considered desirable to create and to deliver (as is the case with SICOVAM) so-called representative certificates. Representative certificates allow selling investors to produce certificates to foreign buyers who may operate in a non-dematerialized system. In these cases the regulator will be concerned to ensure that the issuance of these certificates is carefully controlled so as to preserve confidence in the system.

2.2.8. Internal and external control.

Whatever the number and nature of participants, there will always be potential for fraud in a dematerialized system. It is essential that there be strong systems of internal control in the offices of participants to limit temptation and reduce the opportunity for fraudulent practices. This must be reinforced with a trustworthy and expert system of inspection, endowed with sufficient powers to detect and report fraud of participants' system deficiencies to the appropriate authority. That authority must in turn be able to demand corrective action and to sanction where necessary.

2.2.9. Stock Pledging.

An effective dematerialized system will need to provide means whereby records of stock ownership can be changed of qualified to permit the pledging of stock as collateral for borrowing purposes. Matters not directly related to clearing and settlement, but which will require attention include commercial and banking law dealing with lending, specifically any provisions which require transfer of legal title to collateral and the holding of certificates by lenders.

From the risk limitation viewpoint, the system must guard against misappropriation of stock by what purports to be a pledging action or, on the other hand, successive uses of the same stock as collateral

without the knowledge or permission of the lender concerned.

2.2.10. Transparency.

Regulators must be conscious of whether systems are transparent both to regulators and to issuers, although in relation to the latter the extent of this requirement may differ among different national systems. From the transparency aspect one of the benefits of dematerialization is that it becomes possible to overcome any objection which issuers may have to a depository. Where registered securities are dematerialized, a depository takes on the characteristics of a nominee; i.e. there is a depository nominee, but no requirement to store certificates in vaults. From there it is not a big conceptual step to contemplate that the records of the nominee's sub-accounts, held by the depository, become recognised as the legal record of ownership from the point of view of the issuer of the particular securities.

Where a system does not include registration by issuers, but at the first level the holders of record include only (f.e.) banks and brokers, there will need to be arrangements for access to at least the next level of holders, although it still will be possible for beneficial owners to hold through nominee accounts. If desired in each country this issue can be addressed in conjunction with or separately from establishment of a dematerialized system.

Transparency also means the ability to record and retrieve information as to the timing, circumstances and purpose of change in the ownership records. Recent improvements in the technology of mass storage provide a range of efficient options to achieve this objective.

2.2.11. Other regulatory issues.

The extent to which the regulator will be further concerned will depend very much upon the extent to which the system is integrated with other clearing and settlement functions. If it is closely linked, there will be concerns arising from the shared risk or shared liability of the participants. These concerns will relate to much matters as financial oversight, the payment side of transactions and procedures to overcome the effect of defaults.

Apart from concerns which relate specifically to the dematerialized environment, the regulator will also want to know whether transfers which are made through the system are irrevocable, and whether there are satisfactory arrangements for lending stock.

2.3. Observations with respect to the recommendations made by the Group of Thirty.

The Working Party endorses the Group of Thirty recommendations as practical, feasible short-term goals and supports the prompt implementation of the Group of Thirty recommendations. As a private sector initiative, the Group of Thirty's recommendations were designed to address, although not eliminate, many of the most serious risk elements in the clearance and settlement process. Working committees have been developed in each country to review the Group of Thirty's recommendations with a view to implementing those recommendations in each market, and significant progress has been made toward achieving these goals. Implementation of the Group of Thirty recommendations will do much to

improve the present clearance and settlement system and to create the framework upon which further improvements can be based.

2.3.1. Trade Comparisons Between Direct Market Participants by T+1.

Trade comparison, the process by which counterparties secure agreement as to the terms of the trade, ideally should be achieved as soon as possible after execution of the trade. A shortened trade comparison cycle, e.g., comparison by T+1, enables market participants to know their positions and market exposure before trading commences the next day. It also creates an opportunity for earlier settlement, with related risk reduction benefits. Moreover, appropriate systems to assure error resolution within established deadlines are essential to achieving the benefits of earlier trade comparison deadlines. In high volume markets, the benefits of early trade comparison and deadlines for the resolution of uncompared trades are most likely to be realized through automation of the comparison and correction process.

The Working Party endorses the Group of Thirty objective of achieving T+1 trade comparison between direct market participants by 1990. The Working Party believes that these recommendations should be viewed as applicable to derivative markets as well as to securities markets.

Over the longer term, each market should strive to develop on-line trade confirmation and achievement of a locked-in trade status on the day of execution. "On-line" systems provide automated trade confirmation linking market participants and the trade comparison systems. "Locked-in" trade mechanisms provide for trade comparison at or contemporaneous to the time of execution, based upon agreement of the parties that the trade will settle as recorded unless both parties agree to a cancellation or modification. Development of on-line confirmation systems and locked-in trade mechanisms would provide the ability to monitor risk relating to open positions on an intra-day and continuous basis and thus would have benefits beyond shortening of the settlement time frame for efficiency and default reduction purposes. The development of locked-in trade mechanisms in conjunction with on-line trade confirmation systems for the purpose of final trade confirmation as close to the point of execution is thus a desirable ultimate objective.

At the same time, however, the Working Party recognizes that on-line comparison and locked-in trade mechanisms may impose substantial costs in a floor trading environment. While a large percentage of trades are handled through automated systems in many active exchange markets, many trades continue to occur manually through face-to-face trading or telephonically, as the case may be. Any initiative to move to on-line comparison systems would require the development of new technology for these markets.

2.3.2. Indirect Market Participants as Members of a Trade Comparison System

The Working Party supports the Group of Thirty recommendation that indirect market participants such as institutional investors should, by 1992, be members of a trade comparison system which achieves positive affirmation of trade details. This system may, but need not necessarily, be part of the centralized clearance and settlement system. Each

market must consider, from the standpoint of cost-effectiveness and prudential considerations, which indirect market participants should be eligible to participate in that trade affirmation system.

The Working Party notes that the Group of Thirty recommendation does not indicate that institutions should be required to participate in the central trade confirmation system. If, participation in that system is regarded as optional, however, then some institutions might participate while others do not. This would impede realization of the full benefits of the trade comparison system. It is, therefore, recommended that each central market should endeavour to obtain the commitment from the institutional representative bodies in order that the participation by all institutions becomes an accepted feature of the way the market operates. This is consistent with one of the later recommendations of the Group of Thirty which states that the availability of a central securities depository should be extended as widely as possible across the industry.

The second area where this proposal can be further developed is with regard to the question of affirmation rather than confirmation. The Group of Thirty recommendation is not specific on this point, saying that institutions should be "allowed" to participate in a confirmation system and should at least have affirmation facilities available. While this may be appropriate as an interim step, the Working Party believes that all institutions that are principals to a trade ultimately should be <u>required</u> to use automated confirmation and affirmation facilities either directly or indirectly to enable timely customer side settlement.

2.3.3. Development of a Central Securities Depository System.

The Working Party supports the goal of development of securities depositories which immobilize or dematerialize securities to permit securities transactions to be processed in book entry form. Coordination among clearing, settlement and depository entities can be as effective as a centralized entity to link such functions and a single organization to perform those functions is, therefore, not specifically recommended.

Indeed, the Working Party believes that the objectives to be achieved by a central securities depository can be achieved by a system of multi-clearing corporations and/or depositories, provided that the depositories are linked in an appropriate way and that parties can access the depository system through a single entry point. This type of limited system is consistent with the Group of Thirty recommendation that securities depository arrangements be centralized. The U.S., for example, has an effective system of interfaced clearing corporations and depositories. Through interfaces, participants can conveniently compare, clear and settle trades through one complex regardless of the geographic location of their counterparty. Interfaces also permit participants in more than one depository to move securities positions between depositories.

2.3.4. Consideration of a Trade Netting System.

As discussed below, the Working Party supports the recommendation that the utility of netting systems be explored and that such systems be implemented if found to be appropriate.

As the Group of Thirty report notes, netting other than on a bilateral basis may entail the substitution of a universal counterparty. Jurisdiction by jurisdiction determinations as to whether legal impediments to novation exist may, therefore, be required.

In addition, substitution of the clearing organization or other intermediary for the original counterparty means that the performance capacity of the clearing organization must be addressed. Separately, the Group of Thirty recommends that attention be paid to the standardization of trade guarantees. We suggest that the subject of trade guarantees, which has broader relevance than in the area of netting, be explored separately.

The benefits of netting are principally to focus risk and to net deliver and receive obligations among clearing corporation members by comparing the obligations of multiple positions or parties across all outstanding transactions and offsetting them so that payment flows and deliver and receive obligations are reduced. Netting of payment obligations, however, does not diminish the need for availability of information about each participant's overall exposure based upon all outstanding transactions, and risk exposure monitoring should include daily and intra-day review of such exposure on a mark-to-market basis. For example, a clearing member firm that takes a long position on behalf of one customer and a short position on behalf of another customer shows a net exposure of zero. Nevertheless, that firm retains some risk because, if one of its customers defaults, it cannot use the position of another customer to offset that default. Therefore, in the absence of adequate data concerning each participant's overall exposure, netting can mask incipient or potential problems. Consequently, in evaluating the costs and benefits of a netting system, the availability and cost of obtaining information concerning obligations being netted and the exposure of each clearing member firm should be considered.

2.3.5. Use of Delivery Versus Payment for Settling All Securities Transactions.

The Working Party supports the Group of Thirty recommendation that delivery versus payment (DVP) be employed as the method for settling all securities transactions and that a DVP system be in place by 1992.

The Group of Thirty report recognizes that there is a wide range of alternative forms of DVP that could be established. Some of these would not require the use of same day funds or electronic systems. The immediate objective in many markets is obviously to establish some basic DVP facility, as recommended by the Group of Thirty.

From a regulatory point of view, while the implementation of DVP is generally supported, it is necessary to assume that any such systems would be as secure as, or preferably more secure than, some of the existing arrangements that are in place. At present, many markets work on the basis of using certified or bank guaranteed cheques which are exchanged for good deliverable stock. The risks inherent in the process thereby are reduced substantially. The costs and benefits, particularly in terms of risk reduction, of any particular DVP system model need to be carefully considered before the existing arrangements are superseded.

Once that step has been completed, each market should evaluate its DVP systems over the longer term with a view toward the feasibility of providing irrevocable transfer of securities against guaranteed payment on settlement day. This type of DVP system will be most effective if developed in conjunction with the use of same day funds linked to an electronic book entry transfer system. The development of DVP systems that incorporate the simultaneous exchange of good stock against guaranteed payment on settlement day would appear to be the ultimate objective in each market. Nevertheless, a shift to a simultaneous DVP system raises a wide range of issues, including the possible need for debit caps between systems users, the ability of securities firms effectively to control their securities and cash movements, and the capacity of the system for preventing intra-day defaults.

2.3.6. Adoption of the "Same Day" Funds Convention.

The Working Party supports the Group of Thirty recommendation that "payments associated with the settlement of securities transactions be made consistent across all markets by using the 'same day' funds convention." For purposes of this recommendation, we believe that payment is made in "same day" funds when payment of such funds is made on an irrevocable basis to the counterparty on the day of settlement such that they are available for use on the day of settlement.

The Group of Thirty report recommends in this connection that each country examine the feasibility of linking the clearing process with an electronic cash clearing system and notes that eliminating check drawing will promote greater efficiency and reduced risk. We agree with this recommendation. This recommendation, of course, links very closely with the development of DVP systems. The development of simultaneous DVP systems requires the availability of a same day funds system. Most securities transactions presently are not settled using same day funds (although transactions in some derivative markets are settled using same day funds) and this normally means that one party to the trade is out of funds for a period of time and is exposed to some level of bank and counterparty risk.

In order to achieve timely and risk-free settlement in same day funds, efficient banking arrangements will need to be developed that will enable funds to be moved quickly and cheaply. In considering whether these arrangements are feasible, the appropriate banking regulators should be consulted, in order to ensure that the banking system can support the clearance and settlement system that is developed.

2.3.7. Settlement by T+3

The Working Party endorses the Group of Thirty goal of achieving T+3 settlement by 1992. This would shorten the delay between trade date and settlement date and, consequently, would minimize the potential cost of counterparty risk and market exposure associated with securities transactions. Moreover, the recommendation will standardize settlement time frames throughout the international markets.

The Working Party believes T+5 settlement by 1990 is a practical interim goal. To the extent that certain markets currently settle prior to T+3 without significant fails, we do not believe that such

markets should be encouraged to consider moving to T+3 in order to achieve consistency across markets. We suggest that the importance of market integrity outweighs the goal of uniformity in this area. In the longer term, and given the reduction in risk that results from compressing the settlement period, consideration should be given to the costs and benefits of eventual adoption of next day or even same day settlement. On the one hand, such a step would reduce clearing corporation guarantee risk and allow for the harmonization of stock and derivative instrument settlement periods. On the other hand, a drastically reduced stock settlement period could increase costs to institutions and their custodian banks and require major changes in the conduct of retail securities accounts. In addition, a shortened settlement period magnifies communications and payment problems and counterparty risk that can arise when market participants are located in different time zones or in countries with different national holidays.

2.3.8. Facilitation of Securities Lending and Borrowing.

The Working Party agrees with the Group of Thirty recommendation that securities lending and borrowing should be encouraged as a method of expediting the settlement of securities transactions. It is recognized that there is a legitimate and important role for securities lending in those markets which permit short selling. The Working Party believes, however, that rigorous supervision and controls should exist in each marketplace to ensure that the availability of borrowed stock to achieve settlement does not conceal significant underlying problems.

2.3.9. Adoption of a Standard Format for Securities Messages.

This recommendation, which focuses on the importance of achieving common standards for securities coding and message switching, is supported. It is an essential part of the risk management process to ensure that standard forms of data transfer are established both within each market and for cross-border trading. Many present problems would not arise if a wider use of standard data was in place. The Working Party, therefore, strongly supports this recommendation and encourages industry progress in this area.

3. International Linkages.

3.1. Introduction.

A truly global securities market will require the establishment of an efficient and automated international clearance, settlement and payment system. The establishment of international clearance and settlement links to facilitate cross-border settlements offers a viable means of achieving this goal. These linkages would allow the interconnection of the clearance and settlement systems of equity and debt markets in different countries without compromising the essential soundness and integrity of each national clearance and settlement system.

Linkages can take many forms offering a variety of settlement and custody services for the linked entities. For example, the Fédération Internationale des Bourses de Valeurs ("FIBV"), in a recent study of international settlement linkages, identified three types of models for links:

(a) cross-border links between two central securities depositories ("CSD") for delivery and receipt of securities without payment facilities;

(b) cross-border links as above with payment facilities, and

(c) cross-border settlement links between two clearing organizations, providing for trade accounting, securities settlement, custody, and settlement facilities, with each clearing organization linked to its national CSD. [3]

It is essential that cross-border linkages be sound. The soundness of a linkage, however, will depend on the existence of "adequate safeguards . . . to reduce the risk of default and to contain potential losses." [4]
The current wide-ranging differences in dealer and institutional comparison periods, settlement periods, degrees of automation and the absence of clearance and settlement information sharing channels are examples of problem areas that increase the costs and risks of global securities trading. [5]

To the extent that broker-dealers are involved in securities markets outside their countries, their inability to settle transactions promptly could have an international as well as domestic effect. A slow or inefficient clearance and settlement system in a particular country may create a bottleneck that could result in suspended payment flow and reduced market liquidity. These negative effects, moreover,

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3 FIBV, Improving International Settlement (June 1989).

4 Securities and Exchange Commission, Policy Statement, Regulation of International Securities Markets 5-6 (November 1988), Securities Act Release No. 6807 (November 14, 1988), 53 FR 46963.

5 Id.

could have an impact on linked markets. For example, if clearance and settlement problems in one country impede settlements of securities transactions in that country, brokers and investors in other countries who are relying on payment flow from those disrupted transactions in order to satisfy their other obligations may be unable to settle those outstanding transactions.

For this reason, linked entities should share a set of minimum standards in order to improve efficiency and reduce settlement risks. This paper identifies the minimum standards that any clearing corporation should meet as a prerequisite to entering into international clearing linkages. [6]

3.2. General Description of the Necessary Conditions for a Sound Clearance and Settlement System.

3.2.1. Central Clearing and Depository Systems.

An essential prerequisite to linked clearing systems are central systems that can be linked profitably. If either of the two markets that seek to establish cross-border linkages does not have a functioning central clearing and/or depository facility, a linkage is impractical. [7] In addition, if trading volume or user interest cannot support the cost of a linkage, direct access may be the only viable alternative for clearance and settlement of cross-border transactions.

Assuming central clearing and/or depository facilities exist in both

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6 Initiatives have been undertaken by several organizations to identify improvements within local markets. The four major efforts in this regard have involved the International Society of Securities Administrators ("ISSA"), the Group of Thirty ("G-30"), the FIBV and the European Commission ("EC"). The Working Group believes that the adoption of the improvements suggested by each of these initiatives is essential to the soundness of local clearance and settlement systems and, therefore, a prerequisite to the soundness of cross-border linkages.

7 As the Group of Thirty noted:

> [A CSD] can offer the efficiencies of immobilization and dematerialization of physical securities, reliable and simultaneous money and securities settlement, and the economies of scale that lead to significant cost reductions. The centralization of securities data within one CSD also improves operating efficiencies in post-settlement functions for the member/participants and the investing public (by accelerating the payment of dividends, for example).

Group of Thirty, Clearance and Settlement Systems in the World's Securities Markets 52 (March 1989). Moreover, in the absence of central facilities in a particular country, cross-border links from central facilities in another country could require arrangements with as many market participants and their agents as exist in the first country

markets and that the cost of the link can be maintained, each of the central facilities must have certain minimum safeguards to protect against potential financial exposure. First, each facility should have minimum standards for participant access to its core services. Ideally, participants of each central facility:

> should be subject to governmental oversight or regulation;
> should maintain minimum liquid capital, consistent with existing governmental or supervisory requirements, that is sufficient to meet their payment obligations as they come due; and
> should maintain an adequate system of internal accounting control to foster customer and counterparty confidence that the participant can meet its delivery and payment obligations on a timely basis.

Second, the central facility itself should be subject to governmental oversight, including periodic examinations by a governmental or self-regulatory organization as each country deems appropriate.

Third, the central facility should have sufficient financial and operational capacity. In this regard, the central facility should have:

> sufficient capital or liquidity sources (bank credit lines, participant guarantee funds, margin, retained earnings and/or participant assessment powers) to meet its ordinary and contingent liabilities;
> an affirmative obligation to safeguard funds and securities in its possession or control; and
> systems for monitoring participant financial condition and obligations to the central facility.

Fourth, the central facility should issue guidelines, rules and procedures that are designed to provide clear guidance as to the following issues:

> participant access to the central facility's services and the circumstances under which a participant's access to those services can or will be revoked;
> measures designed to give reasonable assurance that the central facility, and its participants, can meet their financial obligations on a timely basis (e.g., adequate margin or collateral deposit requirements, or appropriate credit line levels);
> what actions the central facility is able to and ordinarily will take in the event of a participant's default or insolvency, and the anticipated disposition of pending trades, open commitments, payment obligations and delivery or receive obligations in such a situation; and
> the respective rights and obligations of participants and the central facility, to the extent that the central facility can assess its participants to fund or allocate losses incurred by the central facility in the event of a participant default or insolvency.

3.2.2. Rights and Obligations of Linked Central Facilities.

The rights and obligations of two central facilities that seek to establish a clearance and settlement link for the benefit of their

participants should be specified in writing. This document, which we will refer to as a "link agreement," should, at a minimum, specify:

> the conditions under which services will be made available and who may use those services, including requirements for individual and/or joint membership in the central facilities;
> what information about participants and their financial and/or operational condition the parties to the link agreement will share;
> what responsibilities each of the parties to the link agreement undertakes (as distinct from third parties who may use the services offered under the link agreement);
> what measures each party to the link agreement will take to assure that the other party and its participants can meet their financial obligations on a timely basis (e.g., adequate margin or collateral deposit requirements, or appropriate credit line levels);
> what responsibilities each of the parties will bear in the event that a participant or either central facility is deemed legally insolvent or fails to fulfil its payment obligations;
> the conditions that may constitute a market emergency, how and who shall determine whether an emergency exists, and what procedures will be taken to respond to such emergency conditions;
> what rights, responsibilities and remedies each of the parties will have or bear in the event either party to the link is deemed to be in default or insolvent;
> what law (or laws) the parties intend to govern their relationships; and
> what dispute resolution mechanisms the parties intend to use to resolve any future differences that may develop as a result of operation of the link.

3.2.3. Systems Capacity, Integrity and Vulnerability to Internal and External Threats.

Each of the central facilities that is a party to a cross-border link must maintain adequate system capacity to process reasonably anticipated volume, and must be capable of protecting against reasonably anticipated internal or external threats to the integrity of its operations and its capacity to safeguard funds and securities in its possession or control. In order to accommodate the worldwide growth in trading activity and effectively to perform clearance and settlement functions, central clearing and depository facilities will benefit increasingly by replacing manually intensive clearing and settlement procedures with automated systems that permit electronic processing of data, payments, and securities deliveries. The vulnerability of such systems to volume surges and emergency conditions in one or more markets, however, could impact the clearance and settlement process in a correspondent market in another country.

As a result of the impact automated systems failures could have on the clearance and settlement process, the Working Group believes it is appropriate for linking central facilities to take steps to:

> establish formal current and future capacity estimates for their automated trade comparison systems, to ensure that their automated systems have the capacity to accommodate current and reasonably anticipated domestic and cross-border processing

levels adequately and to respond to emergency conditions;

> conduct capacity stress tests, periodically, to determine the behaviour of automated systems under a variety of simulated conditions; and

> conduct independent annual reviews to assess

- whether their automated systems can perform adequately at their estimated current and future estimated capacity levels; and

- whether these systems have adequate protection against physical threats. [8]

3.3. Conclusion.

Sound clearance and settlement linkages promote continued expansion of international securities trading. The Working Party encourages central clearing and depository facilities to consider the minimum safeguards for linkages in this report, together with recommendations in the reports prepared by the Group of Thirty, FIBV, and ISSA in constructing cross-border linkages. The Working Party urges regulators to consider these safeguards when reviewing these cross-border linkages. Consideration of these standards should improve the processing of cross-border transactions and reduce the risk of systemic failures and settlement logjams.

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8 For a full discussion of these issues, see Securities Exchange Act Release No. 27445 (November 16, 1989), 54 FR 48703 (November 24, 1989).

4. Information sharing with respect to clearing & settlement.

An important aspect of sound market linkages and of coordinated clearing & settlement systems internationally is agreement by clearing agencies to monitor information about the financial and operational conditions of participants in multiple markets and to share that information with clearing entities in those markets.

A failure of one clearing entity or a major market participant in one market may adversely impact systems in related markets in another country with further potential impacts upon the corresponding banking systems.

The Working Party encourages international cooperation through bilateral agreements for exchanges of information to enhance the safety of clearance and settlement systems across all markets. Such agreements would be particularly important for formally linked markets.

Generally, information should be shared among clearing organizations that:

a. describes important aspects of the clearance and settlement structure and
b. provides, on an ongoing basis, data relevant to the financial condition of clearing member firms, payment obligations of member firms, and defaults.

a. The first category of information, relating to clearance and settlement structures would include information concerning:

- the length of the trade matching and settlement cycle,
- acceptable forms of payment,
- margin requirements,
- mark-to-market procedures,
- timing and scope of the clearing guarantee,
- size and nature of the clearing guarantee fund and other security available to the clearing organization and
- the status of such security, whether held by a clearing member or by the clearing organization or by the clearing organization, in an insolvency proceeding.

b. Information systems that provide for continuous sharing of current data are also desirable. Such systems could provide

- a continuous flow of data concerning defaults,
- levels of standing margin,
- the financial condition of clearing members with exposures in more than one market, for example, whether the clearing member is in an "early warning" status or other status indicating that special scrutiny may be appropriate and
- daily margin and payment flows to and from the clearing organization.

Of course, a principal feature of any information sharing system would be confidentiality arrangements designed to insure that shared information to the extent it was non-public would be disclosed only for agreed upon uses.

5. How to address off-market risk exposures?

For the purpose of this chapter off-market is defined as follows:

Off-market transactions are secondary market transactions dealt outside the rules and mechanisms of recognised Stock Exchanges or other generally recognised self-regulation markets or bodies. [9]

Regulators have a serious problem with off-market activities. It is extremely complicated to conduct an investigation into insider activities, the maintaining of minimum capital adequacy standards or the behaviour in line with a code of conduct of securities business. Main reason is the non-disclosure of such trades. The IOSCO Working Party "Off-market Trading" has concluded that recommendations be drafted for the disclosure of off-market trading "which follow and tie in with market and system developments".

The focal point of the mentioned Working Party was the early disclosure of volume and price for all off-market trades. For the short term reference was made to the G30 proposals, more specifically to the recommendation that indirect market participants should be part of a trade matching system. In such way the necessary disclosure could be obtained without heavy additional costs on the industry.

A recent study carried out by Bankers Trust, New York on the issues of International Clearing & Settlement issues revealed that respondents, asked what they consider the three most significant risks in clearing, replied

1) The risk that a counterparty to a trade may not pay for or deliver securities and
2) Unmatched trades not resolved in a timely manner and
3) Computer error.

For practical reasons in the following only the first two risks are considered. Other risks related to securities transactions are enumerated in the G30 report, to which is referred.

Generally the established systems for Clearing & Settlement provide for proper instruments to limit the above cited risks. After full implementation of the different recommendations on the subject regulated markets will have good settlement as a rule. For unregulated markets it will be quite different.

From a competitive point of view regulated markets may prefer only to offer their systems for clearing and settlement to their members or participants, who comply with the rules of the system. The investment in such systems in many cases is provided for by the same members/participants. In all cases the respective rules include capital adequacy requirements, rules of conduct and reporting obligations. In this way the counterparty risk is managed, when total avoidance of such risk is either impossible or too expensive.

The reporting obligations provide for the necessary transparency of the

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9. Definition taken from Report from Working Party nr 6 "Off-market Trading",21 september 1989.

market on the one hand, on the other it gives a tool for the regulators to track any irregularity in the market. For regulated markets a full set of adequate instruments are available, however, -differing from market to market- it covers not the whole trading activity.

For the regulated markets exist an easy entry to the clearing and settlement facilities, i.e. routing an order to buy or sell to that regulated market, which in a large majority of the cases will go through a member or participant of that market. Trades routed through participants of regulated markets and properly reported for clearing & settlement are referred to as "locked-in" trades. These offer a minimum of risk involved with the clearing and settlement of securities transactions and are considered an important added value for the using of regulated markets.

In order to maintain the integrity of supervision of the securities markets it could be worthwhile to explore the possibility to avail the existing after trade systems to all trades and all parties, regardless on- or off-market.

On-market trades, as a rule will consist of many transactions for a limited amount of member/participants (it is assumed that investors do route their orders in most cases through the industry). This requires for a clearing/netting process in order to limit the amount of trades to be settled. With respect to off-market trades, as a rule, the transactions will be bilateral, which requires trade-for-trade system.

For off-market trades it would therefor be of interest to have an "inroad" to the settlementprocess, however bypassing the orderrouting and execution processes, due to the fact that intermediaries, participants to a regulated markets are not used. The existence and possibility to use this by-pass should take into account the fact that it should not be commercially more attractive than the generally accepted principle to use the regulated markets and it participants.

It will thus be necessary to strike a balance between the added values of using regulated markets for the execution of securities trading and the necessity to limit the off-market risk of non-settlement combined with it the possibility of disclosure of off-market activity in order to protect the integrity of the securities industry as a whole.

Admission to use the by-pass should be accompanied by a set of prudential rules, thus preventing that irregularities occurring in the by-pass will have a domino effect on the system as a whole. Introduction of off-market activity to the settlementsystem, however, should flow exclusively through participants in that system. Such participants are well known to the settlement organization and must maintain specified levels of capital and satisfy other standards, which may not be the case for off-market participants.

<u>It is therefore recommended that regulators encourage the development of a settlement procedure for off-market trades. These procedures should be similar if not the same as for the "regulated market executed trade"</u>. More specifically it could be of interest to develop full DVP arrangements, using the national infrastructure of banking- and custodian arrangements.

As an intermediate approach parties to an off-market trade could be

allowed to use a trade confirmation system in order to limit the risk of unmatched trades not to be resolved in a timely matter.

6. Recommendations.

1. Securities Regulators should strive to ensure efficiency, stability, soundness and an adequate level of investor protection and confidence in their national systems. At a minimum, a prudential clearance and settlement system should satisfy the general criteria set forth in the report (paragraphs 1.1 - 1.5).

2. The IOSCO Working Party on Clearing and Settlement believes that the development of worldwide compatible standards for efficient, comparable and automated clearance, settlement and payment systems both national and international is the ultimate goal that should be encouraged.

3. The IOSCO Working Party on Clearing & Settlement notes that Working Committees have been established in many countries to review the Group of Thirty recommendations with a view to implementing them.

   The Working Party reiterates its support for the Group of Thirty proposals and recommend to regulators such steps as they may take to encourage their prompt implementation.

4. The IOSCO Working Party on Clearing and Settlement urges regulators to consider minimum safeguards for linkages, as referred to in its report, together with the Group of Thirty, the FIBV and the ISSA recommendations in this field, when constructing cross-border linkages.

   Consideration of those standards should improve the processing of cross-border transactions and reduce the risk of systemic failures and settlement logjams.

5. The IOSCO Working Party on Clearing and Settlement encourages regulators to cooperate, both on a national and international level, on a bilateral basis to conclude agreements for the exchange of information to enhance the safety of clearing and settlement systems on and across markets.

6. The IOSCO Working Party on Clearing and Settlement recommends that regulators encourage the development of a settlement procedure for off-market trade. These procedures should be similar if not the same as for the trades executed on regulated markets.

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