EUROPEAN CENTRAL BANK

DRAFT

STANDARDS FOR SECURITIES CLEARING AND SETTLEMENT SYSTEMS IN THE EUROPEAN UNION

MAY 2004

INTRODUCTION[1]

Background

1. On 25 October 2001 the Governing Council of the European Central Bank (ECB) and the Committee of European Securities Regulators (CESR) agreed to work together in the field of securities clearing and settlement. In particular, they agreed to set up a Working Group (hereafter referred to as "the Group") composed of representatives of the ECB and the European Union (EU) national central banks and representatives of CESR. The European Commission participated in the work of this Group as an observer.

2. On 15 March 2002 the Group launched "a call for contributions", encouraging interested parties to provide input. The market welcomed the Group's initiative. In particular, market participants saw a need for co-operation between central bankers and regulators at the European level in order to increase harmonisation and to ensure a level playing-field. The Group examined the individual contributions and took the various views into due account in the course of its work.

3. On 1 August 2003, the Group launched a public consultation inviting interested parties to provide comments on the consultative report entitled "Standards for securities clearing and settlement systems in the European Union" and the note entitled "Scope of application of the ESCB-CESR standards". The Group received useful contributions from market participants that expressed strong support for the ESCB and CESR initiative of having common rules in order to promote the safety and efficiency of clearing and settlement activities in the European Union (EU). The Group has examined the individual contributions and given careful attention to the views expressed by the market participants when finalising this report. [On 25th May 2004, a second hearing was arranged with the respondents to the public consultation discussing a revised draft of the ESCB-CESR Report.]

4. The draft report was also discussed on several occasions with the securities regulators and central bankers of the Acceding Countries since the standards will apply to the Acceding Countries as soon as they join the European Union.

5. The Group decided to focus on adapting the CPSS-IOSCO recommendations for securities settlement systems to the European Union environment. The Group firmly endorsed these recommendations and recognised from the outset that they represent an obvious starting point for any future work on the issue of setting standards for securities clearing and settlement. It therefore started from the principle that its own work should encompass the CPSS-IOSCO recommendations on every subject considered. However, given their fairly broad scope – the CPSS-IOSCO recommendations were developed for worldwide application – the Group decided that each of these recommendations should be examined with a view to identifying whether there was any need to strengthen the underlying criteria for

[1] This introduction replaces the introduction to the original text of the CPSS-IOSCO Recommendations.

application in the European Union context. Furthermore, the Group analysed the features of existing EU securities clearing and settlement systems in an attempt to identify the impact that the new rules could have.

6. For reasons of transparency and clarity, the proposed changes to the CPSS-IOSCO recommendations are shown as tracked changes in the present version of this report, which summarises the findings of the Group with a view to public consultation.

The objectives of the standards

7. When defining the ESCB-CESR standards, the Group, as suggested by the original CPSS-IOSCO recommendations, sought to adopt a risk-based functional approach, i.e. to apply the future ESCB-CESR standards to all relevant functions related to the securities clearing and settlement business, especially taking into account the associated risks, without regard to the legal status of the institutions concerned. However certain functions are currently subject to different regulation depending on the institutional status of the entity that performs them and the Group has therefore applied the functional approach in a way that recognises those differences. Furthermore, the Group set about "deepening and strengthening" some of the CPSS-IOSCO recommendations for the European context on the basis of the following set of objectives:

1. To provide a consistent basis for the adequate regulation, supervision and oversight of securities clearing and settlement systems and other relevant securities service providers in the European Union;[2]
2. To enhance the safety, soundness and efficiency of securities clearing and settlement;
3. To avoid systemic risk;
4. To promote the competitiveness of European markets by fostering efficient structures and market-led responses to developments;
5. To build confidence in the markets by providing strong and reliable rules;
6. To foster the protection of investors and, in particular, retail investors;
7. To promote and sustain integration in the European markets by referring to one single set of standards that provides a clear and rational regulatory framework and does not impose undue costs on market participants, and to allow integration beyond the European Union by ensuring that the standards remain compatible with the CPSS-IOSCO recommendations;
8. To specify the institutions to which the standards are applied.

[2] The non-EU Member States of the European Economic Area (EEA) will be invited to endorse these standards.

8. Finally, the Group would like to point out that issues related to competition do not fall within its mandate and should be better dealt with by the relevant national and European authorities. It is important that no CSD or custodian bank, by itself or in collaboration with others, abuses a dominant position in a particular market. If national regulators/supervisors/overseers see signs that such a situation is arising or already exists, they should bring it to the attention of competition authorities.

The nature of the standards

9. The most important difference between the Group's report and that of CPSS-IOSCO is that the Group has given its principles for safety, soundness and efficiency in securities settlement the force of standards to be used by regulators, supervisors and overseers: they are not simply recommendations. The transformation from recommendations to standards implies that they will be more binding in nature. The relevant authorities will apply the standards and review compliance with them on a regular basis.

10. The addressees, who are primarily the operators of securities clearing and settlement systems, should be the ones to actually implement the standards. Although the standards do not have Community law status, the relevant regulators, supervisors and overseers will, within their respective competencies, monitor the implementation of the standards. On a best-endeavour basis, regulators, supervisors and overseers will thus integrate the standards into their respective assessment frameworks and in this way assess compliance with them. This may require changes to the national legal framework that are outside the power of the national securities regulators, banking supervisors and central banks overseers. In such cases, the securities regulators, supervisors and central banks will endeavour to ensure the timely and full implementation of these standards by working with the government or other relevant legislative body. The ECB has its own set of standards for securities settlement systems, "Standards for the use of EU securities settlement systems in ESCB credit operations", which focus on the concerns of central banks in their role as users of the settlement system and which partially overlap with the topics covered in the ESCB-CESR standards. The ECB will update its own standards adopting those ESCB-CESR standards, which are deemed relevant from a central bank user perspective.

11. It will be important to ensure the regular monitoring of addressees' implementation of these standards. Securities regulators and overseers and, where applicable, prudential supervisors will check compliance with the standards as part of their day-to-day supervision and oversight activities. Furthermore, more detailed assessments will be performed for key entities such as CSDs, CCPs and custodians operating systemically important systems. These assessments will be similar to the annual assessments currently conducted by the ECB and the EU central banks against the current ECB user standards.

12. The application of the standards are thus guided by the following principles:

1. Standards are tools allowing regulators, supervisors and overseers to adapt their regulation, oversight and supervisory practices to a commonly accepted approach. Standards serve as a benchmark for delivering an internationally recognised quality label.

2. Each of the supervisors and overseers will be using the same standards. This should facilitate greater mutual recognition and promote greater overall reliability. Member States may impose additional, stricter obligations within their own competence, e.g. prudential rules or rules of market functioning in order to take into account specific features of their domestic markets that affect stability and efficiency.

3. The ECB will use the ESCB-CESR standards for the assessment of the settlement systems to be used for its credit operations. However some of these standards will need to be enhanced further to protect the Eurosystem from incurring losses through its credit operations.

4. The standards are based on the CPSS-IOSCO recommendations and are always at least as stringent as those recommendations. Therefore, compliance with these Standards automatically implies compliance with the CPSS-IOSCO recommendations.

5. In order to increase transparency and to create a more level playing-field in the EU, regulators, supervisors and overseers will disclose to each other, within the framework of the Group, the extent of compliance within their jurisdictions. In order to enhance efficiency and promote confidence in the internal EU markets, the national authorities are committed to discuss among themselves the results of the assessment, and the addressees will be invited to disclose such information adequately.

The ambit of the Standards

13. As mentioned above, the objectives of these Standards are to enhance the safety, soundness and efficiency of the securities market infrastructure and, therefore, they basically address the activities of central counterparties (CCPs) and central securities depositories (CSDs). Throughout the report the term CSDs refers to both national CSDs and international CSDs (ICSDs).

14. Custodian banks (hereafter referred to simply as custodians) are very active in the field of clearing and settlement. They serve the retail and wholesale market segment, with regional and global custodian banks acting as nominees for large foreign investors. Some have their own settlement infrastructure for their clients and networks of sub-custodians, allowing them to clear and settle transactions in-house (internal settlement) rather than having to forward them directly to the local or foreign CSDs. Some of them have clearing and settlement activities comparable to those of national CSDs in terms of volume and value. Such custodians could be described as custodians operating systemically important systems. Consequently, the level of systemic risk triggered by the largest custodians may affect the entire financial market of the European Union. For this reason, several standards will also be applied to custodians that operate systemically important systems. National regulators and overseers will determine whether or not a custodian operates a systemically important system by analysing whether or not disruptions in its settlement activities would have implications for the stability of the financial system.

15. After consulting the Banking Supervisors Committee (BSC), the Group concluded that the new Basle II framework is likely to provide the most convenient vehicle to address risks associated with the settlement activities of custodian banks operating systemically important systems.

16. Registrars play an important role in the issuance of securities and the transfer of legal title to the securities in a number of European jurisdictions, where they typically administer the book of the investors in the securities on behalf of the issuer. Therefore, the standards related to the integrity of the issuance are also relevant for registrars.

17. As mentioned above, the standards are primarily addressed to the core business of clearing and settlement. However, in order for some of the standards to be effective, they are also addressed to certain providers of other securities services such as trade confirmation and communication network services. Some standards or elements of standards aim at market practices, rules or decisions that have been reached collectively by market participants and are not the responsibility of individual institutions. In these cases, regulators and overseers need to address the relevant responsible organisations or decision-making bodies.

18. Finally, some standards address issues that fall under the competence of the legislative authorities such as legal, tax and accounting issues and the regulatory framework. In this context, it would be beneficial if the relevant legislators could take the necessary measures to remove impediments to the efficiency and soundness of securities clearing and settlement.

Relation of the work to other European initiatives

- *Communication from the European Commission*

19. In May 2002 the European Commission published a Communication for consultation entitled "Clearing and Settlement in the European Union: Main policy issues and future challenges". A summary and evaluation of the responses to this consultation were published in December 2002. There has been a regular exchange of views about the interplay between the work of the European Commission and our Group.

20. It is clearly desirable that any future European Commission initiatives in this field would takes into account the work of this Group. The Group recommends therefore that in its future initiatives in this field the European Commission builds on the work of this Group.

- *Giovannini Group 1st and 2nd Reports*

21. The Group reviewed carefully the two Giovannini Group reports. In particular, the issues raised in the reports as barriers to the further integration of the European securities clearing and settlement infrastructure have been analysed by the Group and have been reflected in the standards proposed in this report.

Relation of the work to private initiatives

- *The Group of Thirty (G30)*

22. The G30 is a private, not-for-profit, international body composed of senior figures from the private and public sectors and academia. On 23 January 2003 it released a report containing 20 recommendations aimed at increasing the soundness, safety and efficiency of securities clearing and settlement systems. The Group studied these recommendations and considered some elements – in particular issues related to standardisation, communication and messaging and business continuity – when drafting the ESCB-CESR Standards.

- *European Association of Clearing Houses (EACH)*

23. In February 2001 the European Association of Central Counterparty Clearing Houses (EACH) drafted high-level standards for risk management controls for central counterparty clearing activities, which the Group took note of when defining Standard 4 on CCPs.

- *UNIDROIT Project on "Harmonised substantive rules regarding indirectly held securities"*

24. In September 2002, UNIDROIT, which is a global legal organisation with 59 Member States, initiated a project on "Harmonised substantive rules regarding indirectly held securities". The objective is to consider the modernisation and harmonisation of key aspects of substantive law relevant to cross-border holding and transfer of securities held through intermediaries. These issues were analysed by the Group when drafting of Standard 1 on legal framework.

Follow-up work

25. The Group has also identified a number of items that will require further work. Three issues in particular will need to be re-examined: implementation of the standards, the definition of systemically important systems, CCP and settlement cycles.

- *Implementation of the standards*

26. As stated in Standard 18, the implementation of the ESCB-CESR standards by the addressees will be monitored by the relevant regulators, supervisors and overseers within their respective competencies. With a view to ensuring comprehensive, consistent and continued compliance with the standards, the Group envisages that the competent authorities need to co-operate and exchange information on the implementation of the standards within their jurisdictions and/or fields of regulation, supervision and oversight. The Group intends to develop an assessment methodology comparable to the CPSS-IOSCO assessment methodology, albeit adjusted to the ESCB-CESR needs. The co-operation and information exchange between regulators, supervisors and overseers will be conducted in a regular and structured

manner. One way to achieve this is to mandate a monitoring role for the Group, putting it in charge of organising and co-ordinating the results of assessments made by national regulators, supervisors and overseers.

27. Having analysed the impact of the Standards on the European financial market infrastructures, the Group envisaged to review the ESCB-CESR Standards five years after their implementation aiming at "fine-tuning" of some requirements should it be considered advisable.

- *Central counterparty clearing (CCP)*

28. The Group's original mandate identified the need for a clear regime for central counterparty clearing based on two considerations: the higher potential for systemic risk as a result of risk being concentrated in a central counterparty, and a more in-depth analysis of the specific risks of central counterparty clearing.

29. As a first step, the CPSS-IOSCO recommendation dealing specifically with CCPs (Recommendation 4) has been enhanced and the scope of a number of the recommendations has been extended to explicitly cover CCPs. A more comprehensive work is planned on CCPs, addressing a number of issues related to access, the business relationship between CCPs and CSDs, links between CCPs, etc. The CPSS-IOSCO Recommendations for Central Counterparties will have to be evaluated and adapted to the European context.

- *Settlement cycles*

30. As outlined in Standard 3, the Group believes that the harmonisation of settlement cycles needs to be studied further. If there is no market action within an appropriate time frame, public authorities should consider initiating a cost-benefit analysis. In any case, market participants should be invited to participate in any initiative taken, and will be extensively consulted.

List of the Standards

Standard 1: Legal framework

Securities clearing and settlement systems and links between them should have a well-founded, clear and transparent legal basis in the relevant jurisdictions.

Standard 2: Trade confirmation and settlement matching

Confirmation of trades between direct market participants should occur as soon as possible after trade execution, but no later than trade date (T+0). Where confirmation of trades by indirect market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.

Settlement instructions should be matched as soon as possible and for settlement cycles that extend T+0 this should occur no later than the day before the specified settlement date.

Standard 3: Settlement cycles and operating times

Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of EU-wide settlement cycles shorter than T+3 should be evaluated.

CSDs CCPs, market participants and market operators of regulated markets should harmonise their operating hours and days and be open at least during the TARGET operating times for transactions denominated in euro.

Standard 4: Central counterparties (CCPs)

The benefits and costs of a CCP should be evaluated. Where such a mechanism is introduced, the CCP should rigorously control the risks it assumes.

Standard 5: Securities lending

Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities. Barriers that inhibit the practice of lending securities for this purpose should be removed. The arrangements for securities lending should be sound, safe and efficient.

Standard 6: Central securities depositories (CSDs)

Securities should be immobilised or dematerialised and transferred by book entry in CSDs to the greatest extent possible. To safeguard the integrity of securities issues and the interests of

investors, the CSD should ensure that the issue, holding and transfer of securities are conducted in an adequate and proper manner.

Standard 7: Delivery versus payment (DVP)

Principal risk should be eliminated by linking securities transfers to funds transfers in a way that achieves delivery versus payment.

Standard 8: Timing of settlement finality

Intraday settlement finality should be provided through real-time and/or multiple batch processing in order to reduce risks and allow effective settlement across systems.

Standard 9: Credit and liquidity risk controls

For systemic stability reasons, it is important that CSDs operate without interruption. Therefore, when allowed by national legislation to grant credit, CSDs should limit their credit activities exclusively to what is necessary for the smooth functioning of securities settlement and assets servicing. CSDs that extend credit (including intraday and overnight credit), should fully collateralise their credit exposures, whenever practicable. Uncollateralised credit should be restricted to a limited number of well-identified cases and subject to adequate risk control measures including limits on risk exposure, quality of the counterparty and duration of credit.

Custodian banks are subject to EU banking regulations. For those which operate systemically important systems, and in order to contain the systemic risks that are linked to their securities settlement activity, national securities regulators, banking supervisors and overseers should address the risk mitigation policies in order to ensure that they are in line with the risks the custodians create for the financial system. In particular, the possibility to increase the level of collateralisation of their credit exposures, including intraday credit, should be envisaged.

Operators of net settlement systems should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle.

Standard 10: Cash settlement assets

Assets used to settle payment obligations arising from securities transactions should carry little or no credit or liquidity risk. If central bank money is not used, steps must be taken to protect the participants in the system from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose.

Standard 11: Operational reliability

Sources of operational risk arising in the clearing and settlement process should be identified, monitored and regularly assessed. This risk should be minimised through the development of appropriate systems and effective controls and procedures. Systems and related functions should be (i) reliable and secure, (ii) based on sound technical solutions, (iii) developed and maintained in accordance with proven procedures, (iv) have adequate, scalable capacity, (v) have appropriate business continuity and disaster recovery arrangements and (vi) frequent and independent audit of the procedures that allow for the timely recovery of operations and the completion of the settlement process.

Standard 12: Protection of customers' securities

Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities. It is essential that customers' securities be protected against the claims of the creditors of all entities involved in the custody chain.

Standard 13: Governance

Governance arrangements for CSDs and CCPs should be designed to fulfil public interest requirements and to promote the objectives of owners and users.

Standard 14: Access

CSDs and CCPs should have objective and publicly disclosed criteria for participation that permit fair and open access. Rules and requirements that restrict access should be aimed at controlling risk.

Standard 15: Efficiency

While maintaining safe and secure operations, securities clearing and settlement systems should be cost-effective in meeting the requirements of users, including interoperability at both the national and the European level.

Standard 16: Communication procedures, messaging standards and straight through processing

Entities providing securities clearing and settlement services, and participants in their systems should use or accommodate the relevant international communication procedures and messaging and reference data standards in order to facilitate efficient clearing and settlement across-systems. This will promote straight-through processing across the entire securities transaction flow.

Service providers should move towards straight-through processing (STP) in order to help achieve timely, safe and cost-effective securities processing, including confirmation, matching, netting, settlement and custody.

Standard 17: Transparency

CSDs and CCPs should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with securities clearing and settlement services.

Entities acting as custodian should provide sufficient information that allows their customers to identify and evaluate accurately the risks associated with securities clearing and settlement services.

Standard 18: Regulation, supervision and oversight

Entities providing securities clearing and settlement services should be subject to transparent, consistent and effective regulation, supervision and oversight. Central banks, securities regulators and banking supervisors should co-operate with each other,, both nationally and across borders (in particular within the European Union), in an effective and transparent manner.

Standard 19: Risks in cross-system links

CSDs that establish links to settle cross-system trades should design and operate such links to effectively reduce the risks associated with cross-system settlements.

Standard ~~Recommendation~~1: Legal framework

Securities clearing and settlement systems and links between them should have a well-~~–~~founded, clear and transparent legal basis in the relevant jurisdictions.

Key Elements

1. *This standard is addressed to CSDs, CCPs, custodian banks operating systemically important systems, settlement agent banks, and relevant public authorities (e.g. national governments, central banks and securities regulators).*
2. *As a general matte~~r~~, the rights, liabilities and obligations arising from ~~the~~ laws, regulations, rules and procedures, and generally applicable, non-negotiable contractual provisions governing the operation of ~~SSS~~ securities clearing and settlement systems should be clearly stated, understandable, public and accessible ~~to system participants~~.*
3. *The legal framework should demonstrate a high degree of legal assurance for each aspect of the clearing and settlement process, including legally valid and enforceable arrangements for netting and collateral.*
4. *The rules and ~~contracts~~contractual arrangements related to the operation of the ~~SSS~~securities clearing and settlement systems and the entitlement to securities should be valid and enforceable, even in the event of the insolvency of a system participant or the operator of the system.*
5. *The operators should identify the relevant jurisdictions for each aspect of the clearing and settlement process and address any conflicts of laws issues for cross-border systems.*
6. *All eligible CSDs and CCPs governed by the law of an EEA Member State should apply for designation of their securities clearing and settlement systems under Directive 98/26/EC on settlement finality in payment and securities settlement systems. The relevant authorities should actually designate the systems that meet the criteria of the Directive.*
7. *For systemic risk purposes, the harmonisation of rules should be promoted so as to minimise the discrepancies stemming from the different national rules and legal frameworks.*

Explanatory memorandum

31. The reliable and predictable operation of a~~n~~ securities clearing and settlement system~~SSS~~ depends on: (1) the laws, rules and procedures that support the holding, transfer, pledging and lending of securities and related payments; and (2) how these laws, rules and procedures work in practice, that is, whether system operators, participants and their customers can enforce their rights. If the legal framework is inadequate or its application uncertain, it can give rise to credit or liquidity risks for system participants and their customers or to systemic risks for financial markets as a whole.

32. The legal framework applicable ~~for~~ to securities clearing and settlement~~s~~ systems, ~~SSS~~s and the holding of securities ~~in SSSs~~ varies from jurisdiction to jurisdiction and reflects the organisation of a jurisdiction's entire legal system. The legal framework for securities clearing and settlement systems ~~SSSs~~ includes general laws, such as property and insolvency laws, and may include laws specifically related to the operation of the system. In some jurisdictions, the general laws governing property rights and insolvency may not apply to, or may contain special provisions related to, the clearing and settlement of securities transactions. Particular attention must therefore be paid to the legal soundness of the applicable legal framework. Laws applicable to securities clearing and settlement~~s~~ may also be augmented by regulations or other administrative acts. Other important aspects of the legal framework are the rules and procedures of the various parts of the system, many of which represent contractual arrangements between the operators and the participants. This legal framework defines the relationships, rights and interests of the operators, the participants and their customers and the manner in which and time at which rights and obligations, both in respect of contractual obligations and as regards proprietary aspects of the holding of securities, arise through the operation of the system.

33. As a general matter, the laws, regulations, rules and procedures, and generally applicable, non-negotiable contractual provisions governing the operation of securities clearing and settlement systems ~~SSS~~s should be clearly stated, understandable, internally coherent and unambiguous. They also should be public and accessible ~~to system participants~~.

34. CSDs and CCPs should, as a minimum, provide information to market participants (where appropriate, supported by an internal or external analysis or opinion) on the following subject matters: (1) legal status of the securities clearing and settlement system operator; (2) legal regime governing the system; (3) rules on access to the system; (4) legal nature of the securities held through the system, e.g. bearer, dematerialised, etc.; (5) applicable law governing the contractual relationship between operator (or the relevant office, where applicable) and participants; (6) the office(s) where activities related to the maintenance of securities accounts are being conducted; (7) applicable law applying to proprietary aspects of securities held with the systems; (8) nature of the property rights with respect to securities held in the system; (9) rules on the transfer of securities (or interest in securities), especially concerning the moment of transfer, irrevocability and finality of transfers; (10) how DVP is achieved; (11) rules under the applicable proprietary law in the system on securities lending, and rules governing the (re-)use of collateral; (12) rules on settlement failures, including rules relating to the possible unwinding of failed transactions; (13) financial guarantees (safeguards) protecting investors in case of the insolvency of intermediaries; (14) rules under the applicable law in the system for the liquidation of positions, including the liquidation of assets pledged or transferred as collateral; (15) the legal status and nature of CCP risk management techniques, including the CCP legal position vis-à-vis counterparties (Standard 4) and (16) a general description on the above matters in case of a default or insolvency of the operator of the system. The applicable legal framework should ensure that all participants are adequately protected against custody risk, in particular including for example, insurance policies, contractual exclusion and agreed treatment regarding shortfalls of securities.

35. In line with the requirement of Standard 17, custodian banks that operate systemically important systems should provide to market participants information on subject matter related to risk exposure policy and risk management methodology.

36. ~~Key aspects of the settlement process that the legal framework should support include: enforceability of transactions, protection of customer assets (particularly against loss upon the insolvency of a custodian), immobilisation or dematerialisation of securities, netting arrangements, securities lending (including repurchase agreements and other economically equivalent transactions), finality of settlement, arrangements for achieving delivery versus payment, default rules, and liquidation of assets pledged or transferred as collateral.~~ As the European Directive 98/26/EC of 19 May 1998 on settlement finality in payment and securities settlement systems provides legislation that supports most of the legal issues listed above, all CSDs and CCPs that operate a settlement system governed by the law of an EEA Member State should apply for designation under this Directive.

37. The effective operation of a~~n~~ securities clearing and settlement system ~~SSS~~ requires that its internal rules and procedures be enforceable with a high degree of certainty. The rules and contracts related to the operation of the securities clearing and settlement system~~SSS~~ should be enforceable even in the event of the insolvency of a system participant, whether the participant is located in the jurisdiction whose laws govern the ~~SSS~~ system or of the operator of the system or in another jurisdiction. The effective operation of a~~n~~ securities clearing and settlement system~~SSS~~ also requires that the system~~SSS~~ and involved intermediaries have a high degree of certainty regarding ~~its~~ rights and interests in the securities (and whether they are proprietary or lead to an entitlement) and other assets held in the system, including which law is applicable/chosen in respect of contractual and proprietary aspects, ~~its~~ rights to use collateral, to transfer property interests, and to make and to receive payments, notwithstanding the bankruptcy or insolvency of an individual system participant, ~~or of~~ one of its customers or an intervening intermediary in another jurisdiction. The claims of ~~the~~ a securities clearing and settlement system ~~SSS~~ or the system participants against collateral posted by a participant with a~~the~~ system ~~SSS~~ should in all events have priority over all ~~the~~ other claims of ~~such participant's~~ non-system creditors. For example, non-system creditors should be able to enforce their claims against collateral provided in connection ~~posted~~ with ~~in~~ the system only after the satisfaction out of the collateral of all claims arising within the system. In some jurisdictions, this may ~~cause~~ require collateral to be held ~~by~~ with a~~n~~ securities clearing and settlement system~~SSS~~ in the form of securities (e.g. government bonds) instead of in cash. Lastly, direct system participants, intervening intermediaries, and their respective customers should have a high degree of certainty regarding their rights and interests in securities they hold through the system (in particular as regards the nature of their proprietary interest in the securities and whether there are additional contractual rights against the issuer or intermediary), notwithstanding the insolvency of a user, a participant or a component of a~~n~~ securities clearing and settlement system ~~SSS~~ such as a CSD, CCP or settlement agent bank.

38. The legal framework for a~~n~~ securities clearing and settlement system~~SSS~~ must be evaluated in the relevant jurisdictions. These include those jurisdiction(s) (i) in which the system is established (inclusive of offices engaged in activities related to the maintenance of securities accounts, where applicable); (ii) in which ~~and its~~the system's direct participants are established, domiciled or have their principal office; and (iii) ~~any jurisdiction~~ whose laws affect the operation of the system as a result of: (a) the law governing the system; (b) the law chosen to govern the contractual aspects of the relationship with participant; and (c), if different from (b), the law chosen to govern the proprietary aspects of securities held on the participants account with the system~~contractual choice of law~~. Relevant jurisdictions may also include a jurisdiction in which a security handled by the ~~SSS~~ system is issued, jurisdictions in which the system performs activities related to the maintaining of its securities accounts; jurisdictions in which an intermediary, its customer or the customer's bank is established, domiciled or has its principal office; or a jurisdiction whose laws govern a contract between these parties.

39. Where a system has a cross~~es~~-border~~s~~ dimension through linkages or remote participants, or by operating through foreign offices, the rules governing the system should clearly indicate the law that is intended to apply to each aspect of the clearing and settlement process. The operators of cross-border systems must address conflict of laws issues when there is a difference in the substantive laws of the jurisdictions that have a potential interest in the system. In such circumstances, each jurisdiction's conflict of laws rules specify the criteria that determine the law applicable to the system, to the contractual aspects of the relationship with participants, and to the proprietary aspects of securities held on the participants' accounts with the system. System operators and participants should be aware of conflict of laws issues when structuring the rules of a system and in choosing the law that governs the system and the law that governs the proprietary aspects of securities held on a participant's account with the system. System operators and participants should also be aware of applicable constraints on their ability to choose ~~the~~ this law ~~that will govern the system~~. A relevant jurisdiction ordinarily does not permit system operators and participants to circumvent the fundamental public policy of that jurisdiction by contract. ~~For example, jurisdictions that require that title to securities be recorded in a domestic registry generally do not permit parties to override that law through a contractual choice of law~~. Subject to such constraints, the legal framework should support appropriate contractual choices of law in the context of both domestic and cross-border operations as regards: (a) the law governing a system; (b) the law chosen to govern the contractual aspects of the relationship with each participant, and; (c) the law chosen to govern the proprietary aspects of securities held on a participant's account with a system. In many cases, the law chosen ~~with respect~~ to govern the operation of a securities clearing and settlement system ~~n SSS~~ will be that of the location of a CCP or a CSD. The application of a multitude of jurisdictions within a system increases the legal complexity and could possibly affect systemic stability. The Settlement Finality Directive reduced these risks by providing clear rules on the law used to govern the system and the law used to govern the rights and obligations of a participant in an insolvency situation. In the same vein, the range of jurisdictions chosen in connection

with a system should be kept to a minimum. Subject to a legal risk analysis, it may prove to be advisable that only one legal system is chosen to govern the proprietary aspects of all securities held on the participants' accounts with the system and only one legal system is chosen to govern the contractual aspects of the relationship between the system and each of its participants. Ideally, the law chosen should be identical to the law governing the system, in order to safeguard systemic finality, certainty and transparency.

40. For systemic risk purposes, the harmonisation of rules should be promoted so as to minimise the discrepancies stemming from the different national rules and legal frameworks.

~~A harmonisation or convergence of laws would obviate conflict of laws issues that currently impede the cross-border operation of SSSs. Therefore, countries should voluntarily seek to harmonise or bring about a convergence of laws governing SSSs, the contracts between SSSs and direct system participants, and the contracts between direct system participants, other intervening intermediaries and their respective customers. In this connection, the deliberations of the Hague Conference on Private International Law relating to the promulgation of a Convention on the Law Applicable to Proprietary Rights in Indirectly Held Securities are encouraged.~~

~~The legal framework, including requirements relating to contractual choices of law, should give great weight to the public interest in the effective operation of SSSs and to the public necessity for legal certainty in the irreversibility of securities settlements. Each jurisdiction should seek to promote national laws and public policies that support the CPSS-IOSCO Technical Committee recommendations for SSSs and related arrangements. If the legal framework in a particular jurisdiction does not support the existing SSSs or the implementation of these recommendations, the appropriate regulatory and supervisory authorities should seek legislative reform.~~

What's new in the ESCB/CESR standard?

41. In comparison with the CPSS-IOSCO recommendation, the ESCB-CESR standard refers to the need for designation under the Settlement Finality Directive (see key element 6) and promotes harmonisation of EU rules. The standard requires further transparency from CSDs and CCPs. In particular, the operator should describe and make available to all market participants information on several specific issues regarding the legal framework of the securities clearing and settlement system.

Standard ~~Recommendation~~ 2: Trade confirmation and settlement matching

Confirmation of trades between direct market participants should occur as soon as possible after trade execution, but no later than trade date (T+0). Where confirmation of trades by indirect market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.

Settlement instructions should be matched as soon as possible and for settlement cycles that extend T+0 this should occur no later than the day before the specified settlement date.

Key elements

1. *This standard is addressed to market participants and operators of systems for trade confirmation, affirmation, and matching of settlement instructions.*
2. *Confirmation of trades between direct market participants should occur as soon as possible after trade execution, but no later than T+0.*
3. *When confirmation/affirmation of trades by indirect market participants is required~~,~~ by regulators, clearing systems~~,~~ or market ~~operators~~ participants, it should occur as soon as possible after trade execution preferable on T+0, but no later than T+1.*
4. *Settlement instructions should be matched prior to settlement and no later than the day before the specified settlement date for settlement cycles longer than T+0. This does not apply to free-of-payment transfers in those systems where matching is not required.*
5. *The automation of trade confirmation and settlement matching systems is encouraged and such systems should be interoperable.*

Explanatory memorandum

42. The first step in settling a securities trade is to ensure that the buyer and the seller agree on the terms of the transaction, a process referred to as trade confirmation. Often a broker-dealer or member of an exchange (a direct market participant) acts as an intermediary in executing trades on behalf of others (indirect market participants). In such circumstances, trade confirmation often occurs on two separate tracks: confirmation of the terms of the trade between direct participants and confirmation (sometimes termed "affirmation") of the intended terms between each direct participant and the indirect participant for whom the direct participant is acting. (Generally, indirect market participants for whom confirmations are required include institutional investors and cross-border clients.) For trades involving institutional investors or cross-border clients, affirmation might be a precondition for releasing the cash and/or securities in time for settlement. Therefore, trade confirmation/affirmation, when required, should occur preferably without delay after trade execution, but no later than T+1.

43. On both tracks, agreement of trade details should occur as soon as possible so that errors and discrepancies can be discovered early in the settlement process. Early detection should help to avoid errors in recording trades, which could result in inaccurate books and records, increased and mismanaged market risk and credit risk, and increased costs.

44. While this process of trade confirmation is occurring, the back offices of the direct market participants, indirect market participants and custodians that act as agents for ~~the indirect~~ market participants need to prepare settlement instructions, which should be matched prior to the settlement date. This of course applies to settlement cycles that extend beyond T+0 and for transactions where matching is required. In some systems, instructions for free-of-payment transfers do not need to be matched and, therefore, this requirement is not applicable. Speedy, accurate verification of trades and matching settlement instructions is an essential precondition for avoiding settlement failures, especially when the settlement cycle is relatively short. (See ~~Recommendation~~ Standard 3 regarding the length of settlement cycles.)

45. Trade confirmation systems are increasingly becoming automated. Many markets already have in place systems for the automatic comparison of trades between direct market participants. (In many markets, the use of electronic trading systems obviates the need for direct market participants to match the terms of the trade.) Automated matching systems (or matching utilities), are also being proposed and implemented for trade confirmation between direct market participants and indirect market participants and for the matching of settlement instructions. However, if the number of organisations providing matching utilities grows, it is important that their systems are interoperable in order to avoid inefficiency and the fragmentation of the markets.

46. Automation improves processing times by eliminating the requirement to send information back and forth manually between parties and by avoiding the errors inherent in manual processing. At its most sophisticated, automation allows manual intervention to be eliminated from post-trade processing through the implementation of straight through processing (STP), that is, procedures that require trade data to be entered only once and then use those same data for all post-trade requirements related to settlement. Many practitioners believe that market-wide achievement of STP is essential, both for maintaining high settlement rates as volumes increase and for ensuring timely settlement of cross-border trades, particularly if reductions in settlement cycles are to be achieved. STP systems may use a common message format or use a translation facility that either converts different message formats into a common format or translates between different formats. Several initiatives aim to achieve STP. These initiatives, including those aimed at introducing and expanding the use of matching utilities, should be encouraged, and direct and indirect market participants should achieve the degree of internal automation necessary to take full advantage of whatever solutions emerge. The implementation of STP requires a set of actions to be taken by all parties involved in securities transactions such as trade confirmation providers, CCPs, CSDs, custodians, brokers-dealers and investment firms. For example, they need to adopt universal messaging standards and communication protocols in order to have

timely access to accurate data for trade information enrichment, mainly with regard to clearing and settlement details (see Standard 16).

What's new in the ESCB-CESR standard?

47. The ESCB-CESR standard emphasises the importance of having settlement instructions matched as soon as possible and no later than the day before the specified settlement date. Moreover, a harmonised rule for all of Europe would facilitate cross-border trades. Shortening the time for matching would also contribute to shortening the settlement cycles. Finally, automation of trade confirmation and settlement matching systems is encouraged and such systems should be interoperable.

Standard ~~Recommendation~~ 3: Settlement cycles and operating times

Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of EU-wide settlement cycles shorter than T+3 should be evaluated.

CSDs CCPs, market participants and market operators of regulated markets should harmonise their operating hours and days and be open at least during the TARGET operating times for transactions denominated in euro.

Key Elements

1. *This standard is addressed to CSDs, CCPs, market participants and operators of regulated markets.*
2. *Further harmonisation and further shortening settlement cycles needs to be considered in the interest of ensuring more efficient EU markets. Any such harmonisation and/or shortening should take account of the instrument and the markets in question and should be based on a cost-benefit analysis. This is primarily a task for system operators and users, but relevant public authorities should encourage such initiatives.~~The benefits and costs of a settlement cycle shorter than T+3 should be evaluated~~.*
3. *The f~~F~~requency and duration of settlement failures should be monitored and evaluated by the operator of the securities settlement system.*
4. *The r~~R~~isk implications of failure rates should be analysed and actions taken that reduce the rates or mitigate the associated risk, including, among other ways, the setting of maximum periods for recycling failed transactions.*
5. *CSDs and CCPs should harmonise their operating days and hours, and be open at least during TARGET operating times for transactions denominated in euro.*

Explanatory memorandum

48. Under a rolling settlement cycle, trades settle a given number of days after the trade date rather than at the end of an "account period", thereby limiting the number of outstanding trades and reducing aggregate market exposure. The longer the period from trade execution to settlement, the greater the risk that one of the parties may become insolvent or default on the trade, the larger the number of unsettled trades, and the greater the opportunity for the prices of the securities to move away from the contract prices, thereby increasing the risk that non-defaulting parties will incur a loss when replacing the unsettled contracts. In 1989, the G30 recommended that final settlement of cash transactions should occur on T+3, that is three business days after the trade date. However, the G30 recognised that

"to minimise counterparty risk and market exposure associated with securities transactions, same day settlement is the final goal".

49. This ~~recommendation~~ standard retains T+3 settlement as a minimum standard. ~~Markets that have not yet achieved a T+3 settlement cycle should identify impediments to achieving T+3 and actively pursue the removal of those impediments.~~ Rolling settlement at T+3 is the current European minimum standard, with the exception of OTC-transactions where the terms of settlement are bilaterally negotiated. Many markets already are settling at a shorter interval than T+3. For example, many government securities markets already settle on T+1~~2 or even T+1, and some equity markets are currently considering a T+1 settlement cycle~~. Likewise, where demand exists, securities settlement systems should support T+0 for over-the-counter (OTC) transactions. The standard judged appropriate for a type of security or market will depend upon factors such as transaction volume, price volatility and the extent of cross-border trading in the instrument. In the European Union, ~~Each securities~~ markets should evaluate whether a cycle shorter than T+3 is appropriate, given the risk reduction benefits that could be achieved, the costs that would be incurred and the availability of alternative means of limiting pre-settlement risk, such as trade netting through a CCP (see ~~Recommendation~~ Standard 4 below). ~~Depending on these factors, some markets may conclude that different types of securities should have different settlement cycles.~~

50. The fragmentation of the EU securities markets could be reduced if settlement cycles were further harmonised across markets. However, harmonisation encompassing all types of securities in all markets could be too burdensome in the short term. A more limited solution could be to have different, but still harmonised, settlement cycles for different types of securities. The latter solution would be more in line with the fact that the standard judged appropriate for a type of security depends upon several factors (see above). Therefore, the cost-benefit analysis referred to in the previous paragraph should also be conducted at the EU level taking account of the requirements of markets for different types of securities. The cost-benefit analysis should include the consideration of the difficulties entailed by cross-border harmonisation according to asset class. In addition, attention should be paid to creating incentives for early settlement during the trading day.

51. Reducing the cycle is neither costless nor without certain risks. This is especially true for markets with significant cross-border activity because differences in time zones and national holidays, and the frequent involvement of multiple intermediaries, make timely trade confirmation more difficult. In most markets, a move to T+1 (perhaps even to T+2) would require a substantial reconfiguration of the trade settlement process and an upgrade of existing systems. For markets with a significant share of cross-border trades, substantial system improvements may be essential for shortening settlement cycles. Without such investments, a move to a shorter cycle could generate increased settlement failures, with a higher proportion of participants unable to agree and exchange settlement data or to acquire the necessary resources for settlement in the time available. Consequently, replacement cost risk would not be reduced as much as anticipated and operational risk and liquidity risk could increase.

52. In the European context, any harmonisation of settlement cycles may also require a greater harmonisation of operating days and hours. Currently cross-border transactions cannot be settled in time when, on account of different national holidays for example, the infrastructure necessary for the completion of settlement is not available. The availability of the settlement infrastructure during a harmonised calendar of working days would be the ideal solution. Therefore, CSDs and CCPs should harmonise their operating hours and days and be open at least during the TARGET operating times for transactions denominated in euro. In particular, the CSDs and CCPs should harmonise settlement deadlines to accept instructions for the same settlement day.

53. Undertaking a cost-benefit analysis on the harmonisation of settlement cycles, operating days and hours as well as the shortening of settlement cycles is primarily a task for market participants, and for system operators and users in particular. However, the public authorities should consider stepping in and conducting the cost-benefit analysis if there is no market initiative within an appropriate time frame. In any event, market participants should be invited to participate in any initiative taken. Any cost-benefit analysis must include two steps: first, an exercise in setting the parameters for the evaluation of cost and benefit; and second, an assessment of different harmonisation scenarios against these parameters.

54. Regardless of the settlement cycle, the frequency and duration of settlement failures should be monitored closely. In some markets, the benefits of T+3 settlement are not being fully realised because the rate of settlement on the contractual date falls significantly short of 100%. In such circumstances, the risk implications of the failure rates should be analysed and actions identified that could reduce the rates or mitigate the associated risks. For example, monetary penalties for failing to settle could be imposed contractually or by market authorities; alternatively, failed trades could be marked to market and, if not resolved within a specified timeframe, closed out at market prices. As another method of failure rate reduction, the system operator could set maximum periods for recycling failed transactions and determine that unsettled transactions will be dropped at the end of the recycling period. For the same purpose, after a consultation with the users, the system operator might set a maximum size of settlement instructions.

What's new in the CESR-ESCB standard?

55. Compared with the CPSS-IOSCO recommendations, the CESR-ESCB standard focuses on the cross-border harmonisation that is important for the achievement of the single market in financial services in the EU. It suggests a strong need for a cost-benefit analysis of the harmonisation of settlement cycles. It also requires CSDs and CCPs to harmonise their operating hours and days and be open at least during the TARGET operating times for transactions denominated in euro.

ANNEX 1: SECURITIES SETTLEMENT CYCLE IN THE EEA

According to the BIS glossary,[1] a settlement cycle/interval is the amount of time that elapses between the trade date (T) and the settlement date (S). It is typically measured relative to the trade date, e.g. T+3 means that the settlement of the trade transaction will take place on the third business day following the day on which the trade is executed.

Country	Government Debt Instruments*	Private Debt Instruments*	Equities*	OTC Instruments
Austria	T+3	T+3	T+3	Negotiable (T+0 to T+14)
Belgium	T+2/T+3	T+3	T+3	Capital market: T+3; money market T+2 (but can be negotiated)
Denmark	T-bills: T+2 Others: T+3	T+3	T+3	Negotiable
Finland	T-bills : T+2. Govt bonds: T+3 – T+0)	Bonds: T+3 Commercial paper: T+2.	T+3	Negotiable
France	T-bills and notes: T+1 Bonds: T+3	Short term instruments: T+1 Bonds: T+3	T+3	From T+0 until T+100
Germany	T-+2	T-+2	T+2	Negotiable.
Greece	T+3	T+3	T+3	N/A
Iceland	T+1	T+1	T+1	N/A
Ireland	T+3	T+3	T+3	T+3
Italy	BOT: T+2 Other: T+3 Repos: T+0; T+1; T+2; and T+3	T+3	T+3	Negotiable
Luxembourg	Maximum T+3	Maximum T+3	Maximum T+3	Negotiable
The Netherlands	Bonds: T+3 T-bills: T+2	T+3	T+3	T+0 – T+100
Norway	T+3	T+3	T+3	T+3
Portugal	T+3	T+3	T+3	Negotiable
Spain	Repos: T+0 and T+1 Outright transactions: up to T + 3	Stock Exchanges: T+3 AIAF market: up to T+3	T+3	Negotiable (T+0 to T+3)
Sweden	Bills: T+2 Bonds: T+3	Bonds: T+3 Commercial paper: T+2	T+3	Negotiable
United Kingdom	T+1	T+3	T+3	Negotiable (t+0 for T-bills and other short-term instruments)

***** Exchange-traded instruments.

[1] A glossary of terms used in payments and settlement systems, January 2001, Committee on Payment and Settlement Systems, BIS.

Standard ~~Recommendation~~ 4: Central Counterparties (CCPs)

The benefits and costs of a CCP should be evaluated. Where such a mechanism is introduced, the CCP should rigorously control the risks it assumes.

Key Elements

1. This standard is addressed to CCPs, market participants and relevant authorities.

2. The costs of establishing and/or operating a CCP should be analysed and compared with an assessment of the risk reduction and efficiency benefits of using a CCP. Where the benefits of using a CCP outweigh the costs, market participants could either use the services of an existing CCP or establish one of their own.~~The balance of the benefits and costs of a CCP should be carefully assessed.~~

~~*3.The legal basis for any netting arrangements should be sound and transparent.*~~

3. A CCP should institute risk controls sufficient to withstand severe shocks, including defaults by one or more of its participants.[1]

4. Adequacy of resources to absorb financial losses should be monitored: resources should be accessible and rules should specify clearly how defaults will be handled and how losses will be shared.

Explanatory Memorandum

Cost-benefit analysis of a CCP

56. A central counterparty (CCP) interposes itself between the ~~trade~~ counterparties to a trade, becoming the buyer to every seller and the seller to every buyer. Thus, from the point of view of market participants the credit risk of the CCP is substituted for the credit risk of the other participants. This has both cost and efficiency benefits for market participants. It reduces costs by streamlining risk management. Entities conducting securities transactions, including derivatives transactions, are exposed to counterparty risk and therefore implement risk mitigation processes and controls. Such measures entail both operational and opportunity costs, and the higher the risk and the more counterparties that an organisation has exposure to, the greater these costs. A CCP can lower these costs by greatly reducing the number of counterparty business relationships. Moreover, when a participant uses a CCP it can deal with any counterparty that it knows is eligible to use the CCP without extensive due diligence, as it knows its contractual relationship and risk exposure will concern the CCP only. Furthermore, this exposure concentration also frees up for other purposes the

[1] Amendments have been introduced to issues related to cost-benefit analysis, while the text on risk management issues has been kept unchanged awaiting for the final report of the CPSS-IOSCO on CCPs.

credit lines that market participants would otherwise have to maintain between each other. Efficiency is also improved because each market participant communicates only with the CCP about risk mitigation measures, instead of managing a series of bilateral relationship with separate participants. ~~(In some markets many of the benefits of a CCP are achieved by establishing an entity that indemnifies market participants against losses from counterparty defaults without actually acting as CCP.)~~ If a CCP manages its risks effectively, its probability of default may be less than that of all or most of the market participants.

57. Moreover, a CCP typically ~~often~~ bilaterally nets its obligations vis-à-vis its participants, which achieves multilateral netting of each participant's obligations vis-à-vis all of the other participants. This can reduce costs and risks. Netting substantially reduces the potential losses in the event of a default of a participant. A firm can only record this net position against the CCP on its balance sheet and so is only required to hold regulatory capital in respect of this lower position. In addition, netting reduces the number and value of deliveries and payments needed to settle a given set of trades, thereby reducing liquidity risks and transaction costs.

58. In addition to these benefits, the growing demand for CCP arrangements in part reflects the increasing use of anonymous electronic trading systems, where orders are matched according to the rules of the system and participants cannot always manage their credit risks bilaterally through their choice of counterparty. Furthermore, CCPs may also help enable connectivity between market participants by requiring members to use common practices and processes.

59. Establishing and running a CCP, particularly given the comprehensive risk management arrangements required in such an entity, will necessitate substantial set-up and day-to-day running costs that will need to be considered when determining the overall net benefits that may accrue from a CCP. The fact that risk is being concentrated in a single entity should also be taken into account.

~~60. Introduction of a CCP is anther tool, in addition to shortening settlement cycles, for reducing counterparty credit risks. It is especially effective for reducing risks vis à vis market participants, who often buy and sell the same security for settlement on the same date. In addition to these risk reduction benefits, the growing demand for CCP arrangements in part reflects the increasing use of anonymous electronic trading systems, where orders are matched according to the rules of the system and participants cannot always manage their credit risks bilaterally through their choice of counterparty.~~

~~61. Nevertheless, a CCP will not be appropriate in all markets. Establishing a CCP is not without costs. In particular, establishing the kind of robust risk management system that a CCP must have (see discussion below) generally requires significant initial investments and ongoing expenses. Thus, I~~individual markets that have not previously had or used a CCP should comprehensively assess ~~carefully~~ the balance of the benefits, ~~and~~ costs and risks of a CCP against existing arrangements. This balance will depend on factors such as the volume and value of transactions, trading patterns among counterparties, and the opportunity costs associated with settlement liquidity. A growing number of markets have determined that the benefits of implementing/using a CCP outweigh the costs.

62. ~~If~~ All ~~a~~ CCP must ~~is established, it is important that it should~~ have sound risk management because they assumes responsibility for risk management and reallocates risk among ~~its~~ their participants though its policies and procedures. ~~As a result, i~~If a CCP does not perform risk management well, the CCP could increase risk to market participants. The ability of the system as a whole to withstand the default of individual participants depends crucially on the risk management procedures of the CCP and its access to resources to absorb financial losses. The failure of a CCP would almost certainly have serious systemic consequences, especially where multiple markets are served by one CCP. Consequently, a CCP's ability to monitor and control the credit, liquidity, legal and operational risks it incurs and to absorb losses is essential to the sound functioning of the markets its serves. A CCP must be able to withstand severe shocks, including defaults by one or more of its participants and its financial support arrangements should be evaluated in this context. Furthermore, there must be a sound and transparent legal basis for the netting arrangement, whether by novation or otherwise. For example, netting must be enforceable against the participants in bankruptcy. Without such legal underpinnings, net obligations may be challenged in judicial or administrative insolvency proceedings. If these challenges are successful, the CCP or the original counterparty may face additional settlement exposure. The CCP must also be operationally sound and must ensure that its participants have the incentive and the ability to manage the risks they assume.

63. CCPs adopt a variety of means to control risk. The precise means reflects the market served and the nature of the risks incurred. Access criteria are essential (see Recommendation 14 on access). The CCP's exposures should be collateralised. Most CCPs require members to deposit collateral to cover potential market movements on open positions or unsettled transactions. Positions are also generally marked to market one or more times daily, with the CCP taking additional cash or collateral to cover any changes in the net value of the open positions of participants since the previous valuation and settlement. During volatile period, CCPs collect additional collateral to minimise further their exposure. CCPs should also have rules specifying clearly how defaults will be handles and how losses will be in the event that a defaulting firm's collateral fails to cover its exposure. For example, CCPs may require their members to contribute to default clearing funds, typically composed of cash or high quality, liquid securities and calculated using a formula based on the volume of the participant's settlement activity. Those funds are often augmented through insurance or other financial support. Liquidity demands are usually met by some combination of clearing fund assets and firmly committed bank credit lines. Rules and procedures for handling defaults should be transparent to enable members and other market participants to access the risks they assume because of their membership in and use of a CCP.

64. CCPs are currently developing global risk management standards that draw on their common experience and expertise. In February 2001, senior executives of the European Association of Central Counterparty Clearing Houses (EACH) developed risk management standards for their organisations. Subsequently, CCP-12, a group that includes CCPs from Asia and the Americas as well as Europe, has been working to revise the EACH standard and broaden their acceptance among CCPs. Once

CCP-12's work is finalised, national authorities should consider using its work as a starting point when evaluating the risk management procedures of a CCP.

What's new in the ESCB-CESR standard?

65. In comparison with the CPSS-IOSCO recommendation, the ESCB-CESR standard gives wider and more specific consideration to assessing the benefits and costs of CCPs. No changes have been introduced with regards to risk management issues awaiting the final report of the CPSS-IOSCO on CCPs.

Standard ~~Recommendation~~ 5: Securities lending

Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities. Barriers that inhibit the practice of lending securities for this purpose should be removed. The arrangements for securities lending should be sound, safe and efficient.

Key elements

1. *This standard is addressed to entities providing securities lending services in connection with the securities settlement process, including CSDs, CCPs, custodian banks and to relevant public authorities.*
2. *Securities lending and borrowing should be encouraged as a method for expediting securities settlement (such as reducing settlement failures).*
3. *Member States should remove impediments (e.g. legal, tax and accounting framework) to the development and functioning of securities lending ~~should be removed~~.*
4. *Securities lending arrangements should meet the requirements of the particular market in order to minimise settlement failures. Securities lending can be arranged bilaterally or as an automated and centralised facility at the level of the settlement systems.*
5. *A centralised securities lending facility can be an efficient mechanism to reduce settlement failure. However, in markets where the number of settlement failures remains low, centralised securities lending arrangements may not be justified from a cost-benefit perspective.*
6. *In order to preserve its financial integrity, the principal to centralised securities lending arrangements should apply adequate risk management measure in line with requirements set out in Standard 9.*
7. *-In no case can debit balances nor the creation of securities be allowed. Clients' assets should be used only with their explicit consent.*
8. *Supervisors and overseers should have policies and procedures to ensure that risks stemming from securities lending activities are appropriately managed by entities subject to their oversight.*

Explanatory memorandum

66. Mature and liquid securities lending markets (including markets for repurchase agreements and other economically equivalent transactions) generally improve the functioning of securities markets by allowing

sellers ready access to securities needed to settle transactions where those securities are not held in inventory, by offering an efficient means of financing securities portfolios, and by supporting participants' trading strategies.[1] The existence of liquid markets for securities lending reduces the risks of failed settlements because market participants with an obligation to deliver securities that they have failed to receive and do not hold in inventory can borrow these securities and complete delivery. Securities lending markets also enable market participants to cover transactions that have already failed, thereby ~~curing the failure sooner~~ avoiding any negative repercussions from the failure. In cross-border transactions, particularly back-to-back transactions, it is often more efficient and cost-effective for a market participant to borrow a security for the delivery than to deal with the risk and costs associated with a settlement failure.

67. Liquid securities lending markets are therefore to be encouraged, subject to appropriate ~~limits~~ restrictions on their use for purposes prohibited by regulation or law. For example, borrowing to support short sales is illegal in some circumstances in some markets. Even in jurisdictions that restrict securities lending because of other public policy concerns, authorities should consider permitting lending to reduce settlement failures. Impediments to the development and functioning of securities lending markets should~~, as far as possible,~~ be removed. In many markets, the processing of securities lending transactions involves manually intensive procedures. In the absence of robust and automated procedures, errors and operational risks increase, and it may be difficult to achieve timely settlement of securities lending transactions, which often need to settle on a shorter cycle than regular trades. Securities lending transactions can be arranged in several ways. The scope for improvement in the processing of cross-border borrowing and lending transactions is particularly large. Some ~~CSDs~~ settlement systems seek to overcome these impediments by providing centralised lending facilities; others offer services intended to support the bilateral lending market. The needs of individual markets will differ, and market participants and CSDs should evaluate the usefulness of the different types of facilities. For example, in some markets bilateral securities lending transactions (including over-the-counter (OTC) market transactions) between participants play a crucial role in reducing settlement failure, and it may not be necessary to introduce a centralised securities lending facility.

68. Other impediments to securities lending might arise from tax or accounting policies, from legal restrictions on lending, from an inadequate legal underpinning for securities lending or from ambiguities about the treatment of such transactions in a bankruptcy. One of the most significant barriers to development may be related to taxation of securities lending transactions. A tax authority's granting of tax neutrality to the underlying transaction and the elimination of certain transaction taxes have served to

[1] For a thorough discussion of securities lending and repurchase agreements, see Technical Committee of IOSCO and CPSS, *Securities Lending Transactions: Market Development and Implications* (BIS, 1999); Committee on the Global Financial System, *Implications of Repo Markets for Central Banks* (BIS, 1999).

increase activity in several jurisdictions. In the European context, barriers related to taxation should be removed in order to facilitate securities lending. Accounting standards also have an influence on the securities lending market, particularly with respect to whether, and under what conditions, collateral must be reflected on the balance sheet. Authorities in some jurisdictions restrict the types or amounts of securities that may be loaned, the types of counterparties that may lend securities, or the permissible types of collateral. Uncertainty about the legal status of transactions, for example their treatment in insolvency situations, also inhibits development of a securities lending market. The legal and regulatory structure must be clear so that all parties involved understand their rights and obligations. The Settlement Finality Directive and the Collateral Directive provide greater certainty in this regard across the European Union. As markets continue to develop, and experience with these two relatively new Directives grows, it will be important to ensure that certainty is maintained, if necessary via further legal provisions.

~~Some CSDs seek to overcome these impediments by providing centralised lending facilities; others offer services intended to support the bilateral lending market. The needs of individual markets will differ, and market participants CSDs should evaluate the usefulness of the different types of facilities.;~~

69. Nevertheless, for some markets the establishment of centralised securities lending facilities would allow for the matching of potential borrowers and lenders, making the process of securities lending speedier and more efficient. The lending facilities often apply automated procedures to reduce errors and operational risks and to achieve the timely settlement of securities lending transactions, which often need to settle on a shorter cycle than regular trades.

70. The choice of whether to introduce a centralised lending facility or to rely on bilateral lending should be left to each market, depending on the specific needs of its participants. However, where an automated centralised lending facility exists, all participants in the settlement system should be given equal access to this facility. Generally, refusal of access would need to be clearly justified on the basis of transparent and fair access criteria. For example, such a refusal could be warranted by serious risk management considerations (see Standard 14).

71. The provider of the centralised lending arrangement can act as either agent or principal in the process. In the former case, the provider assists with the technical aspects of the securities lending process, allowing for a concentration of all the relevant information and, in the case of CSDs, the ability to register lending/borrowing interests. When the provider acts as principal, it legally interposes itself between the lender and the borrower.

72. In the majority of the European countries, the legal framework, capital structure and risk profile of CSDs do not allow them to act as principal to securities lending transactions, but this should not prevent them from providing the technical functionality that can be used by their participants and other users who are able to act as principal. Such functionality could be developed either to lend securities automatically when

a settlement failure would otherwise occur due to a lack of securities, or to lend securities only when participants actively decide it is necessary. Although market participants should not be compelled to participate in an automated securities lending facility, it is important that the right economic incentives and robust risk management procedures are in place in order to encourage broad participation by market participants and, in particular, by institutional investors who would like to increase the return on their securities.

73. While securities lending may be a useful tool, it presents risk to both the borrower and the lender. The securities lent or the collateral may not be returned when needed, because of counterparty default, operational failure or legal challenge, for example. Those securities would then need to be acquired in the market, perhaps at a cost. Counterparties to securities loans should ~~employ~~ implement appropriate risk management policies, including conducting credit evaluations, setting credit exposure caps, collateralising exposures, marking exposures and collateral to market daily, and employing master legal agreements.

74. In order to preserve the financial integrity of the principal to a centralised securities lending arrangement, it is important that adequate risk control measures that substantially reduce the associated risks are in place (see Standard 9).

What's new in the ESCB-CESR standard?

75. In comparison with the CPSS-IOSCO recommendation, the ESCB-CESR standard emphasises the benefit of establishing centralised securities lending facilities to reduce settlement failure, although it also recognises that bilateral lending can contribute to lower settlement failure. Should such a centralised securities lending facility be established, the standard stresses that it should have measures in place to ensure that securities creation cannot take place. The standard also recognises that a decision to set up such a centralised securities lending facility or, alternatively, to rely on bilateral securities lending should be based on specific market conditions taking into consideration the level of settlement failures and the efficiency of the securities lending market.

Standard ~~Recommendation~~ 6: Central securities depositories (CSDs)

Securities should be immobilised or dematerialised and transferred by book entry in CSDs to the greatest extent possible. To safeguard the integrity of securities issues and the interests of investors, the CSD should ensure that the issue, holding and transfer of securities are conducted in an adequate and proper manner.

Key elements

1. *This standard is addressed to entities performing CSD functions such as securities issuance, management of the issue, safekeeping, registration, and enabling the transfer of securities through book entry.*

2. *Securities should be immobilis~~ation~~ed or dematerialis~~ation~~ed and transferred by book entry in a CSD ~~should be implemented~~ to the greatest extent possible.*

3. *The issuance and transfer of securities should be based on a robust accounting standard such as double-entry bookkeeping and end-to-end audit trail, which will help to ensure the integrity of the issue and safeguard the interests of the investors.*

   ~~*In jurisdictions the CSD is not the official registrarof the issuer, a transfer of securities in the system should automatically result in the transfer of legal title to the securities in the official register of the issue*~~

4. *As CSDs are the place where ultimate settlement occurs and the entities responsible for safeguarding the integrity of immobilised/dematerialised securities issues, they should avoid credit and liquidity risk to the greatest practicable extent.*

5. *CSDs have to mitigate their associated risks in accordance with the requirements set out in Standard 9 (risk controls), Standard 10 (cash settlement assets) and Standard 11 (Operational reliability).*

Explanatory memorandum

76. Regardless of whether it is based on immobilisation or dematerialisation, a CSD carries out a number of core activities associated with the issue and transfer of securities via book entry. In the European context, these core activities are typically: a) recording the amount of each issue held in the system in a specific account in the name of the issuer; b) maintaining securities accounts; c) facilitating the transfer of securities via book-entry; d) facilitating reconciliation (i.e. the dematerialised or immobilised holdings within the system) with any official register; and e) facilitating the exercise of securities holders' rights and corporate actions. While some of these activities, such as the maintenance of securities accounts and the book entry transfer of securities, are carried out also by

other entities, the role of ultimate settlement agent is unique to CSDs (in some cases together with registrars).

77. For any given security the preservation of the rights of the issuers and investors is essential. Indeed, the securities activities of market participants are entirely dependent on the effective functioning of CSDs, and the malfunctioning or failure of such a system would therefore have a severe impact on the financial markets, particularly those markets characterised by a high degree of dematerialisation or immobilisation. Consequently, CSDs should seek to mitigate the risks associated with their operations to the greatest extent possible. This risk mitigation should include the application of robust accounting standards such as double-entry bookkeeping and an end-to-end audit trails to safeguard the integrity of the securities issue and protect the interests of the holders. Moreover, insofar as the core activities are carried out by, or in conjunction with other operators, greater co-operation is called for. For example, if the issuer (or any other entity acting on its behalf) is the only entity that can verify the total amount of an individual issue, it is important that the CSD and issuer co-operate closely to ensure that the securities in circulation via the system correspond to the volume issued via that system. If several parties are involved for a given issue, adequate procedures among those parties should be put in place to preserve the integrity of the issue.

78. Because CSDs have a central function in the overall settlement process (ultimate settlement) ~~occurs~~ for immobilised/dematerialised securities, safeguards should be defined so as to ensure business continuity even under stressful circumstances. This means that CSDs should demonstrate that they are well protected against operational risks (see Standard 11). It also means that CSDs should consider to have plans in place so that market participants will continue to have access to CSD services even if the CSD becomes insolvent.

79. In any event, CSDs should avoid credit risks to the greatest practicable extent[1]. Indeed, most CSDs in Europe are prevented by their statute from doing so. Some CSDs also carry out related but non-core activities (such as credit extension, securities lending, etc). When a CSD carries out such activities, the associated risks should be mitigated in accordance with the requirements set out in Standard 9 (risk controls) and Standard 10 (cash settlement assets). The risks involved in offering CCP services are particularly difficult to manage and therefore require exceptionally high levels of risk management that may necessitate separating the CCP services into a distinct legal entity.

80. There are several different ways for ultimate~~beneficial~~ owners to hold securities. In some jurisdictions, physical securities circulate and the ultimate ~~beneficial~~ owners may keep securities in their possession, although they~~beneficial owners~~ typically employ a custodian to hold them to reduce risks and safekeeping costs. The costs and risks associated with owning and trading securities may be reduced considerably through immobilisation of physical securities, which involves concentrating the location of physical securities in a CSD or other depository system~~(or CSD)~~. To promote immobilisation of all certificates of a particular issue, a jurisdiction could encourage the issuance of a global note, which

[1] This does not prevent CSDs from carrying out additional credit risk-free activities.

represents the whole issue. A further step away from circulating physical securities is full dematerialisation of a securities issue. In this approach, there is no global note issued, as the rights and obligations stem from book entries in an electronic register.

81. ~~In addition to differences in physical arrangements for holding securities, there are important differences in the legal arrangements.~~ Securities h~~H~~olding systems may be categorised generally as direct~~, or~~ indirect or a combination of both, depending on the relationship between the ultimate owner of the securities and the depository system in which they are held. In some markets, securities may be book-entered in the name of a financial institution/intermediary rather than that of the ultimate owner. These types of arrangement are sometimes referred to as indirect holding systems. In other markets the ultimate owner is listed in the records of the depository system. This is sometimes known as a direct holding system. Some systems may offer both facilities.~~(see Annex 2)~~ Each type of system has advantages and disadvantages and both ~~either~~ types of system can be designed in a manner that complies with these standards~~Recommendations~~. ~~In jurisdictions that operate a direct holding system but in which the CSD is not the official registrar of the issuer, a transfer of securities in the CSDshould result automatically in the transfer of legal title to the securities in the official register of the issuer.~~

82. The immobilisation or dematerialisation of securities and their transfer by book entry within a CSD significantly reduces the total costs associated with securities settlements and custody. By centralising the operations associated with custody and transfer within a single entity, costs can be reduced through economies of scale. In addition, efficiency gains can be achieved through increased automation, which reduces the errors and delays inherent in manual processing. By reducing costs and improving the speed and efficiency of settlement, book-entry settlement also supports the development of securities lending markets, including markets for repurchase agreements and other economically equivalent transactions. These activities, in turn, enhance the liquidity of securities markets and facilitate the use of securities collateral to manage counterparty risks, thereby increasing the efficiency of trading and settlement. Effective governance (see Standard~~Recommendation~~ 13) is necessary, however, to ensure that these benefits are passed on to the customers ~~not lost as a result of monopolistic behaviour by the~~ of the CSD.

83. The immobilisation or dematerialization of securities also reduces or eliminates certain risks, for example destruction, falsification or theft of certificates. The transfer of securities by book entry is a precondition for the shortening of the settlement cycle for securities trades, which reduces the replacement cost risks. Book-entry transfer also facilitates delivery versus payment, thereby eliminating principal risks.

84. Thus, for both safety and efficiency reasons, securities should be immobilised or dematerialised in CSDs to the greatest extent possible. ~~In practice,~~ Some~~retail~~ investors (both retail and institutional) may not be prepared to give up their certificates because they like the apparent assurance and tangible evidence of ownership that securities certificates and other physical documents provide. However, secure electronic documentation can provide higher levels of assurance. On this basis, the operators

and users of depository systems as well as the relevant public authorities should address the public, clearly explaining the benefits of dematerialisation or immobilisation, including lower transaction and custody charges. ~~and However, it is not necessary to achieve complete immobilisation to realise the benefits of CSDs. It may be sufficient that the most active market participants immobilise their holdings. Less active investors that insist on holding certificates should bear the costs of their decisions should bear the costs of their decisions.~~

What's new in the ESCB-CESR standard?

85. Compared to the CPSS-IOSCO recommendation, the ESCB-CESR standard provides a more detailed description of the functions and role of the CSDs. In particular, it identifies the functions of CSDs in the European context. Furthermore, the standard proposes that the CSDs put in place measures to preserve the integrity of the issuance, such as robust accounting standards, double-entry bookkeeping and end-to-end audit trails. In addition, the risks involved in offering CCP services are particularly difficult to manage and therefore require exceptionally high levels of risk management that may even necessitate separating the CCP services into a distinct legal entity. Finally, when CSDs carry out related but non-core activities (such as credit extension, securities lending, etc), they should mitigate the associated risks in accordance with the requirements set out in Standard 9 (risk controls) and Standard 10 (cash settlement assets).

Standard ~~Recommendation~~ 7: Delivery versus payment (DVP)

~~CSDs should eliminate p~~Principal risk should be eliminated by linking securities transfers to funds transfers in a way that achieves delivery versus payment.

Key elements

1. *This standard is addressed to CSDs and custodian banks that operate systemically important systems.*
2. *The technical, legal and contractual framework should ensure DVP.*
3. *~~The great majority of~~ All securities transactions against cash between direct participants of the CSD ~~by value~~ should actually be settled on a DVP basis.*
4. *Custodian banks that operate systemically important systems should to the greatest practicable extent, institute DVP settlement procedures and explain to their customers how and when the settlement of cash and securities will take place in their accounts.*
5. *The length of time between the blocking of the securities and/or cash payment and the moment when deliveries become final should be minimised.*
6. *For the settlement of transactions where more than one settlement system is involved, these systems should process transactions on a DVP basis and design their procedures in a way that ensures all necessary pre-settlement procedures (data verification, matching, etc.) are followed before settlement becomes final.*

Explanatory memorandum

86. The settlement of securities transactions on a DVP basis ensures that principal risk is eliminated, that is, there is no risk that securities could be delivered but payment not received, or vice versa. DVP procedures reduce, but do not eliminate, the risk that the failure of a CSD participant could result in systemic disruptions. Systemic disruptions are still possible because the failure of a participant could produce substantial liquidity pressures or high replacement costs. Achievement of DVP by the CSD also enables the CSD's participants to offer their customers DVP. Custodian banks that operate systemically important systems should, to the greatest practicable extent, institute settlement procedures such as DVP to minimise risk and should explain to their customers how and when the process of settlement will be credited to their accounts.

87. DVP can be achieved in several ways.[1] Three main ~~different~~ "models" can be differentiated. They vary according to whether the securities and/or funds transfers are settled on a gross (trade-by-trade) basis or on a net basis, and in terms of the timing of the finality of transfers. In net settlement, either the

[1] See CPSS, *Delivery Versus Payment in Securities Settlement Systems* (BIS, 1992).

funds only are netted or both the funds and the securities are netted. The preferred model in any given market will be dependent on market practices. The use of netting procedures reduces the amount of the securities and/or cash that need to be delivered, leading to further improvements in settlement liquidity and efficiency, especially in markets where a central counterparty does not exist. Finality may be in real time, (i.e. throughout the day), intraday (i.e. at multiple times during the day), or ~~only~~ at the end of the day only (see Standard 8). Whichever approach is taken, what is essential is that the technical, legal and contractual framework of a DVP transfer ensures that each transfer of securities is final if and only if the corresponding transfer of funds is final. DVP can and should be achieved for issuance and redemption of securities as well as for transactions in secondary markets.

88. However, s~~S~~trictly speaking, DVP does not require simultaneous final transfers of funds and securities. Often when a CSD does not itself provide cash accounts for settlements, it first blocks the underlying securities in the account of the seller or his custodian. It then requests the transfer of funds from the buyer to the seller in the settlement bank. The securities are delivered to the buyer or his custodian if and only if the CSD receives confirmation of settlement of the cash leg from the settlement bank. In such arrangements blocked securities must not be subject to a claim by a third party (by other creditors, tax authorities or even the CSD itself), because this would give rise to principal risk. In any case, DVP procedures require a sound and effective electronic connection between the payment system and the securities settlement system in which the two legs of the transaction are settled.

89. Furthermore, for safety and efficiency reasons (e.g. to avoid gridlock and to enable early reuse of the delivered assets), settlement systems should minimise the time between the initial blocking of the securities, the settling of cash and the subsequent release and delivery of the blocked securities. This can be achieved, inter alia, by streamlining the flow of instructions and messages. However, this does not apply to overnight batches, where the securities are blocked for a longer period pending the transfer of cash.

90. Having achieved DVP with legal finality at the level of the settlement system, direct participants should then to the greatest practicable extent credit with finality the accounts of their customers on the settlement date (see Standard 8). They should explain to their customers how and when the final settlement of cash and securities would take place in their accounts.

91. If a CSD achieves DVP, it enables local agents to offer DVP to their customers in other jurisdictions. Cross-border or cross-system links between CSDs (see ~~Recommendation~~Standard 19) ~~can~~ should be designed to permit DVP settlement of cross-border trades between participants in the linked CSDs. For the settlement of cross-border or cross-system securities transactions, the CSDs involved should process transactions against cash at the level of the settlement system on a DVP basis and design their procedures in a way that ensures all necessary pre-settlement procedures (data verification, matching, etc.) are followed before settlement becomes final. Finality in the receiving CSD must only take place once it is achieved in the CSD initiating the cross-system transaction.

What's new in the ESCB-CESR standard?

92. In comparison with the CPSS-IOSCO recommendation, the standard requires that the time lag between the technical deliveries (of cash and securities) and the moment at which the deliveries become legally binding is minimised. The standard also emphasises the importance of achieving efficient and sound DVP at the EU level. Finally, Custodian banks that operate systemically important systems should institute settlement procedures such as DVP to minimise risk.

Standard ~~Recommendation~~ 8: Timing of settlement finality

~~***Final settlement should occur no later than the end of the settlement day.***~~ ***Intraday*** ~~***or real-time***~~ ***settlement finality should be provided*** ***through real-time and/or multiple batch processing*** ~~***where necessary***~~ ***in order to reduce risks and allow effective settlement across systems.***

Key elements

1. *This standard is addressed to CSDs, CCPs and custodian banks that operate systemically important systems.*

2. *The timing of settlement finality has to* ~~*should*~~ *be defined clearly* ~~*and final settlement should occur no later than the end of the settlement day*~~ *in the rules of the systems, which require that deliveries of securities and payment be both irrevocable, unconditional and supported by the legal framework.*

   ~~*Intraday or real-time finality should be provided where necessary to reduce risks (monetary policy, payment system operations, settlement of back-to-back transactions, intraday margin call by CCPs, safe and efficient cross-border links between CSDs)*~~

3. *Settlement finality should be provided in real-time and/or by multiple batch processing during the settlement day.*

4. *The settlement system should provide incentives encouraging its participants to fulfil their settlement obligations early during the settlement day.*

5. *The rules of the system should prohibit the unilateral revocation of unsettled matched transfer instructions* ~~*late in*~~ *on the settlement day.* ~~*should be prohibited*~~

6. *Where multiple batches are used, a sufficient number of batches distributed during the settlement day should allow interoperability across systems in the European Union and allow securities transferred through links to be used during the settlement day by the receiver.*

7. *Central banks should offer efficient settlement mechanisms for the cash payment that allows the achievement of intraday finality.*

Explanatory memorandum

93. The timing of settlement finality means the time at which the deliveries of securities and cash become both irrevocable and unconditional The timing of settlement finality should be defined clearly by the rules of the system, supported by national legislation, and apply to all the participants for ~~both~~ free of payment transfers, ~~and for~~ delivery versus payment transfers and delivery versus delivery transfers. The completion of final transfers during the day is essential and must be legally protected in each jurisdiction in the European Union, as laid down in the Settlement Finality Directive. Deferral of

settlement to the next business day can substantially increase the potential for participant settlement failures ~~to settle~~ to create systemic disturbances, in part because the authorities tend to close insolvent institutions between business days. However, end-of-day net settlement~~s~~ ~~may~~ entail~~s~~ significant liquidity risks, unless risk controls to address participant defaults are highly robust (s~~S~~ee ~~Recommendation~~ Standard 9).

94. Even if the risks of participant failures to settle are controlled effectively, end-of-day net settlement ~~may~~ entail~~s~~ risks to participants that can and should be reduced by providing intraday ~~(or even real-time)~~ finality. Intraday finality can be provided through real-time settlement procedures and/or multiple-batch processing during the settlement day. Real-time gross settlement is the continuous settlement of funds/securities transfers individually on an order-by-order basis. Batch settlement is the settlement of transfer instructions "as a group of transactions together " at one or more discrete, pre-specified times during the processing day. The frequency of the batches depends on the needs of the markets and the users, taking into consideration the specific risks. In this context, if real-time finality is not made available, intraday finality through a significant number of batches distributed throughout the settlement day should be offered.~~For example, intraday or real-time finality is sometimes necessary for: monetary policy or payments operations; settlement of back-to-back transactions or intra-day margin calls by CCPs; or safe and efficient cross-border links between CSDs.~~

95. Central banks' monetary policy operations must often be settled at a designated time within the day. Also, when a payment system requires credit extensions to be collateralised, it ~~may be~~ is crucial for the smooth functioning of the payment system that this collateral be transferable ~~with~~ in real-time or ~~intraday finality~~ by way of multiple batches during the day. Given the strong interdependency between the payment systems and securities settlement systems, the timing of the settlement batches during the afternoon should be arranged in such a way that there is sufficient time for participants to react, if necessary, to reduce the settlement risk. Therefore, it is important to consider the TARGET closing time (see Standard 3).

96. Intraday (~~or~~ real-time or multiple-batch) finality may also be essential to active trading parties, for example those conducting back-to-back transactions in securities, including the financing of securities through repurchase agreements and similar transactions; for such active counterparties, end-of-day notification of fails would create significant liquidity risk. Intraday finality is also essential for CCPs that rely on intraday margin calls to mitigate risks vis-à-vis their members.

97. However, some participants may prefer to settle some transactions later in the settlement day. A delay in settling some heavily traded instruments may result in "gridlock" for RTGS (and in some cases multiple-batch) systems. Therefore, settlement systems should introduce incentives to promote early settlement during the settlement day.

98. Furthermore, ~~the CSD~~ settlement systems should prohibit the unilateral revocation of unsettled matched transfer instructions ~~late~~ on the settlement day, so as to avoid the liquidity risks that such actions can create.

99. Finally, in the absence of intraday ~~or real-time~~ settlement, a settlement system's~~CSD's~~ links to other settlement systems ~~CSDs~~ (for example, links to foreign settlement systems~~CSDs~~ to facilitate the settlement~~s~~ of cross-border trades) may pose systemic risks ~~unless additional risk controls are imposed that may impair the efficiency of the links~~. In particular, systemic risks could arise if one settlement system ~~CSD~~ allows provisional transfers of securities to the other settlement systems~~CSDs~~. In such circumstances, an unwinding of those provisional transfers could transmit any disturbances from a failure to settle at the settlement system ~~CSD~~ making the provisional transfer to the linked settlement systems~~CSDs~~. To guard against this, either the settlement system ~~CSD would need to~~ should prohibit such provisional transfers, or the linked settlement systems ~~CSDs would~~ should ~~need to~~ prohibit their retransfer prior to their becoming final (see Standard 19). ~~But such risk controls may impose significant opportunity costs on users of the link, especially on active trading parties who engage in back-to-back transactions.~~ Finality in the received settlement system must only take place once it is achieved in the system of origin. This prohibition should also be applied to retransfer of transactions within the systemically important systems operated by the custodians.

100. For these reasons, intraday finality should be provided for securities transfers across links between settlement systems. In the absence of real-time procedures, a significant number of batches during the day should provide an acceptable degree of intraday finality in the cross-border transfer of securities via links. This would also facilitate interoperability among settlement systems in the European Union by ensuring that securities transactions do not remain pending in one system as a result of finality not being achieved in good time in another system. ~~For these purposes, intraday or real-time settlement of securities transactions is being demanded in a growing number of markets. However, these risks and the resulting demands for intraday finality are not equally pressing in all markets. Where such demands are not pressing, an end-of-day net settlement system with robust risk controls (Recommendation 9) may offer the best combination of safety and efficiency.~~ Whatever approach is adopted, it is critical that the ~~CSD~~ rules of the system make clear to its participants the timing of finality.

What's new in the ESCB-CESR standard?

101. In comparison with the CPSS-IOSCO recommendation, the ESCB-CESR standard requires the need for intraday finality in Europe in order to facilitate interoperability and to ensure that, once transferred between systems, securities can be reused within the same settlement day. In particular, the standard requires that settlement systems provide intra-day finality through real-time procedures and/or multiple-batch processing, depending on market needs. In the absence of real-time procedures, a system should offer several batches throughout the day. Another element introduced by the standard concerns the connection with payment systems; the timing of afternoon settlement batches should take into account the TARGET closing time so that participants have the opportunity to react. It is also

important for the smooth functioning of the European financial markets for the operating days of settlement systems to be compatible with the operating days of TARGET.

Standard ~~Recommendation~~ 9: ~~CSD~~ credit and liquidity risk controls ~~to address participants' failures to settle~~

For systemic stability reasons, it is important that CSDs operate without interruption. Therefore, when allowed by national legislation to grant credit, CSDs should limit their credit activities exclusively to what is necessary for the smooth functioning of securities settlement and assets servicing. CSDs that extend credit (including intraday and overnight credit), should fully collateralise their credit exposures, whenever practicable. Uncollateralised credit should be restricted to a limited number of well-identified cases and subject to adequate risk control measures including limits on risk exposure, quality of the counterparty and duration of credit.

Custodian banks are subject to EU banking regulations. For those which operate systemically important systems, and in order to contain the systemic risks that are linked to their securities settlement activity, national securities regulators, banking supervisors and overseers should address the risk mitigation policie in order to ensure that they are in line with the risks the custodians create for the financial system. In particular, the possibility to increase the level of collateralisation of their credit exposures, including intraday credit, should be envisaged.

~~CSDs that extend intraday credit, to participant , including CSDs that operate~~ Operators of net settlement systems~~,~~ should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. ~~The most reliable set of controls is a combination of collateral requirements and limits.~~

Key Elements

1. *This standard is addressed to CSDs and custodians that operate systemically important systems and who extend credit, in cash or in securities, to their participants. It is also addressed to operators of settlement systems that net the obligations arising among their participants and thereby generate implicit credit exposures.*

   When allowed by national legislation to grant credit, CSDs should, for systemic stability reasons, limit those credit activities exclusively to securities settlement and assets servicing. Credit exposures (including intraday and overnight credit) should be fully collateralised whenever practicable by assets fulfilling at a minimum credit rating that is considered as investment grade. Uncollateralised credit should be restricted to a limited number of well-identified cases. For this uncollateralised credit, the CSDs should institute rigorous risk control measures, including limits on risk exposure, quality of the counterparty and duration of credit.

2. *Any deviation from the above described risk mitigation techniques should be assessed by the national securities regulators, banking supervisors and overseers, and relevant information should be shared with relevant authorities at the European level in accordance with the framework defined under Standard 18.*

3. *In a net settlement system unwinding procedures should be avoided and other risk management measures should be used that allow for the settlement procedures to be completed in a timely manner, at a minimum in case of the default of the participant with the largest payment obligation.*

4. *Custodian banks are subject to EU banking regulations. For those which operate systemically important settlement systems, and in order to contain the systemic risks that are linked to their securities settlement activity, national securities regulators, banking supervisors and overseers should address the risk mitigation policies in order to ensure that they are in line with the risks that the custodians potentially create for the financial system. In particular, the possibility to increase the level of collateralisation of their credit exposures, including intraday credit, should be envisaged. Securities regulators, banking supervisors and overseers should share the results of the assessment with the relevant authorities at EU level according to Standard 18.*

5. *The entities should report regularly to the relevant authorities large settlement related exposures.*

Explanatory memorandum

102. Where they are permitted by national legislation to do so, CSDs often extend intraday credit to participants (either as principal or as agent for other participants) to facilitate timely settlements and, in particular, to avoid gridlock. In a gross settlement system, where credit extensions occur~~,~~ they are usually extended by the CSD as principal or on behalf of another cash provider, and take the form of intraday loans or repurchase agreements. In net settlement systems these credit extensions are usually in effect extended ~~by the CSD as agent for other~~ as credit exposures of participants towards each other and take the form of net debit positions in funds, which are settled only at one or more discrete, pre-specified times during the processing day. (See the discussion ~~in 3.44~~ of the implication of the unwinding of provisional transfers in net settlement systems.)

103. Whenever ~~a CSD extends~~ credit is extended, be it explicitly to participants or implicitly as credit exposures among participants during the netting process, it creates the risk that those participants will be unable to meet or settle their obligations. Such failures to settle can impose credit losses and liquidity pressures on the CSD or on its other participants. If those losses and liquidity pressures exceed the financial resources of those expected to bear them, further failures to settle would result and the system as a whole may fail to achieve timely settlement. If so, both the securities markets the CSD serves and payment systems may be disrupted.

104. CSDs present a specific systemic risk due to their central position in the overall settlement process. Therefore their continuous operation should be safeguarded to the fullest extent possible. Risks that may either disrupt or paralyse the functioning of the provision of securities settlement services should be either avoided, or adequately mitigated.

105. In principle, CSDs should not run credit and liquidity risks. In many countries, CSDs are not allowed to act as principal for cash credit or securities lending transaction, while in other countries, CSDs are

allowed by national legislation to extend explicit credit (including intraday and overnight credit) to their participants. It is recognised that two different types of CSDs have emerged in order to meet the needs of specific markets.

106. When allowed by national legislation to grant credit, CSDs should, for systemic stability reasons, limit those credit activities exclusively to securities settlement and assets servicing. Credit lines should be uncommitted and credit provision should be intended for intraday usage. Credit exposures should be fully collateralised whenever practicable. This should also be applied to securities lending transactions where CSDs act as principals. To ensure that credit exposures are, in fact, fully collateralised the system should apply haircuts to collateral values that reflect the price volatility of the collateral. The underlying assets should fulfil a minimum credit rating that is considered as investment grade and should be sufficiently liquid. Also as part of this approach, legally binding arrangements should be in place to allow collateral to be sold or pledged promptly.

107. CSDs may be allowed to provide uncollateralised credit only for a limited number of well-identified cases. For this uncollateralised credit, the CSDs should institute rigorous risk control measures[1]. In particular:

- Uncollateralised credit should only be granted to participants with a minimum credit rating that is considered as investment grade by rating agencies or equivalent internal rating;
- Uncollateralised credit should be granted only for a very short period of time (less than 5 days);
- The total size of uncollateralised credit should be limited in relation to the CSDs' own funds;
- The total size of uncollateralised credit to a single participant should be limited in relation to the CSDs' own funds.

108. There might be concrete cases where the above-described requirements appear too restrictive in relation with their intended effect. This could be the case when credits are secured by other techniques than collateral, with equivalent strength such as guarantees, or when credits are limited in amount and uncorrelated or represent only a fraction of the own funds of the CSD. In such cases, the CSDs should demonstrate to the national securities regulators, banking supervisors and overseers the adequacy of the alternative risk control management procedures. The relevant said authorities should assess such deviations and relevant information should be shared with the relevant authorities at the European level in accordance with the framework defined in Standard 18.

109. In the event that the CSD acts as a principal to a centralised securities lending arrangement, the risk measures should ensure that the potential adverse impact from securities lending activities does not

[1] For CSDs with a banking status (and for custodians), the definition and identification of risk mitigation techniques contained in the Basel II framework will also be used.

affect the functioning of the settlement system. Measures should also be in place to eliminate the risk of creation of securities (i.e. debit balances and overdrafts should be prohibited).

110. ~~s~~~~The most reliable approach to controlling potential losses and liquidity pressures from participants' failures to settle is a combination of collateral requirements and limits. To control potential credit exposures in this approach, any credit extensions on the funds or securities sides are fully collateralised. To ensure that credit exposures are, in fact, fully collateralised the CSD applies haircuts to collateral values that reflect the price volatility of the collateral. Also as part of this approach, legally binding arrangements are in place to allow collateral to be sold or pledged promptly.~~ ~~In addition, to control potential liquidity pressures, limits are imposed on credit extensions. On the securities side, a CSD sometimes arranges securities loans to participants to facilitate timely settlement, but debit balances are prohibited. (No CSD should permit overdrafts or debit balances in securities).~~ Furthermore, excessive concentration of credit exposures to a single participant or a group of connected participants results in a higher degree of risk concentration, endangering the financial stability of the entity operating the settlement systems. ~~On the funds side,~~Therefore, the size of its credit extension to each participant (the participant's debit position in a net settlement system or the size of its intraday borrowing in a gross settlement system) should be ~~is~~ limited. The limits are then set at amounts that could be covered by the ~~CSD~~operator of the system, or by other participants, taking into account their respective responsibilities under the system's default rules and their liquidity resources.

111. While the failure of a large participant to settle may create such disruptions in any settlement system, the potential is especially large in net settlement systems that attempt to address such settlement failures by unwinding transfers involving that participant, that is, by deleting some or all of the provisional securities and funds transfers involving that participant and then recalculating the settlement obligations of the other participants. An unwind has the effect of imposing liquidity pressures (and any replacement costs) on the participants that had delivered securities to, or received securities from, the participant that failed to settle. If all such transfers must be deleted and if the unwinding occurs at a time when money markets and securities lending markets are illiquid (for example, at or near the end of the day), the remaining participants could be confronted with shortfalls of funds or securities that would be extremely difficult to cover.

112. Increased cross-border settlement in Europe means that the problems related to unwinding in a local system would be transmitted to other settlement systems. Therefore, unwinding procedures should be avoided and other risk management procedures such as establishing loss-sharing arrangements, guarantee funds, etc. should be used that have less impact on the functioning of the settlement system at both the domestic and European level.

113. Consequently, CSDs that ~~extend credit to participants~~ provide netting facilities must impose risk controls to limit the potential for failures to settle to generate systemic disruption. At a minimum, the controls should enable the system to complete settlement following a failure to settle by the participant

with the single largest payment obligation. Such failures may not occur in isolation, however, and systems should, wherever possible, be able to survive additional failures. In determining the precise level of comfort to target, each system will need to balance carefully the additional costs to participants of greater certainty of settlement against the probability and potential impact of multiple settlement failures. To achieve the chosen comfort level the CSD can use a variety of risk controls. The appropriate choice of controls depends on several factors, including the systemic importance of the settlement system, the volume and value of settlements, and the effect of the controls on the efficiency of the system. This choice must be made in co-operation with national supervisors, overseers and users.

114. Custodian banks are subject to EU banking regulations. For those which operate systemically important settlement systems, and in order to contain the systemic risks that are linked to their securities settlement activity, national securities regulators, banking supervisors and overseers should address the risk mitigation policies in order to ensure that they are in line with the risks the custodians potentially create for the financial system. In particular, the possibility to increase the level of collateralisation of their credit exposures, including intraday credit, should be assessed. Securities regulators, banking supervisors, and overseers should share the results of the assessment with the relevant authorities at EU level according to Standard 18.

115. Total exposure and exposures to single entities or groups of entities should be monitored on a continuous basis. Regular reporting of the exposure to the regulator and overseer should be mandatory and commensurate with the risk level. In addition to regular reporting, this data should be available to the supervisor and overseer on request at any time.

~~If a central bank grants credit in its own currency to CSD participants, such credit extension need not be limited because its liquidity resources are unlimited. The central bank may nonetheless choose to contain its risks vis à vis participants by setting limits.~~

What's new in the ESCB-CESR standard?

116. In comparison with the CPSS-IOSCO standard, the ESCB-CESR standard differentiates the following cases: 1) CSDs and custodians that operate systemically important systems offer explicit credit to their participants in connection with settlement; and 2) a participant is unable to meet its payment obligation in a net settlement system. As a risk control measure, the standard requires CSDs to fully collateralise their exposures whenever practicable. The standard provides specific risk mitigation requirements for the part of the credit that may not be fully collateralised. For custodian banks that operate systemically important systems, the standard invites national securities regulators, banking supervisors and overseers to address the risk mitigation policies in order to ensure that they are in line with the risks the custodians potentially create for the financial system. In particular, the possibility to increase the level of collateralisation of their credit exposures, including intraday credit, should be

assessed. Moreover, securities regulators, banking supervisors, and overseers should share the results of the assessment with the relevant authorities at EU level according to Standard 18. Finally, the standard requires that credit exposure should be monitored on a continuous basis and reported regularly to regulators and overseers.

~~Recommendation~~ Standard 10: Cash settlement assets

Assets used to settle ~~the ultimate~~ payment obligations arising from securities transactions should carry little or no credit or liquidity risk. If central bank money is not used, steps must be taken to protect the participants in the system ~~CSD members~~ from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose.

Key elements

1. *This standard is addressed to CSDs, regulated financial institutions, acting as cash settlement agents, and to central banks.*

2. *For transactions denominated in the currency of the country where the settlement takes place, CSDs should settle the cash payments in central bank money, whenever it is practicable and feasible, For this reason, central banks need to enhance the mechanisms used for the provision of central bank money.*

3. *If central bank money is not used, steps must be taken to protect participants from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose. ~~The settlement agent should be a central bank, or if it is a private bank, steps should be taken to protect CSD members from potential losses and liquidity pressures that would arise from its failure.~~*

4. *Only regulated financial institutions with robust legal, financial and technical capacity should be allowed to act as settlement agents. The entity acting as settlement agent should put in place adequate risk measures described in Standard 9 in order to protect participants from potential losses and liquidity pressures when central bank money is not used. ~~The operator of the CSD or regulators or overseers of the CSD should monitor the concentration of exposures and evaluate the financial condition of the settlement banks.~~*

5. *The proceeds of securities settlements should be available for recipients to use, ~~at a minimum on the same day, and ideally intraday.~~ as soon as possible on an intraday basis or, at least, on a same day basis.*

6. *The payment systems used for interbank transfers among settlement banks should observe the Core Principles for Systemically Important Payment Systems (CPSIPS).*

Explanatory memorandum

117. Arrangements for the settlement of payment obligations associated with securities transactions vary across market participants and CSDs. In some cases a market participant has a direct relationship with the CSD and with the cash settlement agent where the ultimate cash settlement occurs. In other cases a

market participant has a direct relationship with the CSD but has no direct relationship with the cash settlement agent.[1] Instead the market participant uses one of several settlement banks to settle its payment obligations.[2] The settlement banks ultimately settle the cash leg by transferring balances held with the cash settlement agent. These transfers are made through an interbank payment system, typically a central bank payment system. The use of a payment system for this purpose would generally make it systemically important. Therefore, the payment system used for such interbank transfers should adhere to the Core Principles for Systemically Important Payment Systems.[3]

118. Whatever the payments arrangement, the failure of the settlement agent whose assets are used to settle ~~the ultimate~~ payment obligations could disrupt settlement and result in significant losses and liquidity pressures to CSD members. Furthermore, these risks are involuntary and difficult for CSD members to control. Consequently, there is a strong public interest in containing the potential systemic risks by using a cash settlement asset that carries ~~little or~~ no credit or liquidity risk.

119. For transactions denominated in the currency of the country where the settlement takes place~~In a single currency system, some~~ CSDs should settle the cash payments in central bank money, whenever it is practicable and feasible. ~~use the central bank of issue as cash settlement agent, which eliminates the risk of its failure~~. Use of the central bank of issue as the single settlement agent may not, however, always be practicable. Even for transactions denominated in the currency of the country where the settlement takes place~~in a single currency system~~, some (in some cases many) CSD members, CCPs and linked CSDs may not have access to accounts with the central bank of issue.[4] In this context, central banks may need to enhance the mechanisms for the provision of central bank money by, for example, extending the operating hours of the cash transfer systems and facilitating access to central bank cash accounts.

120. In a multi-currency system, the use of central banks of issue can be especially difficult. Even if remote access to central bank accounts by CSD members is possible, the hours of operation of the relevant central banks' payment systems may not overlap with those of the CSD settling in their currencies. CSDs may therefore offer their participants the possibility to settle the cash payment in their own funds or in the funds of a third party.

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1 Some market participants may not have a direct relationship with the CSD or with the cash settlement agent.

~~2 In some instances, a settlement institution may not be organised as a bank. The term "bank" in this discussion refers broadly to any institution providing such services, regardless of whether or not it is organised as a bank.~~

3 See CPSS, *Core Principles for Systemically Important Payment Systems* (BIS, 2001).

4 This ~~Recommendation~~standard is not intended to imply that all such CSD members should have access to accounts at the central bank. The criteria governing access to settlement accounts vary between central banks, but access is generally limited to institutions whose role or size justifies access to a risk-free settlement asset. Not all CSD members need access to central bank money; tiered banking arrangements, in which some CSD members settle their payment obligations through other members that have access to central bank accounts, may achieve an appropriate balance between safety and efficiency.

121. When a CSD or ~~private bank~~a regulated financial institution is used as the cash settlement agent, steps must be taken to protect CSD members from potential losses and liquidity pressures that would arise from its failure, in accordance with the credit risk mitigation approaches set out in Standard 9. ~~One widely employed way of providing the necessary protection is for the CSD to organise itself as a limited purpose bank and become the settlement agent by offering cash accounts to its members. To limit the risk of default, the functions of the limited purpose bank must be clearly defined and the CSD should: institute reliable controls on its credit exposures to members (see Recommendation 9); be strongly capitalised or supported by effective loss sharing mechanisms or reliable third party credit support arrangements; and strictly limit any non settlement activities and associated risks.~~

122. Even if the risk of failure of the cash settlement agent is eliminated or limited effectively, where some (perhaps many) CSD members do not have a direct relationship with the cash settlement agent and instead use one of several ~~settlement banks~~regulated financial institutions, used for cash settlement, failure of one of these settlement ~~banks~~ institutions may also give rise to systemic disturbances. In such circumstances, the fewer the settlement financial institutions~~banks~~, the greater the proportion of members' payments ~~that~~ will be effected through transfers of balances in the books of ~~at~~ these ~~banks~~ financial institutions rather than through transfers of balances between these institutions' accounts at the settlement agent. Thus, it is important that ~~settlement~~ the financial institutions ~~banks~~ used for settlement are properly regulated institutions with the legal and technical capacity to provide an effective service. If use of only a few ~~settlement banks~~ financial institutions for settlement produces a significant concentration of exposures, those exposures should be monitored and the financial condition of the ~~settlement banks~~ financial institutions, used for settlement, evaluated, either by the operator of the CSD or by regulators and overseers.

123. Finally, whatever the payments arrangement~~s~~, market participants should be able to retransfer the proceeds of securities settlements as soon as possible, at a minimum on the same day, and ideally intraday, so as to limit their liquidity risk and any credit risks associated with the assets used (see Standard 8). Likewise, participants who have their cash account relationship with a settlement bank or regulated financial institutions and not with the cash settlement agent should be given timely access to the proceeds of securities settlement by their settlement financial institutions.

What's new in the CESR-ESCB standard?

124. The ESCB-CESR standard requires that for transactions denominated in the currency of the country where the settlement takes place, the CSD should settle the cash payments in central bank money, whenever it is practicable and feasible.

Standard ~~Recommendation~~ 11: Operational reliability

Sources of operational risk arising in the clearing and settlement process should be identified, monitored and regularly assessed. This risk should be minimised through the development of appropriate systems and effective controls and procedures. Systems and related functions should be (i) reliable and secure, (ii) based on sound technical solutions, (iii) developed and maintained in accordance with proven procedures, ~~and~~ (iv) have adequate, scalable capacity, (v) have appropriate business continuity and disaster recovery arrangements and (vi) frequent and independent audit of the procedures. ~~Contingency plans and backup facilities should be established to~~ that allow for the timely recovery of operations and the completion of the settlement process.

Key elements

1. *This standard is addressed to CSDs, CCPs and custodians that operate systemically important systems. For this standard to be effective, it also needs to be applied by other providers of services critical for clearing and settlement, such as trade confirmation, messaging services and network providers.*

2. *Sources of operational risk in clearing and settlement activities (including systems operators as well as hardware and software) and related functions/services should be regularly identified, monitored, assessed and minimised. ~~System operators should identity sources of operational risk and should establish clear policies and procedures to address those risks.~~*

3. *Operational risk policies and procedures should be clearly defined, frequently reviewed and updated and tested to remain current. The board of directors is responsible for the entities' policies, processes and procedures for mitigating operational risk. The board of directors should be informed of the results of reviews and approve any follow-up work. Senior management is responsible for implementing changes to the risk strategy approved by the Board of Directors. There should be ~~adequate management controls and~~ sufficient (and sufficiently well qualified) personnel to ensure that procedures are implemented accordingly. Information systems should be subject to periodic independent audit.*

4. *Business continuity plans and backup facilities should be established to ensure that the system is able to resume business activities, with a reasonable degree of certainty, a high level of integrity and sufficient capacity immediately after the disruption, but no later than two hours after the occurrence of a disruption. Business continuity and disaster recovery arrangements should be tested on a regular basis and after major modifications to the system. Adequate crisis management structures, including formal procedures, alternative means of communication and contact lists (both at local and cross-border level) should be available in order to deal efficiently and promptly with operational failure that may have local or cross-border systemic consequences. Alternative means of communication for sharing information within the institution and across institutions*

should be in place. This means that they should also be able to cope with the event of a total failure of telecommunication network. ~~*There should be appropriate contingency plans for key systems. Contingency plans and systems should be reviewed and tested regularly and after modifications to the system*~~

5. *All key systems should be reliable, secure and able to handle stress volume.*

6. CSD and CCP should only outsource clearing and settlement operations or functions to third parties after having obtained prior approval from the relevant competent authorities, where applicable.

7. The outsourcing entity should remain fully answerable to the relevant competent authorities, and should ensure that the external providers meet these standards.

Explanatory memorandum

125. Operational risk is the risk that deficiencies in information systems or internal controls, human error~~s~~, ~~or~~ management failures or external events will result in unexpected losses. As clearing and settlement are ~~become~~ increasingly dependent on information systems and communication networks, the reliability of these systems and networks is a key element in operational risk. The importance of addressing operational risk arises from ~~lies in~~ its capacity to impede the effectiveness of measures adopted to address other risks in the settlement process and to cause participants to incur ~~unforeseen~~ losses, which, if sizeable, could have systemic risk implications.

126. Operational risk can arise from inadequate control of systems and processes; from inadequate management more generally (lack of expertise, poor supervision or training, inadequate resources); from inadequate identification or understanding of risks and the controls and procedures needed to limit and manage them; and from inadequate attention being paid to ensuring that procedures are understood and complied with.

127. Operational risk can also arise from events and situations that lie outside the control of the system operators, such as sabotage, criminal attack, natural disasters, etc. This may lead to the malfunctioning, paralysis or widespread destruction of the system in question and the related communication networks. Insofar as the clearing and settlement systems are an important element of the financial market infrastructure and act as a central point for other financial intermediaries, any malfunction would affect the financial system as a whole.

128. Potential operational failures include errors or delays in message handling and transaction processing, system deficiencies or interruption, fraudulent activities by staff and disclosure of confidential information. Errors or delays in transaction processing may result from miscommunication, incomplete or inaccurate information or documentation, failure to follow instructions or errors in transmitting information. The potential for such ~~se~~ problems to occur ~~are particularly common~~ is

higher in manual processes. The existence of physical securities, which may be defective, lost or stolen, also increases the chance of error and delay. While automation has allowed improvements in the speed and efficiency of the clearing and settlement process, it brings its own risks of system deficiencies, interruptions and computer crime. These may arise from factors such as inadequate security or the inadequate capacity or resilience of backup systems.

129. Operational failures may lead to a variety of problems: late or failed settlements that impair the financial condition of participants; customer claims; legal liability and related costs; reputational and business loss; and compromises in other risk control systems that leading to an increase in credit or market risks. A severe operational failure at a CSD, CCP, cash settlement agent or major participant could have significant adverse effects throughout securities and other markets.

130. To minimise operational risk, system operators should identify sources of operational risk, whether arising from the arrangements of the operator itself or from those of its participants, and establish clear policies and procedures to address those risks. There should be adequate management controls and sufficient (and sufficiently well qualified) personnel to ensure that procedures are implemented accordingly. The Risks, operational risk policies and procedures, and systems should be frequently updated and tested to ensure that they remain current. These policies and procedures should be reviewed reassessed periodically (at least annually or whenever significant changes occur and after modifications to the system or related functions). The board of directors should be informed of the results of the review and approve any follow-up work. Senior management should have the responsibility for implementing changes to the risk strategy approved by the board of directors. Operational risk policies and procedures should be made available to the relevant public authorities.

131. The institution should also have in place accurate and clear information flows within its organisation in order to establish and maintain an effective operational risk management framework and to foster a consistent operational risk management culture across the institution. Furthermore, adequate crisis management structures, including formal procedures to manage crises, alternative means of communication and contact lists (both at local and cross-border level) should be defined in advance and be available in order to deal efficiently and promptly with operational failure that may have local or cross-border systemic consequences.

132. Information systems and other related functions should be subject to periodic independent internal audit by qualified information systems auditors, and external audits should be seriously considered. Audit results should be reported to the board of directors. The audit reports (both internal and external) should also be made available to regulators and overseers upon request. The supervisor and overseers should also conduct regular independent evaluations of the institution's strategies, policies, procedures and processes related to operational risk.

133. All key systems should be secure (that is, have access controls, be equipped with adequate safeguards to prevent external and/or internal intrusions and misuse, preserve data integrity and provide audit

trails)., They should also be reliable, scalable and able to handle stress volume and have appropriate contingency plans to account for system interruption.

134. Systemically important providers of securities clearing and settlement should have business continuity and disaster recovery plans, including an evaluation of their reliance on third parties, that ensure the system is able to resume business activities with a reasonable degree of certainty, a high level of integrity and sufficient capacity immediately after the disruption, but no later than two hours after the occurrence of a disruption. In particular, service providers should define clear targets in terms of operational robustness and business continuity, for example through the implementation of Service Level Agreements (SLA). Critical functions should be identified and processes within those functions categorised according to their criticality. Any assumption behind the categorisation should be fully documented and reviewed regularly. If there are any dependencies of critical functions on outsourcing arrangements, there should be adequate provisions to ensure service provision by third parties. The review, updating and testing of the plans, should build upon thorough analysis and good practices that have already been established. Tests should especially take into account the experience of previous operational failures; to this end, every operational failure should be listed and analysed in detail. Appropriate adjustments should be made to the plans, based on the results of the exercise.

135. Critically important service providers must set up a second processing site that actively backs up the primary site, having the requisite level of key resources, capabilities and functionalities, including appropriately skilled and experienced staff, that allow business resumption immediately after the occurrence of a disruption to the primary site. When a second processing site is established, data processing should be switched to the second site, ideally instantly, in the event of disruption. The back-up site should therefore provide a level of efficiency comparable to the level provided by the primary site.

136. The second site should be located at an appropriate geographical distance and be protected from any events potentially affecting the primary site. The operator of the systems should minimise the reliance on relocating key staff and where some reliance is unavoidable, operator should anticipate how relocation would be achieved. The continuation of the activity on the second site within a short period of time, less than two hours, generally requires data to be transmitted to and updated at the second site continuously, preferably in real time. Contingency plans should ensure that, as a minimum, the status of all transactions at the time of the disruption could be identified with certainty and in a timely manner during the day. While it may be possible to recommence operations following a system disruption with some data loss, contingency plans should, as a minimum, provide for the recovery of all transactions at the time of the disruption to allow systems to continue to operate with certainty. Several key jurisdictions regard two hours as the time by which critical systems should recommence operations. But depending upon the nature of problems, the recovery time may take longer. At a minimum, the recovery of operations and data should occur in a manner and time period that enables a CSD or a CCP to meet its obligations on time. The secondary site should be capable to ensure business

continuity to both local and cross-border participants in the event that the primary site is rendered unusable for a longer period of time (e.g. days and weeks).

137. ~~Contingency~~ Business continuity and disaster recovery plans should be rehearsed with the users and be capacity stress tested on a regular basis and ideally in a real environment. Ideally, backup systems should be immediately available. While it may be possible to recommence operations following a system disruption with some data loss, contingency plans should ensure that, as a minimum, the status of all transactions at the time of the disruption can be identified with certainty in a timely manner. The system should be able to recover operations and data in a manner that does not disrupt the continuation of settlement. Increasingly, ~~SSSs~~ clearing and settlement service providers are dependent on electronic communications and need to ensure the integrity of messages ~~through~~ by using reliable networks and procedures (such as cryptographic techniques) to transmit data accurately, promptly and without material interruption. Markets should strive to keep up with improvements in technologies and procedures, even though the ability to contain operational risks may be limited by the infrastructure in the relevant market (for example, telecommunications). Core Principle VII of the Core Principles for Systemically Important Payment Systems provides more details on operational issues.[1]

138. Without increasing the risk of unwanted events or attacks, the disclosure of the business continuity and disaster recovery plans should be sufficiently transparent and efficiently communicated to the other market participants to enable them to assess the operational risks to which they in turn are exposed. This is also crucial for systems that interact with other systems. The operational failure of a system in one market may directly affect another market if the size of cross-border clearing and settlement activities is substantial. The regulators and overseers of systemically important providers of clearing and settlement services should encourage these providers to set up a plan for industry-wide contingency planning ensuring that interoperability between such institutions can be ensured.

139. In principle, CSDs and CCPs should carry out the different functions on their own behalf. However, outsourcing is permitted within the limits outlined hereafter. CSDs, CCPs should only outsource their actual clearing and settlement operations or functions to third parties after having obtained prior approval from the relevant competent authorities, where applicable. Without the prejudge of the outcome of the work taken place at the European level (e.g. by the Groupe de Contact), custodians that operate a systemically important systems should inform their regulators and overseers when outsourcing their settlement activities.

140. The outsourcing entity should remain fully answerable to the relevant competent authorities, as required according to national law. Furthermore, it should ensure that the external providers meet these standards to the extent relevant. A contractual relationship should be in place between the outsourcing entity and the external provider that allows the relevant competent authorities to have full access to the necessary information. Clear lines of communication should be established between the

[1] See CPSS, *Core Principles for Systemically Important Payment Systems* (BIS 2001).

outsourcing entity and the external provider to facilitate the flow of functions and information between parties both in ordinary and exceptional circumstances. The outsourcing should be made known to the participants in the outsourcing entity. Further outsourcing must be duly authorised by the primary outsourcing entity and approved by the relevant competent authorities. The term "relevant competent authorities" refers to the authorities of the jurisdictions where both the outsourcing and insourcing entities are located.

~~Some clearing and settlement operations may be outsourced to third parties. In these circumstances, operational risk will reside with the outside service provider. System operators who outsource operations should ensure that those operations meet the same standards as provided directly by the system operator.~~

What's new in the ESCB-CESR standard?

141. In comparison with the CPSS-IOSCO recommendation, the ESCB-CESR standard contains a number of additional elements. In particular, the standard requires that operational risk management processes be developed and maintained according to proven procedures. As an additional source of operational risk, the standard refers to external events such as man-made and natural disasters. It also states that critically providers of securities clearing and settlement should have business continuity and disaster recovery plans, including the evaluation of their reliance on third parties. In this context, the standard urges these providers to establish second processing sites, and sets out detailed requirements regarding the operation of such sites. As an addition to the CPSS-IOSCO recommendation, the standard provides more clarification on the outsourcing of clearing and settlement activities. For example, CSDs and CCPs should only outsource its operations or functions to third parties after having obtained prior approval from the relevant competent authorities, where applicable. The outsourcing entity should remain fully responsible towards the relevant competent authorities, as required according to national law. Furthermore, it should ensure that the external providers meet these same standards. Finally, the outsourcing should be made known to the participants of the outsourcing entity.

Standard ~~Recommendation~~ 12: Protection of customers' securities

Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities. It is essential that customers' securities be protected against the claims of the ~~a custodian's~~ creditors of all entities involved in the custody chain.

Key elements

1. *This standard is addressed to entities holding customers' securities accounts, including CSDs, CCPs, registrars, banks, investment firms and to relevant public authorities.*
2. *Entities holding securities in custody should employ procedures such as robust accounting standards (including double-entry accounting) and should segregate in their books customer's securities from their own securities to ensure customer securities are protected, particularly against claims of their creditors.*
3. *At regular timely intervals, and at least once a day, entities holding securities in custody should reconcile their records with the entity (typically a CSD) administering the issuer's accounts to ensure that customer claims can be satisfied. ~~and should be subject to mandatory audit~~*
4. *Notwithstanding key element 2, national law should provide that customers' securities be kept immune from any claims made by creditors of the entity holding the securities in custody or by entities upstream in the custodial chain.*
5. *Entities holding securities in custody should audit their book on a regular basis to certify that their clients' securities holdings correspond to the global clients' positions that the entities register in the CSD, registrar or depository books. Entities should submit audit reports to supervisory and oversight authorities upon request.*
6. *Entities holding securities in custody must not use the customer's securities for any transaction unless they have obtained the customer's explicit consent.*
7. *In no case should securities debit balances or creation of securities be allowed by entities holding securities in custody.*
8. *When securities are held through several intermediaries, the entity with which the customer holds the securities should ascertain whether adequate procedures for their protection are in place (including, where relevant, procedures applicable to all upstream intermediaries), and should inform the customer accordingly.*
9. *Entities holding securities in custody should be regulated and supervised ~~or regulated~~.*

Explanatory memorandum

142. Custody risk is the risk of a loss on securities held in custody occasioned by a custodian's ~~(~~such as CSDs, registrars, CCPs, banks, investment firms, etc.~~ or subcustodian's~~) insolvency, negligence, misuse of assets, fraud, poor administration, inadequate record keeping, or failure to protect a customer's interests in securities (including, rights of collateral, income, voting rights and entitlements).[1] ~~Although custodians are predominantly commercial banks, CSDs also hold and administer securities on behalf of their direct participants, and thus present custody risk. (Direct participants in a CSD may hold securities both for their own account and on behalf of customers.)~~

143. There are different ways of holding a customer's securities, which are determined by the local jurisdiction and/or the governing law of respective intermediary. In countries where direct holding is used, the intermediary operates individual investor accounts in the depository (typically a CSD) and, as a consequence, investors' securities are held individually and kept separate from the securities of the intermediary in the books of the CSD. In an indirect holding system, protection might be achieved through segregation by requiring (or allowing, where it is not compulsory) the custodians involved in the custody chain to open at least two accounts – one for their own securities holdings and another omnibus account for their customers' securities. In some countries, protection is achieved in an indirect holding system by the legal definition that securities credited in the omnibus accounts of the intermediaries belong to their customers unless they are explicitly designated as belonging to the intermediaries or by giving to the customers a statutory right to recover, by preference to other creditors of the intermediary, the own securities of such an intermediary, in case of shortfall of securities. In this case, intermediaries tend to have one omnibus account only (although they are allowed to have more than one). Irrespective of whether a direct and/or an indirect holding system is used and of whether segregation is required or used at local level, intermediaries are obliged to maintain booking records that identify the customers' securities at any time and without delay.

144. An entity holding securities in custody (or maintaining records of balances of securities) ~~custodian~~ should employ procedures ensuring that all customer assets (e.g. of an end-investor or collateral taker) are appropriately accounted for and kept safe, whether it holds them directly or through another ~~sub~~custodian. One important way of protecting the ultimate owners of securities from the risk of loss on securities held in custody is by requiring the custodian to apply robust accounting procedures that enable the identification of the customer's securities at any time without any doubt or delay. In particular, the entity should apply the double-entry accounting principle whereby, for each credit/debit made on the account of the beneficiary, there should be a corresponding entry on the account of the counterparty delivering/receiving securities. When this practice is applied along the whole chain of accounts up to the issuer account, the interests of the investors and the integrity of the issuance are maintained. ~~Because~~ The customer securities must also be protected against the claims of the

[1] For a thorough discussion of custody issues, see Technical Committee of IOSCO, Client Asset Protection (IOSCO, 1996).

custodian's creditors. ~~, a customer's claims against a custodian are typically given priority or are given preferential treatment under insolvency law. (Nonetheless, customer assets could be subject to liens in favour of the custodian if, for example, the customer has pledged them to secure an obligation to the custodian.)~~ One way to protect ~~that~~ a customer's securities ~~can be protected~~ in the event of a custodian's insolvency is through segregation (identification) of customer securities on the books of the custodian (and of all sub-custodians, and ultimately, the CSD). ~~Even when customer securities are segregated from a custodian's own securities, customers may still be at risk of a loss if the custodian does not hold sufficient securities to satisfy all customer claims or if an individual customer's securities cannot be readily identified.~~ Furthermore, ~~Thus,~~ entities that hold securities in custody (or maintain records of balances of securities) should reconcile their records regularly, at least once a day, to keep them current and accurate and to ensure that any errors that might occur are identified and corrected quickly. Other ways to safeguard or protect customers against misappropriation and theft include external and internal controls and insurance or other compensation schemes, as well as adequate supervision.

145. ~~3.62 Ideally, a customer's securities are immune from claims made by third party creditors of the custodian. Although the ideal is not realised in all circumstances, when the entities through which securities are held are performing their responsibilities effectively, the likelihood of a successful legal claim made on a customer's securities by a third party creditor is minimised.~~ A customer's securities must be immune from claims made by third-party creditors of its custodian. In addition, in the event of a custodian's or sub-custodian's insolvency, it should ~~be highly improbable~~ not be possible for a customer's securities to be frozen or made unavailable for an extended period of time.[2] If that were to happen, the customer could come under liquidity pressures, suffer price losses or fail to meet its obligations. Segregation ~~is a common device that~~ will facilitate~~s~~ the movement of a customer's positions by a receiver to a solvent custodian where this is permitted by national law, thereby enabling customers to manage their positions and meet their settlement obligations. To bring these results about, it is essential that the legal framework support segregation of customer assets or other arrangements for prioritising claims in bankruptcy that serve to protect customers' holdings. It is also important for supervisory authorities to enforce effective segregation and any other type of protection of customer assets by custodians at every appropriate level.

146. An entity holding securities in custody should audit its book on a regular basis to certify that its clients' securities holdings correspond to the global clients' positions that the entities register in the CSD, registrar or depository books. It should also audit its book with the holdings of its custodians. The audit reports may, upon request, be submitted to the supervisory and oversight authorities.

147. A customer's securities may also be at risk if the intermediary uses them for its own business, such as providing them as collateral for receiving cash or for short-selling transactions. The intermediary

[2] However, the freezing of assets in the event of insolvency is a matter determined by national insolvency law and lies outside the control of the operators of clearing and settlement systems.

should not be allowed to use the customer's securities for any transaction, except with the customer's explicit consent. In addition, the assets of the customers could be subject to liens in favour of the intermediary in order to secure an obligation to the intermediary, with the support of national legislation and the explicit consent of the participants and the customers.

148. ~~3.63~~ Cross-border holdings of securities often involve several layers of intermediaries acting as custodians. For example, an institutional investor may hold its securities through a global custodian, which, in turn, holds securities in a sub-custodian (a bank or an investment firm) that is a member of the local depository (typically a CSD). Alternatively, ~~Or~~ a broker-dealer may hold its securities through its home-country CSD or an international CSD, which, in turn, holds its securities through a cross-border link with the local CSD or through a local custodian. Mechanisms to protect customer assets may vary depending on the type of securities holding system instituted in a jurisdiction. ~~Beneficial~~ Ultimate owners of securities should be advised of ~~understand~~ the extent of a custodian's responsibility for securities held through a chain of intermediaries (see Standard 19). ~~intermediate custodians.~~

149. To prevent unexpected losses, an entity holding "foreign" securities in custody ~~global custodian~~ should determine whether the legal framework in the jurisdiction of each of its local ~~sub~~custodians has appropriate mechanisms to protect customer assets. ~~Alternatively, a~~ It ~~global custodian~~ should keep its customers apprised of the custody risk arising from holding securities in a particular jurisdiction. It ~~Global custodians~~ should also ascertain whether the ~~ir~~ local ~~sub~~custodians employ appropriate accounting, safekeeping and segregation procedures for customer securities.

150. Likewise, when home-country CSDs ~~and ICSDs~~ establish links to other CSDs, they should ensure that those other CSDs protect customer securities adequately (Standard 19). With complex cross-border arrangements, it is imperative that sound practices and procedures be used by all entities in the chain of custodians so that the interests of ultimate ~~beneficial~~ owners are protected from legal actions relating to the insolvency of, or the commission of fraud by, any one of the custodians. Each jurisdiction should take the attributes of its securities holding system into account in judging whether its legal framework includes appropriate mechanisms to protect a custodian's customer against loss upon the insolvency of, or the commission of fraud by, a custodian or against the claims of a third party.

What's new in the ESCB-CESR standard?

151. In comparison with the CPSS-IOSCO recommendation, the ESCB-CESR standard requires that the intermediary need the explicit consent of the customer before the intermediary can use the customer's securities for its own business, e.g., for securities lending and as collateral for own credit exposures. In addition, it requires that customers' securities be protected against the claims of the creditors of all

entities involved in the custody chain. It also further specifies the measures required to protect customers' securities.

Standard ~~Recommendation~~ 13: Governance

Governance arrangements for CSDs and CCPs should be designed to fulfil public interest requirements and to promote the objectives of owners and users.

Key Elements

1. *This standard is addressed to CSDs and CCPs.*
2. *Governance arrangements should be clearly specified and transparent.*
3. *Objectives and major decisions should be disclosed to owners, users (including potential users) and public authorities involved.*
4. *Management should have the incentives and skills needed to achieve objectives and be fully accountable for its performance.*
5. *The board should have the required expertise and take account of all relevant interests.*
6. *Governance arrangements should include transparent conflict of interest identification and resolution procedures whenever there is a possibility of such conflicts occurring.*
7. *When appropriate, the board of directors of the entity should approve the limits on total credit exposure to participants, and on any large individual exposures. When there is a risk of a conflict of interests, such a decision should be taken* with due regard to this conflict of interests.

Explanatory Memorandum

152. Governance arrangements encompass the relationships between management and owners and other interested parties, including users and authorities representing the public interest. The key components of governance include: the ownership structure and any group structure; the composition of the board; the reporting lines between management and board; management expertise; and the processes that make management accountable for its performance, e.g. an audit committee or similar arrangement.

153. This ~~recommendation~~ standard focuses on CSDs and CCPs. These entities sit at the heart of the settlement process. Moreover, because their activities are subject to significant economies of scale, many are sole providers of services to the markets they serve. Therefore, their performance is a critical determinant of the safety and efficiency of those markets, which is a matter of public as well as private interest. Governance arrangements for these entities are extremely important because the economies of scale that characterise their activities impair the forces of competition that might otherwise be relied upon to ensure that they operate safely and efficiently. The same may be true of other providers of settlement services (for example trade comparison or messaging services), in which case their governance arrangements should also be consistent with this ~~recommendation~~ standard.

154. Governance arrangements should be designed to fulfil the relevant public policy interest requirements, namely ensuring the safety and efficiency of the European securities markets. No single set of governance arrangements is appropriate for all institutions within the various securities markets and regulatory schemes. However, an effectively governed institution should meet certain basic requirements. Governance arrangements should be clearly specified, coherent, comprehensible and fully transparent. Objectives, those principally responsible for achieving them and the extent to which they have been met should be disclosed to owners, users and public authorities involved. Management should have a level of expertise and experience comparable with those required by the fitness and propriety criteria applied to the management of other regulated financial institutions in the European Union. Furthermore, the incentives and skills needed to achieve those objectives should be present. Management should be fully accountable for its performance. Reporting lines between management and board should be clear and direct, and the board should ~~contain~~ have the required ~~suitable~~ expertise and take account of all relevant interests. It is therefore important to have a clear role for those board members who are fully independent from the management. In a group structure, there should be independent board members at least in the board of the parent company. User representation should be achieved, inter alia, through consultation mechanisms, ideally drawing on different user categories, including small and retail investors. The entity should be accountable for the ways it responds to these views. These basic requirements should be met regardless of the corporate structure of the institution, that is, whether it is a mutual or for-profit entity.

155. CSDs and CCPs provide services to various groups of users including entities that belong to the same group. The interests of these users are not always compatible. There is also the possibility of conflicts of interest arising among the users, and between the users and the operator of the system itself. In such circumstances there should be a pre-defined policy and procedures for identifying and managing these potential conflicts of interest. Transparency in the identification and resolution of conflicts of interests increases trust in the clearing and settlement process and in the operators of systems. As a minimum, there should be transparency at the level of general policy and procedures and, where the operator of a system is part of a group, on the group structure. Finally, The limits of total credit exposure to participants and large individual credit exposures should be approved by the board of directors or at the adequate decision-making level of the entity, in accordance with the existing national regulation.

What's new in the CESR-ESCB standard?

156. In comparison with the CPSS-IOSCO recommendation, the standard discusses potential conflicts of interest between the operator of a system and its users, as well as those that can arise within a CSD or CCP, and requires that these conflicts be identified and managed.

~~Recommendation~~ Standard 14: Access

CSDs and CCPs should have objective and publicly disclosed criteria for participation that permit fair and open access. Rules and requirements that restrict access should be aimed at controlling risk.

Key elements

1. *This standard is addressed to CSDs and CCPs. For this standard to be effective, it also needs to be applied by other providers of securities services critical for clearing and settlement, such as trade confirmation, messaging services and network providers.*
2. *Access c~~C~~riteria that limit access on grounds other than risks to the CSD or CCP should not be ~~avoided~~ permitted.*
3. *Criteria should be objective, clearly stated, communicated with the relevant authorities and publicly disclosed.*
4. *Procedures facilitating the orderly exit of participants, for example, those who no longer meet membership criteria , should be clearly stated, and publicly disclosed.*

Explanatory memorandum

157. Broad access to CSDs, CCPs and other providers of services critical to the clearing~~ance~~ and settlement process (for example trade comparison or messaging services and network providers) encourages competition between ~~among~~ service providers and promotes efficient and~~,~~ low-cost clearing and settlement. Access should be granted to all ~~But~~ participants that ~~must~~ have sufficient technical, business and risk management expertise, the necessary legal powers and adequate financial resources so that their activities do not generate unacceptable risks for the operator or for other users and their customers.

158. CSDs and CCPs need to establish criteria that balance fairly the benefits of openness against the need to limit participation to those w~~h~~ith the necessary expertise, powers and financial resources. Conditions for limiting access should be based on risk alone, and should be publicly available. ~~The precise criteria are likely to vary according to the role the participant plays in the system.~~

159. Protecting the financial market against "unacceptable" risk is an issue of public interest that justifies the denial of access to any applicants that do not meet the minimum requirements established by the service providers. However, access may also be denied if the technical, operational and financial resources are such that they could cause disturbances in the system, even if the scale of possible disturbance is not systemic in magnitude.

160. Service providers ~~Each operator~~must consider carefully the risks to which ~~it~~they and their users are exposed in determining appropriate access criteria. They may have to apply different access criteria to various categories of participants. For instance, CCPs, which incur direct credit exposure to their members, tend to emphasise financial resource requirements and, as a result, access to specific clearing functions might be restricted only to certain categories of institutions. However, the rationale for such a differentiation should be based solely on risk exposure. CSDs, particularly those in which members incur little or no liquidity and credit exposure to one another, tend to emphasise technical expertise and legal powers. Some CSDs and CCPs may establish more stringent criteria for members that act as custodian or clear for other members or for customers. When reviewing applications for access to clearing and settlement functions, the applicants' relevant level of technical expertise, business practices and risks management policy need to be assessed. Moreover, it must be ensured that the applicants have adequate financial resources, such as a specified minimum capital base.

161. Unnecessarily restrictive criteria can reduce efficiency and generate risk by concentrating activity and exposure within a small group of users. The more restrictive the criteria, the greater the importance of the operator assuring itself that its members can control the risks generated by their customers. To avoid discriminating against classes of users and introducing competitive distortions, criteria should be fair and objective. They should be clearly stated, communicated with the relevant authorities and publicly disclosed, so as to promote certainty and transparency. It may be possible to use as criteria indirect indicators of risk, such as whether an institution is supervised, but these indicators should be related clearly to the relevant risks the operator is managing. Some jurisdictions may find it useful for the authorities with responsibility for competition issues to have a role in reviewing access rules or for there to be an appeals procedure that is independent of the CSD or CCP if access is denied. ~~CSDs and CCPs should have procedures facilitating the orderly exit of participants that no longer meet membership criteria, and those procedures should also be publicly disclosed.~~

162. Denial of access should be explained in writing, and the fairness of the rules which led to the refusal decision should be made subject to third-party review, in conformity with EU competition rules. Protecting the market against biased competition means that "fair access" should signify equal access to the use of functions; it does not imply that any participant may access any system at any time at the same price (fees may include development costs).

163. Criteria that limit access on grounds other than risks to the CSD or CCP should not be adopted~~avoided~~. So, for example, restrictions on access for non-resident users are unlikely to be acceptable except where material doubts exist over whether system rules are enforceable against residents of other jurisdictions or where remote access would expose the operator or other users to unacceptable risks which cannot reasonably be mitigated. Restrictions on access for competitors and others providing comparable services is acceptable only if clearly justifiable on the same risk grounds. For example, to facilitate cross-border settlement, CSDs should, where consistent with law and public policy, grant access to foreign CSDs or foreign CCPs, provided the legal and other risks associated

with such links can be controlled effectively (see ~~Recommendation~~Standard 19~~ on risks in cross-border links~~).

164. When remote members located outside the EU are granted access, the host country regulator (the country of the securities service provider) may need to come to an agreement with the regulator of the home country (the country of the remote applicant) on matters related to information sharing, etc. (see Standard 18)

165. Access refusal could be justified in a case where there are doubts as to the enforceability of the legal powers of the service provider vis-à-vis applicants from another jurisdiction, or if there is a lack of adequate supervision. Such refusal, justified in writing and subject to review, is not considered an unnecessary barrier to trading. Refusal could also be justified when there are doubts about the enforceability of legal powers with regard to money laundering, in the case of applicants located in countries blacklisted by the Financial Action Task Force (FATF).

166. Finally, explicit exit procedures, including criteria for the termination of the contract and the conclusion of pending transactions, are needed in order to maintain a swift and orderly flow of activities that would reduce any impact on other participants. In the case of the insolvency of a custodian, its clients' securities accounts should be transferred to another entity authorised to carry out safekeeping activities, avoiding, to the greatest possible extent, any additional costs to the investor. Exit procedures should also be publicly disclosed.

What's new in the ESCB-CESR standard?

167. Compared with the CPSS-IOSCO recommendation, the ESCB-CESR standard stresses that the limitation of access on grounds other than risks should be prohibited. Furthermore, the ESCB-CESR standard refers to agreements among overseers/regulators in case of remote access; requires a written justification of any denial of access and elaborates further on additional elements that should be taken into account when determining the access policy of a service provider, such as money laundering, etc.

~~Recommendation~~ Standard 15: Efficiency

While maintaining safe and secure operations, securities clearing and settlement systems should be cost- effective in meeting the requirements of users, including interoperability at both the national and the European level.

Key elements

1. *This standard is addressed to CSD, CCP custodian banks and other market participants. For this standard to be effective, it also needs to be applied by other providers of securities services critical for clearing and settlement, such as trade confirmation, messaging services and network providers.*
2. *Market participants should be able to clear and settle their trade transactions in a timely and cost-effective fashion and have access to their cash and securities without undue delay.*
3. *Efficiency should be achieved at both the national and European level by allowing a high degree of interoperability across systems and/or by consolidating systems.*
4. *The operators of clearing and settlement systems should be able to communicate and process securities transactions across their systems without additional effort on the part of the users.*
5. *Interoperability should be achieved by the standardisation of both the technical aspects of securities processing and the business practices.*
6. *The system operator or other relevant party should have in place the mechanisms to review regularly costs, pricing and the service levels of the ~~securities settlement~~ systems.*

~~*7.The system operator or other relevant party should have in place the mechanisms to review regularly the service levels and operational reliability of the securities settlement systems.*~~

Explanatory memorandum

168. In assessing the efficiency of securities clearing and settlement systems, the needs of users and the costs imposed on them must be carefully balanced with the requirement that the system meet appropriate standards of safety and security. If systems are inefficient, financial activity may be distorted. However, the first priority of an entity operating a securities clearing and settlement system is to assure domestic and foreign market participants that their trades will consistently settle on time, at the agreed terms of the transaction. If market participants view a clearing and settlement system as unsafe, they will not use it, regardless of the efficiency provided by the system.

169. Efficiency has several aspects, and it is difficult to assess the efficiency of a particular service provider ~~settlement system~~ in any definitive manner. Accordingly, the focus of any assessment should largely

be on whether the system operator or other relevant party has in place the mechanisms to review periodically the service levels, costs, pricing and operational reliability of the system.

170. CSDs and CCPs~~Settlement systems~~ should seek to meet the service requirements of system users in a cost-effective manner. This includes meeting the needs of its users, operating reliably and having adequate system capacity to handle both current and potential transaction volumes. When looking at the overall costs of clearing and settlement systems, it is important to include both the direct costs of operating any central facilities, such as costs to users, and other indirect costs, such as liquidity costs. Such costs can arise, for example, if users do not have immediate access to securities and cash. Once finality is achieved, the rules of the systems should enable a receiver to re-use securities and cash without further delay, both within and across systems, in order to allow the optimisation of settlement liquidity.

171. The primary responsibility for promoting the efficiency and controlling the costs of a system lies with the designers, owners and operators. ~~In some jurisdictions, r~~Regulatory authorities may have a responsibility to review the costs imposed on users, particularly where the system enjoys some form of monopoly over the service it provides. Antitrust and competition law principles may also be relevant. In the absence of a monopoly, market forces are likely to provide incentives to control costs.

172. ~~Settlement systems may use a variety of mechanisms to improve efficiency. For example, immobilisation or dematerialisation of physical certificates enables securities transactions to be settled without the actual physical movement of securities. The book entry settlement of securities transactions increases the efficiency of the settlement system because it reduces manual errors, lowers costs and increases the speed of processing through automation~~.

173. For the further integration of the securities infrastructure in Europe~~,~~ it is important that efficiency is achieved at both the domestic and cross-border levels. Market participants should be able to settle their cross-border transactions in a timely and cost-effective manner independently of their geographical location in the European Union or even beyond. This can be achieved by attaining a higher degree of interoperability across systems. Entities operating securities clearing and settlement systems should be able to communicate and process securities transactions across systems without additional effort on the part of the users.

174. Interoperability can be achieved by the standardisation of both the technical aspects of securities processing and the business practices, such as risk management, timing of settlement, operating hours, etc. (see Standard 16). This could make for considerable savings when processing cross-border transactions by lowering the unit cost of clearing and settlement. This is because the need to maintain multiple interfaces to reach several markets would be reduced and interoperability would allow a higher degree of competition among service providers.

175. ~~Other examples of ways in which a cost-effective system may be achieved include: developing technical capabilities to meet operational service requirements of system users; where relevant,~~

~~reducing the requirements for market participants to maintain multiple interfaces either by rationalisation of different securities systems or the creation of consistent communication standards and system interface arrangements across different systems for market participants; and establishing communication procedures and standards that support straight through processing of transactions, wherever appropriate.~~

What's new in the ESCB-CESR standard?

176. In comparison with the CPSS-IOSCO recommendation, the ESCB-CESR standard recognises the importance of efficiency not only at the domestic level but also in the context of European integration. In particular, the standard stresses the importance of interoperability across systems. Interoperability would allow systems to communicate and process securities transactions without additional effort on the part of the users. It can be achieved by the standardisation of both the technical aspects of the systems and their business practices.

Standard~~Recommendation~~ 16: Communication procedures, messaging standards and straight-through processing

Entities providing s~~S~~ecurities clearing and settlement services, and participants in their ~~settlement~~ systems should use or accommodate the relevant international communication procedures and messaging and reference data standards in order to facilitate efficient ~~settlement of cross-border transactions~~clearing and settlement across-systems. This will promote straight-through processing across the entire securities transaction flow.

Service providers should move towards straight-through processing (STP) in order to help achieve timely, safe and cost-effective securities processing, including confirmation, matching, netting, settlement and custody.

Key elements

1. *This standard is addressed to entities providing securities clearing and settlement services and participants in their systems. For this standard to be effective, it also needs to be applied by other providers of securities communication services, such as messaging services and network providers.*

2. *International communication procedures and standards relating to securities messages, securities identification processes and counterparty identification should be applied. In ~~so~~ far as such standards are presently not applied, the market should put in place a timetable and deadlines for their application in a way that balances the costs and benefits. ~~for cross-border transactions.~~*

3. *Service providers should work towards implementing STP and in this context seek to avoid the disruption of efforts to achieve greater interoperability across systems so that market participants can move swiftly and easily from one system to another.*

Explanatory memorandum

177. The adoption of universal messaging standards, with communication protocols covering the entire securities transaction flow, will contribute to the elimination of manual intervention in securities processing and thereby reduce risks and costs for the securities industry. ~~ability of all participants to communicate in a quick, reliable and accurate manner is central to achieving efficient domestic and cross-border securities transactions.~~ Therefore, securities service providers, i.e. CSDs, CCPs, custodians and other relevant entities~~,~~ ~~settlement systems~~ should support and use ~~apply~~ consistent messaging standards, communication protocols~~cedures,~~ and reference data standards relating to securities ~~messages, securities~~ identification processes and counterparty identification. In order for these standards to result in risk reduction and efficiency gains, they must be adopted by relevant market participants, entities providing trade confirmation and network communication providers.

178. Increasingly, internationally recognised message and securities numbering procedures and communication standards and protocols are being utilised for cross-border transactions.[1]

179. The industry is currently moving towards the adoption of ISO 15022 as an international standard for securities messaging. It is important that service providers define each component of their business in a consistent way in order to benefit from ISO 15022 for the entire securities transaction life cycle, including the asset servicing requirements.

180. Securities service providers should ensure the quality of transmitted data and the consistent use of the standards that allow market participants to receive and process messages through their systems without the need for intervention.

181. All involved parties, such as exchanges, CSDs, CCPs, systemically important systems, and relevant market participants, should support and implement reference data standards that cover the needs of the issuers and the users in the securities value chain. The use of comprehensive and widely adopted reference data standards would improve the quality and efficiency of securities processing.

182. At present, many network providers that previously used proprietary protocols are moving to develop IP-based communication networks.

183. The use of international communication protocols and standardised messaging and reference data by securities service providers and involved market participants is a crucial precondition for the introduction of STP as it enables different systems to receive, process and send information with little or no human intervention. In addition, by suppressing manual interventions, communication standards reduce the number of errors, avoid information losses and reduce the resources needed to enter or modify data.

184. Notwithstanding the fact that the end-to-end automated processing of information, via a single point of entry, is highly beneficial in terms of risk-mitigation and efficiency, the ESCB-CESR standard recognises that in the short-term the implementation of STP may be too costly. STP should, therefore, be the goal of all service providers and they should work with their participants to establish a clear plan for moving towards STP.

185. Moreover, the use of international communication standards is also a crucial precondition insofar as it allows interoperability between EU clearing and settlement infrastructures. However, it is important that the implementation of standardisation and STP goes hand-in-hand with a flexible information

[1] These currently include:
- data field dictionary and message catalogue for securities information flows (ISO 15022);
- XML language for documents containing structured information for standardised messages (see http://www.w3.org/XML/);
- standardised IP-based protocols (see http://www.rfc-editor.org/);
- counterparty identification, account identification and standard settlement instructions (ISO 9362), and;
- ISIN code: numbering asset identification and associated descriptive data (ISO 6166).

systems structure (open architecture) that allows different segments of the securities clearing and settlement infrastructure to communicate and inter-operate across systems in the EU and, ideally, beyond. Market participants should be able to move swiftly and easily from one system to another and select services without facing technical hurdles such as having to implement multiple local networks. Therefore, to enable more than one system to be involved in the processing of a trade, service providers must ensure interoperability in terms of communication and information infrastructures, and messaging services and standards.

186. Some securities service providers may not adopt these international procedures and standards. In this case, these service providers need to consider another alternative such as setting up efficient translation or conversion mechanisms that would allow them to be an integral part of the European securities infrastructure. ~~Not all securities settlement systems may wish to use these international procedures and standards for purely domestic securities transactions.~~However, ~~securities settlement systems that want to play an active role in cross border transactions will need to be able to process messages written according to these procedures and standards. This can be accomplished by developing systems for the~~ of these message procedures and standards into domestic equivalents and ~~translating domestic acknowledgment and other messages and securities identification codes into the relevant international procedures and standards. Alternatively, SSSs may widen the scope of messages accepted and generated by the local system to include the generally accepted international procedures and standards.~~

~~Countries establishing or fundamentally reforming their securities settlement system should consider the benefits of adopting international procedures and standards from the outset in the design of their domestic systems.~~

What's new in the ESCB-CESR standard?

187. ESCB-CESR stresses the importance of international messaging and reference data standards. It urges market participants to work on plans that move markets toward interoperability and STP in an effective cost minimising way.

StandardRecommendation 17: Transparency

CSDs and CCPs should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using the CSD or CCP securities clearing and settlement services.

Entities acting as custodian should provide sufficient information that allows their customers to identify and evaluate accurately the risks associated with securities clearing and settlement services.

Key elements

1. *This standard is addressed to CSDs, CCPs and entities acting as custodian. For this standard to be effective, it also needs to be applied by other securities services providers, such as trade confirmation services, messaging services and network providers.*

2. *Market participants should have the information necessary to evaluate the risks and costs prices/fees of participating in the systemassociated with the CSDs and CCPs clearing and settlement service; the information should include the main statistics and the balance sheet of the system's operator.*

3. *Entities acting as custodian should provide sufficient information that allows their customers to identify and evaluate accurately the risks associated with the custodians securities clearing and settlement services*

4. *CSDs, CCPs and custodian banks should publicly and clearly disclose their risk exposure policy and risk management methodology.*

5. *CPSS/IOSCO Disclosure Framework or theanswers to the key questionsInformation should be publicly accessible, for example through the internet, and not restricted to the system's participants. Information should be available in the formats that meet the needs of the users as well as in a language commonly used in the international financial markets as well as the domestic language.*

6. *The accuracy and completeness of disclosures should be reviewed periodically, and at least once a year, by the CSD or CCP, and relevant custodian banks. Information should be updated on a regular basis.*

Explanatory memorandum

188. During the past decade there has been a growing appreciation of the contribution transparency can make to the stability and smooth functioning of financial markets. In general, financial markets operate most efficiently when participants have access to relevant information concerning the risks to

which they are exposed and, therefore, can take actions to manage those risks. As a result, there has been a concerted effort to improve the public disclosures of major participants in the financial markets.

189. The need for transparency applies to the entities that form the clearing, settlement and custodial infrastructure of the securities markets. Informed market participants are better able to evaluate the costs and risks to which they are exposed as a result of participation in the system. They can then impose strong and effective discipline on operators of that infrastructure, encouraging them to pursue objectives that are consistent with those of owners and users and with any public policy concerns. Providing information on prices/fees, service offered, statistics and balance sheet would promote competition between service providers. It would also have a positive impact on lowering costs and improving the level of services. Therefore, when service providers offer value-added services, this offer should be made at transparent and fair prices. Specific services and functions should be priced separately. This allows users the option of selecting the services and functions that they wish to use.

190. CSDs, ~~and~~ CCPs and other relevant securities service providers should therefore provide market participants and the public at large with a full and clear understanding of their rights and obligations, the rules, regulations and laws governing the system, their governance procedures, any risks arising either to participants or the operator, and any steps taken to mitigate those risks. In order to enhance safety and risk awareness among participants, CSDs, CCPs and custodian banks should publicly and clearly disclose their risk exposure policy and risk management methodology. Relevant information should be accessible to ~~market participants~~the public, for example through the internet. Information should be current, accurate and available in formats ~~(e.g. language)~~ that meet the needs of users, as well as in a language commonly used in the international securities markets. In order to be useful, the information should be updated on a regular basis, and at least once a year, or when major changes occur. For custodian banks, once finalised, the new Basle II framework should be used as minimum requirements for the disclosure of information. Relevant reporting requirement corresponding to public interests need to be developed within the Basel Framework.

191. Completion and disclosure of the answers to the key questions to the envisaged ESCB-CESR assessment methodology would be one way to provide market participants with the information they need about the risks associated with securities clearing and settlement services. If a CSD or CCP or other relevant securities service provider publicly discloses the answers to the key questions, it need not complete the CPSS-IOSCO Disclosure Framework. The key questions address all of the major topics covered by the Disclosure Framework. Whatever approach is taken, it is critical that the disclosures are complete and accurate. Any assessment of the implementation of this recommendation should include a review of the accuracy and completeness of any disclosures.

What's new in the ESCB-CESR standard?

192. In comparison with the CPSS-IOSCO recommendation, the CESR-ESCB standard stresses the need to update the information to be provided to the public on an annual basis or when major changes occur. It also stresses the need to ensure transparency of prices and services. It also requires that CSDs, CCPs and custodian banks to publicly and clearly disclose their risk exposure policy and risk management methodology.

Standard ~~Recommendation~~ 18: Regulation, supervision and oversight

Entities providing s~~S~~ecurities clearing and settlement services ~~systems~~ should be subject to transparent, consistent and effective regulation, supervision and oversight. Central banks, ~~and~~ securities regulators and banking supervisors should co-operate with each other, ~~and with other relevant authorities~~, both nationally and across borders (in particular within the European Union), in an effective and transparent manner.

Key Elements

1. *This standard is addressed to central banks, securities regulators and, where appropriate, banking supervisors (hereafter called "relevant authorities").*
2. *The entities providing securities clearing and settlement services ~~system~~ must ~~should~~ be subject to transparent, effective and consistent regulation, supervision and oversight.*
3. *The responsibilities as well as the roles and major policies of the relevant authorities~~securities regulator and the central bank~~ should be clearly defined and publicly disclosed.*
4. *The relevant authorities ~~securities regulator and the central bank~~ should have the ability and the resources to carry out regulation, supervision and oversight policies effectively.*
5. *The relevant authorities ~~Securities regulators and central banks~~ should co-operate with each other ~~and with other relevant authorities~~ within, across and outside the country.*
6. *Co-operation, both nationally and across borders (in particular within the European Union), should be formalised in a way that leads to efficiency and consistency in regulation, supervision and oversight. To that end, adequate arrangements involving relevant authorities need to be put in place.*
7. *In order to allow securities regulators, supervisors and overseers to exercise their tasks effectively, entities providing securities clearing and settlement services should provide to relevant authorities the necessary information and data.*

Explanatory memorandum

193. Securities regulators (including, in this context, banking supervisors where they have similar responsibilities and regulatory authority with respect to CSDs, custodians and CCPs) and central banks share the common objective of promoting the implementation of measures that enhance the safety and efficiency of securities clearing and settlement systems. The division of responsibilities for regulation, supervision and oversight of securities clearing and settlement activities ~~systems~~ among public authorities varies from country to country depending on the legal and institutional framework. Whatever the arrangements chosen in each jurisdiction, entities providing securities clearing and

settlement services should be subject to transparent, consistent and effective regulation, supervision and oversight.

194. The principles set out in this standard are without prejudice to the internal organisation of the Eurosystem, as set out in articles 12 and 14 of the Protocol on the Statute of the ESCB and of the ECB, annexed to the Treaty on European Union.

195. While the primary responsibility for ensuring the entity's ~~system's~~ observance of the standards ~~recommendations~~ lies with the designers, owners and operators of securities clearing and settlement systems, regulation, supervision and oversight ~~or both is~~are needed to ensure that designers, owners and operators fulfil their responsibilities. Where the central bank itself operates a CSD, it should ensure that its system implements the ~~recommendations~~standards.

196. The objectives and responsibilities as well as the roles and major policies of the ~~securities regulator and the central bank~~ relevant authorities should be clearly defined and publicly disclosed, so that designers, owners, operators and participants of securities clearing and settlement systems are able to operate in a predictable environment and to act in a manner ~~that is~~ consistent with those policies.

197. The ~~securities regulator~~ relevant authorities should have the ability and the resources to carry out regulation, supervision and oversight responsibilities effectively, irrespective of the legal status of the supervised entity, and as far as groups are concerned extending to the entire group, including those entities in the group that would not be so supervised. Regulatory, supervisory and oversight activities should have a sound basis, which may or may not be based on statute, depending on a country's legal and institutional framework. The relevant authorities ~~securities regulator and the central bank~~ should have adequate resources to carry out their regulatory, supervisory and oversight functions, such as gathering information on the entities providing securities clearing and settlement ~~systems~~services, assessing the operation and design of the systems, and taking action to promote ~~systems'~~ entities' observance of the ~~recommendations~~standards.

198. Co-operation between the relevant authorities~~securities regulator and the central bank as well as their cooperation with other relevant authorities~~ is important in achieving their respective policy goals. Issues raised by the operation of cross-border systems should be addressed in a way that delivers regulation/supervision/oversight consistent with each relevant authority's responsibilities and avoids gaps and duplication, and hence unnecessary costs. Regulator, supervisors and overseers should in advance put in place contacts and communication channels (including senior and key managers of the clearing and settlement systems) to ensure business continuity in case of disaster situation. ~~Regulators/overseers can consider a variety of approaches including 1) information sharing arrangements; 2) coordination of regulatory/oversight responsibilities for specific matters; and 3) other cooperation arrangements.[1] The approach selected may vary, depending on such issues as the law and~~

[1] ~~Where a securities settlement system provides services in more than one jurisdiction, consultation and cooperation among relevant regulators/overseers will be essential to avoid duplicative (or conflicting)~~

~~regulatory approach in each jurisdiction. Option 2) might entail a cooperative agreement for the allocation of regulatory/oversight responsibility in line with the recommendation in the 1990 Lamfalussy Report.~~

199. For entities that are active in several EU Member States, the co-ordination of regulation, supervision and oversight responsibilities should, as much as possible, follow the "European" model defined in particular by the applicable directives that is based on the principles of mutual recognition and have been widely accepted in different fields of financial regulation in Europe (including EU banking regulation and payment systems oversight within the euro area). If no such regulation applies, e.g. for non bank CSDs, equivalent rules will be deemed applicable. In particular, if an operator of a securities clearing and settlement system offers cross-border services directly (e.g. a CCP serving a foreign market and/or participating in a foreign CSD, or an intermediary accessing a foreign CSD or CCP as a remote member) or through a branch, the relevant national authorities that bear primary responsibility for the supervision and oversight should be those of the home country. Other agreements that foster strong co-operation between regulators, supervisors and overseers may be agreed upon – for example through a MoU - by the relevant authorities.

200. Where the CSD or CCP services are provided directly from a system located in a different country, co-operation agreements should be in place between the home authorities and the different authorities of the countries where the CSD and CCP services are offered in order to allow them to fulfil their oversight and regulatory obligations. These co-operation agreements would cover all the relevant aspects, including crisis management aspects. They may also include issues concerning the need for host supervisors or overseers to obtain information from the home authorities and, in special circumstances, directly from the market participants in different countries, on settlement activities relevant to their jurisdiction.

201. When the CSD or CCP services are offered in a Member State through a subsidiary, primary responsibility for that entity is assigned to the relevant national authorities of the Member State in which that subsidiary is located. For groups that are active in several states by way of subsidiaries, or directly, a structured co-operation mechanism composed of the relevant public authorities, responsible for the supervision and oversight of the subsidiaries, needs to be set in place. This cooperation does not affect local authorities' competences and responsibilities with respect to subsidiaries located in their jurisdiction. Under the coordination of the supervisor/overseer in charge of the parent entity, these authorities will carry out the supervisory and oversight tasks, including peer review and assessment, of the areas of common interest of the group, according to national laws and regulations.

~~requirements, regulatory/oversight gaps and unnecessary costs. Within the context of the requirements of individual national laws and a firm foundation for the sharing of information, this process could include an allocation of regulatory/oversight roles to satisfy the responsibilities and objectives of each relevant authority. See the "Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries" (BIS, Nov. 1990) (known as the Lamfalussy Report) at pages 53-56. See also "Principles for the Oversight of Screen-based Trading Systems for Derivative Products – Review and Additions" (Technical Committee of the IOSCO, Oct. 2000).~~

Other agreements that foster strong co-operation between regulators, supervisors and overseers may be agreed upon – for example through a MoU – by the relevant authorities.

202. In order to ensure equal treatment and level playing field within the EU, the cooperation between national securities regulators/supervisors and central bank overseers from all EU Member States needs to be conducted in a regular and structured manner, in order to: 1) monitor the implementation of the standards, including the exchange of information on the compliance of national systems with the ESCB-CESR standards; 2) discuss problems of implementation that may encountered; and 3) whether there is need to review specific standards. In order to allow securities regulators, supervisors and overseers to exercise their tasks effectively, entities providing securities clearing and settlement services should provide to relevant authorities the necessary information and data.

What's new in the ESCB-CESR standard?

203. The ESCB-CESR standard recognises the "European model" based on the principle of mutual recognition that is applied in other fields of European financial regulation. Furthermore, for entities that are active in several Member States, the standard put in place a guiding model on how to co-ordinate the authorities concerned. In particular, under the coordination of the supervisor/overseer in charge of the parent entity, the relevant authorities will carry out the supervisory and oversight tasks, including peer review and assessment, of the areas of common interest of the group, according to national laws and regulations.

~~Recommendation~~ Standard 19: Risks in cross-system ~~border~~ links[1]

CSDs that establish links to settle cross-system ~~border~~ trades should design and operate such links to effectively reduce ~~effectively~~ the risks associated with cross-system ~~border~~ settlements.

Key Elements

1. *This standard is addressed to CSDs that establish cross-system links.*
2. *CSDs should design links to ensure that settlement risks are minimised or contained. A CSD should evaluate the financial integrity and operational reliability of any other CSD with which it intends to establish a link.*
3. *The length of the settlement cycle and the achievement of DVP with intraday finality should not be jeopardised by the establishment of a link (see Standards 7 and 8).*
4. *DVP should be achieved and provisional transfers across the link should be prohibited, or, at a minimum, their re-transfer prohibited, until the first transfer is final.*
5. *Any credit extensions between CSDs should be subject to requirements defined in Standard 9 on risk controls~~fully secured and subject to limits~~. Liquidity management arrangements should be implemented to address operational inefficiencies and potential defaults.*
6. *Relayed links should be designed and operated in a way that does not increase the level of risks or reduce the efficiency of cross-system settlement.*

Explanatory memorandum

204. The settlement of cross-system securities transactions is typically more complicated and potentially involves more risk than the settlement of domestic transactions. A CSD can provide arrangements to its participants by establishing direct links with other systems or relayed links where a third CSD is used as an intermediary. The standard applies to cross-system links (a link between two systems located in the same jurisdiction) which also covers cross-border links. Cross-system links pose the same problems as cross-border links, although there may be fewer conflicts of law problems because the former are located in the same jurisdiction. It is important that cross-system links satisfy the relevant requirements set out in this standard.

205. ~~CSDs may perform different sets of functions including the provision of depository, credit, securities lending, collateral management, custodian and settlement services.~~ Links across systems ~~also~~ may provide ~~these functions~~ securities transfer, custodian and settlement services. T~~t~~he choice of functions determines the design of the link, as does the structure of the CSD~~s themselves~~ and the legal framework applicable in the respective jurisdictions. For example, to settle cross-system ~~border~~ trades

[1] This standard does not cover links established by CCPs. This issue will be covered by the future work of the ESCB-CESR on CCPs.

between their participants, one or both of the linked CSDs become a participant in the other CSD. Such links permit participants in either CSD to settle trades in securities from multiple jurisdictions through a single gateway operated by its domestic CSD or by an international CSD. Links ~~also~~ can also facilitate data transmission and information exchange about securities holdings. Furthermore, by expanding the range of collateral that can be held in an account with a single CSD, links can reduce costs to participants of meeting various collateral requirements. Finally, links can reduce the number of intermediaries involved in cross-system ~~border~~ settlements, which tends to reduce legal, operational and custody risks.

206. However, CSDs need to design links carefully to ensure that risks are, in fact, reduced. Because linked CSDs are located in different jurisdictions, they must address legal and operational complexities that are more challenging than those confronted in their domestic operations. If a link is not properly designed, settling transactions across the link could subject participants to new or exacerbated risks relative to the risks to which the participant would be subject if it settled its transactions through alternative channels, such as a global custodian or local agent. Links may present legal risks relating to a co-ordination of the rules of and the laws governing the linked systems, including laws and rules relating to netting and the finality of transfers, and potential conflicts of laws. Links may also present additional operational risks due to inefficiencies associated with the operation of the link. These inefficiencies may arise because of variations in the operating hours of the linked systems or out of the need to block securities that are earmarked for use in the consummation of transactions to be settled across a link. Lastly, settlement links may create significant credit and liquidity interdependencies between systems, particularly if one of the systems experiences an operational problem or if one of the systems permits provisional transfers of funds or securities that may be unwound. An operational failure or default in one system may precipitate settlement failures or defaults in the linked system and expose participants in the linked system (even participants who did not transact across the link) to losses. In this respect, a clear allocation of responsibilities between the linked systems should be pursued.

207. A CSD should evaluate the financial integrity and operational reliability of any CSD with which it intends to establish a link. Any credit extensions between CSDs should be subject to the requirements set up in Standard 9 on risk controls. ~~fully secured by securities, letters of credit or other high quality collateral and should be subject to limits.~~ Liquidity management arrangements should be implemented to address operational inefficiencies and potential defaults. Notwithstanding operational and legal difficulties, delivery versus payment (DVP) should be achieved and~~,~~ steps should be taken to reduce the length of the (DVP) settlement process across the link (Standard 7). In order to reduce liquidity risks, intraday finality should be provided on a real-time basis or, at least, through several batches a day (see Standard 8). Moreover, to eliminate the danger of unwinds, provisional transfers across the link should be prohibited or, at a minimum, their re-transfer should be prohibited, until the first transfer is final. Links between CSDs should be designed so that the operation of the link in accordance with the rules of each CSD and the terms of any associated contracts between the CSDs and the CSDs and their participants will be supported by the legal framework in each jurisdiction in

which the linked CSDs operate. Each jurisdiction should assess the extent to which its legal framework supports the proper operation of links between CSDs. To the extent jurisdictions permit CSDs operating there to establish a link, the legal frameworks of both jurisdictions should support the operation of the link in accordance with these ~~recommendations~~ standards. The laws applicable to the linked CSDs, their participants and the various steps and mechanisms in the operation of the link should be clear and transparent and should protect participants and their customers in case of the insolvency of one of the linked CSDs or one of their direct participants. Any choice of applicable law should be enforceable in the jurisdiction of each linked CSD and be documented and transparent to all participants. Issues associated with the protection of customer securities should also be addressed in the design and operation of cross-~~-border~~ system links, particularly the need to reconcile holdings to determine that they are accurate and current (see ~~Recommendation~~Standard 12). Reconciliation is particularly important when more than two CSDs are involved (that is, the securities are kept by one CSD or custodian while the seller and the buyer participate in two other CSDs).

208. This standard also applies to relayed links and to other types of similar links where a CSD intermediates in the relation between an investor CSD and an issuer CSD. These links are defined as contractual and technical arrangements that allow two settlement systems not directly connected to each other to exchange securities transactions or transfers through a third settlement system (or systems) acting as the intermediary. The further layer of complexity introduced by having a longer chain of CSDs may increase the risk of cross-system linkages described above. Therefore, the features of relayed links should be designed in a way that does not increase the level of risks or reduce the efficiency of cross-system settlement. This means that relayed links should be subject to the requirements set out in the ESCB-CESR standards. In terms of investor protection, it is important that the use of a relayed link does not in any way adversely affect the protection of end-investors against custody risk. For this reason, appropriate risk management procedures such as reconciliation and realignment should be in place. Moreover, where investor protection is concerned, the interaction of at least three different jurisdictions has to be carefully investigated and supported by legal opinions. Where market efficiency is concerned, it is important that the design and operation of relayed links allow efficient cross-system transfers in terms of processing time that would allow the participants of the involved relayed CSDs to receive and use the securities within the same day.

What's new in the ESCB-CESR standard?

209. In comparison with the CPSS-IOSCO recommendations, the ESCB-CESR standard refers to cross-system links, a term that also covers cross-border links. Secondly, it requires links to enable participants to settle on an intraday DVP settlement basis. Finally, it contains specific requirements for relayed links established by CSDs.

GLOSSARY[1]

Access	The right or opportunity for an institution to use the services of a particular payment or securities settlement system to settle payments/transactions on its own account or for customers.
Affirmation	The process in which the intended terms of a trade are verified between each direct participant and the indirect participant for whom the direct participant is acting. See also confirmation.
Asset servicing	Services provided by a CSD or a custodian in connection with settlement and/or safekeeping of securities (including derivative products) such as corporate actions, events, redemption, etc.
Back-to-back transaction	A pair of transactions that requires a counterparty to receive and redeliver the same securities on the same day. The transactions involved may be outright purchases and sales or collateral transactions (repurchase agreements or securities loans). For example, a securities dealer might buy and sell the same securities for the same settlement date in the course of making markets for customers or it might buy securities for inventory and finance the position through a repurchase agreement.
Backup system	A system designed to replace the primary system in the event of disruption, having the requisite level of key resources, capabilities and functionalities, including appropriately skilled and experienced staff that allow business resumption immediately after the occurrence of a disruption to the primary system.
Beneficial ownership/ interest	Entitlement to receive some or all of the rights deriving from ownership of a security or financial instrument (e.g. income, voting rights, power to transfer). Beneficial ownership is usually distinguished from legal ownership of a security or financial instrument.
Book entry system	A system that permits the electronic issuance and transfer of securities without the existence and/or the movement of paper documents or certificates.
Broker-dealer	A person/firm sometimes acting as broker and sometimes as principal intermediary in securities transactions.
Business continuity	A payment system's or securities settlement system's arrangements which aim to ensure that it meets agreed service levels even if one or more components of the system fail or if it is affected by another abnormal event. This includes both preventative measures and arrangements to deal with these contingencies.
Cash settlement agent	The entity whose assets are used to settle the ultimate payment obligations arising from securities transfers within the CSD. Accounts with the cash settlement agent are held by settlement banks or regulated financial institutions which act on their own behalf and may also offer payment services to participants that do not have accounts with the settlement agent.
Central bank credit facility	A standing credit facility which can be drawn upon by certain designated account holders (e.g. banks) at a central bank. The facility can be used automatically at the initiative of the account holder. The loans typically take the form of either advances or overdrafts on an account holder's current account that may be secured by a pledge of securities or by repurchase agreements.

[1] This glossary replaces the orginal text of the CPSS-IOSCO as some terms have been modified and others have been introduced in order to meet the needs of the ESCB-CESR report.

Central bank money	Settlement is described as being in central bank money if payment moves directly and irrevocably between accounts on the books of the central bank.
Central counterparty (CCP)	An entity that interposes itself between the counterparties to trades, acting as the buyer to every seller and the seller to every buyer.
Central securities depository (CSD)	An entity, which holds and administrates securities and enables securities transactions to be processed by book entry. Securities can be held in a physical but immobilised or dematerialised form (i.e. so that they exist only as electronic records). In addition to the safekeeping and administration of securities, a CSD may incorporate clearing and settlement functions.
Certificate	A document that evidences the ownership of, and the undertakings of the issuer of, a security or financial instrument.
CESR	Committee of European Securities Regulators
Choice of law	A contractual provision by which parties choose the law that will govern their contract or relationship. Choice o f law may also refer to the question of what law should govern in the case of a conflict of laws. See conflict of laws.
Clearing	The process of calculating the mutual obligations of market participants, usually on a net basis, for the exchange of securities and money.
Clearing house	A central location or central processing mechanism through which financial institutions agree to exchange financial obligations (e.g. fund, securities, etc.). The institutions settle for items exchanged at a designated time based on the rules and procedures of the clearing house. In some cases, the clearing house may assume significant counterparty, financial or risk management responsibilities for the clearing system. See also clearing
Collateral	An asset or third-party commitment that is accepted by the collateral taker to secure an obligation of the collateral provider vis-à-vis the collateral taker.
Collateralisation	Provision of collateral to secure credit exposures or credit granted.
Communication protocol	An agreed set of rules and conventions governing the format and transmission of data and the control of interaction among communicating functional units.
Confirmation	The process in which the terms of a trade are verified either by market participants directly or by some central entity. When direct market participants execute trades on behalf of indirect market participants, trade confirmation often occurs on two separate tracks: verification (generally termed confirmation) of the terms of the trade between direct participants and verification (sometimes termed affirmation) of the intended terms between each direct participant and the indirect participant for whom the direct participant is acting.
Conflict of laws	An inconsistency or difference in the laws of jurisdictions that have a potential interest in a transaction. Each jurisdiction's conflict of laws rules specify the criteria that determine the law applicable in such a case.
Counterparty	A party to a trade.
Credit limit	Limit on the credit exposure a system participant incurs vis-à-vis another participant (bilateral credit limit) or vis-à-vis all other participants (multilateral credit limit) as a result of receiving payments that have not yet been settled. Limits may be set by each individual participant or may be imposed by the body managing the system.
Credit line	A credit that an entity has granted to another entity on in advance agreed terms.
Credit risk	The risk that a counterparty will not settle an obligation for full value, either when due or at any time thereafter. Credit risk includes replacement cost risk and principal risk. It

	also includes the risk of settlement bank failure.
Crisis management structure	An institutional arrangement established to deal with operational failure. It includes formal procedures to manage crises, alternative means of communication and contact lists (both at local and cross-border level).
Cross-border settlement	A settlement that takes place in a country other than the country in which one trade counterparty or both are located.
Cross-border trade	A trade that requires cross-border settlement.
Cross-margining agreement	An agreement between CCPs to consider positions and supporting collateral at their respective organisations as a portfolio for participants that are members of both organisations. Positions held in cross-margined accounts are subject to lower collateral requirements because the positions held at one CCP collateralise part of the exposure of related positions at the other CCP. In the event of default by a participant whose account is cross-margined, one CCP can use the positions and collateral in the cross-margined account at the other CCP to cover losses.
Cross-system settlement	A settlement of a trade that is effected through a link between two separate securities settlement systems.
Custodian	An entity, often a bank, that safekeeps securities for its customers and may provide various other services, including clearance and settlement, cash management, foreign exchange and securities lending.
Custody	The safekeeping and administration of securities and other financial instruments on behalf of others.
Custody risk	The risk of loss on securities in safekeeping (custody) as a result of the custodian's insolvency, negligence, misuse of assets, fraud, poor administration or inadequate record keeping.
Cut-off time	The deadline defined by a system to accept settlement instructions for a specific defined settlement cycle.
Default	Failure to complete a funds or securities transfer according to its terms for reasons that are not technical or temporary, usually as a result of bankruptcy. Default is usually distinguished from a "failed transaction".
Delivery	Final transfer of a security or financial instrument from one account to another.
Delivery versus payment (DVP)	A link between securities transfers and funds transfers that ensures that delivery occurs if, and only if, payment occurs.
Delivery versus delivery (DVD)	A link between two securities transfers that ensures that a delivery occurs if, and only if, another delivery occurs.
Dematerialisation	The elimination of physical certificates or documents of title that represent ownership of securities so that securities exist only as accounting records.
Designated system	A system governed by the law of an EEA Member State and designated by national competent authorities in accordance with the Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems.
Direct holding system	A holding system for securities in which the beneficial owner of securities (i) is reflected as the legal owner on the issuer's official register(s) (and, if the securities are required to be certificated, the securities are issued in the name of the owner) or (ii) is in possession of securities issued to bearer. The issuer, CSD, participants in the CSD, and third-party claimants are required to recognise the owner's rights and interests in the securities

	based on the record of the register or the owner's possession of the security.
Direct link	A link between two CSDs where no other intermediary is involved, and the operation of the omnibus account opened by the investor CSD is managed either by that CSD or the issuer CSD.
Direct market participant	A broker-dealer or member of an exchange that directly executes an order.
Disaster recovery	Business resumption after some time with a level of integrity and sufficient capacity following a disruption or a disaster.
Double-entry bookkeeping	An accounting principle whereby, for each credit/debit made on the account of the beneficiary, there should be a corresponding entry on the account of the counterparty delivering/receiving financial assets (such as securities).
Earmarking	A collateral management technique where assets provided as collateral are attributed to certain individual transactions.
End-to-end audit trail	A sequential record of events having occurred to securities holding covering the record of a settlement system and all involved intermediaries.
ESCB	European System of Central Banks
Failed transaction	A securities transaction that does not settle on the contractual settlement date.
Final settlement	The discharge of an obligation by a transfer of funds and a transfer of securities that have become irrevocable and unconditional.
Free of payment (FOP)	Delivery of securities with no corresponding payment of funds.
Global custodian	A custodian that provides its customers with custody services in respect of securities traded and settled not only in the country in which the custodian is located but also in numerous other countries throughout the world.
Global note	A single physical certificate that certifies (part of or) the entire issue of securities.
Governance arrangements	Governance refers to the mechanisms and procedures through which the objectives of an entity are set, the means to achieve them are identified and the performance of the entity is measured. It also refers to the set of relationships among management, the board, shareholders or owners, users, regulators and other stakeholders that influence these outcomes
Gridlock	A situation that can arise in a funds or securities transfer system in which the failure of some transfer instructions to be executed (because the necessary funds or securities balances are unavailable) prevents a substantial number of other instructions from other participants from being executed.
Gross settlement system	A transfer system in which the settlement of funds or securities transfer instructions occurs individually (on an instruction by instruction basis).
Guarantee fund	A fund to compensate non-defaulting participants from losses they may suffer in the event that one or more participants default on their obligations as counterparties.
Haircut	The difference between the market value of a security and its collateral value. Haircuts are taken by a lender of funds in order to protect the lender, should the need arise to liquidate the collateral, from losses owing to declines in the market value of the security. See also margin.
Immobilisation	Placement of physical certificates for securities and financial instruments in a central securities depository so that subsequent transfers can be made by book entry, that is, by debits from and credits to holders' accounts at the depository.
Indirect holding system	A holding system for securities in which (i) a nominee is reflected as the legal owner of securities on the official register of the issuer and the beneficial owner (or the

	intermediary through which the latter holds the security) is reflected as the owner of the securities on the books of the nominee or (ii) bearer securities are deposited with an intermediary and the intermediary maintains an account reflecting the beneficial owner's rights and interests in the security. The beneficial owner's rights and interests in securities in an indirect holding system are transferred by accounting entries on the nominee's or relevant intermediary's books.
Indirect link	A link between an investor CSD and an issuer CSD through an intermediary, and whereby the two CSDs do not have any direct contractual or technical arrangement.
Indirect market participant	A market participant that uses an intermediary for the execution of trades on its behalf. Generally, institutional investors and cross-border clients are indirect market participants.
Integrity of a securities issue	The quality of a securities issue of being accounted in a way which ensures that the number of securities in the issuer account is equal to the total number of securities in investors' accounts at any time. Furthermore, integrity is the quality of being protected against accidental or fraudulent alteration of securities issuance or of indicating whether or not alteration has occurred.
Internal settlement	A settlement that is effected through transfers of securities and funds on the books of a bank or an investment firm. An internal settlement requires both counterparties to maintain their securities and funds accounts with the same entity.
International central securities depository (ICSD)	A central securities depository that settles trades in international securities and in various domestic securities, usually through direct or indirect (through local agents) links to local CSDs.
Interoperability	The ability of two or more different clearing and settlement systems or processes to function, provide or perform services together in a timely and efficient manner without special effort on the part of users.
Intraday finality	Settlement finality achieved continuously or several times throughout the settlement day. Intraday finality can be provided through real-time settlement procedures and/or multiple batch processing during the settlement day.
IP-based communication network	Set of technical arrangements for a communication network, based on the Internet Protocol.
Irrevocable payment	A payment that is legally enforceable and is, even in the event of insolvency proceedings against a participant, binding on third parties
ISO 15022	The international standard for securities messaging adopted by the International Organisation for Standardisation.
Issuer	The entity that is obligated on a security or financial instrument.
Legal risk	The risk that a party will suffer a loss because laws or regulations do not support the rules of the securities settlement system, the performance of related settlement arrangements, or the property rights and other interests held through the settlement system. Legal risk also arises if the application of laws and regulations is unclear.
Link between CSDs	Legal and technical arrangements and procedures that enable the transfer of securities between two CSDs or more through a book-entry process.
Liquidity risk	The risk that a counterparty will not settle an obligation for full value when due, but on some unspecified date thereafter.
Local agent	A custodian that provides custody services for securities traded and settled in the country in which it is located to trade counterparties and settlement intermediaries located in

	other countries (non-residents).
Loss-sharing agreement	An agreement among participants in a clearing or settlement system regarding the allocation of any losses arising from the default of a participant in the system or of the system itself.
Margin	Generally, the term for collateral used to secure an obligation, either realised or potential. In securities markets, the collateral deposited by a customer to secure a loan from a broker to purchase shares. In organisations with a CCP, the deposit of collateral to guarantee performance on an obligation or cover potential market movements on unsettled transactions is sometimes referred to as margin.
Market risk	The risk of losses in on- and off-balance sheet positions arising from movements in market prices.
Marking to market	The practice of re-evaluating securities and financial instruments using current market prices and requiring the counterparty with an as yet unrealised loss on the contract to transfer funds or securities equal to the value of the loss to the other counterparty.
Master agreement	An agreement that sets forth the standard terms and conditions applicable to all or a defined subset of transactions that the parties may enter into from time to time, including the terms and conditions of closeout netting.
Matching	The process of comparing the trade or settlement details provided by counterparties to ensure that they agree with respect to the terms of the transaction. Also called comparison checking.
Matching utilities	Automated technical mechanism for the matching of trade instructions.
Memorandum of Understanding (MoU)	Contractual arrangement between parties to elaborate mutual rights and obligations.
Messaging services	Tool for the exchange of information.
Minimum capital base	Regulatory requirement for firms active in the financial sector, set by a national legislators and regulators and based on European legislation and international standards, to have available a certain minimum of own funds (calculated in a prescribed manner) at all times.
Multilateral Netting	An arrangement among three or more parties to net their obligations. The obligations covered by the arrangement may arise from financial contracts, transfers or both. The multilateral netting of obligations normally takes place in the context of a multilateral net settlement system.
Multilateral trading systems.	Regulated markets and multilateral trading facilities as defined by the new Investment Services Directive.
Multiple batch processing	The settlement of transfer instructions “as a group of transactions together” at several discrete, pre-specified times during the processing day.
Mutual recognition	A principle of the co-ordination among relevant public authorities in EU Member States where the work of one public authority is recognised by the other relevant authority(ies).
Net Debit (credit) balance	A participant’s net debit or net credit position in a netting system is the sum of the value of all the transfers it has received up to a particular point in time less the value of all transfers it has sent. If the difference is positive, the participant is in a net credit position; if the difference is negative, the participant is in a net debit position. The net credit or net debit position at settlement time is called the net settlement position. These net positions may be calculated on a bilateral or multilateral basis.
Net settlement system	A settlement system in which final settlement of transfer instructions occurs on a net

	basis at one or more discrete, prespecified times during the processing day.
Netting	An agreed offsetting of mutual obligations by trading partners or participants in a system, including the netting of trade obligations, for example through a CCP, and also agreements to settle securities or funds transfer instructions on a net basis.
Network Provider	A company that provides a telecommunications service
Novation	Satisfaction and discharge of existing contractual gross obligations by means of their replacement by new net obligations. The parties to the new obligations may be the same as those to the existing obligations or, in the context of some clearing house arrangements, there may be additionally substitution of parties.
Nominee	A person or entity named by another to act on its behalf. A nominee is commonly used in a securities transaction to obtain registration and legal ownership of a security.
Omnibus account	A single account for the commingled funds or securities of multiple parties. A participant in a clearing or settlement system will often maintain an omnibus account at the system for all of his clients. In this case, the participant is responsible for maintaining account records for individual client.
Open architecture	System design based on publicly available and standardised software, enabling easy inter-linkage.
Operated direct link	A direct link between two CSDs where a third party, typically a custodian bank, operates the account in the issuer CSD on behalf of the investor CSD. In this case, the responsibility for the obligations and liabilities in connection with the registration, transfers and the custody of securities remain legally enforceable only between the investor CSD and the issuer CSD.
Operational reliability	The ability of a clearing and settlement system to clear and settle, and to cope with unexpected situations such as technical breakdown or increased volume in a timely and accurate manner.
Operational risk	The risk that deficiencies in information systems or internal controls, human errors or management failures will result in unexpected losses.
Oversight	A public policy activity principally intended to promote the safety and efficiency of payment and securities settlement systems and in particular to reduce systemic risk.
Over-the-counter (OTC) trading	A method of trading that does not involve a multilateral system. In over-the-counter markets, participants trade directly with each other, typically through telephone or computer links.
Pledge	A delivery of assets to secure the performance of an obligation owed by one party (debtor) to another (secured party). A pledge creates a security interest (lien) in the assets delivered, while leaving ownership with the debtor.
Pooling system	A central bank system for managing collateral in which the counterparties open a pool account in which they deposit assets to serve as collateral in their transactions with the central bank. In a pooling system, by contrast with an earmarking system, the underlying assets do not have to be earmarked for individual transactions.
Pre-settlement risk	The risk that a counterparty to a transaction for completion at a future date will default before final settlement. The resulting exposure is the cost of replacing the original transaction at current market prices and is also known as replacement cost risk.
Principal risk	The risk that the seller of a security delivers a security but does not receive payment or that the buyer of a security makes payment but does not receive delivery. In such an event, the full principal value of the securities or funds transferred is at risk.

Provisional transfer	A conditional transfer in which one or more parties retain the right by law or agreement to rescind the transfer.
Real-time gross settlement	The continuous settlement of funds or securities transfers individually on an order by order basis as they are received.
Real-time processing	The processing of funds or securities transfer instructions at the time they are received rather than at some later time.
Realignment	Transfer of assets from the account of one CSD to the account of another CSD. Realignment procedure aimed at creating a direct relationship with the issuer CSD.
Reconciliation	A procedure to verify whether records of entities that hold securities in custody (or maintain records of balances of securities) are consistent with the records of an entity (typically a CSD) administering the issuer's accounts to ensure that customer claims can be satisfied. It further comprises the comparison whether the sum of all securities held with custodians equals the sum of securities booked in custody accounts of the own clients.
Registrar	An entity that typically, on behalf of the issuer, administers the book of the investors in the securities
Regulated financial institutions	Entities, active in the financial sector, subject to a regulatory license system based on national law.
Regulated markets	Multilateral trading systems, operated by market operators, which fulfil the requirements of the Investment Services Directive (93/22EC) for regulated markets.
Registration	The listing of ownership of securities in the records of the issuer, its transfer agent/registrar or a CSD.
Relayed link	A contractual and technical arrangement that allow two CSDs not directly connected to each other to exchange securities transactions or transfers through a third CSD(s) acting as the intermediary.
Remote member/participant	A participant/member of a system which does not have a physical presence in the country where the system is based.
Replacement cost risk	The risk that a counterparty to an outstanding transaction for completion at a future date will fail to perform on the settlement date. This failure may leave the solvent party with an unhedged or open market position or deny the solvent party unrealised gains on the position. The resulting exposure is the cost of replacing, at current market prices, the original transaction. Also called market risk, price risk.
Repurchase agreement	A contract to sell and subsequently repurchase securities at a specified date and price.
Revocable transfer	A transfer that a system operator or a system participant can rescind.
Rolling settlement	A procedure in which settlement takes place a given number of business days after the date of the trade. This is in contrast to account period procedures in which the settlement of trades takes place only on a certain day, for example a certain day of the week or month, for all trades that occurred within the account period.
Safekeeping services	Holding of securities in custody on behalf of ultimate owners.
Same day funds	Money balances that the recipient has the right to transfer or withdraw from an account on the day of receipt.
Securities clearing and settlement system (SCSS)	A generic term covering the full set of institutional arrangements for confirmation, clearing, settlement and safekeeping of securities.
Securities creation	Debit balances and overdrafts in securities accounts that will cause the appearance of more securities of the same issue in circulation than it is issued.

Security interest	A form of interest in assets which provides that the assets may be sold on default in order to satisfy the obligation covered by the securities interest. A securities interest does not include collateral provided by transfer of ownership of the collateral.
Securities settlement system (SSS)	A system which permits the holding and transfer of securities, either free of payment (FOP), against payment (DVP) or against other asset (DVD). It comprises all the institutional and technical arrangements required for the settlement of securities trades and the safekeeping of securities. The system can operate either on real time gross settlement (RTGS), gross settlement (GS) or net settlement (NS). A settlement system allows also the calculation (clearing) of the obligations and rights of participants.
Segregation	A method of protecting client assets and positions by holding and designating them separately from those of the carrying firm or broker.
Service Level Agreement (SLA)	An agreement between service provider and its user(s) that defines service provider's targets in terms of, for example, operational robustness and business continuity.
Settlement	The completion of a transaction through final transfer of securities and funds between the buyer and the seller.
Settlement agent	See cash settlement agent.
Settlement bank	The entity that maintains accounts with the settlement agent in order to settle payment obligations arising from securities transfers, both on its own behalf and for other market participants.
Settlement cycle (interval)	The amount of time that elapses between the trade date (T) and the settlement date (S). It is typically measured relative to the trade date, e.g. T+3 means that the settlement of the trade transaction will take place on the third business day following the day on which the trade is executed.
Settlement date	The date on which parties to a securities transaction agree that settlement is to take place. This intended settlement date is sometimes referred to as the contractual settlement date.
Settlement failure	Inability of a participant to meet or settle its obligations in a system. See also failed transaction.
Settlement finality	See final settlement.
Settlement matching	The process for comparing the settlement details provided by system's participants to ensure that they agree with respect to the terms of the transaction.
Settlement risk	A general term used to designate the risk that settlement in a transfer system will not take place as expected. This risk may comprise both credit and liquidity risk.
Short sale	A sale of securities which the seller does not own and thus must be covered by the time of delivery; a technique used (1) to take advantage of an anticipated decline in the price or (2) to protect a profit in a long position.
Straight through processing (STP)	The completion of pre-settlement and settlement processes based on trade data that is manually entered only once into an automated system.
Sub-custodian	A custodian that holds securities on behalf of another custodian. A global custodian, for example, may hold securities through another custodian in a local market. The latter custodian is known as a sub-custodian.
SWIFT	SWIFT, the Society for Worldwide Interbank Financial Telecommunications, provides a secure messaging service for interbank communication. Its services are extensively used in the foreign exchange, money and securities markets for confirmation and payment messages.
Systemic risk	The risk that the inability of one institution to meet its obligations when due will cause

	other institutions to be unable to meet their obligations when due. Such a failure may cause significant liquidity or credit problems and, as a result, might threaten the stability of or confidence in markets.
Systemically important system	A system if insufficiently protected against risk, can trigger or transmit further disruptions amongst participants and have the potential to cause disruptions in the financial area more widely.
Timely settlement	Settlement that occurs at the predefined time and manner.
Trade execution	The phase at the beginning of a securities transaction, where two parties agree to exchange a certain amount of securities for a certain amount of funds on a particular settlement date.
Transfer order finality	An irrevocable and unconditional transfer that effects a discharge of the obligation to make the transfer.
Ultimate settlement	Settlement in the books of the CSDs where the ultimate registration of an issue takes place
Unconditional payment	A payment that may not be revoked by a participant in a system, nor by a third party
Unwind	A procedure followed in some clearing and settlement systems in which transfers of securities or funds are settled on a net basis, with the transfers provisional until all participants have discharged their settlement obligations. If a participant fails to settle, some or all of the provisional transfers involving that participant are deleted from the system, and the settlement obligations from the remaining participants are recalculated. This process of recalculating obligations is known as an unwind.