



EUROPEAN CENTRAL BANK

CONSULTATIVE REPORT

**STANDARDS FOR SECURITIES CLEARING AND
SETTLEMENT SYSTEMS IN THE EUROPEAN UNION**

JULY 2003

INTRODUCTION¹

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 Group Secretariat received 36 contributions from individual financial institutions and associations from various segments of the financial sector. All contributions welcomed the Group’s initiative. In particular, they 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. The Group decided to focus on adapting the CPSS-IOSCO recommendations for securities settlement systems to the European 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 application in the European 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. 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.

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

The objectives of the standards

4. 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, without regard to the legal status of the institutions concerned. Furthermore, the Group set about “deepening and strengthening” the CPSS-IOSCO standards 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 increase the clarity with regard to the identity of the institutions to which the standards are applied.
5. Finally, the Group would like to point out that issues related to competition do not fall within its mandate as they would be better dealt with by the relevant national and European authorities.

The nature of the standards

6. The most important difference between the Group’s document 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.

² These standards will also become applicable for the non-EU Member States of the European Economic Area (EEA).

This necessitates a study of how these standards are to be transposed into national rules and how they are to be applied to their addressees.

7. The addressees, who are primarily the operators of securities clearing and settlement systems, should be the one to actually implement the standards. Although the standards are not mandatory because they 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, supervisors and central bankers, or other regulatory authorities may need to be involved. In such cases, the securities regulators and central banks will endeavour to ensure the timely and full implementation of these standards by working with the government, any other regulatory authority and other involved parties. 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 adopt those ESCB-CESR standards which are deemed relevant from a central bank user perspective, and these will then replace the corresponding ECB standards.
8. It will be important to ensure the regular monitoring of addressees’ implementation of these standards. Securities regulators and, where applicable, prudential supervisors and overseers are likely to check compliance with the standards as part of their current 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.
9. It is therefore suggested that the application of the standards be guided by the following principles:
 1. Standards are tools allowing regulators, supervisors and overseers to adapt their regulation and supervisory practices to a commonly accepted model. 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. However, 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. The ECB may also impose stricter obligations through its user standards if it considers that the ESCB-CESR standards need to be enhanced further to protect the Eurosystem from incurring losses through its credit operations. However, such obligations should be consistent with the objectives outlined in this report.

3. 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.
4. In order to increase transparency and to create a more level playing-field in the European Union, regulators, supervisors and overseers should disclose to each other whether or not the standards have been met by their national systems. This could be done within the framework of the Group, although that would not prevent national authorities from publishing the results of the assessment.

The ambit of the Standards

10. 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).
11. 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 clearing and settlement systems. Some of them have clearing and settlement activities comparable to those of national CSDs in terms of volume and value. 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 are also relevant for custodians that operate systemically important systems. As the explicit extension of some standards to major custodians is a new feature of this report, the Group has prepared a specific questionnaire on this issue, with a view to public consultation.
12. 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 relevant for registrars.
13. 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 relevant to certain providers of other securities services such as trade confirmation and communication network services.
14. 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

15. 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.
16. It is clearly recognised that any future European Commission initiatives would take place at a completely different level to the work of this Group. Whereas the European Commission could, if appropriate, use its powers *inter alia* to propose a European legal instrument, this is obviously not in the remit of this Group.

- Giovannini Group 1st and 2nd Reports

17. The Group reviewed the two Giovannini Group reports in order to identify any useful contribution that it could make to break down the barriers to the further integration of the European securities clearing and settlement infrastructure that were identified in the report. This influenced the discussions of the Group and is reflected in the standards proposed in this report.

Relation of the work to private initiatives

- The Group of Thirty (G30)

18. 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)

19. 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.

Follow-up work

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

- Implementation of the standards

21. 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 will co-operate and exchange information on the implementation of the standards within their jurisdictions and/or fields of regulation, supervision and/or oversight. The Group believes it could be beneficial to develop an assessment methodology comparable to the CPSS-IOSCO assessment methodology, albeit adjusted to the ESCB-CESR needs. The Group also believes that the co-operation and information exchange should 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 assessment results made by regulators, supervisors and overseers.

- Settlement cycles

22. 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. This work could be structured as follows:

1. Undertake a more comprehensive review of current market practices and the reasons for their evolution;
2. Identify the relevant parameters for assessing the costs and benefits of harmonisation at national and European levels;
3. Undertake a cost-benefit analysis based on these parameters; and
4. Make recommendations for an appropriate degree of harmonisation.

- Central counterparty clearing (CCP)

23. 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.

24. 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. It is envisaged that more comprehensive work can be done on CCPs at a second stage, addressing a number of issues related to access, the business relationship between CCPs and CSDs, links between CCPs, etc. It is proposed that work on CCPs will be carried out in parallel with the work currently being done by CPSS-IOSCO on the establishment of risk management standards for CCPs.

- Definition of systemically important systems

25. As outlined above, under “The ambit of the Standards” the Group is proposing that the standards be applied to certain custodian banks depending on the significance of their clearing and settlement activities in the context of the financial system as whole. The term “custodians operating systemically important systems” has therefore been included in the addressee provisions of the appropriate standards. The Group recognises that the concept of “systemic importance” in the field of clearing and settlement is complex and contentious, and it is therefore submitting a questionnaire on the subject with a view to developing the most appropriate definition of “systemic importance”. This definition will be further defined once the responses to the public consultation have been received.

List of the Standards³

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.

Addressees: CSDs, CCPs and custodians operating systemically important systems.

Standard Recommendation 2: Trade confirmation and settlement matching

~~Confirmation of trades~~ Trades between direct market participants should be confirmed as soon as possible without delay after trade execution, ~~but~~ and 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 and no later than T+~~0+1~~.

For settlement cycles that extend beyond T+0, settlement instructions should be matched as soon as possible and no later than the day before the specified settlement date.

Addressees: Market participants and operators of systems for trade confirmation, affirmation and matching of settlement instructions.

Standard Recommendation 3: Settlement cycles

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

Addressees: CSDs, CCPs and custodians that operate systemically important systems and operators of regulated markets.

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.

Addressees: market participants and CCPs.

³ The revision-marks indicate the changes that have been made to the original text of the CPSS-IOSCO Recommendations.

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.

Addressees: Entities providing securities lending services in connection with the securities settlement process, including CSDs, CCPs and custodians operating systemically important systems.

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.

In order to minimise systemic risks, CSDs should avoid taking risks to the greatest practicable extent.

Addressees: CSDs and registrars insofar as these entities perform for the function of securities issuance, the management of the issue and the transfer of securities through book entry.

Standard Recommendation 7: Delivery versus payment (DVP)

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

Addressees: CSDs and custodians that operate systemically important systems.

Standard Recommendation 8: Timing of settlement finality

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

Addressees: CSDs and custodians that operate systemically important systems.

Standard Recommendation 9: CSD – Risk controls in systemically important systems – to address participants’ failures to settle

Entities that operate systemically important systems need to put in place rigorous risk control measures in order to ensure that the probability of failing to provide timely settlement is negligible. Systemically important systems CSDs that extend intraday explicit credit to participants should employ robust risk mitigation measures and, whenever practicable, full collateralisation should be applied. Incomplete collateralisation must be complemented by additional risk mitigation measures such as minimum credit quality of the borrower, credit exposure limits and, on the part of the operator, an adequate minimum capital base and adequate internal risk control measures.

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.

Addressees: CSDs and custodians that operate systemically important systems and who extend credit explicitly 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.

Standard Recommendation 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.

Addressees: CSDs and custodians that operate systemically important systems and, more specifically, the cash payment arrangements for settling securities transactions in their systems.

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 and (v) have appropriate business continuity and disaster recovery arrangements. Contingency

~~plans and backup facilities should be established to~~ that allow for timely recovery of operations and the completion of the settlement process.

Addressees: 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.

RecommendationStandard 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 customer's~~ creditors of all entities involved in the custody chain.

Addressees: Entities holding customers' securities accounts, including registrars, CSDs, CCPs and custodians.

Standard ~~Recommendation~~13: Governance

Governance arrangements for entities providing securities clearing and settlement services ~~CSDs and CCPs~~ should be designed to fulfil public interest requirements and to promote the objectives of owners and users.

Addressees: CSDs, CCPs and custodians with a dominant position in a particular market.

Standard ~~Recommendation~~14: Access

CSDs and CCPs and custodians with a dominant position in a particular market should have objective and publicly disclosed criteria for participation that permit fair and open access. Rules and requirements that restrict access should be aimed exclusively at the controlling of risk.

Addressees: CSDs, CCPs and custodians with a dominant position in a particular market. 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.

Standard ~~Recommendation~~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.

Addressees: CSDs, CCPs and custodians with a dominant position in a particular market. 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.

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

Entities providing ~~s~~Securities 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-system. This will promote straight-through processing (STP) across the entire securities transaction flow.

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

Addressees: Entities providing securities clearing and settlement services, and participants. 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.

Standard Recommendation-17: Transparency

CSDs, ~~and~~ CCPs and custodians with a dominant position in a particular market 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.

Addressees: CSDs, CCPs and custodians with a dominant position in a particular market. For this standard to be effective, it also needs to be applied by other providers of securities services, such as trade confirmation services, messaging services and network providers.

Standard Recommendation-18: Regulation, supervision and oversight

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

Addressees: Central banks, securities regulators and, where appropriate, banking supervisors.

Standard Recommendation-19: Risks in cross-~~border~~-system links⁴

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.

Addressees: CSDs and custodians operating systemically important systems that establish cross-system links.

⁴ This standard does not cover links established by CCPs. These will be covered by the future work of the ESCB-CESR on CCPs.

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 and custodians operating systemically important systems.*
- 2. As a general matter, the rights, liabilities and obligations arising from the laws, regulations, rules and procedures, and 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.*
- 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. It is desirable for all eligible CSDs and CCPs governed by the law of an EEA Member State to be designated under Directive 98/26/EC on settlement finality in payment and securities settlement systems.*

Explanatory memorandum

26. The reliable and predictable operation of a 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.
27. The legal framework applicable for to securities clearing and settlements systems, ~~SSSs~~ 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 settlements 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.

28. As a general matter, the laws, regulations, rules and procedures, and contractual provisions governing the operation of securities clearing and settlement systems SSSs should be clearly stated, understandable, internally coherent and unambiguous. They also should be public and accessible ~~to~~ system participants.
29. As a minimum, information (where appropriate an analysis or opinion) on the following subject matters must be made available to market participants by the operator of the relevant system: (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) 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) 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 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 for the liquidation of positions, including the liquidation of assets pledged or transferred as collateral; and (15) the legal status and nature of CCP risk management techniques, including the CCP legal position vis-à-vis counterparties (Standard 4).
30. ~~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.~~
31. 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 be designated under this Directive.

32. The effective operation of a 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 in another jurisdiction. The effective operation of a 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 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 securities clearing and settlement system SSS such as a CSD, CCP or settlement bank.

33. The legal framework for a 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.

34. Where a system ~~has~~ ~~crosses~~ ~~borders~~ ~~nature~~ 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. It is recommended 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 with all participants. Ideally, the law chosen should be identical to the law governing the system, in order to safeguard systemic finality, certainty and transparency.~~

35. ~~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.

36. ~~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?

37. In comparison with the CPSS-IOSCO recommendation, the ESCB-CESR standard requires further transparency from the operator of a securities clearing and settlement system. The operator should describe and make available to all market participants information on (at least) 15 specific issues regarding the legal framework of the securities clearing and settlement system.

Standard Recommendation 2: Trade confirmation and settlement matching

~~Confirmation of trades~~ Trades between direct market participants should ~~occur~~ be confirmed as soon as possible without delay after trade execution, ~~but~~ and 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~~ and no later than T+0+1.

For settlement cycles that extend beyond T+0, settlement instructions should be matched as soon as possible and 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 without delay after trade execution no later than ~~on~~ 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 but in any case no later than ~~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

38. 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 affirmation, when required,

should occur preferably without delay after trade execution, but in any case no later than the end of trade day (T+0).

39. On both tracks, agreement of trade details should occur as soon as possible ~~without delay after trade execution~~ 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.
40. While this process 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.)
41. 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.
42. 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?

43. The ESCB-CESR standard requires that confirmation of trade details between direct participants takes place “without delay” after trade execution, while the CPSS-IOSCO recommendation refers to “as soon as possible”. Second, confirmation of trade details by indirect participants should take place on the trade date at the latest, while the CPSS-IOSCO allows confirmation to take place the next day. Third, the standard emphasises the importance of having settlement instructions matched as soon as possible and no later than the day before the specified settlement date. The reason for strengthening the CPSS-IOSCO recommendation is that a reduction in the length of time for trade confirmation and settlement matching would have a positive impact on reducing settlement failure, as it would ensure the verification and correction of inaccurate data at an early stage in the settlement process. This would reduce the costs associated with unmatched transactions, which in some markets constitute a relatively high cost. Moreover, a harmonised rule for all of Europe would facilitate cross-border trades. Shortening the time for trade confirmation and matching would also contribute to shortening the settlement cycles. In Europe, confirmation already occurs directly after trade execution for the majority of trading platforms and for bilateral OTC trades.

Standard Recommendation 3: Settlement cycles

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

Key Elements

- 1. This standard is addressed to CSDs, CCPs, custodians that operate systemically important systems and operators of regulated markets.*
- 2. Rolling settlement at T + 3 is the current European minimum standard.*
- 3. Harmonising 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 market participants, but relevant public authorities should encourage such initiatives.~~The benefits and costs of a settlement cycle shorter than T+3 should be evaluated.~~*
- 4. The ~~f~~Frequency and duration of settlement failures should be monitored and evaluated by the operator of the securities settlement system.*
- 5. The ~~r~~Risk implications of failure rates should be analysed and actions taken that reduce the rates or mitigate the associated risks.*
- 6. CSDs and CCPs should harmonise their operating days and hours, using TARGET operating times as the benchmark.*

Explanatory memorandum

- 44. 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”.*

45. 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.~~ Many markets already are settling at a shorter interval than T+3. For example, many government securities ~~markets~~ already settle on T+~~12~~ ~~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.~~
46. ~~The fragmentation of the EU securities markets could be reduced if settlement cycles were 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.~~
47. 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.
48. ~~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 using TARGET operating times as the benchmark. In particular, CSDs and CCPs should harmonise settlement deadlines to accept instructions for the same settlement day.

49. 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.

50. 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.

What's new in the CESR-ESCB standard?

51. 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 European Union. It suggests a strong need for a cost-benefit analysis of the harmonisation of settlement cycles as well as of operating days and hours. The shortening of settlement cycles is also a goal, but only at a second stage.

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.

<u>Country</u>	<u>Government Debt Instruments*</u>	<u>Private Debt Instruments*</u>	<u>Equities*</u>	<u>OTC Instruments</u>
<u>Austria</u>	<u>T+3</u>	<u>T+3</u>	<u>T+3</u>	<u>Negotiable (T+0 to T+14)</u>
<u>Belgium</u>	<u>T+2/T+3</u>	<u>T+3</u>	<u>T+3</u>	<u>Negotiable</u>
<u>Denmark</u>	<u>T+3</u>	<u>T+3</u>	<u>T+3</u>	<u>Negotiable</u>
<u>Finland</u>	<u>T-bills: T+2</u> <u>Govt bonds: T+3 – T+0)</u>	<u>Bonds: T+3</u> <u>Commercial paper: T+2</u>	<u>T+3</u>	<u>Negotiable</u>
<u>France</u>	<u>Treasury bills and notes: T+1</u> <u>Bonds: T+3</u>	<u>Short term instruments: T+1</u> <u>Bonds: T+3</u>	<u>T+3</u>	<u>From T+0 until T+100</u>
<u>Germany</u>	<u>T+2</u>	<u>T+2</u>	<u>T+2</u>	<u>Negotiable</u>
<u>Greece</u>	<u>T+3</u>	<u>T+3</u>	<u>T+3</u>	<u>N/A</u>
<u>Iceland</u>	<u>T+1</u>	<u>T+1</u>	<u>T+1</u>	<u>N/A</u>
<u>Ireland</u>	<u>T+3</u>	<u>T+3</u>	<u>T+3</u>	<u>T+3</u>
<u>Italy</u>	<u>BOT: T+2</u> <u>Other: T+3</u>	<u>T+3</u>	<u>T+3</u>	<u>Negotiable</u>
<u>Luxembourg</u>	<u>T+3</u>			
<u>The Netherlands</u>	<u>T+3</u>	<u>T+3</u>	<u>T+3</u>	<u>T+0 – T+100</u>
<u>Norway</u>	<u>T+3</u>	<u>T+3</u>	<u>T+3</u>	<u>T+3</u>
<u>Portugal</u>	<u>T+3</u>	<u>T+3</u>	<u>T+3</u>	<u>T+0 or T+3</u>
<u>Spain</u>	<u>Repos: T+0 and T+1</u> <u>Outright transactions: up to T + 3</u>	<u>Stock Exchanges: T+3</u> <u>AIAF market: up to T+3</u>	<u>T+3</u>	<u>Negotiable (T+0 to T+3)</u>
<u>Sweden</u>	<u>Bills: T+2</u> <u>Bonds: T+3</u>	<u>Bonds: T+3</u> <u>Commercial paper: T+2</u>	<u>T+3</u>	<u>Negotiable</u>
<u>United Kingdom</u>	<u>T+1</u>	<u>T+3</u>	<u>T+3</u>	<u>Negotiable</u>

* 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 market participants and CCPs.*
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 should 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.*
4. *A CCP should institute appropriate risk controls management sufficient to withstand severe shocks, including defaults by one or more of its participants. The operation of a CCP should be based on a complete assessment of the risks assumed and the risk management methods used.¹*
5. *Cash settlement and custodial risks should be managed via arrangements ensuring quick and secure cash settlement, DVP, and the secure safekeeping of assets.*
- ~~7.6.~~ *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.*

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Cost-benefit analysis of a CCP

52. 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 are exposed to counterparty risk and

¹ This standard sets out a non-exhaustive list of the key risks associated with CCP operation, and for each risk category proposes a high-level standard for risk management. CPSS-IOSCO is presently developing and expanding its earlier work on CCP risk management. The ESCB-CESR Group recognises this initiative and is mindful to avoid duplication and ensure consistency. Nevertheless, it considers that a set of high-level standards with a specific focus on the European financial markets has been requested and constitutes a valid contribution to ensuring comprehensive CCP risk management procedures in Europe. In this context, the requirements set up in this Standard may need to be supplemented once CPSS-IOSCO's work on CCPs has been finalised.

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 netting by novation to the CCP also frees up for other purposes the 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 (such as requesting collateral or margin payments), 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.

53. 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, both on trades that have not reached settlement (replacement cost exposures) and trades in the process of settlement (principal exposures). 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.
54. 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.
55. 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.
56. The ~~h~~introduction of a CCP is another 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.

57. 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, individual markets that have not previously had or used a CCP should comprehensively ~~carefully~~ assess the balance of the benefits and costs of a CCP. 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.

Risk management measures

58. ~~If a~~ All CCPs ~~is established, it is important that it should~~ must have sound risk management because they ~~assume~~ responsibility for risk management and reallocates risk among ~~their~~ its participants ~~though its policies and procedures~~. As a result, if a CCP does not perform risk management well, the CCP could increase the 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 ~~the its access to~~ resources it maintains 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 counterparty and other credit, liquidity, legal and operational risks it assumes ~~incurs~~ and to absorb losses is essential to the sound functioning of the markets it serves. A CCP must be able to withstand severe shocks, including defaults by one or more of its participants in the face of severe adverse movements in market prices, and its financial support arrangements should be evaluated in this context. Furthermore, there must be a sound and transparent legal basis for, inter alia², 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.

59. 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 Standard 14 on access). The CCP's exposures should be collateralised. Most CCPs require members to deposit initial margin (cash or 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 margin (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 periods, CCPs collect additional margin (collateral) to ensure that the adequacy of their collateralisation is not eroded ~~minimise further their exposure~~.

² Other legal risks include access to the margin collateral and the right to offset losses using margin collateral or cash.

CCPs should also have rules specifying what constitutes default and clearly how defaults will be handled and how any mutualised risk backing losses will be applied in the event that a defaulting firm's collateral fails to cover its exposure. In this respect, For example, CCPs may have capital or 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, that would be used to meet losses in excess of the margin (collateral). 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.

60. CCPs and regulators/overseers are continually currently developing global risk management standards that draw on their common experience and expertise. For example, the European Association of Central Counterparty Clearing Houses (EACH) has developed a set of such standards. 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.
61. Counterparty risk is the risk linked to the default of a clearing member, i.e. the risk that the counterparty risk vis-à-vis member X turns into market risk when member X fails and is declared a defaulter. In this case, as the single counterparty to all members, the CCP assumes the position of the defaulting member to fulfil its obligations. To manage this risk, the CCP should implement a series of measures, including: 1) appropriate robust membership requirements designed to protect the orderly functioning of the CCP and the markets it serves, and processes to ensure that the membership continues to meet those requirements (which should cover, inter alia, minimum capital; effectuation of payment, collateral and delivery obligations; and business continuity planning vis-à-vis the CCP); 2) member and position monitoring to enable the early detection of the potential inability of a member to meet its obligations vis-à-vis the CCP; 3) valuation and margin adjustment ensuring that CCP exposure to market risk is accurately measured and contained; 4) default arrangements ensuring quick, decisive and legally secure responses to default; and 5) sufficient and liquid financial resources to cover the default risks assumed.
62. Risk management system risks are associated with inadequacies in the CCP's risk management techniques resulting in the CCP's assumption of an unanticipated level of counterparty risks (and other risks). For example, risks may arise from inadequate valuation and margining arrangements and quantitative models. Inaccurate models may result in the absorption of an undesirable level of counterparty risk (i.e. unidentified risk factor, badly specified risk factor, error of hypotheses, failure

in calibration of models with data markets, wrong use of the models, material errors in model design). Accordingly, the CCP should have appropriate risk management functionality, allowing it to monitor and control the risk it is exposed to. Furthermore, the CCP should: 1) ensure that positions are re-valued and re-collateralised via variation margin flows at least daily; 2) establish prudent initial margin requirements that measure the latent market risk of members' positions; 3) ensure that members meet these requirements only with high-quality collateral; 4) be able to monitor exposures on an intra-day basis, close to real-time, to ensure that the adequacy of the margins that it holds is not allowed to erode excessively during the course of the day; 5) have an independent, adequately staffed and appropriately qualified risk management department; and 6) be able to assess on an ongoing basis the adequacy of its non-margin default resources, e.g. regular stress testing of the amount of clearing fund assets or additional financial support.

63. Cash settlement and custodial risks are related to the failure of either the institution used by a CCP for the cash management of its own funds and margin assets or the settlement bank/custodian used by the CCP. Concentration risk can also arise if the funds and assets are held with a single or a very small number of institutions. In terms of practical implications, the failure of such institutions can inter alia lead to non-performance with respect to the timely settlement of members' cash liabilities, delivery versus payment (DVP), and secure safekeeping of collateral. To manage such risks, a CCP should, without incurring undue concentration risk, have arrangements in place to ensure quick and secure money settlement, effective DVP, and the secure safekeeping of assets. If commercial banks are used, the CCP should ensure that assets are deposited only with selected banks or high-quality custodians whose credit standing and arrangements are regularly assessed. However, these counterparty and concentration risks do not materialise if the CCP uses the central bank for money settlement and a CSD, which processes settlement in central bank money, for the DVP settlement.

What's new in the ESCB-CESR standard?

64. 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. Like the CPSS-IOSCO recommendation, the standard emphasises the importance of CCP risk management, but sets out a more detailed consideration of the risks assumed by CCPs and the techniques used to manage such risks. The standard thus sets out a (non-exhaustive and subject to further elaboration) list of the principal risks associated with CCP operations, and for each risk category proposes a high-level standard for managing those risks.

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 and custodians operating systemically important systems.
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, provided 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 measures, such as full collateralisation.
7. Additional strict risk management measures are needed when the principal to the securities lending facility also operates a CSD.
8. In no case should debit balances or securities creation 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

65. 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.
66. 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. 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.
67. 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 increase activity in several jurisdictions. Accounting standards also have an influence on the securities

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).

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.

68. Securities lending transactions can be arranged in several ways. Some entities ~~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 and securities clearing and settlement providers~~ 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.
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 an entity acting as a principal for a centralised securities lending arrangement, it is important that adequate risk control measures that substantially reduce the associated risks, such as full collateralisation, are in place (see Standard 9). In the event that the principal to a securities lending transaction also operates a securities settlement system, typically a CSD, the risk measures should ensure that the potential adverse impact from securities lending activities does not 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).

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. It also proposes risk management measures to be implemented by an entity providing a centralised securities lending facility. In particular, such an entity should fully collateralise its securities lending exposure. The standard also stresses the need to have additional risk management measures when the principal to securities lending transactions also operates a securities settlement system. In particular, it should have measures in place to ensure that securities creation can-not 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.

In order to minimise systemic risks, CSDs should avoid taking risks to the greatest practicable extent.

Key elements

1. *This standard is addressed to CSDs and registrars insofar as these entities perform the functions of securities issuance, the management of the issue and the transfer of securities through book entry.*
2. *Securities should be immobilisationed or dematerialisationed 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 registrar of 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 only place where ultimate settlement occurs for immobilised/dematerialised securities, they should avoid taking risks to the greatest practicable extent.*

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 by most of the entities to whom this standard is addressed, 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 its 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 are the only place where 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 have plans prepared in advance so that market participants will continue to have access to CSD services even if the CSD becomes insolvent.
79. In any event, it is advisable for CSDs to avoid risks to the greatest practicable extent. In practice, most CSDs avoid taking financial and credit risks or are even prevented by their statute from doing so. Some CSDs may also carry out related but non-core activities (such as credit extension, securities lending, clearing, matching, etc). When a CSD carries out such tasks, the associated risks should be mitigated in accordance with the requirements set out in Standard 5 (securities lending), Standard 9 (risk controls) and Standard 10 (cash settlement assets). No CSD in the European Union currently provides a central counterparty (CCP) service. 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.
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 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 Holding 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 broker-dealer or a custodian 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 standardsRecommendations. 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 CSD should 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 StandardRecommendation 13) is necessary, however, to ensure that these benefits are not lost as a result of monopolistic behaviour by the operator of the CSD.
83. The immobilisation or dematerialization of securities also reduces or eliminates certain risks, for example destruction 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. The ESCB-CESR standard broadens the scope of the CPSS-IOSCO recommendation. It identifies the functions of CSDs in the European context. Furthermore, the standard proposes that the CSD mitigate the associated risks to the greatest extent possible. This could be achieved by applying robust accounting standards such as double-entry bookkeeping and end-to-end audit trails to safeguard the integrity of the securities issue and protect the interests of the holders. 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, in order to minimise systemic risk, CSDs should avoid taking risks to the greatest practicable extent. When CSDs carry out related but non-core activities (such as credit extension, securities lending, clearing, matching, etc), they should mitigate the associated risks in accordance with the requirements set out in Standard 5 (securities lending), Standard 9 (risk controls) and Standard 10 (cash settlement assets).

Standard Recommendation 7: Delivery versus payment (DVP)

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

Key elements

- 1. This standard is addressed to CSDs and custodians that operate systemically important systems.*
- 2. The technical, legal and contractual framework should ensure actual DVP.*
- 3. The great majority of All securities transactions against cash at the level of CSDs and systemically important systems between direct participants of the CSD by value should actually be settled on a DVP basis.*
- 4. The length of time between the blocking of the securities and/or cash payment and the moment when deliveries become final should be minimised.*
- 5. 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 settlement system 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 settlement system CSD also enables the settlement system's CSD's participants to offer their customers DVP.
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 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

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

the day only (see Standard 9). 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, sStrictly speaking, DVP does not require simultaneous final transfers of funds and securities. Often when a settlement system 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 settlement system 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 settlement system CSD itself), because this would give rise to principal risk. In any case, DVP procedures require a sound and effective link 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. For the settlement of cross-border (including cross-system) securities transactions, the settlement systems involved 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.
91. Having achieved DVP with legal finality at the level of the settlement system, direct participants should then be encouraged to credit with finality the accounts of their customers on the settlement date (see Standard 8). This would reduce uncertainty for the end-investors and allow them to reuse (e.g. collateralise) the delivered securities.
92. If a system CSD achieves DVP, it enables local agents to offer DVP to their customers in other jurisdictions. Cross-border links between CSDs (see RecommendationStandard 19) can should be designed to permit DVP settlement of cross-border trades between participants in the linked CSDs.

What's new in the ESCB-CESR standard?

93. 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. In particular, for the settlement of cross-border or cross-system transactions where more than one settlement system is involved, the standard proposes that the systems involved should design their technical and legal arrangements and procedures in a way that ensures DVP.

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 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 and custodians that operate systemically important systems.~~
- ~~2. The timing of settlement finality 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 and unconditional.~~
- ~~3. 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 or by multiple batch processing during the settlement day.~~
- ~~4. In the absence of real-time settlement finality, a system should offer several batches throughout the settlement day in order to allow the achievement of intraday finality.~~
- ~~5. The settlement system should provide incentives encouraging its participants to fulfil their settlement obligations early during the settlement day.~~
- ~~6. The rules of the system should prohibit the unilateral revocation of unsettled matched transfer instructions late in on the settlement day. should be prohibited~~
- ~~7. 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.~~

Explanatory memorandum

94. 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.¹ The completion of final transfers during the day is essential and must be legally protected in each

¹ It is important to distinguish the concept of “settlement finality” from that of “transfer order finality” as covered by the Settlement Finality Directive (98/26/EC). While the former refers to finality of the actual settlement, the latter refers to the moment at which a transfer order is entered into a (settlement) system.

jurisdiction in the European Union. 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 settlements ~~may entail~~ significant liquidity risks, unless risk controls to address participant defaults are highly robust (~~See Recommendation Standard~~ 9).

95. Even if the risks of participant failures to settle are controlled effectively, end-of-day net settlement ~~may entail~~ 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 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 on a batch basis at one or more discrete, pre-specified times during the processing day. The frequency of the batches depends on the needs of 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.
96. 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. When defining the timing of the afternoon settlement batches (cut-off time to receive instructions for same-day settlement), it is important to consider the TARGET closing time. 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.
97. 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.
98. 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.

99. 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.
100. 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 settlements 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 unwind~~ing~~ 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.~~
101. 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.
102. ~~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?

103. In comparison with the CPSS-IOSCO recommendation, the ESCB-CESR standard emphasises the need for intra-day 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 or multiple-batch processing, depending on market needs. In the absence of real-time procedures, a system should offer several batches throughout the day. It is crucial that the securities can be reused within the same day on a cross-border basis. 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 Risk controls in systemically important systems to address participants' failures to settle

Entities that operate systemically important systems need to put in place rigorous risk control measures in order to ensure that the probability of failing to provide timely settlement is negligible. Systemically important systems CSDs that extend intraday explicit credit to participants should employ robust risk mitigation measures and, whenever practicable, full collateralisation should be applied. Incomplete collateralisation must be complemented by additional risk mitigation measures such as minimum credit quality of the borrower, credit exposure limits and, on the part of the operator, an adequate minimum capital base and adequate internal risk control measures.

, 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 explicitly 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.*
- 2. 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, even in case of the default of the participant with the largest payment obligation.*
- 3. In principle, the operators of systemically important systems should not run credit risks and, therefore, in cases where they extend explicit credit to their participants, they should fully collateralise their credit exposures. However, in certain circumstances, e.g. to support the orderly functioning of the market, operators may offer a marginal amount of uncollateralised credit, but only to institutions with a very high credit standing and according to rigorous risk control measures. Over time, these requirements should be increased, leading to a significant reduction of the level of risk throughout the system.*
- 4. Operators of systemically important systems should also ensure that their activities not related to settlement do not endanger their ability to fulfil their obligations as a settlement service provider.*
- 5. 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.*

6. The entity should report regularly, but at least twice a year or on request, to the relevant regulatory authority, detailing its total credit exposure and any large individual exposures.

Explanatory memorandum

104. Where they are permitted to do so, ~~CSDs operators of settlement systems~~ often may 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 operator~~, as principal or on behalf of another cash provider, and take the form of intraday loans or repurchase agreements.
105. 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.)
106. 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 operators of systems~~ or on ~~its the~~ 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 system CSD serves and payment systems may be disrupted.
107. 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. 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.

- ~~108. Consequently, CSDs Operators of systemically important systems 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.
- ~~109. In principle, operators of systems should not run credit risks and, therefore, in cases where they extend explicit credit to their participants, they should fully collateralise their credit exposures. However, in certain circumstances, e.g. to support the orderly functioning of the market, operators may offer a marginal amount of uncollateralised credit, but only to institutions with a very high credit standing (or that have guarantees from institutions with a very high credit standing) and according to rigorous risk control measures, including limits on credit extensions to a single participant or a group of connected participants. In order to be able to handle a participant's default, the operator of a settlement system needs to: 1) have an adequate minimum capital requirement; 2) have adequate internal controls and risk mitigation measures; and 3) to disclose publicly its risk exposures and risk mitigation policy. The operator may also organise itself as a limited purpose bank.¹ Finally, operators of settlement systems must also ensure that their activities not related to settlement do not endanger the ability of the institution to provide settlement services.~~
- ~~110. 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 system should apply haircuts to collateral values that reflect the price volatility of the collateral. Also as part of this approach, legally binding arrangements are should be 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~~

¹ However, the concept of limited-purpose bank is not currently defined in European legislation.

~~side. Therefore,~~ the size of its total uncollateralised credit extension ~~and the size of its uncollateralised 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. The limits of total uncollateralised credit exposure to participants and large individual uncollateralised 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. When there is a risk of a conflict of interests – for example, if the participants are members of the board or are represented by board members – the decision should be taken with due regard to this conflict of interests.

111. 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?

112. In comparison with the CPSS-IOSCO standard, the ESCB-CESR standard distinguishes more clearly those cases where: 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. Adequate risk mitigation policies, including credit limits and continuous monitoring of the exposures, have to be implemented. As a risk control measure, the standard requires full collateralisation whenever practicable. Incomplete collateralisation must be complemented by additional risk mitigation measures such as ensuring a minimum credit quality of the borrower. 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 and custodians that operate systemically important systems and, more specifically, to the cash payment arrangements for settling securities transactions in their systems.*
- 2. For transactions denominated in the currency of the country where the settlement takes place, CSDs should always offer those members who are eligible to access the central bank settlement account the option to settle the cash payments in central bank money. 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, CSDs and custodian banks must take steps 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.*
- 4. Only regulated institutions with robust legal, financial and technical capacity should be allowed to act as settlement agents.*
- 5. The proceeds of securities settlements should be available for recipients to use as soon as possible on an intraday basis or, at least, on a same-day basis.*

Explanatory memorandum

113. Arrangements for the settlement of payment obligations associated with securities transactions vary across market participants and settlement systems ~~CSDs~~. In some cases a market participant has a direct relationship with the settlement systems ~~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 settlement systems ~~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

¹ Some market participants may not have a direct relationship with the settlement system ~~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.

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

114. 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 for the settlement system's CSD~~ members. Furthermore, these risks are involuntary and difficult for ~~the settlement system's 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.

115. In a single currency system, ~~some~~ CSDs ~~should always offer their members who are eligible for a central bank account the option to~~ 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 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.

116. 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 ~~settlement system CSD~~ members is possible, the hours of operation of the relevant central banks' payment systems may not overlap with those of the ~~settlement system CSD~~ settling in their currencies. CSDs and custodians that operate systemically important systems may therefore offer their participants the possibility to settle the cash payment in their own funds or in the funds of a third party.

117. When a ~~CSD or private~~ bank is used as the cash settlement agent, steps must be taken to protect ~~CSD the system's~~ members from potential losses and liquidity pressures that would arise from its failure, in accordance with the credit risk mitigation approach 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~~

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.

~~supported by effective loss sharing mechanisms or reliable third party credit support arrangements; and strictly limit any non settlement activities and associated risks.~~

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

119. Finally, whatever the payments arrangements, 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 and not with the cash settlement agent should be given timely access to the proceeds of securities settlement by their settlement banks.~~

What's new in the CESR-ESCB standard?

120. ~~The ESCB-CESR standard further specifies the CPSS-IOSCO recommendation. In particular, it requires that for transactions denominated in the currency of the country where the settlement takes place, the CSD should offer its members the facility to settle cash payments in central bank money. Furthermore, the standard refers to Standard 9 regarding the risk control measures to be used in order to protect participants from potential losses and liquidity pressures when central bank money is not used.~~

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 and (v) have appropriate business continuity and disaster recovery arrangements. 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 identified, monitored, assessed and minimised. System operators should identify 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 should be 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. 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, with a reasonable degree of certainty, timely business resumption with a high level of integrity and sufficient capacity. Business continuity and disaster recovery arrangements should be tested on a regular basis and after major modifications to the system. Adequate crisis management structures 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. 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. An entity should only outsource clearing and settlement operations or functions to third parties after the prior approval of the relevant competent authorities has been obtained, 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

121. Operational risk is the risk that deficiencies in information systems or internal controls, human errors, ~~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.

122. 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.

123. 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.

124. 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.

125. 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.
126. 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 responsibility for implementing changes to the risk strategy approved by the board of directors.
127. 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 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.
128. 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 should also conduct regular independent evaluations of the institution's strategies, policies, procedures and processes related to operational risk.
129. 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.
130. Providers of securities clearing and settlement should have business continuity and disaster recovery plans, including an evaluation of their reliance on third parties, to ensure with a reasonable degree of certainty timely business resumption with a high level of integrity and sufficient capacity following a disruption or a disaster. 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). 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 that end, every operational failure should be listed and analysed in detail. Critically important service providers should seriously consider setting 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. When a second processing site is established, data processing should be switched to the second site (preferably 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. The second site should be located at an appropriate geographical distance and be protected from any events potentially affecting the primary site. The continuation of the activity on the second site within a short period of time 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.

131. 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

132. 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.

133. In principle, CSDs and registrars should carry out the different functions on their own behalf. However, outsourcing is permitted within the limits outlined hereafter. CSDs, CCPs or custodians that operate a systemically important system should only outsource their actual clearing and settlement operations or functions to third parties after having obtained prior approval from the relevant

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

competent authorities, where applicable. 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. 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 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.

- ~~134. 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?

- ~~135. 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 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 systemically important securities clearing and settlement 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, an entity 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 registrars, CSDs, CCPs and custodians.*
- 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 regularly be subject to a mandatory audit certifying the consistency between securities holdings in the name of their clients (including the entity's proprietary account), and the securities holdings kept upstream in the name of the entity itself, and to 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 debit balances or securities creation 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

136. Custody risk is the risk of a loss on securities held in custody occasioned by a custodian's (defined as any intermediary involved in safekeeping and custody activities such as registrars, CSDs, CCPs, banks, 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.)~~
137. There are different ways of holding a customer's securities. These are determined by the local jurisdiction. 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, segregation might be achieved 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, segregation 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. 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.
138. ~~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 subcustodian. 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 custodian's creditors, ~~a customer's claims against a custodian are typically given priority or are given~~

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

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.

139. 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. The requirement of sSegregation is a common device that will facilitates 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 of customer assets by custodians at every appropriate level.

140. 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.

141. 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 should not be allowed to use the customer's securities for any transaction, except with the customer's

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.

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.

142. ~~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.~~

143. 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 ~~it~~ local ~~sub~~custodians employ appropriate accounting, safekeeping and segregation procedures for customer securities.

144. 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?

145. In comparison with the CPSS-IOSCO recommendation, the CESR-ESCB standard emphasises the need to have 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 entities providing securities clearing and settlement services 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, CCPs and custodians with a dominant position in a particular market.*
- 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.*
- 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.*

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146. 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.
147. This ~~recommendation standard~~ focuses on CSDs, ~~and CCPs~~ and custodians with a dominant position in a particular market. 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~~.

148. Governance should seek to defend the relevant public policy interests, 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. 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 important for there to be a clear role for board members who are fully independent from the management. User representation should be achieved, inter alia, through consultation mechanisms ideally drawing on key users, including small and retail investors, and full account should be taken of their 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.
149. CSDs, CCPs and custodians with a dominant position in a particular market provide services to various groups of users. The interests of these users are not always compatible. There is also the possibility of conflicts of interest arising between the users and the operator of the system itself. This possibility could be increased when a system is run for profit and/or is part of a group. 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 clearing and settlement and in the operators. There should at least be transparency at the level of general policy and procedures.

What's new in the CESR-ESCB standard?

150. In comparison with the CPSS-IOSCO recommendation, the CESR-ESCB standard clearly identifies the relevant public policy interests. It requires fitness and propriety for managers in line with requirements applicable to managers of credit institutions and securities firms. The standard allows for different board structures. It calls on CSDs, CCPs and custodians with a dominant position in a particular market to have consultations and other mechanisms to ensure effective user representation. Finally, the standard discusses potential conflicts of interest between the operator of a system and its users, as well as those that can arise within the organisation, and requires that these conflicts be identified and managed.

Recommendation Standard 14: Access

CSDs and CCPs and custodians with a dominant position in a particular market should have objective and publicly disclosed criteria for participation that permit fair and open access. Rules and requirements that restrict access should be aimed exclusively at controlling risk.

Key elements

- 1. This standard is addressed to CSDs, CCPs and custodians with a dominant position in a particular market. 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 cCriteria that limit access on grounds other than risks to the systems ~~CSD or CCP should be avoided~~ should not be permitted.*
- 3. Criteria should be objective, clearly stated and publicly disclosed.*
- 4. Procedures facilitating the orderly exit of participants, for example: ~~that those who~~ no longer meet membership criteria, should be clearly stated, ~~and~~ publicly disclosed and followed in practice.*

Explanatory memorandum

- 151. ~~Broad a~~Access to ~~CSDs, CCPs~~securities clearing and settlement systems and other providers of services critical to ~~the~~ clearing~~ing~~ 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.*
- 152. CSDs, ~~and~~ CCPs and custodians with a dominant position in a particular market need to establish criteria that balance fairly the benefits of openness against the need to limit participation to those with the necessary expertise, powers and financial resources. Conditions for limiting access should be based on risk and risk alone, and should be publicly available. ~~The precise criteria are likely to vary according to the role the participant plays in the system.~~*
- 153. 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.*

154. 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 and custodians with a dominant position in a particular market, 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 risk 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.

155. 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 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 or custodians with a dominant position in a particular market 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.~~

156. 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).

157. Criteria that limit access on grounds other than risks to the CSD, ~~or~~ CCP or custodians with a dominant position in a particular market 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 [RecommendationStandard 19-on risks in cross border links](#)).

158. 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.
159. 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).
160. 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?

161. 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 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. The standard is also addressed to custodians with a dominant position in a particular market.

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 CSDs, CCPs and custodians with a dominant position in a particular market. 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

- 162. 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.*
- 163. 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.*

164. Entities operating securities clearing and 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.
165. The primary responsibility for promoting the efficiency and controlling the costs of a system lies with the designers, owners and operators. In some jurisdictions, 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.
- ~~166. 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.~~
167. 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.
168. 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.
- ~~169. 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?

170. 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 securities 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-system. 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 to 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, a timetable and deadlines for their application should be put in place. for cross-border transactions.*
- 3. Service providers should implement STP and in this context seek to avoid the disruption of efforts to achieve greater interoperability across systems in the European Union (EU).*

Explanatory memorandum

- 171. The adoption of universal messaging standards, with communication protocols covering the entire securities transaction flow, will ultimately facilitate 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 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.

172. Increasingly, internationally recognised message and securities numbering procedures and communication standards and protocols are being utilised for cross-border transactions.¹
173. 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.
174. 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.
175. 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.
176. At present, many network providers that previously used proprietary protocols are moving to develop IP-based communication networks.
177. 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.
178. 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 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.

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).

179. 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 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, they must ensure interoperability in terms of communication and information infrastructures, and messaging services and standards.
180. 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.~~
181. ~~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?

182. In comparison with the CPSS-IOSCO recommendation, the ESCB-CESR standard requires that, as a medium-term goal, all securities transactions should use or accommodate the relevant international communication procedures and message standards. When domestic communication procedures and message standards are used, the system operators should have efficient technical facilities in place that allow them to be an integral part of the European securities infrastructure. Second, the standard clarifies that the introduction of STP should not disturb efforts to achieve further interoperability between securities settlement service providers in the EU.

Standard Recommendation 17: Transparency

CSDs, ~~and~~ CCPs and custodians with a dominant position in a particular market 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.

Key elements

- 1. This standard is addressed to CSDs, CCPs and custodians with a dominant position in a particular market. For this standard to be effective, it also needs to be applied by other providers of securities services, 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 system associated with the clearing and settlement service; the information should include the main statistics and the balance sheet of the system's operator.*
- 3. Information 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~~.*
- 4. CSDs, CCPs and custodians with a dominant position in a particular market should publicly and clearly disclose their risk exposure policy.*
- 5. The ~~CPSS/IOSCO Disclosure Framework or the~~ answers to the key questions in the envisaged ESCB-CESR assessment methodology should be completed and publicly disclosed.*
- 6. Information should be updated on a regular basis.*
- 7. The accuracy and completeness of disclosures should be reviewed periodically, and at least once a year, by the CSD or CCP.*

Explanatory memorandum

- 183. 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.*
- 184. 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.

185. 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 inhibit unfair competition between service providers, CSDs, CCPs and custodians with a dominant position in a particular market should publicly and clearly disclose their risk exposure policy. 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 policy changes occur.

186. 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?

187. 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 and, as a result of this, users should be able to select services functions from different service providers. The standard requires that CSDs, CCPs and custodians with a dominant position in a particular market publicly and clearly disclose their risk exposure policy.

Standard Recommendation 18: Regulation, supervision and oversight

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

Explanatory memorandum

188. 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.
189. 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.

190. 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.

191. 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.

192. The securities regulator relevant authorities should have the ability and the resources to carry out regulation, supervision and oversight responsibilities effectively. 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 systemsservices, assessing the operation and design of the systems, and taking action to promote systems' entities' observance of the recommendations standards.

193. 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. 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 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.

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) 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).

194. 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, which is based on the principles of mutual recognition, as have been widely accepted in different fields of financial regulation in Europe (including EU banking regulation and payment systems oversight within the euro area). 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 should be those of the home country. On the other hand, when the same services are offered in a Member State through a subsidiary, primary responsibility should be assigned to the relevant national authorities of the Member State in which the subsidiary is located.
195. In any case, all the relevant national authorities that have a direct interest in the smooth functioning of the system should co-ordinate their efforts, taking into account their responsibilities and with a view to having each supervisor/overseer discharging its proper duties according to national laws and regulations.
196. The co-ordinated regulation/supervision/oversight of entities that are active in several Member States, either directly or through a branch, calls, among other things, for an extensive exchange of information whereby one of the public authorities – called the “lead supervisor/overseer” — serves, in principle, as the single entry point for the collection and exchange of information for all relevant national authorities and the supervised entity. However, alternative agreements may be entered into by the relevant authorities; hence the standard as proposed is to be seen as a default option. For instance, when a CCP functioning on a cross-border basis is involved, a flexible co-ordination framework involving the relevant national authorities may have to be agreed upon to enable the host authorities to obtain direct and timely access to relevant information from the foreign participant/securities clearing and settlement entity.
197. The oversight of systems that are active in several countries should follow the principles for co-operative central bank oversight set out in November 1990 by the Committee on Interbank Netting Schemes². This means in particular that the lead overseer should consult other central banks that have an interest in the system’s prudent operation.
198. In accordance with the home country principle, the supervisor/overseer in charge of the head office of the supervised entity will be considered as the lead supervisor/overseer. At the level of the entity concerned, this arrangement has the advantage of avoiding duplicating (or conflicting) requirements, supervisory/oversight gaps and unnecessary costs. National securities regulators/supervisors and central bank overseers should meet regularly to establish to what extent the ESCB-CESR standards

² Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries (see Lamfalussy report), BIS, November 1990.

have been implemented by the Member States, and what problems of implementation have been encountered.

What's new in the ESCB-CESR standard?

199. The ESCB-CESR standard further clarifies the arrangements for co-operation between regulators, supervisors and overseers at the European level. In particular, it recognises the “European model” based on the principle of mutual recognition that is applied in other fields of European financial regulation, although alternative agreements might also be adequate. Furthermore, for entities that are active in several Member States, the standard provides some guidance on how to co-ordinate the authorities concerned. In particular, the standard recommends that one authority – called the “lead supervisor/overseer” – serve, in principle, as the single entry point for the collection and exchange of information for all relevant national authorities and the supervised entity.

Recommendation Standard 19: Risks in cross-system border links¹

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 and custodians operating systemically important systems 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.*
- 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 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

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

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

determines the design of the link, as does the structure of the CSDs ~~themselves~~ and the legal framework applicable in the respective jurisdictions. For example, to settle cross-system border-trades 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~~ 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.

202. 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.

203. 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 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. 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 [RecommendationStandard](#) 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).

204. This standard also applies to relayed links and to other types of similar links where a CSD or a custodian operating a systemically important system intermediates in the relation between an investor CSD and an issuer CSD. These links allow two systems not directly connected to each other to exchange transactions through a third system (or systems) acting as the intermediary. The further layer of complexity introduced by having a longer chain of CSDs (or the involvement of custodians operating systemically important systems) 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 when needed. 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.

What's new in the ESCB-CESR standard?

205. In comparison with the CPSS-IOSCO recommendations, the ESCB-CESR standard refers to cross-system links, a term that also covers cross-border links. It contains specific requirements for relayed links established by a CSD or a custodian operating a systematically important system.