EUROPEAN CENTRAL BANK

EUROSYSTEM

RECOMMENDATIONS FOR SECURITIES SETTLEMENT SYSTEMS AND RECOMMENDATIONS FOR CENTRAL COUNTERPARTIES IN THE EUROPEAN UNION

May 2009

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INTRODUCTION

Background

1. In 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, the national central banks (NCBs) of the European Union[1] (EU) and the securities commissions which are members of CESR. The European Commission and, later, the Committee of European Banking Supervisors (CEBS) also observed the work of this Group. The preparations of this work was to a large extent based upon work conducted by the Committee on Payment and Settlement Systems (CPSS) of the central banks of the Group of Ten countries and the Technical Committee of the International Organization of Securities Commissions (IOSCO), notably their reports: Recommendations for Securities Settlement Systems (RSSS, November 2001), Assessment methodology for RSSSs (November 2002), and Recommendations for Central Counterparties (RCCPs, November 2004).

2. The work of the Group was put to a temporary halt in October 2005 in order to clarify the nature of the proposed standards and their relationship with other EU initiatives. The EU Commission had proposed the preparation of a framework directive on Clearing and Settlement in April 2004[2]. In addition the new Capital Requirements Directive (CRD) seemed to overlap with some proposed standards at least with respect to custodian banks.

3. The crisis in the financial markets, starting in a specific segment of the securities markets in the US in August 2007, has proved to be a real test for market players and regulators alike. The turbulence, high volatility and turnover in securities transactions underlined the need for safe, robust and reliable functioning of resilient systems for clearing and settlement of securities transactions. This was highlighted by the conclusions of the ECOFIN on clearing and settlement in December 2008 and in the declarations of G20 authorities following the meetings that took place on the crisis in November 2008 and April 2009.

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1 Only the 15 NCBs of the Member States that composed the EU in 2001 and the Securities Commissions of the Member States that composed the EEA in 2001 have been associated since the beginning. In June 2004, the central banks and the Securities Commissions of the new EU Member States have also been associated.

2 The EU Commission later in summer 2006 reformulated its approach and abstained from proposing a directive at least for the time being. It strongly promoted the adoption of a voluntary Code of Conduct by the industry as an alternative means of achieving relevant policy objectives.

4. ESCB and CESR decided in June 2008 to complete the work, following up the invitation of the ECOFIN Council[3]. Most of the stakeholders in this area were of the opinion that finalisation of the work by ESCB-CESR would be of added value and complementary to other public and private sector initiatives in maintaining and improving safety and soundness in clearing and settlement.

5. In June 2008 it was agreed that the result of the work would be a set of Recommendations for public authorities[4] only, rather than standards addressed to the providers of post trading services. It was also agreed to limit the scope of the work to CSDs and CCPs based on the assumption that the CRD (or other relevant banking regulation) will address the relevant post trading risks for custodian banks. In this respect CEBS was invited by the ECOFIN 'to further review, in cooperation with CESR, the coverage of risks borne by custodians, taking into account that some CSDs/ICSDs/CCPs are also subject to the CRD, so as to ensure a level playing field while avoiding inconsistencies in the treatment of custodians and double regulation by end 2008'[5].

6. The Group regularly consulted CSDs, CCPs and banks during the earlier preparations. More recently, in compliance with statutory obligations and in order to keep market players involved, CESR and ESCB organised two public consultations; one on the full set of the Recommendations in the autumn of 2008 and one in April 2009 on the impact of the need to cover clearing of OTC derivatives in the Recommendations for Central Counterparties. The industry welcomed both consultations and a large number of comments were incorporated in the Recommendations. A feedback statement is published in conjunction with these Recommendations to explain why other comments were not reflected in the final version of the text.

The objectives of the Recommendations

7. The main aim of the ESCB-CESR Recommendations is to promote competitive, efficient, safe and sound pan-European post trading arrangements. This should ultimately lead to greater confidence in securities markets and better investor protection and should in turn limit systemic risk. In addition, the Recommendations seek to improve the efficiency of the market infrastructure, which should in turn promote and sustain the integration and competitiveness of the European markets. Moreover, having a single set of Recommendations should also assist public authorities in addressing the fragmented European post trading sector and should not impose undue costs on market participants.

8. Against this background, the Group agreed to deepen and adapt to the European context some of the CPSS-IOSCO Recommendations with the following set of objectives:

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3 see ECOFIN Council conclusions on clearing and settlement, Luxembourg 3 June 2008

4 see paragraph 59

5 see ECOFIN Council conclusions on clearing and settlement, Luxembourg 3 June 2008

a. to increase confidence in the EU markets by providing clear and effective Recommendations;
b. to foster the protection of investors and, in particular, retail investors;
c. to promote and sustain the integration, competitiveness and, where needed, harmonization of European securities markets by encouraging efficient structures and market-led responses to developments;
d. to ensure the efficient functioning of securities markets and the cost-effective clearing and settlement of their transactions;
e. to further limit and manage systemic risk and to enhance the safety, soundness and efficiency of CSDs and CCPs operations and
f. to provide a single set of Recommendations for CCPs, CSDs and other relevant securities service providers in the EU, applied in a consistent manner without the imposition of undue costs.

9. Issues relating to market structure and to competition did not fall within the mandate of the Group. These are dealt with by the relevant national and European laws, regulations and authorities. If there are signs that an abusing situation could be emerging or already exists, then interested parties should be able to bring it to the attention of the competition authorities.

The nature of the Recommendations

10. The non-binding Recommendations are addressed to public authorities[6] in the EU. Within their respective competencies, these authorities intend to promote and monitor the application of the Recommendations within their jurisdictions. Public authorities will thus, where appropriate, integrate the Recommendations into their respective assessment frameworks and/or practices with which they assess the safety, soundness and efficiency of their respective CSDs and CCPs. While the Recommendations are addressed to public authorities, the primary responsibility for ensuring safe, sound and efficient operation of the CSDs and the CCPs lies with their designers, owners and operators. If and when needed the public authorities will organise an adequate follow-up if any gaps or deficiencies in respect of these Recommendations are identified with a view to improve compliance with the Recommendations in their respective markets. A description of the methodology to ensure adequate assessment by the authorities involved in the implementation of the Recommendations in the various jurisdictions is given in paragraphs 51 – 56 of this Introduction and in the annex attached to these Recommendations.

[6] The central banks of the non-EU members of the European Economic Area (EEA) will be invited to endorse the Recommendations.

11. The Eurosystem has already defined a set of standards for securities settlement systems which focus on the requirements of central banks in their role as users of settlement systems (the "ECB User Standards"). Once the ESCB-CESR Recommendations are endorsed, the Eurosystem may use them together with some additions to assess CSDs from a user perspective. In order to avoid double regulation, to the extent that any provisions of these Recommendations are included in existing EU regulations (e.g. CRD, MiFID, SFD, FCD), an institution, CSD or CCP, subject to those regulations will be considered compliant with these provisions of the Recommendations. This principle would also apply to national regulation as far as the equivalence and the effectiveness of this provision can be demonstrated.

12. The application of the Recommendations is guided by the following principles:

    a. Recommendations are tools that allow public authorities to regulate, oversee and supervise CCPs and CSDs providing clearing and settlement services in their jurisdiction using a commonly accepted reference. In this context, CSDs, CCPs and operators of securities clearing and settlement systems/arrangements should be required to provide securities regulators and central banks with information necessary for regulation, supervision and oversight in a timely manner. To this end, it is not excluded that some of the applicable national regulatory, oversight and/or supervisory frameworks could be adapted.

    b. As a commonly accepted reference, each public authority will seek to use the same Recommendations and assessment methodology. This will provide a better level playing-field and promote greater certainty for regulated entities. Member States may impose additional, stricter obligations within their own competence (e.g. prudential rules or other rules pertaining to the functioning of the infrastructures) to take into account specific features of their domestic markets that may affect financial stability, the adequate functioning of CSDs and CCPs operating within their jurisdictions and efficiency.

    c. Public authorities in the EU discuss among themselves in a coordinated way, within the framework of the Group, the way and the extent to which these Recommendations have been implemented within their jurisdictions. When key infrastructures are located in other jurisdictions, the cooperation of public authorities in all of the relevant jurisdictions is essential. These discussions between national authorities will provide a better level playing-field for the entities concerned, and will enhance efficiency and promote confidence in the internal market. Authorities are encouraged to disclose information pertaining to the results of the assessment.

The scope of the ESCB-CESR Recommendations for Securities Settlement Systems

13. Currently the regulation of CSDs is not harmonised in Europe. In some countries CSDs are allowed or required to hold a banking licence and therefore may also be allowed to extend credit to their participants within the scope of the banking rules which are harmonised at European level. In other countries they are prevented from undertaking any credit activity. In a third group of countries CSDs may provide credit only when the credit extensions are fully collateralised. In the absence of any EU regulation in this field the Group was not able to go beyond the original CPSS-IOSCO Recommendation and agreed to follow the invitation of the ECOFIN to introduce the original CPSS-IOSCO Recommendation 9 for securities settlement systems on risk controls in the set of ESCB-CESR recommendations.

14. While several of the Recommendations cover primarily and explicitly CSDs, other Recommendations are also relevant to other entities. The original CPSS-IOSCO Recommendations for securities settlement systems aim to include the full set of institutional arrangements for confirmation, clearing and settlement of securities trades and the safekeeping of securities. In accordance with the request of the ECOFIN the Recommendations contained in this report exclude custodians from its scope. This approach was agreed in order to avoid overlap with the Capital Requirements Directive (CRD) (or other relevant banking regulation), which did not exist when the original Recommendations were written. So as to ensure a level-playing-field and to avoid consistencies in the treatment of custodians and double regulation, the ECOFIN invited CEBS to further review, in cooperation with CESR, the coverage of risks borne by custodians taking into account that some CSDs/ICSDs/CCPs are also subject to the CRD. Therefore the reader should be aware of the differences in scope between these Recommendations and the original CPSS-IOSCO Recommendations.

The scope of the ESCB-CESR Recommendations for Central CounterParties

15. The ESCB-CESR Recommendations for CCPs and the related assessment methodology have been designed to cover CCPs, that is, entities that interpose themselves between counterparties to contracts in one or more financial markets, becoming the seller to the buyer and the buyer to the seller. Currently the regulation of CCPs is not harmonised in Europe. The use of a CCP is typically mandatory in the case of derivatives exchanges and is often mandatory in the case of securities markets to which a CCP provides services. The mandatory use of a CCP reduces counterparty credit risk because the CCP is the counterparty to every trade. In over-the-counter (OTC) markets in which CCP services have been introduced, the use of such services is typically optional. Counterparties may agree to submit their trades to a CCP, thereby substituting the CCP as counterparty, or they may agree not to do so, in which case they must manage their counterparty risks with each other. Whether it serves an exchange or OTC markets, a CCP

typically concentrates risks and risk management responsibilities. Even where the use of a CCP is optional, its services are often used intensively by the largest market participants. In markets where CCPs are not present, market participants cannot manage their counterparty credit and liquidity risks with other participants in the same way as market participants which use CCP services.

16. The Group has also considered whether the Recommendations and the assessment methodology should be applied to other institutional arrangements that perform similar yet distinct functions to those of a CCP: guarantee arrangements.[7]

Guarantee arrangements

17. In many markets for which there is no CCP, some type of guarantee arrangement has been introduced that provides market participants with a degree of protection against losses from counterparty defaults. The relevant public authorities are clearly interested in the extent to which a guarantee arrangement operating in their jurisdiction protects market participants against counterparty credit losses.

18. Guarantee arrangements currently in place vary greatly from simple insurance-based schemes to more sophisticated structures that in terms of function, risk management and significance are comparable to CCPs. This diversity suggests the need for a flexible case-by-case approach to the assessment of guarantee arrangement risk management, taking into account the characteristics of the individual arrangements.

19. On this basis, the Group considers that the Recommendations for CCP's should be understood to cover those guarantee arrangements that in terms of significance, function and risk management tools are comparable to CCPs and that such arrangements should be evaluated on the basis of the CCP assessment methodology. Therefore, where relevant, references to CCPs throughout the Recommendations should be read as including guarantee arrangements.

Applying ESCB/CESR Recommendations to CCPs clearing OTC derivatives

20. In view of the financial stability risks posed by the growing scale of OTC derivatives exposures and in particular those of credit derivatives, the ECOFIN has emphasised the need to support appropriate initiatives to reduce those risks, notably by developing one or more (or expanding

[7] The CPSS-IOSCO Recommendations for CCPs (RCCP) uses the term 'guarantee funds', which are defined as funds to compensate non-defaulting participants from losses they may suffer in the event that a participant defaults on its obligations as counterparty. This report uses the term 'guarantee arrangements', which has the same meaning. The terminology has been changed to avoid any confusion with the concepts of "clearing funds or 'default funds' maintained by a CCP as part of its financial resources or the 'deposit guarantee funds' that in some jurisdictions indemnify investors when default or bankruptcy by their bank investment firm or custodian leads to loss of their cash or securities deposited with that entity."

existing) European CCPs to serve the OTC derivatives markets. In this context, at its meeting on 2 December 2008, the ECOFIN invited ESCB and CESR to adapt the Recommendations for CCPs to explicitly address the risks of OTC derivatives.

21. The Group analysed a wide range of aspects relevant for the clearing of OTC derivatives in general and of credit derivatives in particular, including issues related to access, the protection of non clearing participants, risk management requirements, challenges related to the handling of credit events for credit default swaps (CDS), dispute resolutions, price transparency, various operational aspects, governance issues, and potential risks in links between CCPs. Given that the clearing of OTC derivatives is evolving rapidly, developments in this field will continue to be monitored and analysed.

22. OTC derivatives are diverse and in many cases relatively non-standardised instruments. Despite this, the Group concluded that the Recommendations for CCPs were generally well designed to capture also the specific features of the risks inherent in the clearing of OTC derivatives. However, it also identified several areas where additional clarifications in the relevant explanatory memoranda and in the related methodology would be helpful. Furthermore, the Group also considered that OTC derivatives are globally traded products and that therefore it will be important to develop a consistent international regulatory approach through continued dialogue with CPSS and IOSCO.

23. The Group considered that most of the risks in clearing of OTC derivatives do not significantly differ in nature from those of clearing on-exchange transactions. However, in view of the greater complexity of OTC derivatives and the relative illiquidity of certain contracts, the Group considered that risk management could differ and, therefore, it was essential for CCPs to be as transparent as possible for both regulators and users and to ensure effective risk management while users are encouraged to deliver price data to CCPs for risk management purposes. This is reflected in a number of recommendations, for example, regarding the determination of credit events for CDSs and the way they are handled, the different types of risks related to the clearing of specific products as well the different risk models and approaches to conduct the margining in each case, the structure and contributions to a clearing fund, and the way CCPs obtain and/or calculate prices that are needed as a basis for margin calculations.

24. The Group also concluded that some requirements are specific for the clearing of credit derivatives, while others are generally relevant for all types of OTC derivatives. For example, some amendments have been introduced in view of handling credit events which are specific to credit derivatives. Many other aspects and amendments, including those relating to transparency, concern the clearing of OTC derivatives in general. The Group has made an effort to mark clearly which amendments are relevant for credit derivatives only and which amendments are relevant for

OTC derivatives in general.

25. For the handling of credit events and the resolution of disputes, CCPs are encouraged to adopt widely accepted practices that already exist in this field or are currently under development by relevant international bodies. The Group calls on these bodies to provide harmonised and effective operational solutions where they do not yet exist, for example for the handling of restructuring credit events for CDS. The Group also invited these bodies to involve users and CCPs in the design of these solutions.

26. The Group also identified some relevant aspects of risk that affect entities other than CCPs and are therefore beyond the scope of the ESCB/CESR Recommendations but may have a bearing on CCPs. Clearing members may provide clearing for other market participants, so called non-clearing participants, which may be non-supervised entities. These entities may be a source of risk for clearing members. The relevant supervisors may wish to investigate the relationship between a clearing member and non clearing participants and address the potential risks for institutions offering services for all the products cleared by the CCPs and in particular for the clearing of OTC products.

27. As invited by the ECOFIN on 2 December 2008 in order to ensure global consistency, the ECB and CESR informed the CPSS and IOSCO with a view to taking up similar work in respect of the RCCPs of November 2004. A similar recommendation has been recently addressed to CPSS and IOSCO also by the G-20. Once this work is finalised, the Group will review the respective ESCB/CESR Recommendations to ensure consistency.

28. Finally, the Group emphasised that there are a number of measures apart from central counterparty clearing that may be considered to help improve the trading, transaction processing, and risk management infrastructures supporting the OTC markets, including wider adoption of electronic trading, faster and automated affirmation/confirmation of all derivatives trades, further use of settlement services and wider adoption of portfolio reconciliation and compression, as well as facilities to collateralise counterparty exposures. Many of these measures have already been identified and analysed by the CPSS report, mentioned before. Some of the measures are included in the Recommendations 2 and 3 of the RSSS section of this report. Others may need to be addressed elsewhere.

Relationship to the work of other European initiatives

A. Public Initiatives (CESR, CEBS and European Commission)

- CESR's work on central storage of data

29. In the course of 2007 CESR established a Post-Trading Expert Group, composed of experts from securities regulators. The group acts as a platform for the exchange of expertise and information, to follow more closely developments in various public and private sector initiatives with a view to prepare and propose positions in this area by CESR. Members of the Post-Trading Expert Group participate in the process for the adoption of these Recommendations.

30. Central storage of contract details for OTC trades, or 'data warehouses', contain the primary record of each contract and are fundamental for the process of clearing OTC derivatives in general and credit default swaps in particular. The current scope of the Recommendations only extends to CCP's management of its relationship with a warehouse. The role of data warehouses has been analysed by the CPSS report on "New developments in clearing and settlement for OTC derivatives" of March 2007. Such central storage of data can be provided by CCPs and/or by a range of alternative market infrastructures. However, the coverage of a data warehouse is generally wider than that of a CCP. Given the number of European entities active in the OTC market, relevant authorities have a keen interest in having unrestrained access to relevant data for the purpose of spotting trades and monitoring open interests in this market in order to monitor the build-up of large exposures of market participants, particularly in relation to specific instruments or market segments. Such monitoring processes are typically the responsibility of exchanges in relation to organised markets. The operation of an efficient and effective trade information database should meet a number of objectives, including, inter alia, reporting to competent authorities and supervision, transparency, legal soundness, governance, operational resilience and, - where they are not an integral part of the CCP - fair access criteria. There are therefore a range of relevant aspects of the recommendations on legal and operational risks, governance, interoperability and participation requirements. There may therefore be a need for more relevant and targeted recommendations applicable to warehouses themselves. To this end, a co-operative oversight framework needs to be developed at global level for warehouses that serve multiple markets, which should also ensure uninhibited access of supervisors to information held by trade warehouses. For reasons of legal protection, supervision and business continuity, CESR will study the usefulness of such a facility.

- CEBS' work on custodian banks

31. Furthermore, CEBS has compared the relevant ESCB/CESR draft Recommendations with the

CRD and other relevant EU Directives and Level 3 guidance applicable to custodian banks. CEBS has found that where custodian banks internalise settlement or CCP-like activities, some of the draft recommendations are either not met or only partially/indirectly met by the CRD and/or other relevant banking regulation.[8] To gather evidence about the extent to which such activities are performed by custodian banks (i.e. the internalisation of settlement or CCP-like activities), CEBS launched in February 2009 a call for evidence to its members and market participants.[9] The responses received led CEBS to conclude that there is little evidence to suggest that action at a European level is needed to address the issue of settlement internalisation.[10] However, in the medium term CEBS will investigate risk management aspects relevant to banks that take on the role of a general clearing member.[11]

- The European Commission's initiative on central clearing of credit default swaps

32. In addition, the European Commission has entered into discussion with the main market participants to ensure CCP clearing of CDS in Europe. On 17 February 2009, the majority of the main CDS dealers committed to clear CDS on European reference entities and indices based on these entities through one or more European CCPs by 31 July 2009. The European Commission has convened the main market players and regulators to form a Working Group on Derivatives. This Working Group will continue to meet on a monthly basis until the end of July 2009, with the primary objective to monitor the actual implementation of the commitment and to ensure that both users and infrastructures work on the enhancement of safety and transparency of OTC derivatives markets in general and CDS in particular.

- Communications from the European Commission

33. The ESCB-CESR Recommendations are based on the current market situation. Although some aspects of the activity of clearing and settlement are regulated in EU-law, no harmonized EU-framework, covering all aspects of this activity, exists at the moment. While the core of the Market in Financial Instruments Directive is relevant for trading, some aspects apply to the area of clearing and settlement. In particular, articles 34, 35 and 46 of the MiFID stimulated competition in the area of clearing and settlement, even before this Directive came into effect in November 2007. Other EU-Directives such as the (revision of the) Settlement Finality Directive may also have an impact on the Recommendations. A brief overview of the most relevant Directives in the

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8 CEBS's report to the ECOFIN: http://www.c-ebs.org/getdoc/a9671a67-1dd7-407f-82f8-ca1df2692f6f/CEBS-PUBLISHES-ITS-REPORT-TO-THE-ECOFIN-ON-CUSTODI.aspx.

9 CEBS' call for evidence: http://www.c-ebsorg/getdoc/97f1930b-8855-45d7-9faa-7f9d9a7f0414/CEBS-publishes-a-call-for-evidence-for-custodian-b.aspx.

10 Joint initiatives in this field aimed at raising awareness of the potential systemic risks inherent in settlement internalisation will be considered by CEBS (e.g. workshops/training for supervisors).

11 http://www.c-ebs.org/getdoc/3e3b44ff-f7f7-4d3b-a83f-7e3ecf8e2fc7/CEBS-publishes-a-report-on-custodian-banks'-settle.aspx.

area of clearing and settlement is annexed at the end of this Introduction. Future legislative developments will be monitored on a regular basis by the relevant authorities with a view to ensure that the Recommendations will remain consistent with applicable EU-law. The Group wishes to state clearly that the present Recommendations are not intended to pre-empt any future decisions that may be taken on the regulatory framework for these activities. Should e.g. a directive on clearing and settlement be adopted at a future state, the Recommendations would have to be assessed for their conformity with the provisions of such a directive and, if necessary, amended accordingly.

- ***Giovannini Group: first and second reports***

34. The Group has carefully reviewed the two Giovannini Group reports.[12] In particular, in the second Giovannini report, the work of ESCB-CESR is considered as the main tool to remove the barriers 4 (intraday finality), 7 (operating hours) and 6 (Settlement cycles). Moreover, further discussions on the Giovannini barriers in the context of the European Commission's follow-up work undertaken by its Clearing and Settlement Advisory and Monitoring Expert Group (CESAME) has shown that the adoption of the ECSB-CESR Recommendations will also support the removal of barriers 1(IT obstacles), 5 (remote access) and 14 (regulatory barriers not depending by law).

- ***CESAME, FISCO, Legal Certainty Group and Unidroit***

35. The implementation of the ESCB-CESR Recommendations will therefore facilitate the removal of some of the barriers identified in the Giovannini reports, thereby contributing to the work of the CESAME and its successor CESAME II Groups.[13] CESAME II acts as an interface between private and public sector bodies, it informally assists the Commission on specific technical issues related to the removal of the Giovannini barriers, it liaises with groups of experts for barriers related to legal and tax issues and with international bodies (e.g. the Group of Thirty) in order to make sure that the EU remains in step with other international initiatives.

36. An important aspect of the European Commission's work is the removal of tax related barriers to the clearing and settlement of cross border securities transactions as identified by the Giovannini Group, notably in the context of source taxation of income. An advisory Group named Fiscal Compliance Experts' Working Group was set up under the chairmanship of the Commission to advise it on these issues. The FISCO Group presented on 23 October 2007 the solutions to fiscal

[12] The Giovannini Group is a group of financial market experts under the chairmanship of Alberto Giovannini which advises the European Commission on issues relating to capital markets. It has produced two reports on clearing and settlement. The first report identified the barriers to efficient clearing and settlement in the EU. The second report proposed a coherent strategy for removing these barriers. These reports are available at http://www.europa.eu.int/comm/internal_market/financial-markets/clearing/index_ en.htm.

[13] The "CESAME II" Group is to follow up the work of the well-known "CESAME Group", whose mandate expired on 16 June 2008. See CESAME II's mandate on the Commission's website at http://ec.europa.eu/internal_market/financial-markets/docs/cesame2/mandate_en.pdf.

compliance barriers related to clearing and settlement of cross-border securities transactions. The Commission intends to act upon the advice and to adopt a Recommendation on withholding tax relief procedures before summer 2009. Discussions with Member States and experts are underway.

37. Another aspect of the Commission's policy presenting a clear relationship with the ESCB-CESR recommendations is the Commission's efforts to tackle discrepancies in the legal framework affecting the holding and transfer of book-entry securities. Such framework includes national laws, rules and procedures that support the holding, transfer, pledging and lending of securities.

38. The assessment of the Giovannini Group on this issue echoes ESCB-CESR which recommends that for systemic risk purposes it is necessary that the relevant public authorities support the harmonisation of the relevant rules; any discrepancies stemming from different national rules and legal frameworks in that respect should be minimised.

39. The Commission mandated an advisory group, the "Legal Certainty Group" to advise it on how to address the absence of an EU wide framework on the treatment of book-entry securities. The Legal Certainty Group issued in August 2008 its second advice on this issue proposing the adoption of harmonising measures in this regard[14]. The Commission agreed with the recommendation of the Group and announced its intention to present a formal proposal for an EU legislative instrument by the end of 2009.

40. The importance of this issue has also been evident on a global scale. In September 2002, UNIDROIT, the International Institute for the Unification of Private Law, a global legal organisation with 59 Member States, initiated a project entitled “Harmonised Substantive Rules regarding Indirectly Held Securities”. The objective was to consider the modernisation and harmonisation of key aspects of substantive law regarding intermediated securities. A diplomatic conference for the adoption of such substantive rules was held in Geneva in September 2008. Both the EU and the EU member States participated in the negotiations. Substantive progress has been made but the negotiating States decided to prolong the Conference before concluding. The second part of the Diplomatic Conference is expected to take place in October 2009.

- *TARGET-2-SECURITIES*

41. In July 2006 the ECB announced that the Eurosystem was evaluating opportunities to provide settlement services for securities transactions in central bank money on the basis of a single technical platform. In the following months, the project organisation was established and consultation with central securities depositories, market participants and other stakeholders took place. In March 2007 the Governing Council of the ECB concluded that it is feasible to implement

[14] Second advice of the Legal Certainty Group, ‘Solutions to legal barriers related to Post trading within the EU, August 2008

TARGET2-Securities and on 17 July 2008 it decided to launch the T2S-project. As next steps, user requirements have been defined on the basis of market contributions and, subject to various conditions, almost all CSDs, located in the EU juridictions, expressed an interest to participate in the future platform. The Eurosystem is currently working on the development of the platform. Although T2S remains work in progress at this stage, it will have a profound impact on the settlement landscape in Europe, once it becomes operational in 2013.

B. Private Initiatives

- ***The Code of Conduct***

42. 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. A further Communication was published in April 2004 entitled "Clearing and Settlement in the European Union: The Way Forward". The 2004 Communication envisaged the adoption of a high-level Directive which would provide, inter alia, a common regulatory/supervisory framework for securities clearing and settlement in the EU. Finally the Commission decided in July 2006 not to propose a Directive but to explore alternative ways to promote the integration of post trading services. It strongly encouraged the industry to act and subsequently welcomed the resulting industry-led initiative of a Code of Conduct for clearing and settlement which was signed by the industry associations for stock exchanges, central counterparties and central securities depositories in Europe on 7 November 2006. The Code promotes action in the areas of price transparency, access and interoperability and unbundling of services. CESR and the ESCB welcome on the basis of their respective responsibilities this self-regulatory initiative. The nature, scope, definitions used, subjects covered and way of monitoring of the Code have a different focus from that of these Recommendations. Users of these Recommendations should be aware of the differences between these two initiatives. Compliance with (a specific part of) the Code does not imply compliance with the Recommendations, nor is it the purpose of these Recommendations to ensure compliance with the Code.

- ***European Association of Central Counterparty Clearing Houses (EACH)***

43. 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.

44. In July 2008, given the rising number of requests for connections between firms and systems in the area of clearing and settlement in Europe, EACH published Standards for Inter-CCP Risk

Management[15]. CESR and the ESCB underline the importance of this self-regulatory initiative of EACH, which invites individual CCP's to adhere to these additional standards for risk-management in order to keep in step with market developments.

Issues and developments deserving further study

45. The preparation of the Recommendations took place over a period of several years. In the meantime the landscape of clearing and settlement has changed and will continue to do so for the foreseeable future. This is probably truer for Europe than elsewhere. Since recommencing work in 2008 the Group has been able to take into account some of the developments and to reflect them in this report. However, given the short timeframe for finalization of the work the Group did not prepare a full revision of the contents in the transformation process from Standards into Recommendations, but rather adopted a minimal approach, based on the structure provided by the existing CPSS/IOSCO Recommendations and limited to the issues raised in the ECOFIN conclusions. During this process a number of issues were identified which are not yet reflected in the current set of Recommendations. They are listed hereafter and will be addressed in the future:

46. In June 2008 the CPSS published a report on interdependencies of payment and settlement systems. The Group welcomes this works as relevant in the European context. The results of this work will be analysed in a future step following the adoption of the ESCB – CESR Recommendations.

47. Over the years outsourcing in all formats has become an essential part of the financial infrastructure. It is now commonplace for CSDs, CCPs and other actors to outsource many elements of their business either within their respective groups or to third parties. Service providers serve entire groups and in some instances even competing infrastructures. Major infrastructure initiatives under development where the intent is to concentrate specific functions for settlement on a common platform for several CSDs, mean that regulators and overseers will give more attention to the issue of outsourcing in the future.

48. The increasing complexity of the financial markets, growing inter-linkages between markets and market segments, elaborate corporate structures to address the complexity and the recently developed phenomenon of sharing or outsourcing of core elements of the clearing & settlement process to another entity, justify an in-depth study on the governance and the role of internal control in the settlement process. The Group feels that this area merits a study of its own, but could not undertake the work within the timeframe suggested by the ECOFIN for finalisation of

[15] This development of growing interrelationships was reflected in the recent CPSS-report 'The interdependencies of payment and settlement systems' of June 2008.

the recommendations. The main focus in such a study should be the way clearing and settlement policy might evolve in response to the developments outlined above.

49. In the context of Recommendation 3 for settlement cycles and operating times, the Group would encourage increased transparency with regard to statistics of failed trades or efficiency ratios, but it remains concerned that due to non-harmonised methodologies such statistics currently do not improve transparency significantly. The Group therefore invites ECSDA to develop a harmonised methodology that would allow for a better comparability of data.

50. Finally, in the context of sound collateral management, the Group has identified a need to carefully review, in future, the costs and benefits of the practice of re-hypothecation (re-use of assets held as collateral) with a view to the possible impact on market liquidity, counterparty risk and meaning of this practice for the protection of relevant market participants.

Assessments against these Recommendations

51. In order to achieve a level playing field and to avoid inconsistencies in the application of these Recommendations, the relevant authorities should create and put arrangements in place which will, inter alia, develop a coherent interpretation of specific Recommendations, inform other regulators/supervisors/overseers about the results of the implementation of these Recommendations, and, where necessary, propose amendments to them. .

52. Although the Recommendations are addressed to public authorities only, they will impact - in an indirect way - the entities providing post trading services in and from their respective national jurisdictions. These entities will therefore be encouraged by their authorities to take the Recommendations into account while operating their business, to review their performance vis-à-vis these Recommendations on an ongoing basis and to communicate the outcome of their findings in their regular dialogue with national regulators.

53. Securities regulators and central banks are committed to promote on a best efforts basis the proper implementation and incorporation of the Recommendations in local practices, as outlined in the previous paragraph. As in the case of the CPSS-IOSCO Recommendations for SSSs and Recommendations for CCPs, the ESCB and CESR intend to promote the implementation of the present set of Recommendations for securities clearing and settlement in the EU through periodic assessments of observance (see Recommendation 18). The relevant public authorities will assess observance of the Recommendations in their jurisdiction in connection with such authorities' supervision and oversight programmes. In cases where full observance with the Recommendations is not achieved, it is expected that relevant authorities should be in a position to require the implementation of action plans from the concerned CSDs and CCPs to ensure full compliance

within a reasonable timeframe. A further explanation of the assessment methodology is detailed in the annex. In addition, each of the relevant authorities will encourage providers of securities clearing and settlement services in their own jurisdiction to perform an assessment of their own activities against these Recommendations and to share their findings with the relevant authorities.

54. Ensuring a clear and common understanding and application of these Recommendations is critical if assessments are to be objective and consistent. To this end, the Working Group has undertaken the development of an assessment methodology in parallel with finalising the Recommendations themselves. The methodology that has been developed takes the same approach as the assessment methodology for "Recommendations for Securities Settlement Systems" by the CPSS-IOSCO Task Force. This methodology has been used extensively and has generally been considered highly effective. Given the envisaged scope of the ESCB-CESR Recommendations, it is expected that assessments will be conducted on CCPs, CSDs and the securities settlement systems that they operate.

55. For each Recommendation, key issues are identified that should be evaluated in order to determine the extent of observance of the Recommendation, together with key questions corresponding to those key issues. The explanatory memorandum offers a useful description of the field in which the Recommendation is expected to operate, sets out the rationale and risk management objective of the Recommendation, and may provide guidance to the authorities with respect to the way the Recommendation can be expected to be implemented. In other words, guidance is provided on how to translate the answers to the key questions into the assignment of an assessment category. This guidance on the assignment of rating categories is not intended to be applied in a mechanical fashion. In some instances, a provider may not strictly meet the assessment criteria for observance of a Recommendation but may successfully address the safety or efficiency objectives that underlie the Recommendation, the key issues and key questions. A more favourable assessment would be appropriate if those objectives have been met. Nonetheless, the guidance establishes a rebuttable presumption as to the appropriate assessment category. If an assessor chooses to assign a more favourable assessment than is indicated by the guidance, the assessor should document the rationale for deviating from the guidance.

56. If public authorities' assessment concludes that one or more Recommendations are not observed and that the lack of observance poses significant financial stability concerns, the authorities and the provider of the assessed system should work together to develop a formal action plan to achieve observance. In most cases, these actions can and should be taken by a provider of securities clearing and settlement services. However, in some cases a provider itself may be unable to ensure observance. For example, weaknesses in the legal framework can often only be addressed through legislation. Similarly, addressing weaknesses in cash settlement arrangements may require changes to central bank payment systems or commercial bank practices. In such

circumstances, regulators and overseers would be expected to monitor closely the implementation of the action plans set by providers to foster the changes necessary for observance. Finally, weaknesses in regulation and oversight can only be addressed by regulators and overseers or through legislation. The simple weighting of the rating categories assigned to individual Recommendations cannot be mechanically translated into a "grade" of the assessed provider's safety soundness. Given the complexity of the systems and the diversity of the institutional arrangements, an assignment of observance should evaluate the substance or quality of the observance, rather than adopt a simple "ticks and crosses" approach. Where multiple Recommendations are not observed, this may require authorities and the provider to establish priorities, based on an analysis of the implications of a lack of observance of the various Recommendations for risk to the provider and to the financial system. In such an analysis, the results of an assessment can only provide a starting point.

Organisation of the report / terminology used

57. In accordance with the minimal approach applied by ESCB-CESR and consistent with the original CPSS-IOSCO Recommendations, it was decided to develop the current Recommendations in two parts. Part I of the report deals with the Recommendations on securities settlement. Part II contains the Recommendations on CCPs. Both parts follow a similar structure as the CPSS-IOSCO Recommendations which they complement. The assessment methodology is provided in the annex to these Recommendations. Irrespective of the differences between the original CPSS-IOSCO Recommendations and these ESCB-CESR Recommendations, it was decided - in order to keep the linkage between both sets of Recommendations as strong as possible - to maintain the structure of the globally applicable Recommendations for the ESCB-CESR Recommendations. At a high level, this means, among others, that the single package of Recommendations is subdivided into 19 Recommendations related to settlement and 15 Recommendations related to clearing, supplemented by a single Introduction. More specifically, the structure of each individual Recommendation is identicial to what is in place for each CPSS-IOSCO Recommendation with key-issues as an elaboration of the relevant Recommendation and an explanatory memorandum.

58. Although structure, content and terminology of these Recommendations are derived from the CPSS-IOSCO Recommendations in the area of clearing and settlement, as indicated before in this Introduction, differences exist. For this reason, a glossary with the most frequently used terms has been developed in order to promote uniform understanding of the terms used. Nevertheless, specific wording (for instance: participants in relation to CCP's) may require further interpretation by the reader, pending on the context in which the terms are used and based on the specific nature of the relationship (direct/indirect participants). Participants in relation to CCPs are the clearing

members of the CCP. Non clearing participants may also include customers of clearing members depending on the rules of the CCP.

59. Consistent with the wording in the ECOFIN-conclusions of early June 2008, these Recommendations are addressed to public authorities. The Recommendations however sometimes refer to these as 'relevant authorities', national authorities or similar wording. In each of those cases, these terms refer to securities regulators and central banks. If other authorities, such as banking supervisors, are intended to be covered by such a reference, it is indicated explicitly.

60. In the same vein, where in the text of these Recommendations there are references to central securities depositories (CSD's) it always includes international central securities depositories (ICSD's) and the securities settlement systems operated by these entities.

61. Finally, the Recommendations regularly use the phrase 'regulation, supervision and oversight', in particular in the context of the Recommendations for supervisory cooperation. The purpose of this phrase is to indicate the activities performed by securities regulators and central banks, where applicable. If in a specific context the phrase 'regulation, supervision and oversight' is aimed at similar activities by other authorities as well (e.g. banking supervision), this is indicated explicitly.

PART 1:
RECOMMENDATIONS FOR SECURITIES SETTLEMENT SYSTEMS

RECOMMENDATION 1: LEGAL FRAMEWORK

A The recommendation

Securities settlement systems, links between them or interoperable systems should have a well-founded, clear and transparent legal basis for their operations in the relevant jurisdictions.

B Key issues

1. As a general rule, laws, regulations, rules and procedures, and generally applicable, non-negotiable contractual provisions governing the operation of securities settlement systems, links (see Recommendation 19) and interoperable systems[16], should be clearly stated, understandable and readily accessible to participants and the public.

2. The legal framework should demonstrate a high degree of legal assurance for each aspect of the clearing and settlement process, including legally valid and enforceable arrangements for netting and collateral.

3. The rules and contractual arrangements related to the operation of the securities settlement systems and the entitlement to securities should be valid and enforceable, even in the event of the insolvency of a system participant, a participant in a linked or interoperable system, or the operator of the system or operators of linked or interoperable systems.

4. The operators should identify the relevant jurisdictions for each aspect of the clearing and settlement process, and should address any conflict of law issues for cross-border systems.

5. All eligible CSDs governed by the law of an EEA Member State should apply to have their securities settlement systems designated under the European Directive 98/26/EC on settlement finality in payment and securities settlement systems, as amended (hereinafter referred to as the Settlement Finality Directive). The relevant authorities should actually designate the systems that meet the criteria of the Settlement Finality Directive.

6. For systemic risk purposes, the relevant public authorities should support the harmonisation of rules so as to minimise any discrepancies stemming from different national rules and legal frameworks.

[16] Two or more systems whose system operators have entered into an arrangement (including links) between themselves that involves cross-system execution of transfer orders. Such arrangement between two or more systems cannot be considered as a system itself

C Explanatory memorandum

1. The reliable and predictable operation of a securities settlement system depends on two factors: (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.

2. The legal framework applicable to securities settlement systems and to the holding of securities varies from jurisdiction to jurisdiction and reflects the organisation of a jurisdiction's entire legal system. The legal framework for securities settlement systems includes general laws such as property and insolvency laws, and may also 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 settlement of securities transactions. Particular attention must therefore be paid to the legal soundness of the applicable legal framework. Laws applicable to securities settlement 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. These define 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 regarding proprietary aspects of the holding of securities, arise through the operation of the system.

3. As a general rule, the laws, regulations, rules and procedures, and generally applicable, non-negotiable contractual provisions governing the operation of securities settlement systems should be clearly stated, understandable, internally coherent and unambiguous. They should also be public and accessible.

4. In addition to the requirements of Recommendation 17, CSDs should, where relevant and as a minimum, provide participants with information (supported where appropriate by an analysis or opinion) on the following subjects: (1) the legal status of the securities settlement system operator; (2) the legal regime governing the system; (3) the rules governing access to the system; (4) the legal nature of the securities held through the system, e.g. bearer, dematerialised, etc.; (5) the applicable law governing the contractual relationship between the operator (or relevant office, where applicable) and participants; (6) the office(s) where activities related to the maintenance of securities accounts are being conducted; (7) the relevant law that applies to proprietary aspects of securities held in the systems; (8) the 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, also in links and interoperable systems; (10) how DVP is achieved; (11) rules under the applicable proprietary law in the system on securities lending, as well as rules governing the 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 insolvency of intermediaries; (14) rules under the applicable law in the system for the liquidation of positions, including the liquidation of assets pledged or transferred as collateral; (15) a general description of the above matters in case of default or the insolvency of the system operator; (16) the applicable law governing the contractual relationship underpinning links and interoperable systems.

5. As the Settlement Finality Directive provides legislation that supports most of the legal issues listed above, all CSDs that operate a settlement system governed by the law of an EEA Member State should apply for designation under this Directive.

6. The effective operation of a securities settlement system requires its internal rules and procedures, and those for links and interoperable systems, to be enforceable with a high degree of certainty. The rules and contracts related to the operation of the securities settlement system should be enforceable even in the event of the insolvency of a system participant, the participant in a linked or interoperable system or of the operators of linked or interoperable systems, whether the participant is located in the jurisdiction whose laws govern the system, or that of the operator of the system, or in another jurisdiction altogether. The effective operation of a securities settlement system also requires the system and involved intermediaries to have a high degree of certainty regarding rights and interests in the securities and other assets held in the system, including which law is applicable in respect of contractual and proprietary aspects; and rights to use collateral, transfer property interests, and to make and receive payments, notwithstanding the bankruptcy or insolvency of an individual system participant, one of its customers or an intervening intermediary in another jurisdiction. The claims of the operator of a securities settlement system or the system participants against collateral posted by a participant in a system should in all events have priority over all other claims of non-system creditors. For example, non-system creditors should be able to enforce their claims against collateral provided in connection with the system only after all claims arising within the system have been satisfied out of the collateral. In some jurisdictions, this may require collateral to be held with a securities settlement system 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 with regard to the nature of their proprietary interest in the securities, plus 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 settlement system (such as a CSD or settlement agent bank).

7. The legal framework for a securities settlement system must be analysed in the relevant jurisdictions, which include: (i) jurisdiction(s) in which the system operator is established (inclusive of offices engaged in activities related to the maintenance of securities accounts, where applicable); (ii) jurisdiction(s) in which the system's direct participants are established, domiciled or have their principal office; and (iii) whose laws affect the operation of the system as a result of: (a) the law governing the system; (b) the law applicable to the relationship with the participants (which may be based on legal or contractual arrangements); and (c), if different from (b), the law applicable to proprietary aspects of securities held on participants' accounts with the system. Relevant jurisdictions may also include a jurisdiction in which a security handled by the 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.

8. Where a system has a cross-border dimension through linkages or interoperable arrangements or remote participants, or by operating through foreign offices, the rules governing the system should clearly indicate the law that should apply to each aspect of the settlement process. The operators of cross-border systems must address conflict of law 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 law 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 law issues when structuring the rules of a system, when setting the law that governs the system, as well as when considering the law that will be applicable to the proprietary aspects of securities held on a participant's account with the system. System operators and participants should also be aware of constraints on their ability to set such laws by the EU legal framework. Other relevant jurisdictions ordinarily do not permit system operators and participants to circumvent the fundamental public policy of that jurisdiction by contract. Subject to such constraints, the legal framework should support appropriate contractual choices of law in the context of both domestic and cross-border operations with regard to: (a) the law governing a system; (b) the law applicable to contractual aspects of the relationship with each participant, as well as between linked or interoperable systems; and (c) the law applicable to proprietary aspects of securities held on a participant's account with a system. In many cases, the law chosen to govern the operation of a securities settlement system will be that of the location of 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 has 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 applicable in connection with a system should be kept to a minimum. Subject to a legal risk analysis, it may prove advisable that only one legal system is

applicable to govern the proprietary aspects of all securities held on the participants' accounts with the system, and similarly only one to govern the contractual aspects of the relationship between the system and each of its participants. Ideally, the applicable law should be identical to the law governing the system (Article 2(a) and Article 8 of the Settlement Finality Directive, as revised), in order to safeguard systemic finality, certainty and transparency. Linked or interoperable systems should identify, disclose and address any additional legal risks.

9. For systemic risk purposes, the harmonisation of rules should be promoted to minimise discrepancies stemming from different national rules and legal frameworks. This will minimise the effects of potential conflict of laws thereby increasing the level of legal certainty. The legal and regulatory framework comprises different kind of "rules". In case the rule is set out in the law, the relevant competent authorities should address the relevant issues. In this respect, some harmonisation has been achieved by the implementation of the Settlement Finality Directive, of the financial collateral directive and of MiFiD. Further harmonisation may be considered at the EU level in the future. In case the rule is not set by an international or national law but depends on self-regulatory bodies or by the CSD itself (e.g. participation requirements), these institutions should endeavour to harmonise rules at European Level.

RECOMMENDATION 2: TRADE CONFIRMATION AND SETTLEMENT MATCHING

A The recommendation

Confirmation of trades between direct market participants should occur as soon as possible after trade execution, but no later than trade date (T+0). Where confirmation of trades by indirect market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.
Settlement instructions should be matched as soon as possible and, for settlement cycles that extend beyond T+0, this should occur no later than the day before the specified settlement date.

B Key issues

1. Confirmation of trades between direct market participants should occur as soon as possible after trade execution, but no later than T+0.

2. When confirmation/affirmation of trades by indirect market participants is required by regulators, clearing systems or market participants, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.

3. 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.

C Explanatory memorandum

1. 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 in two separate parts: confirmation of the terms of the trade between direct participants, and confirmation (sometimes termed “affirmation”) of the intended terms between each direct participant and the indirect participant for whom the direct participant is acting (generally, indirect market participants for whom confirmations are required include institutional investors and cross-border clients). For trades involving institutional investors or cross-border clients, affirmation might be a precondition for releasing the cash and/or securities in time for settlement. Therefore, trade confirmation/affirmation, when required, should preferably occur without delay after trade execution, but no later than T+1. For both parts of the confirmation process, agreement of trade details should occur as soon as possible so that errors and discrepancies can be discovered early in the settlement process. Early detection will help to avoid errors in recording trades, which if

undetected could result in inaccurate books and records, increased and mismanaged market risk and credit risk, and increased costs.

2. While this process of trade confirmation is underway, the back offices of the direct market participants, indirect market participants and custodians that act as agents for market participants need to prepare settlement instructions, which should be matched prior to the settlement date. This of course only applies to settlement cycles that extend beyond T+0, and only 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. The requirement is also not applicable to systems where trading instructions are subject to netting as part of the clearing process. 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 3 regarding the length of settlement cycles).

3. Trade confirmation systems are increasingly becoming automated. The automation of trade confirmation and settlement matching systems is encouraged, and such systems should be interoperable. 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) have also been 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 automated trade confirmation and settlement matching systems is to grow, their systems need to be interoperable to avoid inefficiency and market fragmentation.[17] Operators of systems for trade confirmation, affirmation and matching of settlement instructions should be urged to adhere to the present recommendation.

4. 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 STP. STP allows trade data to be entered only once, and then those same data are used for all post-trade requirements related to settlement. Many practitioners believe that STP needs to be used market-wide, both to maintain high settlement rates as volumes increase and to ensure 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,

[17] ISO 15022 and new message standard ISO 20022 should be used whenever feasible

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, CSDs, market operators, custodians, broker-dealers and investment firms. For example, they are expected 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 Recommendation 16).

5. It is expected that in their contractual relationship with the operators of a trade confirmation, affirmation and matching system, market participants will adhere to the requirements specified by the recommendation.

RECOMMENDATION 3: SETTLEMENT CYCLES AND OPERATING TIMES

A The recommendation

Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of EU-wide settlement cycles shorter than T+3 should be evaluated.
The operating hours and days of CSDs should be open at least during the operating time of the relevant payment system (at least during TARGET2 operating times for transactions denominated in euro).

B Key issues

1. Rolling settlement should occur no later than T+3. Further harmonisation and/or shortening of settlement cycles need to be considered in the interest of ensuring more efficient EU markets. Any such harmonisation and/or shortening should take account of the instruments and markets in question and should be based on a cost-benefit analysis.

2. The frequency, duration and value of settlement failures should be monitored and evaluated by the operator of the securities settlement system.

3. The opening hours and days of CSDs should be open at least during the operating times of the relevant payment system (at least during TARGET 2 operating times for transactions denominated in euro). The emergency plans of CSDs should allow them to extend operating hours to ensure safe and complete settlement in case of emergency.

4. The risk implications of fail rates should be analysed and actions taken that reduce these rates or mitigate the associated risks.

C Explanatory memorandum

1. 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 open trades prior to settlement; 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, i.e. 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”.

2. This recommendation retains T+3 settlement as a minimum standard. Rolling settlement at T+3 is the current European minimum standard, with the exception of OTC transactions, where the terms of settlement are bilaterally negotiated. Many markets are already settling at a shorter interval than T+3. For example, many government securities markets already settle on T+1. Likewise, where demand exists, securities settlement systems should support T+0 for OTC transactions. The standard judged appropriate for a type of security or market will depend upon factors such as the transaction volume, price volatility and the extent of cross-border trading in the instrument. In the EU, markets should evaluate whether a cycle shorter than T+3 is appropriate, on the basis of 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 the use of a CCP (see Recommendation 4 below).

3. The fragmentation of the EU securities markets could be reduced if settlement cycles were further harmonised across markets. However, harmonisation encompassing all types of securities in all markets could prove 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 take account of the requirements of markets for different types of securities, and should take into consideration the difficulties that cross-border harmonisation according to asset class entails. In addition, attention should be paid to creating incentives for early settlement during the trading day.

4. Reducing the settlement cycle is neither cost-free nor without certain risks. This is especially true for markets with significant cross-border activity, as 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 the upgrading 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.

5. 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 the infrastructure necessary for the completion of settlement is not available, for example on account of different national holidays. The availability of the settlement infrastructure

during a harmonised calendar of working days would be the ideal solution. Therefore, the CSDs should be open at least during the operating times of the relevant payment system (e.g. during TARGET 2 operating times for transactions denominated in euro). In particular, settlement deadlines of CSDs should be harmonised to accept instructions for the same settlement day.

6. 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. These efforts should be encouraged by the authorities. However, the public authorities should consider stepping in and conducting a 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 setting the parameters for the evaluation of costs and benefits; and second, an assessment of different harmonisation scenarios against these parameters.

7. Regardless of the settlement cycle, the frequency and duration of settlement failures should be monitored closely. Some markets are not fully realising the benefits of T+3 settlement because the rate of settlement on the agreed 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 time frame, closed out at market prices. Other tools to reduce settlement failures are, for example, securities lending and buy in procedures. As another method of reducing the failure rate, the system operator could set maximum periods for recycling failed transactions and determine that unsettled transactions will be dropped at the end of the recycling period. For the same purpose, after consultation with the users, the system operator might set a maximum size for settlement instructions.

RECOMMENDATION 4: CENTRAL COUNTERPARTIES (CCPS)

A The recommendation

The benefits and costs of establishing a CCP should be evaluated. Where a CCP mechanism or guarantee arrangement has been introduced, it should be assessed against the ESCB-CESR Recommendations for CCPs or against the checklist for guarantee arrangements[18] respectively.

B Key issues

1. If there is no CCP, the balance of the benefits and costs of establishing a CCP should be carefully assessed. If a guarantee arrangement has been introduced, the benefits and costs of transforming this arrangement into a CCP should be analysed.

2. A CCP should be assessed against the ESCB-CESR Recommendations pertaining to CCPs that are included in Part 2 of this report. A guarantee arrangement that in terms of significance, function and risk management tools is comparable to a CCP should be assessed against the relevant ESCB-CESR Recommendations for CCPs and other guarantee arrangements should be evaluated on the basis of the checklist for guarantee arrangements.

C Explanatory memorandum

1. A central counterparty (CCP) interposes itself between the 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 transactions in financial instruments, including derivatives transactions, are exposed to counterparty risk and therefore implement risk mitigation processes and controls. Such measures entail both operational and opportunity costs, and the higher the risk and the more counterparties that an organisation has exposure to, the greater these costs. A CCP can lower these costs by greatly reducing the number of counterparty business relationships. Moreover, when a participant uses a CCP, it can deal with any counterparty that it knows is eligible to use the CCP without extensive due diligence, as it knows its contractual relationship and risk exposure will only concern the CCP. Furthermore, this exposure concentration also frees up for other purposes the credit lines that market participants would otherwise have to maintain with each other. Efficiency is also improved because each market participant communicates only with the CCP about risk mitigation measures, instead of managing a series of bilateral

[18] References to the checklist for guarantee arrangements refer to the CPSS-IOSCO checklist for guarantee funds (CPSS-IOSCO *Recommendations for Central Counterparties*, November 2004, Section 5).

relationships with separate participants. If a CCP manages its risks effectively, its probability of default may be less than that of all or most market participants.

2. Moreover, a CCP typically 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 potential losses in the event of a default of a participant. In addition, netting reduces the number and value of deliveries and payments needed to settle a given set of trades, thereby lowering liquidity risks and transaction costs.

3. 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.

4. Establishing a CCP, particularly given the comprehensive risk management arrangements required in such an entity, will necessitate substantial setting-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 possibility of employing the services of an existing CCP or establishing a new CCP could be considered. However, the fact that risk is concentrated in a single entity should also be taken into account.

5. Individual markets that have not previously had or used a CCP should comprehensively assess the balance of the benefits, costs and risks of a CCP against existing arrangements. This balance will depend on factors such as the volume and value of transactions, trading patterns among counterparties, and the opportunity costs associated with settlement liquidity. A growing number of markets have determined that the benefits of implementing/using a CCP outweigh the costs.

6. Some European markets have arrangements in place which indemnify market participants against losses from counterparty defaults without actually acting as CCPs. Such guarantee arrangements vary significantly in terms of markets covered, size and frequency of contributions, degree of protection, etc. However, certain generic characteristics can be identified from a review of the arrangements which exist in Europe. It is often an exchange or CSD that organises and administers the arrangement. The exchange or CSD does not actually act as a counterparty to trades and therefore is not obligated to fulfil the settlement obligations of a defaulting member. Rather, it undertakes to indemnify its members against losses incurred when they close out and replace contracts with a defaulting member. To ensure that adequate resources are available to indemnify its members, the administrator of the guarantee arrangement may impose margin requirements and may also maintain financial resources, including contributions from members and the right to call

on members for additional contributions. In other words, these arrangements vary from very simple insurance arrangements to services which closely resemble those of a CCP.

7. Individual markets that have such a guarantee arrangement should be encouraged to assess the balance of the benefits and costs of transforming that arrangement into a CCP. This balance will depend on factors such as the characteristics of the guarantee scheme, the volume and value of transactions, trading patterns among counterparties, and the opportunity costs associated with settlement liquidity.

8. From the perspective of the members, the assets backing the guarantee are substituted for the credit risk of the other members, so the guarantee performs to varying extents a similar function to a CCP. It is important that the guarantee arrangement is also assessed according to the guidelines presented in the ESCB-CESR Recommendations pertaining to CCPs, as set out in Part 2 of this document.

RECOMMENDATION 5: SECURITIES LENDING

A The recommendation

Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for avoiding settlement failures and 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.

B Key issues.

1 The relevant public authorities should remove any impediments (e.g. legal, tax and accounting framework) to the development and functioning of securities lending.

2 Securities lending and borrowing should be encouraged as a method for expediting securities settlement and reducing settlement failures. Where they exist, securities lending arrangements should meet the requirements of the particular market in order to minimise settlement failures. Securities lending services, in connection with securities settlement processes, can be arranged bilaterally or as an automated and centralised facility.

3 A centralised securities lending facility can be an efficient mechanism for reducing settlement failures. However, in markets where the number of settlement failures remains low, centralised securities lending arrangements may not be justified from a cost-benefit perspective.

4 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 supervision and oversight.

5 In order to preserve its financial integrity, the principal to centralised securities lending arrangements should apply adequate risk management and mitigation measures in line with the requirements set out in Recommendation 9.

6 Entities providing securities lending for securities settlement should in no case be allowed to run debit balances or to create securities. Clients' assets should only be used with their explicit consent. See also key issues 5 and 6 of Recommendation 12.

C Explanatory memorandum

1. 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. The existence of liquid securities lending markets 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 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.

2. Liquid securities lending markets are therefore to be encouraged, subject to appropriate 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 be removed. In many markets, the processing of securities lending transactions involves manually intensive procedures. In the absence of robust and automated procedures, there is greater likelihood of errors and operational risks, and it may be difficult to achieve timely settlement of securities lending transactions, which often need to settle on a shorter cycle than regular trades. Securities lending transactions can be arranged in several ways. The scope for improvement in the processing of cross-border borrowing and lending transactions is particularly large. Some settlement systems seek to overcome these impediments by providing centralised lending facilities; others offer services intended to support the functioning of bilateral lending markets. The needs of individual markets differ, so the usefulness of the different types of facilities should be evaluated. For example, in some markets bilateral securities lending transactions (including OTC market transactions) between participants play a crucial role in reducing settlement failures, and it may not be necessary to introduce a centralised securities lending facility.

3. Other impediments to securities lending could 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 the event of bankruptcy. One of the most significant barriers to development may be related to taxation that specifically addresses 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 lending activity in several jurisdictions. In the European context, barriers related to taxation should be removed in order to facilitate securities lending. Accounting standards also have an influence on the securities lending market, particularly with respect to whether, and under what conditions, collateral must be reflected on the balance sheet. Authorities in some jurisdictions restrict the types or amounts of securities that may be loaned, the types of counterparties that may lend securities, or the permissible types of collateral. Uncertainty about the legal status of transactions, for example their treatment in insolvency situations, also inhibits the 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 Directive 2002/47/EC on financial

collateral arrangements, as amended, provide greater certainty in this regard across the EU. As markets continue to develop, and experience with these two Directives grows, it will be important to ensure that certainty is maintained, if necessary via further legal provisions.

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

5. The choice of whether to introduce a centralised lending facility or to rely on bilateral lending should be left to each market (the decision to create centralised lending facilities belongs to the provider of these services), depending on the specific needs of its participants, and not as a result of the design of a settlement system. However, where a centralised lending facility exists, all participants in the settlement system should be granted equal access, and the conditions for access should be transparent to the user. 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 risk management concerns (see Recommendation 14). Similarly, access to securities lending facilities should not be compulsory, unless it is used as a last resort for fails management. The choice between centralised securities lending facilities and bilateral arrangements should be left to the sole discretion of participants and based on transparent pricing, so that participants are not de facto forced to use the facility. This would not prevent the possibility of having facilities that can be automatically activated in some circumstances, notably to facilitate the management of fails on regulated markets and/or when a CCP is used, which should be clarified ex ante in the relevant documentation.

6. Normally 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.

7. In most European countries, the legal framework, capital structure and risk profile of CSDs do not allow them to act as principals to securities lending transactions. However, this should not prevent them from providing the technical functionality that can be used by their participants and other users. Such a functionality could be developed either to lend securities automatically when a settlement failure would otherwise occur owing 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 are in place, together with robust risk management and mitigation

procedures, in order to encourage broad participation both by market participants and, in particular, by institutional investors that would like to increase the return on their securities.

8. While securities lending may be a useful tool, it poses a 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 a legal challenge, for example. Those securities would then need to be acquired in the market, perhaps at a cost. Counterparties to securities loans should implement appropriate risk management and mitigation policies, including conducting credit evaluations, setting credit exposure caps, collateralising exposures, marking exposures and collateral to market daily, and employing master legal agreements.

9. In order to preserve the financial integrity of the provider of a centralised securities lending arrangement when it takes credit risk, it is important that adequate risk management and mitigation measures which substantially reduce the associated risks are in place.

RECOMMENDATION 6: CENTRAL SECURITIES DEPOSITORIES (CSDs)

A The recommendation

Securities should be immobilised or dematerialised and transferred by book entry in CSDs to the greatest possible extent. 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.

B Key issues

1. Immobilisation or dematerialisation and transfer by book entry in CSDs should be implemented to the greatest possible extent.

2. The recording and transfer of securities issued in a CSD or an entity which performs CSD functions should be based on best accounting practices and end-to-end audit trails, which will help to ensure the integrity of the issue and safeguard the interests of the investors.

3. As CSDs uniquely combine the provision of final settlement with the recording of changes in legal title resulting from securities transactions they should avoid credit and liquidity risk to the greatest possible extent. CSDs have to mitigate their associated risks in accordance with the requirements set out in these recommendations. Besides, the risks involved in offering CCP services are of a different nature to those raised by performing CSD activities and therefore require exceptionally high levels of risk management that necessitate separating the CCP services into a distinct legal entity.

C Explanatory memorandum

1. 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 typically comprise: a) recording the amount of each issue held in the system in a specific account in the name of the issuer[19]; b) maintaining securities accounts; c) facilitating the transfer of securities via book entry; d) facilitating reconciliation (i.e. of 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 also carried out by other entities (e.g. common depositories), the role of providing, according

[19] For securities which are immobilized, for which the indebtness of the issuer is embodied in a global note, this implies the safekeeping of the global note and the openness and maintenance of an account in the name of the issuer, for an amount that equals the value of the global note. For dematerialized securities, this only implies the openness and maintenance of an account in the name of the issuer which embodies the indebtness of the latter.

to most legal system, the definitive record of legal title is unique to CSDs (in some cases shared with registrars). In particular, in order to avoid any artificial creation of securities, the CSD ensures, at any time through a process called reconciliation that the amount settled by the investor in the CSD equals the amount issued in the CSD[20].

2. For any given security, the preservation of the rights of the issuers and investors is essential. Indeed, the securities activities of market participants are entirely dependent on the effective functioning of CSDs, and the malfunctioning or failure of such a system would therefore have a severe impact on the financial markets, particularly those markets characterised by a high degree of dematerialisation or immobilisation. Consequently, CSDs should seek to mitigate the risks associated with their operations to the greatest possible extent. This risk mitigation should include the application of best accounting practices and 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 cooperation 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 cooperate closely to ensure that the securities in circulation via the system correspond to the volume issued via that system. If several entities are involved in a given issue, adequate procedures among those entities should be put in place to preserve the integrity of the issue. The rules applicable to a CSD only apply to those securities, whether immobilised or dematerialised, that are deposited in that particular CSD.

3. Because CSDs have a central function in the overall settlement process for immobilised/dematerialised securities, safeguards should be defined so as to ensure business continuity even under stressful circumstances. This means that CSDs should be well-protected against operational risks (see Recommendation 11).In any case, there should be a plan in place that will make possible to ensure post-bankruptcy services.

4. In any event, CSDs should avoid credit and liquidity risks to the greatest possible extent.[21] Indeed, most CSDs in Europe are prevented by their statutes from doing so. When a CSD does carry out related but non-core activities (such as credit extension, securities lending, etc.), then the associated risks should be mitigated in accordance with these recommendations. The risks involved in offering CCP services are of a different nature to those raised by performing core CSD activities and necessitate separating the CCP services that entail credit risk into a distinct legal entity.

[20] This critical CSD function is sometimes called “notary” function. In some cases, parts of the notary function are performed by other institutions than CSDs.

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

5. There are several different ways for ultimate owners to hold securities. In some jurisdictions, physical securities circulate and the ultimate owners may keep securities in their possession, although to reduce risks and safekeeping costs they typically employ a custodian to hold them on their behalf. 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. To promote the 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, no global note is issued, as the rights and obligations stem from book entries in an electronic register.

6. Securities holding systems belong to three general categories: direct, 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 held on an account in the name of a financial institution/intermediary rather than that of the ultimate owner. These types of arrangement are sometimes referred to as indirect holding systems. In other markets the ultimate owner is listed in the records of the depository system. This is sometimes known as a direct holding system. Some systems may offer both facilities. Each type of system offers both advantages and disadvantages, and both types of systems can be designed in a manner that complies with these recommendations.

7. The immobilisation or dematerialisation of securities and their transfer by book entry within a CSD significantly reduces the total costs associated with securities settlement 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 Recommendation 13) is necessary, however, to ensure that these benefits are passed on to the customers of the CSD.

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

9. Thus, for reasons of both safety and efficiency, securities should be immobilised or dematerialised in CSDs to the greatest possible extent. Some 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 explain clearly to the public the benefits of dematerialisation or immobilisation, including lower transaction and custody charges.

RECOMMENDATION 7: DELIVERY VERSUS PAYMENT (DVP)

A The recommendation

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

B Key issues

1. The technical, legal and contractual framework should ensure DVP.

2. All securities transactions against cash between direct participants of the CSD should be settled on a DVP basis.

3. The length of time between the blocking of the securities and/or cash payment and the moment when deliveries become final should be minimised.

C Explanatory memorandum

1. Principal risk is the risk for an investor that securities are delivered but no cash received, or vice versa, for example because of a default of a counterparty or intermediary. The settlement of securities transactions on a DVP basis ensures that principal risk is eliminated by making settlement of securities conditional on provision of cash, or vice versa. DVP procedures reduce, but do not eliminate, the risk that the failure of a CSD participant could result in systemic disruptions. Systemic disruptions are however still possible because the failure of a participant could result in substantial liquidity pressures or high replacement costs. Achievement of DVP by the CSD also enables the CSD's participants to offer their customers DVP.

2. DVP can be achieved in several ways.[22] Three main models can be differentiated, which vary according to whether the securities and/or fund 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 only the funds are netted or both the funds and the securities are netted. The preferred model in any given market will depend on market practices. The use of netting procedures reduces the amount of the securities and/or cash that needs to be delivered, leading to further improvements in settlement liquidity and efficiency, especially in markets where a central counterparty does not exist. Similar gains may be achieved by optimising gross settlement. Finality may be in real time (i.e. throughout the day), intraday (i.e. at multiple times during the day), or only at the end of the day (see Recommendation 8). Whichever approach is taken, it is essential that the technical, legal and contractual framework of a DVP transfer ensures that each transfer of securities is final if and

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

only if the corresponding transfer of funds is final. DVP should be achieved for transactions in secondary markets as well as for issuance and redemption of securities.

3. Strictly speaking, DVP does not require simultaneous final transfers of funds and securities. Often when a CSD does not itself provide cash accounts for settlements, the underlying securities are first blocked in the account of the seller or at the seller's custodian. The CSD then requests the transfer of funds from the buyer to the seller in the cash settlement agent. The securities are delivered to the buyer or the buyer's custodian if and only if the CSD receives confirmation of settlement of the cash leg from the settlement agent. Alternatively, the CSD may transfer the funds between the buyer and the seller within its own books. In such arrangements, blocked securities must not be subject to a claim by a third party (i.e. by other creditors, tax authorities or even the CSD itself), because this would give rise to principal risk. In any case, DVP procedures require a sound and effective electronic connection between the cash settlement agent/payment system and the securities settlement system in which the two legs of the transaction are settled.

4. Furthermore, for reasons of safety and efficiency (e.g. to avoid gridlock and to enable early reuse of the delivered assets), settlement systems should minimise the time between completion of the 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 requirement does not apply to night time batches, where the securities are blocked for a longer period pending the transfer of cash.

RECOMMENDATION 8: TIMING OF SETTLEMENT FINALITY

A The recommendation

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

B Key issues

1. The timing of settlement finality has to be clearly defined in the rules of the systems, which require transfer orders and deliveries of securities and payment to be irrevocable, enforceable and supported by the legal framework.

2. Settlement finality should be provided in real time and/or by multiple-batch processing during the settlement day. Where multiple-batch processing is used, there should be a sufficient number of batches distributed across the settlement day so as to allow interoperability across systems in the EU and to allow securities transferred through links to be used during the same settlement day by the receiver.

3. The settlement system and its participants should execute the transactions without undue delay as soon as securities and cash are available.

4. The rules of the system should prohibit the unilateral revocation of unsettled transfer instructions late in the settlement day.

C Explanatory memorandum

1. The timing of settlement finality[23] – i.e. the time at which the deliveries of securities and/or cash become both irrevocable and enforceable – should be clearly defined by the rules of the system, as provided for by national legislation, and should apply to all participants regarding free-of-payment transfers, DVP transfers and delivery versus delivery transfers. The completion of final transfers during the day is essential and must be legally protected in each jurisdiction in the EU, including the protection given to transfer orders and netting as laid down in the Settlement Finality Directive. Deferral of settlement to the next business day can substantially increase the potential for participant settlement failures to create systemic disturbances, in part because the authorities tend to close insolvent institutions between business days. However, end-of-day net settlement entails significant liquidity risks, unless highly robust risk controls are in place to address participant defaults (see Recommendation 9).

[23] It is important to distinguish between the concept of "settlement finality" and that of "transfer order finality" in the Settlement Finality Directive (98/26/EC). While the former refers to finality of the actual settlement, the latter refers to the moment when a transfer order is entered into a (settlement) system.

2. Even if the various risks that a participant will fail to settle are controlled effectively, end-of-day net settlement entails risks to participants that can and should be reduced by providing intraday finality. Intraday finality can be provided through real-time settlement procedures and/or multiple-batch processing during the settlement day. Real-time gross settlement (RTGS) is the continuous settlement of fund/securities transfers individually on an order-by-order basis. Batch settlement is the settlement of groups of transfer instructions together, at one or more discrete, pre-specified times during the processing day. The frequency of the batches depends on the needs of the markets and the users, taking into consideration the specific risks. In this context, if real-time finality is not made available, intraday finality should be offered through a significant number of batches distributed throughout the settlement day.

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

4. Intraday (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 failures 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.

5. 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 promote early settlement during the settlement day through appropriate measures.

6. Furthermore, settlement systems should prohibit the unilateral revocation of unsettled transfer instructions after a certain point in time on the settlement day, so as to avoid the liquidity risks that such actions can create.

7. Finally, in the absence of intraday settlement, a settlement system's links to other settlement systems (for example, links to foreign settlement systems to facilitate the settlement of cross-border trades) may pose systemic risks, in particular if one settlement system were to allow provisional transfers of securities to the other settlement systems. In such circumstances, an

unwinding of those provisional transfers could transmit any disturbances from a failure to settle at the settlement system making the provisional transfer to the linked settlement systems. To guard against this, either the settlement system should prohibit such provisional transfers, or the linked settlement systems should prohibit their retransfer prior to their becoming final (see Recommendation 19). Finality of delivery/settlement in the received settlement system must only take place once it has been achieved in the system of origin. This prohibition on the retransfer of provisional transactions should also be applied to the settlement arrangements operated by cash settlement agents.

8. 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 for the cross-border transfer of securities via links. This would also facilitate interoperability among settlement systems in the EU 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. Whatever approach is adopted, it is critical that the rules of the system make clear to its participants the timing of finality.

RECOMMENDATION 9: CSD RISK CONTROLS TO ADDRESS PARTICIPANTS' FAILURES TO SETTLE

A The recommendation

CSDs that extend intraday credit to participants, including CSDs that operate net settlement systems, should institute risk controls that, as 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.

B Key issues

1. A CSD that extends intraday credit to participants should, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. Risk controls should be imposed to control potential losses and liquidity pressures from participants' failures to settle.

2. Overdrafts or debit balances in securities should not be permitted and there should be no artificial creation of securities.

3. The probability and potential impact of multiple settlement failures should be evaluated relative to the costs to ensure settlement in such an event.

C Explanatory memorandum

1. Where they are permitted to do so, CSDs often extend intraday credit to participants (either as principal or as agent for other participants) to facilitate timely settlements and, in particular, to avoid gridlock. In a gross settlement system, where credit extensions occur, they are usually extended by the CSD as principal and take the form of intraday loans or repurchase agreements. In net settlement systems these credit extensions are usually in effect extended by the CSD as agent for other participants and take the form of net debit positions in funds, which are settled only at one or more discrete, prespecified times during the processing day. (See the discussion in paragraph 3. below of the implication of unwinds of provisional transfers in net settlement systems.)

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

3. 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.

4. Consequently, CSDs that extend credit to participants 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.

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

RECOMMENDATION 10: CASH SETTLEMENT ASSETS

A The recommendation

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

B Key issues

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

2. If central bank money is not used as asset to settle obligations in a currency, steps must be taken to protect participants from potential losses and liquidity pressures arising from the failure of the cash settlement agent in which the cash balances are held for that purpose. Where both central and commercial bank money facilities are offered, the choice to use commercial bank money should be at the sole discretion of the participant.

3. Only regulated financial institutions with robust legal, financial and technical capacity, in accordance with EU prudential (or equivalent) regulation, should be allowed to act as cash settlement agents. When central bank money is not used, the CSD acting as cash settlement agent should put in place adequate risk measures as described in Recommendation 9 in order to protect participants from potential losses and liquidity pressures. There should be sufficient information for market participants to identify and evaluate the risks and costs associated with these services.

4. 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.

5. The payment systems used for interbank transfers among settlement banks should observe the Core Principles for Systemically Important Payment Systems (CPSIPS).[24]

C Explanatory memorandum

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

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

relationship with the CSD as well as with the cash settlement agent where the ultimate cash settlement occurs. In other cases, the market participant uses one of several settlement banks to settle its payment obligations. The settlement bank ultimately settles the cash leg by transferring balances held with the cash settlement agent[25]. 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 and it should therefore comply with the Core Principles for Systemically Important Payment Systems.

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

3. At least for transactions denominated in the currency of the country where the settlement takes place, CSDs should settle cash payments in central bank money whenever practicable and feasible. Within the EU, in cases where the domestic CSD is not located in the country where the currency is issued, the CSD should liaise with the relevant central bank to offer the facility in that currency. However, it may not always be practicable to use the central bank of issue as the single settlement agent. Even for transactions denominated in the currency of the country where the settlement takes place, some (in some cases many) CSD members and linked CSDs may not have access to accounts with the central bank of issue.[26] 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 cash transfer systems and facilitating access to central bank cash accounts. In TARGET 2, CSDs' participants can transfer or use central bank liquidity for night-time settlement.

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

5. When a CSD is used as the cash settlement agent, steps must be taken to protect CSD members from potential losses and liquidity pressures that would arise from its failure, in accordance with the credit and liquidity risk mitigation approaches set out in Recommendation 9.

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[25] Some market participants may have no direct relationship with the CSD or with the central bank.

[26] This recommendation 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, whereby 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.

6. When a CSD provides settlement facilities in both central bank money and commercial bank money, all participants in the system should be granted equal access to both facilities[27], and the conditions for access should be transparent to the user. In particular, the use of commercial bank money should not be de facto compulsory, so that the participants are not in practice forced to use commercial bank money. The choice between commercial bank money and central bank money should be left to the sole discretion of participants and should be based on transparent pricing.

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

8. Finally, whatever the payment arrangements, market participants should be able to retransfer the proceeds of securities settlements as soon as possible, at least on the same day, and ideally intraday, so as to limit their liquidity risk and any credit risks associated with the assets used (see Recommendation 8). Likewise, participants that 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 the securities settlement by their settlement bank.

[27] As indicated in the previous footnote, this does not imply that all CSD members should have access to central bank accounts and credit.

RECOMMENDATION 11: OPERATIONAL RISK

A The recommendation

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 (i) be reliable and secure, (ii) be based on sound technical solutions, (iii) be developed and maintained in accordance with proven procedures, (iv) have adequate, scalable capacity, (v) have appropriate business continuity and disaster recovery plans that allow for the timely recovery of operations, and (vi) be subject to frequent and independent audits.

B Key issues

1. Sources of operational risk in clearing and settlement activities (including systems operators) and related functions/services should be regularly identified, monitored, assessed and minimised. . Clear policies and procedures should be established to address those risks, including risks from those operations that are outsourced to third parties.

2. Operational risk policies and procedures should be clearly defined, frequently reviewed and updated and tested to remain current. The responsibilities of the relevant governance bodies and senior management should be clearly established. There should be adequate management controls and sufficient (and suitably well-qualified) personnel to ensure that procedures are implemented accordingly. Information systems should be subject to periodic independent audit.

3. There should be business continuity and disaster recovery plans to ensure that the system is able to resume business activities, with a reasonable degree of certainty, a high level of integrity and sufficient capacity as soon as possible after the disruption. Contingency plans should, as a minimum, provide for the recovery of all transactions at the time of the disruption to allow systems to continue to operate with certainty. A second site should be set-up in order to meet these obligations. Business continuity and disaster recovery plans should be tested on a regular basis and after any major modifications to the system. Adequate crisis management structures, including formal procedures, alternative means of communication and contact lists (both at local and cross-border level) should be available.

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

5. CSDs should only outsource settlement operations or functions to third parties after the approval of the relevant competent authorities, if it is required by regulation. If it is not required, they should at least notify in advance the relevant competent authorities, and should ensure that the external providers meet the relevant recommendations. Appropriate change management

procedures which give the relevant outsourcing entities the power to require, control and approve changes to the outsourced services should be in place.

C Explanatory memorandum

1. Operational risk is the risk that unexpected losses could arise from deficiencies in information systems or internal controls, human error, management failures or external events. As clearing and settlement are 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 its capacity to impede the effectiveness of measures adopted to address other risks in the settlement process and to cause participants to incur losses, which, if sizeable, could have systemic risk implications.

2. 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.

3. 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 its related communication networks. Insofar as 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 of these would affect the financial system as a whole.

4. 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 problems to occur 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.

5. 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 leading to an increase in credit or market risks. A severe operational failure at a CSD, cash settlement agent or major participant could have significant adverse effects throughout the securities market as well as other markets.

6. 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 suitably well-qualified) personnel to ensure that procedures are implemented accordingly. The operational risk policies and procedures should be frequently updated and tested to ensure that they remain current. These policies and procedures should be reassessed periodically (at least annually or whenever significant changes occur to the system or related functions). The relevant governance body should be informed of the results of the review and approve any follow-up work. Senior management should have the responsibility for implementing changes to the risk strategy approved by the relevant governance body. The relevant governance body generally refers to the Board of Directors, although this may differ in some countries. Operational risk policies and procedures should be made available to the relevant public authorities.

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

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

9. 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 interruptions.

10. All CSDs should have business continuity and disaster recovery plans, including an evaluation of any reliance on third parties, to ensure the system is able to resume business activities with a reasonable degree of certainty, a high level of integrity and sufficient capacity as soon as possible after the disruption. All reasonable measures should be undertaken to resume business under plausible scenario conditions no later than two hours after the occurrence of a disruption for CSDs. 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 (SLAs). Critical functions should be identified and processes within those functions categorised according to their criticality. Any assumption behind the categorisation should be fully documented and reviewed regularly. 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 at least provide for the recovery of all transactions at the time of the disruption to allow systems to continue to operate 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. Two hours should be regarded as the point at which CSD's critical systems should recommence operations. However, depending upon the nature of the problems, recovery may take longer. As a minimum, the recovery of operations and data should occur in a manner and time period that enables a CSD to meet its obligations in time. If any critical functions are dependent on outsourcing arrangements, there should be adequate provisions to ensure service provision by third parties. The review, updating and testing of the plans should build upon thorough analysis and established best practices. Tests should especially take into account the experience of previous operational failures; to this end, each operational failure should be documented and analysed in detail. Appropriate adjustments should be made to the plans, based on the results of this exercise.

11. In order to meet their obligations on time, CSDs must set up a second processing site that actively backs up the primary site and has the requisite level of key resources, capabilities and functionalities, including appropriately skilled and experienced staff. When a second processing site has been established, data processing should be switched to it, ideally instantly, in the event of disruption. The backup site should therefore provide a level of efficiency comparable to the level provided by the primary site.

12. The second site should be located at an appropriate geographical distance and be protected from any events potentially affecting the primary site. The operator of the systems should minimise the reliance on relocating key staff and, where some reliance is unavoidable, the operator should anticipate how such a relocation would be achieved. If processing is to continue at the second site within a short period of time, in principle less than two hours following disruption of the primary site, then data will need 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

securities transactions at the time of the disruption can be identified with certainty and in a timely manner during the day. The second site should ensure business continuity for both local and cross-border participants in the event that the primary site is rendered unusable for a longer period of time (e.g. days and weeks).

13. Business continuity and disaster recovery plans should be rehearsed with the users and capacity stress tested on a regular basis, in a real environment if possible. Ideally, backup systems should be immediately available. Clearing and settlement service providers are increasingly dependent on electronic communications and need to ensure the integrity of messages 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 CPSIPS provides more details on operational issues.[28]

14. 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 other market participants to enable them to assess the operational risks to which they are in turn exposed. This is also crucial for systems that interact with other systems. The operational failure of a system in one market may directly affect another market if the size of cross-border clearing and settlement activities is substantial. The regulators and overseers of significant providers of clearing and settlement services should encourage these providers to set up a plan for industry-wide contingency planning, ensuring co-ordination between such institutions.

15. In principle, CSDs should carry out their functions on their own behalf. However, outsourcing is permitted within the limits outlined hereafter. CSDs should only outsource their actual settlement operations or functions to third parties after having obtained prior approval from the relevant competent authorities, if required under the applicable regulatory regime. If not so required, CSDs should at least inform the relevant competent authorities when outsourcing such operations or functions.

16. 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 recommendations to the required extent. A contractual relationship should be in place between the outsourcing entity and the external provider allowing 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 in both ordinary and exceptional circumstances.

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

Appropriate reporting, monitoring and other relevant measures should be agreed in order to allow the outsourcing entity to control the outsourced activity. The outsourcing should be made known to the participants in the outsourcing entity. Finally, additional outsourcing must be duly authorised by the primary outsourcing entity and notified or approved by the relevant competent authorities, according to the national requirements. The term “relevant competent authorities” refers here to the authorities of the jurisdictions where both the outsourcing and insourcing entities are located. A CSD should evaluate its vulnerability arising from reliance on one or a small number of outside providers for utility and similar services. If such a service provider stops operating, a CSD's ability to operate could be compromised, possibly causing uncertainty in financial markets if it occurred with little or no warning. A CSD should seek to achieve diversity in key systems such as electricity and telecommunications to the extent possible or make back up arrangements.

RECOMMENDATION 12: PROTECTION OF CUSTOMERS' SECURITIES

A The recommendation

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

B Key issues

1. An entity holding securities in custody should employ best accounting practices, and should segregate in its books customers' securities from its own securities so as to ensure that customer securities are protected, particularly against claims of the entity's creditors.

2. At regular intervals, and at least once a day, entities holding securities in custody should reconcile their records (e.g. with the issuer CSD, the investor CSD or a custodian bank, depending on the tiering of the custody chain) so as to ensure that customer claims can be satisfied, in line with the implementation of the MiFID.

3. In addition to Key Issue 1, national law should ensure that customer securities are kept immune from any claims made by creditors of the entity holding the securities in custody or by entities upstream in the custodial chain.

4. Entities holding securities in custody should audit their books on a regular basis to certify that their clients' individual securities holdings correspond to the global clients' positions that the entities register in the CSD's, registrar's or depository's books. Entities should submit audit reports to supervisory and oversight authorities upon request.

5. Entities holding securities in custody must not use customer securities for any purpose unless they have obtained the customer's express consent. Their records shall include details of the client and of the financial instruments that they may have used to enable the correct calculation in any loss allocation mechanism that might be applicable.

6. In no case should securities debit balances or securities creation be allowed by entities holding securities in custody.

7. When securities are held through several intermediaries, the entity with which the customer holds the securities should ascertain whether adequate procedures for its customers' protection are in place (including, where relevant, procedures applicable to all upstream intermediaries), and should inform the customers accordingly .

8. Entities holding securities in custody should be regulated and supervised.

C Explanatory memorandum

1. Custody risk is the risk of a loss on securities held in custody by the insolvency of the entity holding the securities. The risk of loss on securities might be brought about by the insolvency, negligence, misuse of assets, fraud, poor administration, inadequate record-keeping, or failure to protect a customer's interests in the securities (including rights of collateral, income, voting rights and entitlements) by or on the part of these entities.[29] This recommendation applies to CSDs, ICSDs, and registrars, as well as any other entities which hold securities and are not subject to the requirements of the CRD and MiFID. In case of providers of investment services, no additional requirements will apply apart from those stated in the Directive on Markets in Financial Instruments (see Sections 7 and 8 of Article 13) and Articles 16 and 19 of the Directive 2006/73/EC implementing Directive 2004/39/EC as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive.

2. There are various different ways of holding a customer's securities, which are determined by the local jurisdiction and/or the governing law of the respective intermediary. In countries where securities are directly held, the intermediary operates individual investor accounts in the depository (typically a CSD) and, as a consequence, investors' securities are held individually and kept separate from the securities of the intermediary in the books of the CSD. In an indirect holding system, protection might be achieved through segregation – i.e. by requiring (or equivalent legally binding protection arrangements) custodians to open at least two accounts – one for their own securities holdings and another omnibus account for their customers' securities. In some countries, protection is achieved in an indirect holding system by the legal definition that securities credited in the omnibus accounts of the intermediaries belong to their customers unless they are explicitly designated as belonging to the intermediaries; or by giving the customers the statutory right to recover, in preference to other creditors of the intermediary, the own account securities holdings of such an intermediary, in case of a shortfall in securities. In such a scenario, intermediaries tend to have just one omnibus account, even though they are allowed to have more than one. Irrespective of whether a direct and/or an indirect holding system is used, or of whether segregation is required or used at local level, intermediaries are obliged to maintain records that will identify the customers' securities at any time and without delay.

3. An entity holding securities in custody (or maintaining records of balances of securities) should employ procedures which ensure 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

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

another custodian. One important way of protecting the ultimate owners of securities from the risk of loss on securities held in custody is by requiring the entity holding securities in custody to apply best accounting practices 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 debit/credit entry on the account of the counterparty delivering/receiving the 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. The customer's securities must also be protected against the claims of the creditors of the entity holding securities in custody in the event of its insolvency. One way to achieve this is through segregation (identification) of customer securities on the books of the custodian (and of all sub-custodians, as well as ultimately, of the CSD as well). Furthermore, entities that hold securities in custody (or maintain records of balances of securities) should reconcile their records regularly, at least once a day, so as to ensure that any errors that might occur are identified and corrected quickly. In case of multi-tiered holding of securities, reconciliation should take place by each entity with the next layer in the custody chain. However, in the case of cross-border transactions with countries outside the EU, the impact of, for example, (foreign) bank holidays and different settlement cut-off times should be taken into account and may prevent daily reconciliation. In such instances reconciliation should be made as soon as possible. Other ways to protect customers from losses resulting from negligence or fraud include external and internal controls and insurance or other compensation schemes, as well as adequate supervision.

4. A customer's securities must be immune from claims made by third-party creditors of the entity holding securities in custody. In addition, in the event of insolvency of a custodian or sub-custodian, it should not be possible for a customer's securities to be frozen or made unavailable for an extended period of time.[30] If that were to happen, the customer could come under liquidity pressures, suffer price losses or fail to meet its obligations. Segregation will facilitate the movement of a customer's positions to a solvent entity holding securities in custody by a receiver/insolvency administrator where this is permitted by national law, thereby enabling customers to manage their positions and meet their settlement obligations. It is therefore essential that the legal framework supports the segregation of customer assets or other arrangements for protecting and prioritising customer claims in the event of insolvency. It is also important for supervisory authorities to enforce effective segregation or equivalent measures by entities holding securities in custody.

5. An entity holding securities in custody should audit its books on a regular basis to certify that its clients' securities holdings correspond to the global clients' positions that the entities hold in the

[30] 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.

CSD's, registrar's or depository's 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.

6. 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 latter's explicit consent. The assets of the customers could be subject to contractual and statutory 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.

7. Cross-border holdings of securities often involve several layers of intermediaries acting as entities holding securities in custody. 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, 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. The ultimate owners of securities should be advised of the extent of a custodian's responsibility for securities held through a chain of intermediaries (see Recommendation 19).

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

9. Likewise, when home country CSDs establish links to other CSDs, they should ensure that these other CSDs protect customer securities adequately (Recommendation 19). With complex cross-border arrangements, it is imperative that sound practices and procedures are used by all entities in the chain of entities holding securities in custody so that the interests of ultimate owners are protected from legal actions relating to the insolvency of, or the committing of fraud by, any one of the them. 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 customers against loss upon the insolvency of, or the committing of fraud by, an entity holding securities in custody or against the claims of a third party.

RECOMMENDATION 13: GOVERNANCE

A The recommendation

Governance arrangements for CSDs should be designed to fulfil public interest requirements and to promote the objectives of owners and relevant market participants.

B Key issues

1. Governance arrangements should be clearly specified and transparent.

2. Objectives and major decisions should be disclosed to the owners, relevant market participants and public authorities involved.

3. Management and the Board of Directors ("the Board") should have the incentives and skills needed to achieve objectives, and should be fully accountable for their performance.

4. The Board or the relevant governance body should have the required expertise and take all relevant interests into account.

5. Governance arrangements should include the identification of conflicts of interest and should use resolution procedures whenever there is a possibility of such conflicts occurring.

6. When appropriate, the relevant appropriate decision-making level of the CSD 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.

C Explanatory memorandum

1. Governance arrangements encompass the relationships between management and owners and other interested parties, including relevant market participants and authorities representing the public interest, and additionally taking into account the interests of investors in a low-cost provision of post-trade services. The key components of governance include: corporate governance, i.e. transparency regarding ownership structure and any group structure; the composition of the Board; the reporting lines between management and the Board; as well as requirements regarding management expertise.

2. CSDs lie at the heart of the settlement process. Moreover, many CSDs are sole providers of certain services to the markets they serve. Therefore, their performance is a critical determinant of the safety and efficiency of these markets, which is a matter of public as well as private interest. The

OECD Principles of Corporate Governance and Commission Recommendation 2005/162/EC[31] can serve as a starting point when designing these arrangements.

3. Governance arrangements should be designed to fulfil the relevant public policy interest requirements, namely to ensure 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. In particular, governance arrangements do not determine whether a CSD is operated on a for-profit basis or not, or whether a CSD is shareholder-oriented or not. However, an effectively governed institution should meet certain basic requirements. Governance arrangements should be clearly specified, coherent, comprehensible and fully transparent. The objectives, those principally responsible for achieving them, and the extent to which they have been met, should be disclosed to owners, market participants and public authorities involved. Management should have a level of expertise and experience comparable with those required by the fitness and propriety criteria applied to the management of other regulated financial institutions in the EU, and the incentives and skills needed to achieve those objectives should be present. Furthermore, management should be fully accountable for its performance. The reporting lines between management and the Board should be clear and direct. The Board should have the required expertise and should take account of all relevant interests. It is important that the role of those non-executive or supervisory board members who are fully independent[32] is clear. In a group structure, there should be independent board members at least on the Board of the parent company. Market participants should be represented, in particular, through consultation mechanisms, ideally drawing on different market participant categories, including small and retail investors as well as issuers. The entity should be accountable for the way it responds to these views. These basic requirements should be met regardless of the corporate structure of the institution, i.e. whether it is a mutual or a for-profit entity.

4. CSDs provide services to various groups of market participants including entities that belong to the same group. However, the interests of these market participants are not always compatible, which leads to the possibility of conflicts of interest arising among the market participants, and between the market participants and the operator of the system itself. There should be a predefined policy and procedures for identifying and managing these potential conflicts of interest. Transparency in the identification and resolution of conflicts of interests increases trust in the clearing and settlement process and in the operators of systems. As a minimum, there should be

[31] Commission Recommendation of 17 February 2005 on the role of non-executive or supervisory directors of listed companies and on the committees of the (supervisory) board (2005/162/EC) OJ L 52, 25.2.2005, p. 51.

[32] According to the Commission recommendation 2005/162/EC, non executive or supervisory directors are not involved in the every day running of the business and have no current engagement with management. The EU recommendations define **independence** as the absence of any material conflict of interest. The recommendations suggest that a director should be considered independent only if he/she is free of any "business, family or another relationship, with the company, its controlling shareholder or the management of either, that creates a conflict of interest such as to impair his judgement".

transparency at the level of general policy and procedures and, where the operator of a system is part of a group, on the group structure. Finally, the limits of total credit exposure to participants and large individual credit exposures should be approved by the Board or at the appropriate decision-making level of the entity, in accordance with existing national regulation.

RECOMMENDATION 14: ACCESS

A The recommendation

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

B Key issues

1. Criteria should be objective, clearly stated, communicated to the relevant authorities and publicly disclosed.

2. Access should be granted to all participants that 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. Denial of access should only be based on risk-related criteria or other criteria as set out in EU law and should be explained in writing

3. Procedures facilitating the orderly exit of participants – for example, those that no longer meet membership criteria – should be clearly stated and publicly disclosed.

C Explanatory memorandum

1. Broad access to CSDs encourages competition and promotes efficient and low-cost clearing and settlement. Access should be granted to all participants that 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.

2. CSDs need to establish criteria that fairly balance 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 made publicly available.

3. 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.

4. CSDs must carefully consider the risks to which they and their users are exposed in determining appropriate access criteria. They may have to apply different access criteria to various categories

of participants. 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 may establish more stringent criteria for members that act as a custodian. When reviewing applications for access to clearing and settlement functions, CSDs should assess the applicants' relevant level of technical expertise, business practices and risk management policies. Moreover, the applicants should have adequate financial resources, such as a specified minimum capital base.

5. Unnecessarily restrictive criteria can reduce efficiency and generate risk by concentrating activity and exposure within a small group of users. The more restrictive the criteria, the greater the importance of the operator assuring itself that its members can control the risks generated by their customers. To avoid discriminating against classes of users and introducing competitive distortions, criteria should be fair and objective. They should be clearly stated, communicated to the relevant authorities and publicly disclosed, so as to promote certainty and transparency. It may be possible for criteria to include indirect indicators of risk, such as whether an institution is supervised, but these indicators should clearly relate 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.

6. Denial of access should be explained in writing, and, in case of dispute, the fairness of the rules which led to the refusal decision could be made subject to third-party review. 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).

7. Restrictions on access should only be based on risk-related criteria or other criteria as set out in EU law. 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 are acceptable 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 (see Recommendation 19) and CCPs, provided the legal and other risks associated with such links can be controlled effectively.

8. When remote members located outside the EU are granted access, the host country regulator (the country of the securities service provider) may need to reach an agreement with the regulator of

the home country (the country of the remote applicant) on matters related to information-sharing, etc. (see Recommendation 18).

9. 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 a 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).

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

RECOMMENDATION 15: EFFICIENCY

A The recommendation

While maintaining safe and secure operations, securities settlement systems should be cost-effective in meeting the requirements of users.

B Key issues

1. CSDs should have in place the mechanisms to review regularly their costs and pricing.

2. CSDs should have in place the mechanisms to review regularly their service levels and operational reliability.

C Explanatory memorandum

1. In assessing the efficiency of securities settlement systems, the needs of market participants and efficiency must be carefully balanced against the requirement that the system should 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 settlement system is to assure domestic and foreign market participants that their trades will consistently settle on time and at the agreed terms of the transaction. If market participants view a settlement system as unsafe, they will not use it, regardless of how efficient it is.

2. Efficiency has several aspects, and it is difficult to assess the efficiency of a particular service provider 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, efficiency and operational reliability of the system.

3. Securities settlement systems should seek to meet the service requirements of system participants in an efficient manner. This includes meeting the needs of its participants, operating reliably and having adequate system capacity to handle both current and potential transaction volumes. The rules of the systems should enable a receiver to reuse securities and cash without delay once finality is achieved, both within and across systems, in order to optimise settlement liquidity.

4. The primary responsibility for promoting the efficiency and controlling the costs of a system lies with its designers, owners and operators. In a competitive environment, market forces are likely to provide incentives to control costs.

RECOMMENDATION 16: COMMUNICATION PROCEDURES, MESSAGING STANDARDS AND STRAIGHT-THROUGH PROCESSING (STP)

A The recommendation

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

B Key issues

For this recommendation to be effective, it also needs to be applied either directly or indirectly by other providers of securities communication services, such as messaging services and network providers.

1. International communication procedures and standards relating to securities messages, securities identification processes and counterparty identification should be applied.

C Explanatory memorandum

1. The adoption of universal messaging standards, with communication protocols covering the entire securities transaction flow, will contribute to the elimination of manual intervention in securities processing and thereby will reduce the risks and costs for the securities industry. Therefore, securities service providers, i.e. CSDs and other relevant entities, should support and use consistent messaging standards, communication protocols and reference data standards relating to securities identification processes and counterparty identification. For these standards to reduce risk and provide efficiency gains, they must be adopted by relevant market participants, entities providing trade confirmation and network communication providers.

2. Increasingly, internationally recognised message and securities numbering procedures, plus communication standards and protocols, are being utilised for cross-border transactions. The industry published the Giovanni Protocol Recommendations[33] in March 2006 which aimed the elimination of the so-called Barrier One ('*National differences in information technology and interfaces*')[34]. To complement the Giovannini Protocol Recommendation, SWIFT had been

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[33] For further details, see http://www.swift.com/index.cfm?item_id=58219

[34] In 2001, the Giovannini group, as advisor to the European Commission, published a report identifying 15 'barriers' to efficient and cost-effective cross-border clearing and settlement of securities transactions within the European Union (EU). In April 2003, a second Giovanni report identified the organisations responsible for defining solutions to the elimination of each barrier. The Barrier One recommendation was:

"National differences in the information technology and interfaces used by clearing and settlement providers should be eliminated via an EU-wide protocol. SWIFT should ensure the definition of this protocol through the Securities Market Practice Group (SMPG). Once defined, the Protocol should be immediately adopted by the European System of Central Banks (ESCB) in respect of its operations. This barrier should be removed within two years from the initiation of this project."

working with senior industry representatives to develop the File Transfer Rulebook, which specifies generic rules for file construction and best practices for file transfer operations for any and all file transfers, on any network. Furthermore, the industry is currently moving towards the use of ISO 20022[35] as an international standard for securities messaging. Being aware of the crucial importance of promoting industry solutions for standardising protocols regarding communication with national clearing and settlement systems and between the systems themselves, implying harmonised connection and messaging protocols, the application of the Giovanni Protocol Recommendations and the File Transfer Rulebook should be encouraged, and it is equally important that service providers define each component of their business in a consistent way in order to benefit from ISO 20022 for the entire securities transaction life cycle, including the asset servicing requirements.

3. The quality of transmitted data and the consistent use of standards should be ensured, to allow market participants to receive and process messages through their systems without the need for intervention.

4. All involved parties, such as exchanges, CSDs 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 will improve the quality and efficiency of securities processing.

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

6. The use of international communication protocols and standardised messaging and reference data 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. This suppression of manual intervention can reduce the number of errors, avoid information losses and reduce the resources needed for data processing.

7. 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, rapid implementation of STP would be costly. Nevertheless, the widespread use of STP should be the goal of all service

[35] ISO 20022 - UNIversal Financial Industry Message scheme (UNIFI) is the international standard that defines the ISO platform for the development of financial message standards. Its business modelling approach allows users and developers to represent financial business processes and underlying transactions in a formal but syntax-independent notation. These business transaction models are the "real" business standards. They can be converted into physical messages in the desired syntax. At the time UNIFI was developed, XML (eXtensible Mark-up Language) was already the preferred syntax for e-communication. Therefore, the first edition of UNIFI proposes a standardized XML-based syntax for messages. The standard was developed within the Technical Committee TC68 – Financial Services of ISO - the International Organization for Standardization (source: www.iso20022.org). 20022 is replacing an older standard 15022, which should be used if a 20022 solution is not yet available.

providers, and they should be urged to work with their participants to establish a clear plan for moving towards STP.

8. The use of international communication standards is also a crucial precondition for interoperability between EU clearing and settlement infrastructures. It is important that the implementation of standardisation and STP goes hand in hand with a flexible information systems structure (open architecture) that allows communication and interoperability between different segments of the securities clearing and settlement infrastructure. Market participants should be able to move swiftly and easily from one system to another and to 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, public authorities should encourage service providers to ensure interoperability in terms of communication and information infrastructures, as well as messaging services and standards.

9. Some securities service providers may not adopt these international procedures and standards. In this case, another alternatives should be explored by service providers such as setting up efficient translation or conversion mechanisms that would allow them to be an integral part of the European securities infrastructure.

RECOMMENDATION 17: TRANSPARENCY

A The recommendation

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

B Key issues

1. CSDs shall provide market participants with the information necessary to evaluate the risks and prices/fees associated with the CSDs' settlement service; this information should include the main statistics and the balance sheet of the system's operator.

2. CSDs should publicly and clearly disclose their risk exposure policy and risk management methodology.

3. Information should be publicly accessible, for example via the internet, and not restricted to the system's participants. Information should be available in formats that meet the needs of the users, in a language commonly used in the international financial markets as well as in at least one of the domestic languages[36].

4. CSDs should complete and disclose the answers to the key questions (other than those on Regulation, Supervision and Oversight) of this report. The accuracy and completeness of disclosures should be reviewed at least once a year by the CSDs. Information should be updated on a regular basis.

C Explanatory memorandum

1. In the past decades there has been growing appreciation of the contribution that 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.

2. Informed market participants can more effectively 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 the 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

[36] If required in the respective domestic market.

information on prices/fees, services offered, key statistics and balance sheet data can promote competition between service providers and may lead to lowered costs and improved levels of service. Therefore, when CSDs offer value-added services, this offer should be made at transparent prices. Specific services and functions should be priced separately to allow users the option of selecting the services and functions that they wish to use.

3. CSDs make public the rights and obligations of market participants, 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. To enhance safety and risk awareness among participants, CSDs should publicly and clearly disclose their risk exposure policy and risk management methodology. Relevant information should be made accessible, for example via the internet. Information should be current, accurate and available in formats that meet the needs of users, in a language commonly used in the international securities markets as well as in at least one of the domestic languages[37]. In order to be useful, the information should be updated on a regular basis, at least once a year, or when major changes occur. CSDs are not obliged to disclose proprietary or confidential information, e.g. on business continuity plans.[38]

4. Completion of the answers to the key questions set out in this report will serve not only as a basis for assessment of the implementation of the recommendations but as a basis for public disclosure to provide market participants with the complete and accurate information they need. The accuracy and completeness of disclosures should be reviewed periodically by a CSD, at least once a year, or when major changes occur.

[37] If required in the respective domestic market.

[38] Information should be classified as proprietary or confidential in accordance with the relevant law.

RECOMMENDATION 18: REGULATION, SUPERVISION AND OVERSIGHT

A The recommendation

CSDs and securities settlement systems should be subject to transparent, consistent and effective regulation, supervision and oversight. In both a national and a cross-border context, central banks and securities regulators should cooperate with each other and with other relevant authorities regarding the CSD and the securities settlement systems it operates. Central banks and securities regulators should also ensure a consistent implementation of the recommendations.

B Key issues

1. CSDs and securities settlement systems should be subject to transparent, consistent and effective regulation, supervision and oversight. Securities regulators (including in this context banking supervisors where they have similar responsibilities and regulatory authority for CSDs) and central banks should have the ability and the resources to carry out their regulation, supervision and oversight responsibilities effectively.

2. Securities regulators and central banks should clearly define and publicly disclose their objectives, their roles and key aspects of major policies for CSDs.

3. To ensure transparent, consistent and effective regulation, supervision and oversight, different forms of cooperation amongst relevant authorities may be required, both in national and cross-border context. Central banks and securities regulators should also ensure the consistent implementation of the recommendations and to achieve a level playing field for CSDs and securities settlement systems in the European Union.

4. To enable them to carry out their tasks securities regulators and central banks should require CSDs and operators of securities settlement systems/arrangements to provide information necessary for regulation, supervision and oversight in a timely manner, including information on operations that have been outsourced to third parties or where the CSD proposes to undertake new activities.

5. Securities regulators, central banks and other relevant authorities should cooperate with one another, both nationally and in a cross-border context, to contribute to a safe, sound and efficient operation of CSDs.

C Explanatory memorandum

1. Securities regulators (including, in this context, banking supervisors where they have similar responsibilities and regulatory authority with respect to CSDs) and central banks share the

common objective of promoting the implementation of measures that enhance the safety soundness and efficiency of CSDs and the securities settlement systems they operate. The division of responsibilities among relevant authorities for the regulation, supervision and oversight of securities clearing and settlement services and systems varies from country to country depending on the legal and institutional framework.

2. Securities regulators and central banks will ensure the consistent application of these recommendations and to achieve a level playing field for CSDs and securities settlement systems in the European Union.

3. While the primary responsibility for ensuring the safe, sound and efficient operation of the CSD and the securities settlement systems/arrangements lies with its designers, owners and operators, the relevant authorities will review on the basis of regulation, supervision and oversight that the designers, owners and operators of securities clearing and settlement systems, fulfil their responsibilities.

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

5. The relevant authorities should have the ability and the resources to carry out regulation and supervision effectively. Regulatory, supervisory and oversight activities should have a sound basis, which may or may not be based on statutes, depending on a country's legal and institutional framework. Cooperation and coordination among relevant authorities, in particular sharing of information, is subject to the provisions embedded in national law and – where relevant – to the provisions of applicable EU-directives. Relevant authorities will contribute on a best efforts basis to the relevant national procedures with the aim to eliminate obstacles which hamper the sharing of information. The relevant authorities should have adequate resources to carry out their regulatory, supervisory and oversight functions, such as gathering information on the CSDs and securities settlement systems they operate, assessing the structure, operation and design of the systems, conducting on-site visits or inspections, if necessary, and taking action to promote observance of the recommendations. To allow the relevant authorities to exercise their tasks effectively, CSDs should provide them with the necessary information and data, preferably in a standardised way.

6. Cooperation between the relevant authorities is important if their respective policy goals are to be achieved. The risk profile of cross-border activities varies depending on the type of the cross-border arrangement, for example, links between CSDs, CSDs operating in a group structure

sharing various business element, CSDs operating in a group structure subject to a consolidated supervision, the outsourcing of services or "off-shore systems". The justification for and level of a cooperative arrangement between relevant authorities, should take into account these varying risk profiles and should be addressed in a way that delivers regulation/supervision/oversight consistent with each relevant authority's responsibilities and avoids gaps, imposing unnecessary cost and/or duplication of controls. Regulators/overseers can consider a variety of approaches including (1) information-sharing arrangements; (2) coordination of regulatory/oversight actions for specific matters and issues of common interest; and (3) other cooperation arrangements. The approach selected may vary, depending on such issues as the law and regulatory approach in each jurisdiction. The approach set out in (2) above might entail a cooperative agreement for coordinating the implementation of the regulatory/oversight responsibilities of the competent authorities in line with the principles set in the 1990 Lamfalussy Report and with the cooperative oversight principles outlined in the 2005 CPSS report on 'Central bank oversight of payment and settlement systems'. The principles governing these cooperative arrangements should be set out in a formal framework, which in the interest of transparency, should be publicly disclosed. Cooperation could include co-ordination of crisis management plans as well as, to the extent permitted, early, confidential flow of information between relevant authorities and CSDs. The 2008 Memorandum of Understanding on cooperation between the financial supervisory authorities, central banks and finance ministries of the European Union on cross-border financial stability provides a basis for cooperation in the management of any cross-border financial crisis. In any case, the relevant authorities should establish prior contact channels and processes (including ones with the senior and key managers of the clearing and settlement systems) to ensure continuity of communication in case of a crisis situation.

RECOMMENDATION 19: RISKS IN CROSS-SYSTEM LINKS OR INTEROPERABLE SYSTEMS [39]

A The recommendation

CSDs that establish links to settle cross-system trades should design and operate such links so that they effectively reduce the risks associated with cross-system settlements. They should evaluate and mitigate the potential sources of risks that can arise from the linked CSDs and from the link itself.

B Key issues

1. CSDs should design links or interoperable systems 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. It should evaluate and mitigate the potential sources of risks that can arise from the linked CSD and from the link itself. The resulting arrangements should be designed such that risks are mitigated and the CSD remains able to observe the other recommendations contained in this report. The risk assessment should be kept updated

2. Provisional transfers across a link should be prohibited (or at least retransfers, until the first transfer is final), and DVP should be achieved. CSDs should achieve DVP for links that process transactions against cash. The length of the settlement cycle and the achievement of DVP with intraday finality should not be jeopardised by the establishment of a link (see Recommendations 7 and 8).

3. 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.

4. Relayed links should be designed and operated in a way that minimises or contains settlement risks and does not impede the efficiency of cross-system settlement.

C Explanatory memorandum

1. The settlement of cross-system securities transactions is typically more complicated and potentially involves more risk than the settlement of domestic transactions. A CSD can provide arrangements to its participants by establishing direct links with other systems or relayed links where a third CSD is used as an intermediary. The recommendation applies to all cross-system links, or interoperable systems, both between two systems located in the same jurisdiction and between systems in different jurisdictions (i.e. cross-border links).

[39] This recommendation does not cover links established by CCPs. This issue is covered in Part II on CCPs.

2. Direct links between CSDs may take a variety of forms. One way to distinguish between links is by the degree of customisation in service offering. If a CSD links to another CSD like any other standard participant this scenario is called standard access. If a CSD links to another CSD and some specific services are offered by one CSD to the other the scenario is called customised access. However, links may also take a form in which the CSDs establish advanced forms of relationships, where they agree to establish mutual solutions. Domestic cross-system links pose the same problems as cross-border links, although there may be fewer conflicts of law problems because the former are located in the same jurisdiction. It is important that cross-system links satisfy the relevant requirements set out in this recommendation.

3. Links may be established for different purposes. Links across systems may provide securities transfer, custody and settlement services. The choice of functions determines the design of the link, as does the structure of the CSD and the legal framework applicable in the respective jurisdictions. For example, to settle cross-system securities instructions between their participants, one or both of the linked CSDs becomes 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 can also facilitate data transmission and information exchange about securities holdings. Furthermore, links can reduce the costs to participants of holding securities in various jurisdictions. Finally, links can, in certain circumstances, reduce the number of intermediaries involved in cross-system settlements, which tends to reduce legal, operational and custody risks.

4. However, CSDs need to design links carefully to ensure that risks are, in fact, reduced. Therefore, a CSD should evaluate and mitigate the potential sources of risks that can arise from the linked CSD and from the link itself. A CSD should evaluate the financial integrity and operational reliability of any CSD with which it intends to establish a link. The resulting arrangements should be designed such that risks are mitigated and the CSD remains able to observe the other recommendations contained in this report. Because linked CSDs are located in different jurisdictions, they must address legal and operational complexities that are more challenging than those they confront 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 to if it settled its transactions through alternative channels, such as local agent.

5. Links may present legal risks relating to a coordination 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 law. Links may also present additional operational risks owing 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 because of the need to block securities

that are to be used in settling transactions across a link. Lastly, settlement links may create significant credit and liquidity interdependencies between systems, particularly if one of the linked systems experiences an operational problem or 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 could expose participants in that system (even participants that did not transact across the link) to losses. In this respect, a clear allocation of responsibilities between the linked systems should be pursued. In light of the above, a link should not be unnecessarily complex.

6. Any credit extensions between CSDs should be fully secured by securities, letters of credit, other high-quality collateral or other means that ensure the same level of protection and should be subject to limits. Liquidity management arrangements should be implemented to address operational inefficiencies and potential defaults. Notwithstanding operational and legal difficulties, DVP should be achieved and steps should be taken to reduce the length of the (DVP) settlement process across the link. To reduce liquidity risks, intraday finality should be provided on a real-time basis or, at least, through several batches a day (see Recommendation 8). Moreover, to eliminate the danger of unwinds, provisional transfers across the link should be prohibited, or at least their retransfer should be prohibited until the first transfer is final.

7. Links between CSDs should be designed so that they operate in accordance with the rules of each CSD and the terms of any associated contracts between the linked CSDs and between the individual CSDs and their participants, and with the necessary support of the legal framework in each jurisdiction in which the linked CSDs operate. Each CSD should assess the extent to which its legal framework supports the proper operation of links with other CSDs. The CSDs should aim to co-ordinate their rules as regards the moment of entry of a transfer order into a system and the moment of irrevocability. To the extent that 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. The laws applicable to the linked CSDs and 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 the event 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 should 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-system links, particularly the need for accurate and timely reconciliation of holdings (see Recommendation 12). Reconciliation is particularly important when more than two CSDs are involved (i.e. indirect or relayed links, where the securities are kept by one CSD or custodian while the seller and the buyer participate in two other CSDs). As a rule, when indirect links are used, participants should be informed of the risks they are assuming.

8. This recommendation also applies to relayed links and to other types of link where a CSD intermediates in the relation between an investor CSD and an issuer CSD. These links are defined as contractual and technical arrangements that allow two settlement systems not directly connected to each other to exchange securities transactions or transfers through a third settlement system (or systems) acting as the intermediary. Despite the further layer of complexity introduced by the operation of relayed links, such links should be designed in a way that minimises or contains settlement risks and does not impede the efficiency of cross-system settlement. This means that relayed links should be subject to the requirements set out in the ESCB-CESR recommendations. Each CSD should assess the extent to which its legal framework supports the proper operation of relayed links. To the extent that jurisdictions permit CSDs operating there to establish a relayed link, the legal frameworks of the jurisdictions involved should support the operation of the link in accordance with these recommendations. In terms of investor protection, it is important that the use of a relayed link does not in any way adversely affect the protection of end-investors against custody risk. For this reason, appropriate risk management procedures such as reconciliation and realignment should be in place. Moreover, as far as investor protection is concerned, the interaction of at least three different jurisdictions has to be carefully investigated and supported by legal opinions. With regard to market efficiency, it is important that the design and operation of relayed links allow efficient cross-system transfers in terms of processing times, so that the participants of the involved relayed CSDs can receive and use transferred securities within the same day.

PART 2:
RECOMMENDATIONS FOR CENTRAL COUNTERPARTIES

RECOMMENDATION 1: LEGAL RISK

A The recommendation

CCPs, linked or interoperable CCPs should have a well-founded, transparent and enforceable legal framework for each aspect of their activities in all relevant jurisdictions.

B Key issues

1. The laws, regulations rules, procedures, and contractual provisions governing the operation of a CCP[40], of linked CCPs or of interoperable CCPs[41] (see Recommendation 11) should be clearly stated, internally coherent, and readily accessible to participants and the public.

2. The legal framework should provide a high degree of assurance for each aspect of a CCP's operations and risk management procedures.

3. The rules, procedures, and contracts of a CCP should be enforceable if a CCP participant, a linked CCP or an interoperable CCP or a participant in a linked or interoperable CCP defaults or becomes insolvent. There should be a high degree of assurance that actions taken under such rules and procedures may not later be stayed, avoided or reversed

4. A CCP should identify and address any potential conflicts of law issues arising from cross-border arrangements. In doing this, the CCP's analysis should include the laws intended to cover those elements specified in C.8.

5. In accordance with the relevant national implementation provisions, all CCPs should apply for designation under the Settlement Finality Directive 98/26/EC on settlement finality in payment and securities settlement systems, as amended (hereinafter referred to as the Settlement Finality Directive). The relevant authorities should actually designate the systems that meet the criteria of the Settlement Finality Directive.

6. The relevant public authorities should support the harmonisation of rules so as to minimise any discrepancies stemming from different national rules and frameworks.

C Explanatory memorandum

1. A well-founded legal framework should support each aspect of a CCP's risk management and operations for all cleared products. The legal system (including bankruptcy laws) should clearly

[40] For a definition of CCPs to which these recommendations apply, *see* Introduction para. 15.

[41] Were a CCP to act as a clearing member of another CCP, all recommendations except 11 apply.

support: novation or open offer, acceleration and termination of outstanding obligations, netting, default procedures, collateral and clearing fund arrangements, enforceability of a CCP's rules with regard to its participants, insolvency of the CCP, a CCP's conflict of law determinations, and a CCP's right to information about participants and, directly or indirectly, about underlying customers. Further, the laws and regulations governing a CCP, a CCP's rules, procedures and contractual arrangements, and a CCP's timing of assuming its obligations should be clearly stated, internally coherent and readily accessible to participants and the public. If the legal framework is underdeveloped, opaque or inconsistent, the resulting legal risk will undermine a CCP's ability to operate effectively. Financial market participants will face the dilemma of either: (1) using a CCP with an incomplete ability to assess their risk of participation; or (2) declining to use a CCP. Under either circumstance, the risk reduction benefits of a CCP may not be realised and, depending on the significance of weaknesses in the legal framework, the activity of a CCP could be a potential source of systemic risk.

2. In most jurisdictions, the legal concept that enables a CCP to become the counterparty is either novation or open offer. Through novation, the original contract between the buyer and seller is extinguished and replaced by two new contracts, one between the CCP and the buyer and the other between the CCP and the seller. In an open offer system, a CCP is automatically and immediately interposed in a transaction at the moment the buyer and seller agree on the terms. If all pre-agreed conditions are met, there is never a contractual relationship between the buyer and seller in an open offer system. Both novation and open offer give market participants legal certainty that a CCP is obligated to effect settlement if the legal framework is supportive of the method used.

3. A CCP may accept trades from a range of sources, including exchanges, electronic trading platforms, over-the-counter markets and trade processing platforms. In order to determine the obligations of the CCP and its participants and the risks they face, the legal terms defining and governing the contracts of these trades must be certain. A CCP's rules and procedures should set out the relevant contractual terms and make clear the extent to which a CCP relies on the legal framework or determinations of third-parties (e.g. determination concerning the handling of credit events). Recognising that a CCP will generally only ever serve a subset of a given product market, use of widely accepted market definitions should be made provided that such use does not create legal uncertainty.

4. The legal framework should support the essential steps that a CCP takes to handle a defaulting or insolvent participant, including any transfers and closing out of a direct or indirect participant's positions. A CCP must act quickly in the event of a participant's default, and ambiguity over the enforceability of these procedures could delay, and possibly prevent altogether, a CCP from taking actions that fulfil its obligations to non-defaulting participants or minimise its potential losses. Insolvency law should support isolating risk and retaining and applying collateral (including

margin) and cash payments previously paid into a CCP, notwithstanding a default or the commencement of an administration or bankruptcy proceeding by or against a participant.

5. The legal framework must enable a CCP to clearly establish its interest in collateral (including margin). Generally, collateral arrangements involve either a pledge or a title transfer. If a CCP accepts a pledge, it must have a high degree of assurance that the pledge has been validly created in the relevant jurisdiction and validly perfected, if necessary. If a CCP relies on a title transfer, it should have a high degree of assurance that the transfer will be enforced as written and not recharacterised as an invalid or unperfected pledge.

6. A strong legal framework will support the rapid deployment of the collateral held by a CCP when a participant defaults on its obligations or becomes insolvent. This aspect of the legal framework is critical because delay in the use of collateral may prevent a CCP from meeting its obligations as expected. The legal framework will accomplish this goal if the rules, procedures and contracts for operating a CCP and the obligations of its participants are enforceable, and a CCP has the unimpeded ability to liquidate collateral and close out transactions. This means that actions taken by a CCP under such rules and procedures may not later be stayed, avoided or reversed.

7. The enforceability of a CCP's netting arrangements must also have a sound and transparent legal basis. Netting involves the offsetting of obligations by trading partners or participants. CCPs often bilaterally net their obligations with each participant. Netting reduces the number and value of deliveries and payments needed to settle a set of transactions and significantly reduces the potential losses to a CCP in the event of a participant's default. Some CCPs also net gains and losses from the close out of positions in different securities or derivatives. Netting arrangements must be enforceable against a CCP's failed participants in bankruptcy, and the legal framework should support the CCP's netting arrangements. Without such legal underpinnings, net obligations may be challenged in judicial or administrative insolvency proceedings. If these challenges are successful, the CCP or its participants would be obligated for gross amounts – potentially a huge, even devastating, change because the gross obligations could be many multiples of the net obligations.

8. A CCP's legal framework should also support finality of settlement. A critical issue in a CCP's money settlement arrangements is the timing of the finality of funds transfers between the CCP's accounts and the accounts of its participants at the banks used to effect such settlements. The funds transfers should be final (irrevocable and unconditional) when effected (when accounts are debited and credited) also in relation to interoperable CCPs. The laws of the relevant jurisdictions must support the provisions of the CCP's legal agreements with its settlement banks relating to finality. Similarly, there must be a clear and effective legal basis for the finality of the transfers of financial instruments.

9. The rules governing the CCP's activities should clearly indicate the law that is intended to apply to each aspect of a CCP's operations including (a) the law governing the CCP; (b) the law that will be applicable to the contractual aspects of the relationship with each participant, (c) the law that will be applicable to the proprietary aspects of securities held on a participant's account with a CCP; (d) the law covering collateral pledged to the CCP including where relevant, the conditions for rehypothecation of collateral and e) the law governing contracts to which the CCP becomes the counterparty. If CCPs operate in more than one market or jurisdiction, the legal framework should be clear and consistent to avoid systemic risk. Potential conflicts of law should be identified and the CCP must address conflicts of law issues when there is a difference in the substantive laws of the jurisdictions that have potential application to a CCP's activities. The legal framework for a CCP must be evaluated in the relevant jurisdictions. These include those jurisdiction(s) (i) in which the CCP is established (ii) in which the CCP's direct participants are established, regulated, domiciled or have their principal office, centre of main interests or the branch office through which they operate their business with the CCP; and (iii) whose laws affect the operation of the CCP as a result of: (a) the law governing the CCP; (b) the law that will be applicable to the contractual aspects of the relationship with participant; and (c), if different from (b), the law that will be applicable to the proprietary aspects of securities cleared by the CCP or provided as collateral. Relevant jurisdictions may also include a jurisdiction in which a security handled by the CCP is issued, jurisdictions in which a clearing member or its bank, is established, domiciled or has its principal office centre of main interests and branch through which it operates; or a jurisdiction whose laws govern a contract between these parties or interoperable CCPs. In such circumstances, each jurisdiction's conflict of laws rules should specify the criteria that determine the law applicable to the activity. CCPs should take into account the conflicts of law issues when structuring their rules and setting the law that governs the CCPs. Both CCPs and participants also should be aware of applicable constraints on their ability to choose the law that will govern a CCP's activities. A jurisdiction ordinarily does not permit CCPs and participants to circumvent the fundamental public policy of that jurisdiction by contract.

10. A CCP and the appropriate regulatory authorities should organise and license a CCP in a manner that enables it to take advantage of all of the legal protections available in the jurisdiction. As the Settlement Finality Directive provides legislation that supports most of the legal issues listed above, CCPs whose operations are governed by the law of an EEA Member State should apply for designation under this Directive. Regardless of its organisation or regulatory status, a CCP should have the legal authority to establish requirements for direct access to its services and deny access to entities that fail those requirements. Further, legal, regulatory or confidentiality restrictions should not prevent market participants from providing information about themselves relevant to their participation in a CCP.
11. The application of a multitude of laws to the operations of a CCP increases the legal complexity and could possibly affect systemic stability. In the EEA the Settlement Finality Directive reduces

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 governing a CCP's operations should be kept to a minimum. Subject to a legal risk analysis, it may prove to be advisable that only one legal system governs the contractual aspects of the relationship between the CCP and each of its participants. Ideally, the applicable law should be identical to the law governing the CCP, in order to safeguard systemic finality, certainty and transparency. Linked or interoperable CCPs should identify, disclose and address any additional legal risks.

12. CCPs should, as a minimum, provide information to market participants (where appropriate and relevant, supported by an internal or external analysis or opinion) on the following subject matters: (1) the legal status of the CCP; (2) the law governing the CCP and its activities for all cleared products; (3) the rules governing access to the CCP; (4) the applicable law governing the contractual relationship between the CCP and participants; (5) the office(s) where activities related to the maintenance of financial instruments accounts are being conducted; (6) the rules governing the use of collateral including - if applicable - that provided by non clearing participant; (7) the rules and applicable law for default and collateral, including the liquidation of positions and of assets pledged or transferred as collateral; (8) CCP risk management techniques, including the CCP legal position vis-à-vis clearing members and – if applicable - non clearing participants, (9) the laws governing the transfer of payments and those covering the final settlement of a transaction particularly if physical delivery occurs, also in links and interoperable CCPs (10) the extent to which collateral pledged to the CCP is protected against any third party claims (11) a general description on the above matters in case of a default or insolvency of the CCP including (but not limited to) – if applicable – details of any facilities offered to facilitate the segregation of assets provided by participants, including non clearing participants (12) the applicable law governing the contractual relationship underpinning links and interoperable CCPs. The applicable legal framework should ensure that all participants are adequately protected against custody risk, in particular including for example, insurance policies, contractual exclusion and agreed treatment regarding shortfalls of securities.

13. For systemic risk purposes, the harmonisation of rules should be promoted to minimise discrepancies stemming from different national rules and legal frameworks. This will minimise the effects of potential conflict of laws thereby increasing the level of legal certainty. The legal and regulatory framework comprises different kind of "rules". In case the rule is set out in the law, the relevant competent authorities should address the relevant issues. In this respect, some harmonisation has been achieved by the implementation of the Settlement Finality Directive, of the Financial Collateral Directive and of MiFiD. Further harmonisation may be considered at the EU level in the future. In case the rule is not set by an international or national law but depends on

self-regulatory bodies or by the CCP itself, these institutions should endeavour to harmonise rules at European Level.

RECOMMENDATION 2: PARTICIPATION REQUIREMENTS

A The recommendation

A CCP should require participants to have sufficient financial resources and robust operational capacity to meet obligations arising from participation in the CCP. A CCP should have procedures in place to monitor that participation requirements are met on an ongoing basis. A CCP's participation requirements should be objective, publicly disclosed, and permit fair and open access. Rules and requirements that restrict access should be aimed at controlling risk.

B Key issues

1. To ensure timely performance by participants, a CCP should establish requirements for participation to ensure that participants have sufficient financial resources and robust operational capacity, including a sufficient level of relevant expertise, necessary legal powers and business practices.

2. A CCP should have procedures in place to monitor that participation requirements are met on an ongoing basis, either through timely access to regulatory reports filed by participants or directly if such reports are not available or do not contain the required information.

3. Participation requirements should be objective, permitting fair and open access. Denial of access should only be based on risk-related criteria or other criteria as set out in EU law and should be explained in writing. Participation requirements, including arrangements for orderly exit of participants, should be clearly stated and publicly disclosed.

C Explanatory memorandum

1. A CCP seeks to control the risks to which it is exposed by dealing only with sound and reliable counterparties. Participation requirements established by a CCP are its primary means to ensure that participants have sufficient financial resources and robust operational capacity to meet obligations arising from participation. Where a CCP admits non regulated entities as participants, it should analyze any specific risks that non regulated entities bring to the CCP and establish appropriate requirements for such participants to ensure that those risks are adequately controlled. Requirements should be clearly stated and publicly disclosed so as to promote certainty and transparency. To avoid discriminating against classes of participants and introducing competitive distortions, participation requirements should be objective and avoid limiting competition through unnecessarily restrictive criteria, thereby permitting fair and open access within the scope of services offered by the CCP[42]. Restrictions on access should only be based on risk-related criteria

[42] For example, a CCP offering its services only to wholesale market participants is not required to provide its services to retail market participants.

or other criteria as set out in EU law. So, for example, restrictions on access for non-resident participants are unlikely to be acceptable except when material doubts exist over whether system rules are enforceable against residents of other jurisdictions or remote access would expose a CCP to unacceptable risks which cannot reasonably be mitigated. A CCP may include other indicators of risk in its requirements, such as whether an institution is supervised, but these indicators should be related clearly to the risks the CCP is managing. Refusal could also be justified when there are doubts about the enforceability of legal powers with regard to money laundering, in case of applicants located in countries blacklisted by the Financial Action Task Force (FATF).

2. 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 CCP. 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. Denial of access should be explained in writing. If an applicant questions the fairness of the refusal decision, the decision can be brought to third-party review. 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 CCP at any time at the same price.

3. To reduce the likelihood of a participant's default and to ensure timely performance by the participant, a CCP should establish rigorous financial requirements for participation. Participants are typically required to meet minimum capital standards. Some CCPs impose more stringent capital requirements if exposures of or carried by a participant are large or if the participant clears for other market participants. Capital requirements for participation may also take account of the types of products cleared by a CCP. In addition to capital requirements, some CCPs impose standards such as a minimum credit rating or parental guarantees. Additional risks may be introduced to the CCP by non clearing participants and more specifically by non-regulated entities (e.g. hedge funds). Consequently, even though CCPs only have direct exposures to clearing members and rely on the latter's due diligence to address risks created by non clearing participants, CCPs should consider explicitly requiring that clearing members apply appropriate risk management tools to non clearing participants in their rules or introducing additional admission criteria. In the medium term, CEBS will investigate risk management aspects relevant to banks that take on the role of a general clearing member.

4. A CCP should establish requirements to ensure that participants have robust operational capacity, e.g. sufficient level of relevant expertise, necessary legal powers and business practices, including appropriate procedures for managing risks, such that the participants are able to achieve timely performance of obligations owed to the CCP. The requirements should ensure that participants can process the expected volumes and values of transactions within the required time frames,

including at peak times and on peak days. They should also have arrangements to effect collateral, payment, and delivery obligations to the CCP. A CCP should also ensure that its requirements are addressed through regular review of operational capacity and risk management policies by participants' senior management and by independent internal audit. Furthermore, a CCP may require its participants who are exposed to greater risks to demonstrate a higher level of operational robustness than other participants, because the operational failure of such a participant is likely to have greater market-wide impact than that of participants with less significant exposures. A CCP may impose specific additional obligations on participants to participate in default management processes, for example participation in auctions of a defaulting clearing member's positions. These may be particularly appropriate in the case of OTC derivatives in order to ensure a timely resolution of a large and complex portfolio and may be included in the relevant participation requirements. Any participation by clearing members in the default management process should be in good faith and closely monitored by the CCP.

5. A CCP also needs to ensure that directors and senior management of participants meet relevant fit and proper requirements, as appropriate. If participants are regulated entities, this may already have been evaluated by public authorities.

6. A CCP should have procedures and allocate sufficient resources for effective monitoring of compliance with participation requirements on an ongoing basis[43]. A CCP should have the authority to receive timely and accurate information on participants' compliance with its requirements, either through access to regulatory reports filed by the participants with regulators (if permitted by law) or directly from the participants. Participants should be required to report any developments that may affect their ability to comply with participation requirements, and a CCP should be able to impose more stringent restrictions on individual participants in situations where it determines that the participant poses heightened risk. Some CCPs also have the authority to conduct on-site visits to participants. A CCP should have in place arrangements for the suspension and orderly exit of participants that no longer meet participation requirements, and those arrangements should be publicly disclosed.

[43] The requirement is for a CCP to monitor compliance with its participation requirements and should not be interpreted as mandating a regulatory role for a CCP beyond those requirements the CCP imposes as a condition for participation in the CCP. Where applicable, a CCP may rely on the supervisory activities of the participant's regulators, but this does not absolve the CCP from conducting its own due diligence

RECOMMENDATION 3: MEASUREMENT AND MANAGEMENT OF CREDIT EXPOSURES

A The recommendation

A CCP should measure its credit exposures to its participants at least once a day. Through margin requirements and other risk control mechanisms, a CCP should limit its exposures to potential losses from defaults by its participants so that the operations of the CCP would not be disrupted and non-defaulting participants would not be exposed to losses that they cannot anticipate or control.

B Key issues

1. A CCP should measure its exposures to its participants at least once a day and should have the capacity to measure its exposures on an intra-day basis, either routinely or at a minimum when specified thresholds are breached. The information on market prices and participants' positions that are used to calculate the exposures should be timely.

2. Through margin requirements and other risk control mechanisms, a CCP should ensure that it is adequately protected against potential losses from defaults by its participants, so that closing out any participant's positions would not disrupt the operations of a CCP or expose non-defaulting participants to losses that they cannot anticipate or control.

C Explanatory memorandum

1. To manage its counterparty credit exposures to its participants effectively, a CCP must be able to measure those exposures. A CCP can ascertain its current credit exposure to each participant by marking each participant's outstanding contracts to current market prices and (to the extent permitted by a CCP's rules and supported by law) netting any gains against any losses. A CCP faces the risk that the participants' exposures can change as a result of changes in prices, in positions, or both. Adverse price movements can rapidly increase exposures to participants.[44] Furthermore, participants may rapidly build their positions through new trading, although some markets impose trading limits or position limits that reduce this risk. Recommendation 11 elaborates on the management of the counterparty credit exposures towards other CCPs.

2. A CCP thus should recalculate its exposures to its participants frequently, based on timely information on market prices and on the size and concentration of positions, to ensure that its estimates of those exposures are accurate. How frequently a CCP must recalculate its exposures to participants depends on the volatility of prices in the markets it serves and the potential for participants to quickly build large positions in those markets. The latter depends on the liquidity of

[44] Price limits and trading halts may delay the adjustment of market prices but there is little evidence that they can reduce the ultimate size of adjustments that occur once trading resumes.

the markets and on whether the markets set and enforce trading limits or position limits. Nevertheless, a CCP should measure its exposures at least once a day and should have the operational ability to measure its exposures on an intra-day basis, either routinely or at a minimum when specified thresholds are breached (for example, when market price changes exceed pre-specified thresholds or when one or more participants build up large positions during the day). Mark-to-market should be used to the largest extent possible when measuring an instrument. In case of illiquidity of an instrument and of consequent difficulty in assessing a reasonable daily settlement price, the CCP should elaborate a model for assessing a reasonable daily settlement price, on the basis of the theoretical value of the financial instrument concerned.

3. A CCP must be able not only to measure its exposures to its participants but also to take actions as necessary based on the results of those measurements. A CCP must maintain sufficient financial resources to ensure that it continues to meet its obligations when due. Without some mechanism to limit its potential exposures, a CCP would not be able to meet that requirement unless it were able to augment its financial resources very rapidly. But augmenting resources might well prove difficult in the circumstances that would generate a need for those additional resources. A CCP also must ensure at a minimum that the default of the participant to which it has the largest exposure would not result in losses that would disrupt the operations of the CCP or non-defaulting participants. Some CCPs may require non-defaulting participants to provide additional funds to it in the event of default. These non-defaulting participants could be exposed to significant risks that they themselves cannot control. Therefore, the CCP must have in place mechanisms to limit its uncollateralised credit exposures to its participants.

4. To prevent disruption in the operation of a CCP or its non-defaulting participants, this recommendation requires a CCP to have mechanisms designed to limit its exposures to its participants so that, in closing out any participant's positions, non defaulting-participants would not be exposed to losses that they cannot anticipate or control. The current key mechanism to protect the CCP and the non-defaulting participants against the potential losses arising from a participant default is a requirement that participants post margin commensurate with the risk of their positions .Margin requirements should cover a high percentage of such losses (see recommendation 4). Margin posted by a defaulter should be used prior to other financial resources in covering losses. Many CCPs also control the accumulation of exposures by requiring frequent (often daily or intra-day) settlement of gains and losses through cash payments. In effect, the margin requirements seek to ensure that losses from closing out a defaulting participant's positions would be covered by the margin posted by the defaulting participant.

5. Additional financial resources (including participants' contributions to a clearing fund as well as the CCP's own capital) should ensure that the CCP is in a position to protect itself from potential residual losses that are not covered by margin (see recommendation 5). Trading limits, position

limits or provisions - whereby trades may be held prior to acceptance by the CCP until additional collateral is provided or other action is taken - may also be used by the markets for which a CCP clears to control the build-up of positions and should be taken into account as a risk mitigation tool.

RECOMMENDATION 4: MARGIN REQUIREMENTS

A The recommendation

A CCP should to the greatest extent feasible impose margin requirements to limit its credit exposures to participants. These requirements should be sufficient to cover potential exposures that the CCP estimates to occur until the liquidation of the relevant positions. The models and parameters used in setting margin requirements should be risk-based and reviewed regularly.

B Key issues

1. Margin requirements should be imposed where feasible and should be sufficient to cover losses that result from at least 99 % of the price movements over an appropriate time horizon. This time horizon should be appropriate to capture and identify the risk characteristics of the specific instrument in order to allow the CCP to estimate the magnitude of the price changes to be expected to occur in the interval between the last margin collection and the time the CCP estimates it will be able to liquidate the relevant positions. Models and parameters used in determining margin requirements are based on the risk characteristics of the products cleared and take into account the interval between margin collections. The ability of the models and parameters to achieve the desired coverage should be validated regularly.

2. A CCP should have the policy, the authority and operational capacity to make intraday margin calls to mitigate credit exposures arising from new positions or from price changes.

3. The assets that a CCP accepts to meet margin requirements should be limited to highly liquid instruments.[45] Haircuts should be applied to asset values that reflect the potential for their value to decline over the interval between their last revaluation and the time by which they can reasonably be assumed to be liquidated.

C Explanatory memorandum

1. CCPs should impose margin requirements to limit the build-up of credit exposures and to generate a pool of resources to cover losses in the event a participant defaults.

2. In setting margin requirements, a CCP should use models and parameters that capture the risk characteristics of the products cleared and that take into account the interval between margin collections. Product risk characteristics can include historic price volatility, non-linear price characteristics, and jump-to-default risks. Margins should take into account market liquidity, which can also change through the life of a transaction. The margin models and parameters should

[45] In special circumstances it may be appropriate for a CCP to accept less liquid assets, for example, the underlying stock might be accepted as a margin asset for an option on that stock, even though the stock might not be highly liquid

be reviewed and back tested regularly (at least quarterly) to assess the reliability of the methodology in achieving the desired coverage. During periods of market turbulence, these reviews should occur more frequently to take account of potential changes to the suitability of underlying assumptions. The margin-setting process should be approved by a CCP's senior management responsible for risk issues. CCPs should be transparent about their reliance and use of market, quotation and modelled prices for the calculation of margin requirements to the relevant authorities, and, to an appropriate extent, to their participants.

3. Margin requirements, as well as additional financial resources, impose opportunity costs on CCP participants. So, a CCP needs to strike a balance between greater protection for itself and higher opportunity costs for its participants. For this reason, margin requirements are not designed to cover price risk in all market conditions. Nonetheless, margins should be sufficient to protect the CCP from losses that result from at least 99 % of the price movements over an appropriate time horizon. This time horizon should be appropriate to capture and identify the risk characteristics of the specific instrument in order to allow the CCP to estimate the magnitude of the price changes to be expected to occur in the interval between the last margin collection and the time the CCP estimates it will be able to liquidate the relevant positions. In other words, exposures from price movements should breach margin requirements not more often than 1 percent of the time. The price estimations should be based on relevant historical data as well as forthcoming price-sensitive events that are foreseeable for the CCP. This recommendation does not prescribe how much historical data must be used for this purpose. The appropriate amount of data to use will vary from product to product and over time. If, for example, volatility rises, a CCP may want to use a short interval that better captures the new, higher volatility prevailing in its markets. In case of newly listed securities, margin parameters should be generally based on conservative assumptions over a significant number of comparable issuers/financial instruments.

4. To mitigate intraday risks, a CCP should have the authority and operational capacity to make intraday margin calls, at a minimum when pre-specified thresholds are breached (for example, when market price changes exceed pre-determined thresholds or when one or more participants build up large positions during the day). Some CCPs provide services for markets in which exposures can change dramatically within the day, either because of participants' trading activity or price volatility. In such cases, a CCP should monitor exposures intra-day (recommendation 3) and limit the build up of potential losses from exposures through both routine and special intra-day margin calls.

5. In calculating margin requirements, a CCP may allow offsets or reductions in required margins between products for which it is counterparty if the price risk of one product is significantly and reliably correlated with the price risk of another. A CCP should base such offsets on an economically meaningful methodology that reflects the degree of price correlations between the

products. It should also allow for potential changes in correlations between products, particularly at times of market turbulence.

6. Because of the role margin plays in a default, a CCP needs assurance of its value in the event of liquidation, and a CCP needs the capacity to draw upon it promptly. A CCP generally should limit the assets accepted as margin to those with high liquidity.[46] Margin assets should be marked to market daily. Haircuts should be applied to the market values of the assets so as to adequately reflect the potential for their value to decline over the interval between their last revaluation and the time by which they can reasonably be assumed to be liquidated; these haircut procedures should be reviewed regularly. If market prices do not fairly represent values, a CCP should have the authority to exercise discretion in valuing margin assets according to its predefined methods. If a CCP accepts assets in foreign currencies, any foreign exchange risk should also be taken into consideration. Because of potential concerns about the ability to liquidate margin assets quickly and without significant price effects, a CCP may limit the concentration of holdings of certain assets (e.g., securities issued by individual obligors).

[46] In special circumstances it may be appropriate for a CCP to accept less liquid assets, for example, the underlying stock might be accepted as a margin asset for an option on that stock, even though the stock might not be highly liquid.

RECOMMENDATION 5: OTHER RISK CONTROLS

A The recommendation

A CCP should maintain sufficient available financial resources to cover potential losses that exceed the losses to be covered by margin requirements. For this purpose, the CCP should develop plausible scenarios and conduct stress tests accordingly. At a minimum, a CCP should be able to withstand a default by the participant to which it has the largest exposure in extreme but plausible market conditions.

B Key issues

1. In addition to margin requirements, a CCP should maintain sufficient available financial resources to cover potential residual losses that exceed the losses to be covered by margin requirements. For this purpose, the CCP should develop scenarios of extreme but plausible market conditions and conduct stress tests accordingly. The market conditions evaluated should include the most volatile periods that have been experienced by the markets for which a CCP provides its services. While the recommendation focuses on a default by the participant to which a CCP has the largest exposure in a specific scenario, the potential for defaults by two or more participants should be evaluated (particularly related group members or affiliates). Stress tests to check the adequacy of resources in the event of a default in extreme market conditions should be performed monthly, or more frequently when markets are unusually volatile, become less liquid, or when the size or concentration of positions held by a CCP's participants increases significantly. In addition, comprehensive stress tests, involving a full validation of models, parameters and assumptions and reconsideration of appropriate stress scenarios should be conducted at least annually. The stress testing assumptions that a CCP uses in reaching a judgment about the adequacy of its resources should be disclosed to participants and authorities. A CCP should have a clear policy on the actions it would take in the event tests indicate resources are not likely to be adequate; either its exposure should be reduced or its resources should be enhanced. The policy should be made available to its participants and authorities.

2. A CCP's financial resources can take a variety of forms, including any clearing fund provided by participants or other parties, loss sharing arrangements, insurance arrangements, capital, parental guarantees or other similar provisions. In order to assess observance of this recommendation, resources should be counted only if there is a high degree of assurance that a CCP can draw on them for the anticipated value and a CCP's rules do not permit them to be used to cover its normal operating losses or losses from other activities in which it is engaged.

3. If any of the resources that are being relied upon are not immediately available to a CCP, it should obtain credit lines that are committed and subject only to presentment in order that it can borrow

against those assets to meet its liquidity needs. The CCP's rules should ensure that the resources posted by a defaulter are used prior to other financial resources in covering losses.

C Explanatory memorandum

1. Although risk management tools (notably a CCP's participation requirements) are designed to ensure that defaults are unlikely, a CCP must nonetheless plan for the possibility that a default occurs. In that event, a CCP has an obligation to continue to make payments to non-defaulting participants on time. It must maintain financial resources both to provide it with liquidity to make timely payments in the short term and to enable it to cover the losses that result from defaults. In addition to margin requirements to cover losses from price movements that the CCP estimates to occur on the basis of historical data and other foreseeable price-sensitive events, the CCP should maintain further financial resources (e.g. resources of a clearing fund to which all the participants have contributed as well as the CCP's own capital) to cover potential residual losses that exceed the estimated/expected losses. For this purpose, the CCP should develop plausible scenarios (e.g. where simultaneous crystallisation of different risks could occur) and conduct stress tests accordingly.

2. Assessing the adequacy of resources can be difficult because it depends on the scenario that the CCPs focuses on, i.e. it rests on assumptions about which participant or participants default and about market conditions at the time of the default. Many CCPs focus on a default by the participant to which the CCP has the largest exposure in the market scenarios under consideration.[47] Linked or interoperable CCPs that have been assessed against recommendation 11 are not to be considered when identifying the largest residual exposure. The evaluation of the largest potential exposure should also take into account risks which may arise from the participant's further relation to the CCP, e.g. as intermediary, settlement bank, issuer of collateral, guarantor, the issuer of a security being cleared, or a reference entity for a credit default swap. This should be viewed as a minimum recommendation in a CCP's evaluation of its resources. However, market conditions that typically accompany a default put pressures on other participants (particularly related group members or affiliates), and a default itself tends to heighten market volatility, further contributing to stresses. Planning by a CCP should consider the potential for two or more participants to default in a short time frame, resulting in a combined exposure greater than the single largest exposure.

[47] This recommendation focuses on the largest potential exposure of a CCP, regardless of whether that exposure arises in a participant's account or in the account of a participant's customer. In assessing the adequacy of resources, however, an individual CCP's analysis will need to take into account the source of the default if that affects the financial resources available to cover losses.

3. Stress testing is used by CCPs to assess the adequacy of their financial resources.[48] A CCP assumes extreme market conditions (that is, price changes significantly larger than the normally prevailing levels of volatility), and evaluates the potential losses in individual participants' positions. Stress testing provides insights into several aspects of the financial resources the CCP may need. The largest debit from such a test helps a CCP evaluate its potential liquidity needs. Calculations taking into account the resources of the potential defaulter that are available to a CCP (margins, clearing fund contributions or other assets) provide perspective on the potential size of the losses that a CCP might face. Other stress tests may consider the distribution of positions between the participant and its customers in evaluating potential losses.

4. The relevant stress tests will differ from one CCP to another and, for a given CCP, over time. Typically, a CCP will conduct a range of stress tests. These tests should reflect a CCP's product mix and other risk management choices. Key elements of stress testing are the market conditions and default scenarios assumed and the frequency with which the tests are conducted. A CCP must make judgments about what constitutes "extreme but plausible" market conditions. The conditions evaluated should include the most volatile periods that have been experienced by the markets for which a CCP provides its services. A CCP also should evaluate the losses that would result if levels of volatility observed in related products were also experienced in its products (this is particularly relevant when a CCP begins clearing a new product) and if the usual patterns of correlations in prices among its products changed. CCPs conduct multiple types of stress tests. Tests to check the adequacy of resources in the event of a default in extreme market conditions should be performed monthly, and more frequently when markets are unusually volatile or less liquid or when the size or concentrations of positions held by its participants increase significantly. In addition, comprehensive stress tests involving a full validation of model parameters and assumptions and reconsideration of appropriate stress scenarios should be conducted at least annually.[49]

5. Based upon the stress testing process, a CCP must reach a judgment about the adequacy of its resources. A CCP should provide its participants and authorities specific information about its assumptions related to the number and size of participants that default and the market conditions at the time of default in coming to this judgment. A CCP should have clear policies for the actions it would take if stress testing indicates that its resources are not likely to be adequate either for meeting liquidity demands or for covering an exposure resulting from default. The actions that a CCP might take will vary, but the ultimate effect must be either to reduce the potential exposure of

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[48] Stress testing also is conducted to help a CCP understand the risks it is assuming and potential ways to mitigate those risks.

[49] CCPs conduct different types of stress tests, some of which are conducted weekly or even daily. Such stress tests often are mechanical, evaluating positions at higher confidence intervals for price movements, for example. This requirement for conducting monthly and comprehensive annual stress tests is considerably more demanding than these routine risk management activities.

the CCP or to increase the resources of the CCP. These policies should be made available to a CCP's participants and its authorities.

6. The financial resources available to a CCP can take a variety of forms. For many CCPs, some assets that they require participants to post can only be used to cover losses arising from that participant's default.[50] Other financial resources are available to cover losses arising from any participant's default. Many CCPs require participants to post assets in a clearing fund that can be used in the event of a default by any participant.[51] CCPs generally have their own capital and retained earnings from operations. Resources can include loss sharing arrangements, insurance arrangements, capital, parental guarantees or other similar provisions. For example, a CCP's rules may require non-defaulting participants to provide additional funds to it in the event of default. The parents of some CCPs provide a guarantee, and other CCPs obtain default insurance that covers a certain amount of losses after a deductible has been met. Resources posted by a defaulter should be used prior to other financial resources in covering losses.

7. The availability of these financial resources and their liquidity vary. When margin is held, it should be readily available and liquid (recommendation 4). A CCP's clearing funds, own capital, or retained earnings are under its immediate control, but they generally are invested and may not be immediately available. Insurance contracts, parental guarantees or rights to call for funds from non-defaulting participants are often available only after specific conditions are met. In assessing the adequacy of its financial resources, a CCP should consider the availability and liquidity of the assets it holds, as well as possible concentration risk.

8. A CCP should include only those resources that it can reliably draw on in the event of a default in evaluating the adequacy of its resources. For example, possible payouts from insurance contracts should be counted only if there is high degree of certainty that the terms of the contracts would be payable in the event of a default. The precise circumstances under which a CCP can draw upon any resources that require conditions to be met should be carefully evaluated in judging their contribution to the overall adequacy of resources.

9. Even if there is assurance that a CCP can draw on resources in a default, some types of financial resources are subject to potential losses in value. Haircuts should be applied to these resources to reflect potential volatility in their market values resulting from price, credit and liquidity risk. Only the value subject to the appropriate haircuts should be counted as part of the financial resources of a CCP.

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[50] Some CCPs also enter into cross-margining agreements that enable a CCP to access a defaulting participant's assets at another CCP in certain circumstances.

[51] See section 3 for a discussion of the differing terminology with respect to financial resources used by CCPs.

10. Rules of a CCP should expressly set out the structure of resources, the situations in which specific resources can be used and the order that those resources would be applied to a default. For purposes of assessing observance of this recommendation, financial resources should be counted only if a CCP's rules do not permit them to be used to cover its normal operating losses or to cover losses from other activities in which it is engaged. Nevertheless, a CCP should have sufficient resources to cover also such losses. If a CCP serves multiple markets (either in the same jurisdiction or multiple jurisdictions), the CCP's ability to use resources supplied by participants in one market to cover losses from a default in another market should be clear to all participants. (A CCP's design of its stress tests also should take into account the extent to which resources are pooled across markets.) When a CCP extends its activity to a new type of product(s) (e.g. OTC products) compared with the other cleared products, the CCP should contemplate the possibility to implement dedicated resources (e.g. like a dedicated clearing fund) in order to mitigate potential spill-over effects, and if relevant, clearly justify the rationale for using the existing arrangements of resources available to cover other markets.

11. Because a function of the financial resources of a CCP is to enable it to face immediate liquidity demands, a CCP should obtain credit lines that allow it to borrow against resources that are not immediately available. These credit lines should be committed and subject only to presentment.[52] The presence of such credit lines is an important consideration in assessing the adequacy of a CCP's resources from a liquidity perspective.

12. A CCP which has a clearing fund must have a clear and transparent method for determining participants' contributions to its financial resources that reinforces incentives for participants to manage the risk that they pose for the CCP. Generally such incentives involve a system in which contributions are linked to the riskiness of participants' activity as measured by margin posted, by size of positions or sometimes by stress-testing results. A CCP also should establish rules that address replenishing resources following a default. These rules typically set out responsibilities and expected contributions before a participant can cease participation.

[52] The credit lines should not contain material adverse change clauses.

RECOMMENDATION 6: DEFAULT PROCEDURES

A The recommendation

A CCP's default procedures should be clearly stated, and they should ensure that the CCP can take timely action to contain losses and liquidity pressures and to continue meeting its obligations. Key aspects of the default procedures should be publicly available and tested regularly.

B Key issues

1. A CCP's default procedures should clearly state what constitutes a default and permit a CCP to promptly close out or effectively manage a defaulting participant's positions and to apply collateral or other resources. There should be clear procedures, or mechanisms other than those of the CCP, for handling customers' positions and margin. Default procedures should also permit a CCP to utilise promptly any financial resources that it maintains for covering losses and liquidity pressures resulting from the defaults.

2. The legal framework applicable to a CCP should provide a high degree of assurance that its default procedures are enforceable, despite the insolvency of a participant. The national insolvency law should permit the identification and separate treatment of customer and proprietary assets.

3. A CCP should analyse the effect which its default procedure may have on the market. A CCP's management should be well prepared to implement its default procedures in a flexible manner, and management should have internal plans for such an event, including communication with the operator of the market the CCP serves if that operator is a separate entity. The plans should be reviewed at least once a year and tested regularly.

4. Key aspects of the default procedures should be publicly available.

C Explanatory memorandum

1. The purpose of default procedures is to protect the continuing functioning of a CCP by limiting the potential for the effects of a default to spread beyond the defaulting participant. Key objectives of default procedures include minimising further losses at the defaulting participant, winding down its positions in an orderly way, and enabling a CCP to continue performing its obligations. To the extent consistent with these key objectives, a CCP should seek to preserve other participants' ability to manage their portfolios.

2. A priority, of course, should be to avoid defaults. As noted above, a CCP's participation requirements should include financial requirements that reduce the likelihood of defaults.

Furthermore, a CCP should identify situations that it determines may pose a threat of default and develop early warning pre-default plans and procedures, such as increasing monitoring or imposing restrictions on a participant. These procedures should provide an incentive to participants for early notification of potential financial, liquidity or systems problems that could lead to a default.

3. A CCP's default procedures should clearly define an event of default and the method for identifying a default. As part of the default procedure, the CCP should consider the cause of the default and whether it may be associated with financial difficulties of the defaulting participant. The procedures should specify whether the default event is automatic or whether a specific decision must be taken to declare the default, and who is authorised to make such decisions. The procedures should set out broadly the measures a CCP can take when a default is declared; the extent to which the actions are automatic or whether a decision is necessary; changes to normal settlement practices; how contracts in the process of delivery will be handled; the expected treatment of the proprietary account, and of the customers' accounts; the probable sequencing of actions; the information that will be needed; the roles, obligations and responsibilities of the various parties (such as clearing participants, authorities, any exchanges and the CCP itself); and the existence of mechanisms other than those of the CCP itself that may be activated to contain the impact of a default. As regards credit derivatives, a CCP's default procedures should provide for adequate mechanisms (e.g. auctions, see RCCP 2 C4).

4. In the event of default, a CCP should have arrangements or mechanisms to facilitate close out, hedging or the transfer of a defaulting participant's proprietary positions promptly. The longer these positions remain open, the larger are the potential credit exposures from them. A CCP should have the ability to apply the proceeds of liquidation, as well as all other funds and assets of the defaulting participant, to meet the defaulting participant's obligations to it. Typically a CCP will attempt to liquidate positions quickly, but in some instances a CCP may determine that its exposure would be minimised by hedging positions and managing the liquidation over time. What is critical is that a CCP has the authority to act promptly in the manner it thinks best to contain its exposure and to mitigate overall market effects.

5. The default procedures of a CCP (or mechanisms other than those of a CCP) should provide for the handling of positions and collateral (including margin) of customers of the defaulting participant. In doing so, a CCP should endeavour to transfer customer positions and collateral (if provided to the CCP) should the customer agree, provided that the safety of the CCP and its clearing members is not compromised. The rules should identify the circumstances under which positions may be liquidated or transferred, which positions are eligible for liquidation or transfer, who may exercise this authority, and what are the applicable time frames within which actions

would be taken. At a minimum, a liquidation of positions or application of previously posted collateral should not be prevented, stayed or reversed.

6. A CCP's procedures should permit it to use promptly any financial resources that it maintains for covering losses and liquidity pressures resulting from defaults, including use of liquidity facilities. The rules of a CCP should specify the order in which different types of resources will be used. This information enables participants to assess their potential exposures from using a CCP's services. Typically, a CCP will look first to assets posted by the defaulting participant to provide incentives for participants to manage prudently the risks they pose for a CCP.

7. Relevant national law should provide certainty that actions taken by a CCP as part of its default procedures are enforceable and that actions taken under such procedures may not later be stayed, avoided, or reversed (see recommendation 1). To facilitate the transfer or liquidation of positions and assets, national insolvency law should permit the identification and separate treatment of customer and proprietary assets.

8. A CCP's management should be well prepared and have sufficient discretion to implement default procedures in a flexible manner. The exercise of this discretion needs to be subject to appropriate arrangements to minimise any conflicts of interest issues that may arise. Management should have internal plans that clearly delineate the roles and responsibilities for addressing a default, and provide guidance to its staff on how the default procedures should be implemented, in particular for promptly closing out or hedging a defaulting participant's contracts and for closing out or transferring customers' contracts, for liquidating a defaulting participant's collateral and other assets (such as any contributions to a clearing fund) and for drawing on financial resources other than margin. As preparation for implementing the default procedure, a CCP should analyse the effect different options for handling a participant's default could have on the market, for example possible effects on prices of its liquidating collateral. Management must also ensure that it has the operational capabilities needed to implement its default procedures in a timely manner. The internal plan should also address documentation, the CCP's information needs and coordination when more than one CCP or authority is involved. Timely communication with regulators, exchanges that use the CCP, other affected CCPs and payment and settlement systems are of critical importance. The CCP, to the extent permitted, should clearly convey information which helps those affected manage their own risks. The internal plan should be reviewed at least once a year and should be tested regularly. As far as possible, and while ensuring there is no threat to the confidentiality of data, default management exercises should be based on real and live participant positions and market data.

9. To provide certainty and predictability to all market participants about the measures that may be taken by a CCP and other relevant entities in the event of a default, a CCP should make available

key aspects of its default procedures: (i) the circumstances in which action may be taken, (ii) who may take those actions, (iii) the scope of the actions which may be taken, including the treatment of both proprietary and customer positions, funds and assets, and (iv) the mechanisms to address a CCP's obligations to non-defaulting participants, and (v) the mechanisms to address the defaulting participant's obligations to its customers as far as the CCP is capable of.[53] This transparency helps the orderly handling of defaults, enables non-defaulting participants to understand their obligations to a CCP and to their customers, and gives market participants the information they need to make an informed assessment about whether to trade in a given market and how best to structure their customer account agreements. The widespread availability and understanding of default procedures may also help to foster confidence in the market should a major default occur and help to sustain market liquidity by avoiding or minimising withdrawals by other market participants.

[53] For more details on the key aspects under each of the headings, see *Report on Cooperation between Market Authorities and Default Procedures* (IOSCO 1996).

RECOMMENDATION 7: CUSTODY AND INVESTMENT RISKS

A The recommendation

A CCP should hold assets in a manner whereby risk of loss or of delay in its access to them is minimised. Assets invested by a CCP should be held in instruments with minimal credit, market and liquidity risks.

B Key issues

1. A CCP should hold securities in custody at entities that employ accounting practices, safekeeping procedures, internal and external controls, insurance, and other compensation schemes that fully protect these securities; the legal framework also should be such that the securities are protected against the claims of a custodian's creditors as described in the relevant ESCB-CESR Recommendations for Securities Clearing and Settlement in the European Union. A CCP should have prompt access to securities when required. A CCP should monitor its custodians' financial condition, safeguarding procedures and operational capacity on an ongoing basis.

2. Investments should be secured or they should be claims on high quality obligors. Investments should be capable of being liquidated quickly with little if any adverse price effect. A CCP should be prohibited from investing its capital or cash margins that the CCP intends to use for risk management purposes in its own securities or those of its parent company.

3. In making investment decisions, a CCP should take into account its overall credit risk exposures to individual obligors, whether from cash investments or other relationships, and ensure that its overall credit risk exposure to any individual obligor remains within acceptable concentration limits.

C Explanatory memorandum

1. A CCP has the responsibility of safeguarding assets that secure participants' obligations to it. These assets can be cash or securities, and they must be held in such a manner that their timely availability is assured if a CCP needs to draw on them. Further, assets that are invested must be placed in instruments with minimal credit, market and liquidity risks so that a CCP knows the amount of resources at its disposal and can realise that value promptly.

2. If a participant has posted securities as margin, a CCP needs a custodian, which may be a central securities depository (CSD) or a financial institution, to hold those securities. Any institution providing custodial services should employ procedures that protect the securities. This means that they employ procedures that protect securities as described in Recommendation 12 of the ESCB-CESR Recommendations for Securities Clearing and Settlement in the European Union. In this

regard, a CCP should ascertain that its custodian's accounting practices, safekeeping procedures, and internal and external controls protect the securities against the custodian's insolvency, negligence, misuse of assets, fraud, poor administration, or inadequate record keeping. Of particular concern is that assets held in custody be protected against claims of a custodian's creditors. Generally, this is accomplished through a legal framework supporting segregation of customer assets and through supervisory enforcement of effective segregation. Failures in any of these areas could jeopardise a CCP's ability to retrieve the securities promptly. The custodian must also have a strong financial position to be able to sustain losses from operational problems or non-custodial activities. A CCP must confirm that its interest in the securities can be enforced and that it can have prompt access to the securities when required; such issues are particularly challenging when securities are held at custodians in different time zones or jurisdictions. A CCP should monitor the financial condition, safeguarding procedures and the operational capacity of its custodians on an ongoing basis. In meeting the requirements of this paragraph, a CCP may rely where reasonable and prudent on the relevant regulatory frameworks for the custodians and CSDs it chooses to use.

3. A CCP's investment strategy should be consistent with its overall risk management strategy. In some instances, a CCP may invest cash that participants have posted. Also, it must make decisions about investing its own resources. A CCP has the responsibility to ensure that such investments do not compromise its ability to use the funds for their intended purpose. Cash posted by a participant represents a resource a CCP may need to call upon in the event of a default. Similarly, some CCPs may plan to use their own resources as means for covering losses exceeding a defaulting participant's resources. If a CCP intends for its own resources to be used to cover losses and liquidity pressures from a default, its investment of those resources should comply with this recommendation so that the resources are readily available if it needs to draw on them. (Some CCP resources will be invested in physical assets such as computers and buildings, which are not the subject of this recommendation.) Investments should be secured or they should be claims on high quality obligors to mitigate the credit risk to which a CCP is exposed. Because the value of these investments may need to be realised quickly, they should be of a type that would enable a CCP to liquidate them with little if any adverse price effect. Investments in illiquid or volatile instruments are not appropriate. The CCP should consider how its choice of issuer and maturities of financial instruments will affect its ability to liquidate its portfolio quickly. Investments of the CCP's capital or of cash margins that the CCP intends to use for risk management purposes in the CCP's own securities or those of its parent company should be prohibited. Furthermore, some CCPs use cash margins to meet their liquidity needs stemming from their participation in SSSs that do not offer simultaneous DVP and RVP (typically SSSs working on an RTGS basis). When this is the case, a CCP should set limits to this use of cash margins.

4. Often a CCP has several types of relationship with major financial institutions. For example, an institution might offer a CCP settlement bank services, custodial services, and a liquidity facility; it might be a participant itself, offer clearing services to other participants, as well as being a place where a CCP deposits cash. A CCP should carefully consider its multiple relationships with institutions in evaluating its exposure to obligors. In making investments, a CCP should take into account its overall credit risk exposures to individual obligors, whether from cash investments or other relationships, and ensure that its overall credit risk exposure to any individual obligor remains within acceptable concentration limits.

RECOMMENDATION 8: OPERATIONAL RISK

A The recommendation

A CCP should identify sources of operational risk, monitor and regularly assess them. The CCP should minimise these risks 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. The CCP should have appropriate business continuity and disaster recovery plans that allow for timely recovery of operations and fulfilment of a CCP's obligations. Systems should be subject to frequent and independent audits.

B Key issues

1. A CCP should actively identify, monitor, assess and minimise sources of operational risk and should establish clear policies and procedures to address those risks, including risks from those operations that are outsourced to third parties, or from its other activities.

2. Operational risk policies and procedures should be clearly defined, frequently reassessed and updated and tested to remain current. The responsibilities of the relevant governance bodies and senior management should be clearly established. 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 auditing.

3. A CCP should have a business continuity and disaster recovery plan that addresses events posing a significant risk of disrupting operations including its reliance on third parties: the plan should allow for timely resumption of critical operations and allow them to extend operating hours if this ensures safe and complete settlement in case of emergency. This means that the CCP can meet its obligations on time. Contingency plans should, as a minimum, provide for the recovery of all transactions at the time of the disruption to allow systems to continue to operate with certainty. A second site must be set-up in order to meet these obligations. Business continuity and disaster recovery plans should be regularly reviewed, tested on a regular basis and after modifications to the system and tested with participants. Appropriate adjustments should be made to plans based on the results of such exercises. Adequate crisis management structures, including formal procedures, alternative means of communication and contact lists (both at local and cross-border level) should be available.

4. All key systems should be reliable, secure, and able to handle volume under stress conditions.

5. CCPs should only outsource settlement operations or functions to third parties after the approval of the relevant competent authorities, if it is required by regulation. If it is not required, they should at least notify in advance the relevant competent authorities, and should ensure that the

external providers meet the relevant recommendations. The relevant outsourcing entities should have the power to require adaptation of the outsourcing measures. Appropriate change management procedures which give the relevant outsourcing entities the power to require, control and approve changes to the outsourced services should be in place.

C Explanatory memorandum

1. Operational risk is the risk that deficiencies in information systems or internal controls, human errors, management failures, or disruptions from external events such as natural disasters result in unexpected losses. The importance of operational risk lies in its capacity to impede the effectiveness of measures adopted to address other risks and to cause participants to incur unforeseen losses, which, if sizeable, could have systemic implications. Operational failures can also lead to legal liability, reputation loss and business loss.

2. Sources of operational risk to a CCP include inadequate control of systems and processes; inadequate management more generally (lack of expertise, poor supervision or training, inadequate resources); inadequate identification or understanding of risks and the controls and procedures needed to limit and manage them; and inadequate attention to compliance procedures. External events of terrorism or health crises, as well as natural disasters, also are sources of operational risk that a CCP must manage.

3. Potential operational failures include errors or delays in message handling, 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. These problems are particularly common in manual processes, but automation brings its own risks of system deficiencies, interruptions and computer crime that may arise from factors such as inadequate security, capacity, testing of software or resilience of backup systems.

4. To minimise operational risk, CCPs should actively identify and analyse sources of risk, whether arising from the arrangements of the CCP itself, from those of its participants, or from external factors, including trading and settlement arrangements, as well as data warehouses, price and market data providers and establish clear policies and procedures to address those risks. Sound internal controls are essential to a CCP's management of operational risk. There should be adequate management controls and sufficient (and sufficiently well qualified) personnel to ensure that procedures are implemented appropriately. Operational policies and procedures should be frequently updated and tested to ensure that they remain current. These policies and procedures should be reassessed periodically (at least annually or whenever significant changes occur to the

system or related functions). The relevant governance body should be informed of the results of the review and approve any follow-up work. Senior management should have the responsibility for implementing changes to the risk strategy approved by the relevant governance body. The relevant governance body generally refers to the Board of Directors, however this may differ in some countries. Operational risk policies and procedures should be made available to the relevant public authorities.

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

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

7. 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 be reliable, scalable and able to handle volume under stress conditions. CCPs are dependent on electronic communications and need to ensure the integrity of messages by using reliable networks and procedures (such as cryptographic techniques) to transmit data accurately, promptly and without material interruption. The reliability of these networks is a key element to consider when assessing operational risks. Core Principle VII of the Core Principles for Systemically Important Payment Systems provides more details on operational issues.[54]

8. Before a CCP embarks on other activities that are not directly related to its CCP functions, for example developing software, processing transactions for which it is not counterparty or operating a trading system, it should be satisfied that these activities do not divert resources required to support its CCP functions. Where such a concern exists for current operations, it should either reduce its activities or increase its resources to a level that supports all of its activities adequately.

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

9. A CCP should have a business continuity and disaster recovery plan that addresses events posing a significant risk of disrupting operations. Responsibility for business continuity planning within the CCP should be explicit, adequate resources should be devoted to this planning, and the commitment to planning should come from the highest levels of management. Business continuity and disaster recovery plans should have clearly stated objectives, policies, and procedures that allow for rapid recovery and timely resumption of critical operations and that allow a CCP to continue to monitor the risks of its participants. Business continuity and disaster recovery plans should be audited by independent auditors regularly.

10. Ideally, backup systems should commence processing immediately. While it may be possible to recommence operations following a system disruption with some data loss, contingency plans should, as a minimum, provide for the recovery of all transactions at the time of the disruption to allow systems to continue to operate with certainty. At a minimum, the recovery of operations and data should occur in a manner and time period that enables a CCP to meet its obligations on time. In particular, CCPs should define clear targets in terms of operational robustness and business continuity, for example through the implementation of Service Level Agreements (SLA). Critical functions should be identified and processes within those functions categorised according to their criticality. Any assumption behind the categorisation should be fully documented and reviewed regularly. If any critical functions are dependent on outsourcing arrangements, these agreements should ensure adequate service provision by third parties. Business continuity and disaster recovery plans should be regularly reviewed and tested with participants and appropriate adjustments should be made to plans based on the results of such exercises and of any operational failures which may have occurred.

11. In order to fulfil their obligations, CCPs should have business continuity and disaster recovery plans including an evaluation of their reliance on third parties. All reasonable measures should be undertaken to resume business under plausible scenarios no later than two hours after the occurrence of a disruption. In order to meet these obligations, CCPs must set up a second processing site with the requisite level of key resources, capabilities and functionalities, including appropriately skilled and experienced staff.

12. When a second processing site is established, data processing should be switched to the second site, ideally instantly, in the event of disruption. The back-up site should therefore provide a level of efficiency comparable to the level provided by the primary site. The second site should be located at an appropriate geographical distance and be protected from any events potentially affecting the primary site. The operator of the systems should minimise the reliance on relocating key staff and where some reliance is unavoidable, operator should anticipate how relocation would be achieved. The continuation of the activity on the second site within a short period of time, in principle less than two hours, generally requires data to be transmitted to and updated at the

second site continuously, preferably in real time. The secondary site should be capable to ensure business continuity to all participants in the event that the primary site is rendered unusable for a longer period of time (e.g. days and weeks).

13. CCPs should communicate as much information to market participants as is possible without increasing the risk of unwanted events or attacks. This will enable them to assess the operational risks to which they in turn are exposed. The operational failure of a system in one market may directly affect another market if the size of cross-border clearing activities is substantial. The regulators and overseers of such important providers of clearing services should encourage these providers to set up a plan for industry-wide contingency planning ensuring co-ordination between such institutions.

14. In principle, CCPs should carry out the different functions on their own behalf. However, outsourcing is permitted within the limits outlined hereafter. CCPs should only outsource their actual clearing operations after having obtained prior approval from the relevant competent authorities, if required under the applicable regulatory regime. If not so required, CCPs should at least inform the relevant competent authorities when outsourcing such operations or functions. In such instances 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 any information they deem necessary. The outsourcing entity should remain fully answerable to the relevant competent authorities, as required according to national law. The outsourcing should be made known to the participants in the outsourcing entity. Further outsourcing must be duly authorised by the CCP and notified or approved by the relevant competent authorities, according to the national requirements.

15. If any critical functions are dependent on outsourcing arrangements, operational failures by the outside service providers can create operational risk for a CCP. 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. CCPs that outsource operations should ensure that those operations meet the same recommendations as if they were provided directly. In so doing, a CCP should have the information and controls to ensure that it can meet the elements of this requirement. Further, a CCP should evaluate its vulnerability arising from reliance on one or a small number of outside providers for utility and similar services. If such a service provider stops operating, a CCP's ability to operate could be compromised, possibly causing uncertainty in financial markets if it occurred with little or no warning. A CCP should manage this risk by seeking to achieve diversity in key systems such as electricity and telecommunications, and/or make back up arrangements, to the extent possible.

RECOMMENDATION 9: MONEY SETTLEMENTS

A The recommendation

A CCP should employ money settlement arrangements that eliminate or strictly limit credit and liquidity risks. If central bank money is not used, steps must be taken to strictly limit cash settlement risks, that is, credit and liquidity risks stemming from the use of banks by a CCP to effect money settlements with its participants. Funds transfers to a CCP should be final when effected and rely on efficient and safe payment systems.

B Key issues

1. A CCP uses the central bank model or it uses the private agent model and takes additional steps (see key issue 3) to limit the probability of a settlement agent's failure and limit the potential losses in the event of such a failure.

2. Funds transfers to a CCP should be final when effected. A CCP should routinely confirm that funds transfers have been effected as and when required by its agreements with its settlement agent(s). The legal, regulatory and contractual framework of the CCP should clearly define the moment at which the CCP' and clearing participants' obligations are extinguished. The payment system used by a CCP should be safe and sound, and should observe the Core Principles for Systemically Important Payments Systems (CPSIPS).

3. A CCP should establish and monitor adherence to strict criteria for private settlement agents that address their creditworthiness, access to liquidity, and operational reliability in order to ensure that only regulated financial institutions with robust legal, financial (creditworthiness, access to liquidity) and technical capacity are used as settlement agents. The adherence to the criteria should be monitored both on an initial and an ongoing basis. A CCP should closely monitor the distribution of its exposures among its settlement agents, and assess its potential losses and liquidity pressures in the event that the agents with the largest share of settlements were to fail. A CCP should also monitor liquidity risks that may stem from the use of several currencies or assets for payment activities.

4. When a multi-tiered system is used for payment activities, a CCP should define criteria in terms of creditworthiness, access to liquidity and operational reliability that settlement banks should meet. A CCP should monitor the concentration of payment flows between settlement banks and assess its potential losses and liquidity pressure if the settlement bank with the largest share of settlement defaults.

C Explanatory memorandum

1. CCPs need to make money settlements with their participants for a variety of purposes, including the collection and payment of cash used to meet margin requirements. To make such money settlements, a CCP must make arrangements with its participants and one or more banks (cash settlement agents and settlement banks[55]).

2. The details of the money settlement arrangements used by CCPs vary considerably. Nonetheless, two basic models can be identified: a central bank model and a private settlement agent model. In the central bank model, the central bank of issue (the central bank that issues the currency in which the payments are being made) is the sole cash settlement agent used by a CCP, and all money settlements between a CCP and its participants are effected in central bank money. In the private settlement agent model a CCP selects a group of private banks as its cash settlement agents, establishes an account with each of these settlement agents, and requires each of its participants to establish an account with one of them. Money settlements between a CCP and its participants are effected in private bank money through their accounts at the settlement banks. To the extent necessary, a CCP's accounts at the cash settlement agent can then be balanced by transfers between the settlement banks, which typically are effected in central bank money through the national payment system.

3. The payment system that a CCP uses should be safe and sound, preferably it should comply with the Core Principles for Systemically Important Payment Systems.

4. Use of the central bank model eliminates a CCP's cash settlement agent risks and therefore unambiguously contributes to meet this recommendation.[56] For transactions denominated in the currency of the country where the settlement takes place, central bank money should consequently be used when practicable and feasible. Depending whether central bank money or commercial bank money is used, a CCP's participants (i) may have accounts with the central bank of issue or private cash settlement agent(s), or (ii) may effect settlements with the CCP through banks (settlement banks) with accounts at the central bank of issue or private cash settlement agents. Where such tiered settlement arrangement exists, some settlement banks may concentrate payment flows of several clearing participants[57]. Thus it is important that such settlement banks are

[55] In Part II, the meaning of the term "settlement bank" is harmonised with the definition provided in Part I and differs from the definition of the CPSS-IOSCO report for CCPs. In this report, a "settlement bank" is an entity that maintains accounts with the cash settlement agent in order to receive/make payments with the CCP, both on its own behalf and on behalf of other clearing participants. A cash settlement agent is the entity in which the cash balances are held to settle the ultimate payment obligations with the CCP.

[56] It is the CCP's settlement bank risks that are the focus of this recommendation. The use of the central bank model eliminates settlement agent risks to the CCP. However, even in a central bank model, the CCP's participants face settlement bank risks if they effect settlements with the CCP through accounts at private banks (in a tiered settlement arrangement) rather than through their own accounts at the central bank.

[57] This situation can generate risks for CCPs since default by one of these settlement banks could leave several clearing members simultaneously unable to settle their transactions in a timely fashion

properly regulated with the legal and technical capacity to provide an effective service and with satisfactory financial conditions. In particular, a CCP should be able to define minimum criteria in terms of creditworthiness, operational reliability and access to liquidity that the settlement banks chosen by their clearing members or used by itself should meet. It should also be able to monitor its exposure to settlement banks and evaluate its risks by taking into consideration their concentration of payment flows with regard to their financial conditions. Where practicable, a CCP may take account of the supervisory activities of the relevant banking regulators with respect to monitoring of the private settlement agent's adherence to some or all of those criteria. A CCP should assess its potential losses and liquidity pressures in the event that the settlement bank with the largest shares of settlements were to fail.

5. The use of the central bank model may not always be practicable because it requires a CCP to have access to an account with the central bank of issue. For instance, in a multicurrency system, a CCP seldom (if ever) has remote access to accounts at all the central banks of issue. Even if a CCP had such access, the relevant central banks' payment systems often do not operate (or provide finality) at the times when a CCP needs to make money settlements. When it operates in a multicurrency system, a CCP consequently needs to find arrangements that enable it to make and receive payments in due time in the different currencies used. To that purpose, a CCP may decide to use one or several private settlement agents for its settlements in foreign currencies. In this situation, it should identify risks of liquidity pressure that may stem from its payment obligations in several assets and currencies; adequate steps should accordingly be taken to monitor and mitigate these risks. In addition, it is also possible that a CCP may not have an easy access to central bank money in a single currency system and may resort to private settlement agents. In such a case, steps should be taken to facilitate the CCP's access to central bank money.

6. Use of the private settlement agent model exposes a CCP to the risk of a settlement agent's failure. Therefore, a CCP that uses the private settlement agent model should take steps to limit the probability of being exposed to a settlement agent's failure and limiting the potential losses and liquidity pressures to which it would be exposed in the event of such a failure. These steps should include: (1) the establishment and ongoing monitoring of strict criteria for use of a private bank as a settlement agent; and (2) where practicable, the use of multiple settlement agents and the ongoing monitoring of concentration of payment activities among them.

7. As the use of additional entities such as private settlement agents may lead to additional operational complexity and liquidity risks for the CCP, the CCP should establish strict criteria for private settlement agents. In order to ensure that only regulated financial institutions with robust legal, financial (creditworthiness, access to liquidity) and technical capacity are used as settlement agents. Private settlement agents should be subject to effective banking supervision and regulation and should be well capitalised. They should have access to ample liquidity in the marketplace or

from the central bank of issue. They should have the technical capacity to provide reliable payments services at the times and on the terms required by the CCP. A CCP should monitor adherence of its private settlement agents to its criteria both on an initial and an ongoing basis. Where it is reasonable and prudent to do so, a CCP may take account of the supervisory activities of the relevant banking regulators with respect to monitoring of the private settlement agent's adherence to some or all of those criteria.

8. A CCP using the private settlement agent model should take further steps to limit its exposures in the event of settlement agent failures. Ideally, a CCP should use multiple settlement agents to diversify the risks of failure. In some jurisdictions, however, only a single private bank may meet appropriate criteria for creditworthiness and operational reliability. In any event, even with multiple private settlement agents, the extent to which risks are actually diversified depends upon the number of settlement agents and the distribution among the different banks of participants and of amounts owed by those participants. Despite the use of multiple settlement agents, a CCP's exposures may remain concentrated if many participants (or even a few of its largest participants) choose to use the same private settlement agent. Concentration of exposures to a CCP may be exacerbated if a settlement agent is also a clearing participant, or if a CCP has invested all or a part of the resources it maintains to cover participants' defaults with this private settlement agent. Therefore, a CCP should closely monitor the distribution of exposures among settlement agents. Taking also into consideration their financial conditions, a CCP should assess its potential losses and liquidity pressures in the event that the agents with the largest shares of settlements were to fail.

9. In both the central bank model and the private settlement agent model a critical issue is the timing of the finality of funds transfers to/ from a CCP's account or accounts. The timing of payment is a critical issue as it determines the moment when a CCP's obligations to its participants are discharged and conversely, the moment when participants' payment obligations to the CCP are extinguished. The clear definition of this timing is of particular importance in order to avoid that in case of default of a settlement agent (or settlement bank), a CCP may be exposed to a double payment obligation, or that its claims on clearing members may be considered as extinguished while the CCP may never have received the corresponding funds. In the central bank model participants' obligations to a CCP are not discharged (and therefore a CCP's counterparty exposures are not reduced) until the transfers are final, that is, irrevocable and unconditional; conversely, once final payments are effected from the CCP's account to the clearing members' accounts, or their payment agents' accounts with the central bank, clearing members' corresponding claims on the CCP should be extinguished. The timing of extinction of payment obligations should be defined in the legal, regulatory and/or contractual arrangements with the clearing members. In the private settlement agent model, participants' obligations are not discharged until transfers to a CCP's accounts at its settlement agent are final, and a CCP's

exposures to its settlement agent cannot be reduced or eliminated until a CCP can make final transfers of funds from its accounts at the settlement banks. Thus, such transfers (both on the books of individual settlement agent, including the central bank of issue, and between settlement agents) should be final when effected (that is, at the time that credits are first posted to the CCP's accounts). To this end, a CCP's legal agreements with its settlement agents should state clearly when transfers on the books of individual settlement agents are to occur and that they are to be final when effected and should permit immediate retransfer of funds received. The legal, regulatory and/or contractual frameworks with clearing members should also specify the timing when the CCP's payment obligations are discharged, i.e. the moment when the CCP's payments are effected on the books of the settlement agent. If a CCP is to have the capacity to make intraday margin calls (recommendation 4) the payment systems for the currencies used will need to provide real-time finality or intraday finality at the times at which a CCP wishes to make such intraday calls. The laws of the relevant jurisdictions must support the provisions of a CCP's legal agreements with its settlement agents relating to finality. Finally, a CCP should confirm that funds transfers are effected as and when required.

10. A CCP should harmonise its operating hours and days and, where appropriate, be open at least during TARGET2 operating hours and days, in particular for transactions denominated in euro.

RECOMMENDATION 10: PHYSICAL DELIVERIES

A The recommendation

A CCP should clearly state its obligations with respect to physical deliveries. The risks from these obligations should be identified and managed.

B Key issues

1. A CCP's rules should clearly state its obligations with respect to deliveries of physical instruments, including whether it has an obligation to make or receive delivery of a physical instrument or whether it indemnifies participants for losses incurred in the delivery process.

2. If a CCP has an obligation to make or receive deliveries of physical instruments, it should eliminate principal risk through the use of a DVP mechanism. If the settlement systems used by the CCP offer DVP but do not offer simultaneous booking of the DVP and RVP leg, a CCP should take additional steps to mitigate replacement cost risk. If no DVP mechanism is available, a CCP should take other steps to mitigate principal risk. Liquidity risk must be managed by a CCP whether or not a DVP mechanism is available.

3. If a CCP has obligations to make or receive deliveries of physical instruments, it should take steps to identify and mitigate all the money settlement, liquidity, storage and delivery (other than principal) risks to which it is exposed in the delivery process for the physical instruments.

C Explanatory memorandum

1. The obligations that CCPs assume vary, and this is particularly true with respect to obligations arising at delivery.[58] Settlement of many contracts cleared by CCPs requires (or permits) physical settlement, that is, delivery by the seller to the buyer of the deliverable assets against payment of cash — for example, equities, bonds or foreign currency. These contracts include cash market trades and derivatives trades that do not require cash settlement on the delivery date or expiration date. At settlement or exercise, a CCP might assume an obligation to make and to receive delivery of a physical instrument. Alternatively, a CCP might assign deliver and receive obligations to specific participants but, in the event one fails to perform, indemnify the non-defaulting participant for any loss incurred. In this latter arrangement, a CCP would not guarantee receipt or delivery of the physical instrument itself nor the associated payment. In case a delivery cannot be carried out due to a lack of securities the CCP might for example start a buy-in procedure with cash compensation as a method to reduce fail rates. Many other variations of a CCP's delivery obligations are possible. The effect of multilateral netting may give rise to a range of settlement

[58] This recommendation does not cover free movements of collateral to satisfy margin requirements.

obligations including cases where the value of the delivered instrument and the cash payment may differ significantly, or there may need to be a free of payment delivery or a clean cash payment, or other outcomes. Regardless of the obligation assumed, a CCP should clearly state to its participants the obligations that it assumes with respect to deliveries of physical instruments.

2. A CCP faces both credit and liquidity risks from the delivery process that it must manage. In addition the CCP may face replacement cost risk. At delivery, the entire principal value of a transaction may be at risk, thus this form of credit risk is often termed principal risk. Both the buyer (receiver of the physical instrument) and seller (deliverer of the physical instrument) are exposed to principal risk. Liquidity risk arises because, if the buyer defaults, a CCP must still make payment to the (non-defaulting) seller. If a CCP guarantees delivery of a physical instrument, it faces a form of liquidity risk associated with acquiring that instrument should the seller default. . Replacement cost risk is the risk that the CCP will face a loss when it has to replace the resulting position of a defaulting buyer or seller at current market prices. A CCP should identify and mitigate the credit, liquidity and replacement cost risks to which it is exposed in the delivery process. The steps necessary to mitigate risks depend on the obligations a CCP assumes, the mechanisms available for settlement of the physical instrument being delivered and the importance of the risks from physical settlement to the operations of the CCP and any related market as a whole. For some CCPs, these may be a relatively minor source of risk.

3. Principal risk can be eliminated through use of a delivery-versus-payment (DVP) mechanism. A DVP mechanism links a system for transferring funds (payment) to a system for transferring the physical instrument (delivery) in a way that ensures payment occurs if and only if delivery occurs. If a CCP has an obligation to make a delivery, it should eliminate principal risk through the use of the available DVP mechanism.

4. The settlement system used by the CCP may not offer simultaneous settlement of the two transactions underlying physical delivery i.e. delivery of the physical instrument against cash and payment of cash against delivery of the instrument. In a scenario where the settlement system is unable to provide simultaneous DVP and RVP (for the CCPs transactions with the seller and buyer respectively) the settlement system books the DVP leg and securities are delivered to the CCP against the simultaneous exchange of payment, but because the RVP leg (whereby payment is made to the CCP against the simultaneous exchange of securities) is only booked at a later time, the CCP must effect payment (in the context of DVP with the seller) before receiving final payment (in the context of RVP with the buyer). This time lag between the booking of the delivery and receipt of the (physical instrument) transactions exposes the CCP to liquidity and replacement cost risks until both processes are complete. A CCP often holds margin to mitigate the replacement cost risk of a position. For the CCP to effect the payment, the settlement bank may grant it collateralised credit or require it to pre-fund the payment to the seller. In the latter case, in

the time period between the CCP's transmission of funds to the settlement bank and the booking of RVP, the CCP is exposed to the risk of settlement bank failure.

5. In some instances, a CCP may assume obligations related to deliveries of physical instruments for which there is no DVP mechanism for settlements, and a CCP must take other steps to mitigate principal risk. In terms of risk mitigation, the CCP can take a number of steps. Often, a CCP holds margin to mitigate the replacement cost risk of a position. These margin deposits should be held until delivery is complete (in the above 'time-lag' scenario until both transactions are finally booked). But their value is generally less than the principal value at risk in delivery, so a CCP must build additional protections into the delivery process. Some CCPs require participants to pre-fund payments associated with deliveries or to provide some form of guarantee of payment through an agent bank. (The latter instrument might be an irrevocable commitment on the part of a participant's bank to guarantee payment to a CCP's bank.) Other CCPs adopt practices of shaping whereby large transactions are split into smaller portions as a method of reducing the amount of payment to be pre-funded. For the physical instrument, a CCP might designate an approved entity to which delivery must be made. Only when proper evidence of delivery to this entity exists are funds released to the seller. The physical instrument is released to the buyer only if he has pre-funded his payment obligation or provided an acceptable guarantee of payment.

6. Liquidity risk must be managed by a CCP even when DVP mechanisms are available for delivery of the physical instrument. A CCP must have a liquidity facility in order to guarantee the availability of funds to pay a seller in the event a buyer defaults on delivery[59]. Typically this facility would be collateralised by the physical instrument delivered by the seller. In addition, a CCP must have arrangements for selling the instrument delivered (sell-out procedure). When a CCP assumes the obligation of delivering a physical instrument to buyers, it must have a facility that allows it to acquire that instrument in the event the seller defaults on delivery. In such circumstances, it must also set out clear requirements regarding late delivery on the part of the seller (for example, charging for late settlements or mandatory securities borrowing and lending) to facilitate a high settlement rate leading to a reduction in risk.

7. Apart from credit and liquidity risks, a CCP may also face and have to manage risks relating to the assets to be delivered, i.e. risks associated with cash assets used to make payments and with the storage and delivery obligations of the physical instruments for settlement. Regarding risks on physical instruments, if a CCP is responsible for warehousing and transportation of the instruments, it should make arrangements taking into account the particular characteristics of these instruments (e.g. storage under specific conditions of temperature and humidity for perishables). A

[59]. CCPs should also take into account the risks linked with the use by several clearing members of the same financial intermediary for the settlement of their transactions. This situation can generate risks for CCPs since default by one of these settlement banks could leave several clearing members simultaneously unable to settle their transactions in a timely fashion

CCP should also consider other measures (e.g. physical security measures and insurance coverage) to mitigate its storage and delivery risks (other than principal risk). In some instances, a CCP may match participants with delivery obligations with those who are due to receive the instruments, thereby removing itself from direct involvement in the storage and delivery process. In such instances, the legal obligations for delivery of the instruments should be clearly expressed in the rules, including default rules, and any related agreements. In particular, it should be clear whether the receiving participant should seek compensation from a CCP or the delivering participant should there be any losses. A CCP should also have the powers to check that its participants have the necessary systems and resources to be able to competently fulfil their delivery obligations.

RECOMMENDATION 11: RISKS IN LINKS BETWEEN CCPS

A The recommendation

CCPs that establish links either cross-border or domestically to clear trades should design and operate such links so that they effectively reduce the risks associated with the link. It should evaluate the potential sources of risks that can arise from the linked CCP and from the link itself. It should ensure that the risks are managed prudently on an ongoing basis. There should be a framework for co-operation and co-ordination between the relevant regulators and overseers.

B Key issues

1. CCPs should design links or interoperable systems in such a way that risks are minimised or contained. Before entering into a link relationship with one or more CCPs or when significant changes occur in an existing link, a CCP should evaluate the potential sources of risks arising from the linked CCP and from the link. The initial risk assessment of the linked CCP should include sufficient understanding of the entirety of the other CCP´s risk arrangements, covering any other link arrangements. The risk assessment should be kept updated. The resulting arrangements should be designed such that risks are mitigated and the CCP remains able to observe the other recommendations contained in this report.

2. Potential sources of operational, credit, liquidity and settlement risks to a CCP arising from a link should be effectively monitored and managed on an ongoing basis. In particular, risks should be covered by adequate resources and contagion risks should be mitigated.

3. The national laws and contractual rules governing the linked systems, and governing the link itself, should support the design of the link and provide adequate protection to the CCPs involved in the operation of the link. In particular, regulation and contractual rules should be designed such that no CCP is exposed to unexpected obligations or distortions of rights/obligations vis-à-vis the other one. Potential conflicts of law and rules between the jurisdictions of CCPs should be identified and addressed.

4. For the purposes of regulation and oversight of the link, there should be a framework for co-operation and co-ordination between the relevant regulatory and oversight authorities, including provisions on information sharing and the division of responsibilities in the event of any need for regulatory action.

C Explanatory memorandum

1. CCPs engage in links or interoperable systems to facilitate more efficient clearing. A link enables the participants of a CCP for one market to trade in another market while clearing that trade through their existing arrangements. By broadening trading opportunities for market participants

without imposing all of the costs normally associated with establishing clearing relationships, links can deepen the liquidity in markets. A link may also reduce the costs of systems development and operation faced by CCPs because it enables them to share these expenses.

2. Links between CCPs may take a variety of forms. Different types of links can be distinguished according to the degree to which the systems of the linked CCPs are integrated and whether the obligations of the CCPs to their clearing participants are shifted. In the most straightforward type of link, one CCP becomes a clearing participant of another CCP without any further integration of systems. This type of link is also called standard access. If a CCP links to another CCP and some specific services are offered by one CCP to the other, the scenario is called customised access. Links may also take a form in which the CCPs establish advanced forms of relationships, where they agree to establish mutual solutions. Cross-margining arrangements have some of the same implications for CCPs as links because the CCPs rely on each other's risk management systems when viewing a participant's positions and supporting margin as a single portfolio. These arrangements should also be assessed as part of this recommendation.

3. The type and level of risks presented by a link will depend on the degree of integration. For example, a link with only limited system interdependencies may not entail major changes to the way the linked CCPs manage risks. Nonetheless, the default of such a linked CCP may have more complex and wider implications than the default of an ordinary participant or even another large clearing participant. Although each link will present a unique risk profile a number of generic risks can be identified relating to legal, operational, credit, liquidity and settlement risks, as well as generic challenges to effective regulation and oversight. Before entering into a link, CCPs should conduct an initial risk assessment to evaluate the potential sources of risks arising from the linked CCP and from the link itself. The resulting arrangements should be designed so as to manage these risks effectively, such that a CCP is still able to observe these recommendations. A CCP participating in a link should be able to meet in a timely manner all of its obligations to its linked CCP and to its participants that use the link. Furthermore, a CCP's participation in a link should not compromise its ability to meet in a timely manner its obligations to its participants that are not using the link. Risk assessments should be kept updated.

4. To that purpose, before establishing a link and on an ongoing basis, a CCP should be able to identify risks that may potentially stem from the (future) linked CCP, in order to take the adequate steps to mitigate them. The initial risk assessment of the linked CCP should include sufficient understanding of the entirety of the other CCP´s risk arrangements, including any other link arrangements. In particular, a CCP should make sure that the future linked CCP is recognised as such in its jurisdiction, authorised to provide CCP services and submitted to adequate oversight, supervision and regulation. Its CCP activities should also be based on an adequate legal and regulatory framework in its jurisdiction which ensures protection against the zero hour rule and

against the risks that the CCP's rules, contracts and procedures may no longer be enforceable in case of default or insolvency of a participant. If no or partial protection is ensured, a CCP should identify the potential risks and take the adequate steps to mitigate them. In order to identify other risks that may be associated with the linked CCP, a CCP should also seek to obtain the relevant information on the level of observance of the linked CCP with the ESCB-CESR recommendations for CCPs, or of the CPSS-IOSCO recommendations for CCPs (for non-EU CCPs). When there are differences in the levels of requirements with regards to recommendations, or when weaknesses are evidenced, a CCP should take steps to mitigate these potential risks that may arise. When the link creates a bilateral financial exposure between the CCPs, the linked CCP should have sufficient and liquid resources to meet its obligations in time towards the home CCP even in case of default of one of its participants. In some cases, the CCPs may not use the same methods, procedures and parameters to manage risks. In such cases, there can be differences between the risk parameters used by the CCPs to cover their exposure to their clearing members, as well as their reciprocal exposures. If such differences exist, the CCPs should identify them, assess risks that may arise and take measures that effectively limit their impact on the link as well as their potential consequences in terms of contagion risks, and ensure that these differences do not create frictions in case of default of a participant.

5. In addition to the identification of the potential risks associated with the CCP it is linked to, a CCP should evaluate legal, operational, credit, liquidity and settlement risks that may stem from the design and operation of the link itself. Links may present legal risk arising from differences between the laws and contractual rules governing the linked systems and their participants, including those relating to novation or open offer, netting, collateral arrangements and settlement finality as well as conflict of laws. Differences in laws or rules may create uncertainties regarding the enforceability of CCP obligations assumed by novation or open offer in jurisdictions where these concepts are not recognised. Further, differences between the criteria and timing of finality also creates risks as transfers regarded as final in one system are not necessarily final in the linked CCP. To limit these uncertainties, the respective obligations and rights of the linked CCPs should be clearly defined in the link agreement, which should also set out an unambiguous choice of law. CCPs should aim to co-ordinate their rules as regards the moment of entry of a transfer order into a system and the moment of irrevocability[60]. Thus, the laws and contractual rules governing the linked systems, and governing the link itself, should support the design of the link and provide adequate protection to both CCPs and their participants in the operation of the link. Potential conflicts of law and rules between the jurisdiction of the CCPs should be identified and addressed in accordance with the analysis framework provided in recommendation 1. Also, differences in laws or rules may unintentionally give the participants of one CCP a claim vis-à-vis the linked CCP in the event of the first mentioned CCP's default. Therefore, the CCPs' reciprocal rights and

[60] A lack of co-ordination as to which rules on the moment of entry/irrevocability apply may expose the CCPs and their participants to the spill-over effects of a default in the other system.

obligations should be unambiguously stated in order to avoid unexpected distortions of rights/obligations and prevent one CCP from being unintentionally exposed to direct claims of the other CCP's participants (unless the link is explicitly and adequately designed to facilitate the transfer of positions between CCPs).

6. Links may present operational risk due to inefficiencies associated with the operation of the link. Steps should be taken with a view to ensure that the link's operational risks are adequately addressed. Systems and communications arrangements between the CCPs should be reliable and secure so that the operation of the link does not pose significant operational risks to the linked CCPs. In particular, it is essential that a CCP knows, understands and regularly participates in tests that involve the linked CCP and the other infrastructures (communication, settlement and payment ones) that are used in the framework of the link. As far as payment and settlement infrastructures used in a link are concerned, it is also necessary that the access mode chosen by a CCP to these systems (either directly or indirectly through intermediaries) is soundly designed and avoids additional risks for these systems and for the other CCP. Conversely, when a common infrastructure is used by the CCPs for the operation of the link, it is recommendable that its failure should not affect the ability of the CCPs to keep on clearing and settling transactions that are not concerned by the link. Finally, operational inefficiencies may arise because of differences in time zones, operating days and hours, and daily schedules, particularly as these affect staff availability and the operations of other connected systems or institutions such as CSDs. The linked CCPs should address and coordinate operational differences associated with the operation of the link.

7. Links may also create significant credit and liquidity interdependencies between systems. If a CCP becomes a participant of another CCP through a link, the two CCPs have direct credit and liquidity exposures to each other. A CCP might fail which leaves the other CCP with the need to replace, at current market prices, the net position of the failing CCP. The risk exposure between linked CCPs should be measured at least daily. In general CCPs should not make exceptions to their existing policies on margin coverage and on post-default backings for any market which they clear through a link. Since a CCP's credit exposure to the linked CCP is dependent on the latter's risk management measures, observance of recommendations relating to credit and liquidity risks is necessary, or at least, measures should be taken to limit risks stemming from this exposure. Additional exposures may arise through participant concentrations, cross-margining arrangements and pooled financial resources (if applicable) so that a default in one system may precipitate losses and liquidity pressures in the linked system. These interdependencies may lower the probability of a default, but enhance the impact should one occur. Consequently, potential sources of credit and liquidity risks to the CCP arising from the operation of the link should be analysed. In particular risks stemming from mutual exposure, cross-margining arrangements, the use of different settlement assets/currencies, or from the concentration of settlements with the same private cash settlement banks agents, should be identified, monitored and effectively managed. To that

purpose, the terms of the link agreement should set forth how these exposures will be managed by taking into account the need to ensure an adequate level of coverage while limiting contagion risks.

8. Finally, a link may expose a CCP to additional settlement risk (for example, failed transactions involving the linked CCPs and if the buy-in procedures of the linked CCPs are not harmonised) that should be reduced.

9. Cross-border CCP links may also create uncertainties about the respective responsibilities of the relevant regulatory and oversight authorities. It may be uncertain which authority regulates a particular aspect of a link, or the CCPs may be subject to duplicative and possibly conflicting regulation. To limit some of these uncertainties, a link should be subject to prior notification to the relevant regulatory and oversight authorities, so that they can satisfy the authorities that the link does not undermine the effectiveness of regulation and oversight. There should also be a framework for co-operation and co-ordination between the relevant authorities, including provisions on appropriate information sharing and the division of responsibilities in the event of any need for joint regulatory action.

RECOMMENDATION 12: EFFICIENCY

A The recommendation

While maintaining safe and secure operations, CCPs should be cost-effective in meeting the requirements of participants.

B Key issues

1. A CCP should have in place the mechanisms to review regularly its costs and pricing.

2. A CCP should have in place the mechanisms to review regularly its service levels and operational reliability.

C Explanatory memorandum

1. In assessing the efficiency of CCPs, the needs of participants and the costs imposed on them must be carefully balanced with the requirement that the CCPs meet appropriate standards of safety and security. If CCPs are inefficient, financial activity may be distorted. However, the first priority of a CCP is to assure market participants that its obligations will be met in a timely fashion, notwithstanding the default of a participant.

2. Efficiency has several aspects, and it is difficult to assess the efficiency of a particular CCP in any definitive manner. Accordingly, the focus of any assessment should largely be on whether a CCP has in place the mechanisms to review periodically service levels, costs, pricing and operational reliability. CCPs should strive to understand the needs of users. One tool to accomplish this is a regular review of the CCP's service levels. One way this can be accomplished is by surveying participants of the CCP's services. The CCP should also make clear to users the channels which are available for complaints and how such complaints would be handled.

3. CCPs should seek to meet the service requirements of participants in a cost-effective manner. This includes meeting the needs of its participants, operating reliably and having adequate system capacity to handle both current and potential activity. When looking at the overall costs of CCPs, it is important to include both the direct costs of operating any facilities, such as costs to participants, and indirect costs, such as liquidity costs.

4. The primary responsibility for promoting the efficiency and controlling the costs of a CCP lies with the designers, owners and operators. In some jurisdictions, regulatory or competition authorities may have a responsibility to review the direct costs imposed on participants, particularly where a CCP enjoys some form of monopoly over the service it provides. Antitrust

and competition law principles may also be relevant. In the case of a CCP that faces effective competition, market forces are likely to provide incentives to control costs.

5. CCPs may use a variety of mechanisms to improve efficiency. For example, developing technical capabilities to meet operational service requirements of participants; where relevant, reducing the requirements for market participants to maintain multiple interfaces by 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.

RECOMMENDATION 13: GOVERNANCE

A The recommendation

Governance arrangements for a CCP should be clear and transparent to fulfil public interest requirements and to support the objectives of owners and relevant market participants. In particular, they should promote the effectiveness of a CCP's risk management procedures.

B Key issues

1. Governance arrangements should be clearly specified and publicly available.

2. There should be a clear separation between the reporting lines for risk management and those for other operations of a CCP.

3. Management and the Board of Directors ("the Board") should have the appropriate skills and incentives to achieve a CCP's objectives, particularly delivering sound risk management and meeting related public interest requirements. Management and the Board should be fully accountable for their performance. The Board should contain suitable expertise and take into account all relevant interests.

4. Objectives, those principally responsible for achieving them and the extent to which they have been met, should be disclosed to owners, relevant market participants (including customers of the clearing members) and public authorities.

5. Governance arrangements should include the identification of conflicts of interest and should use resolution procedures whenever there is a possibility of such conflicts occurring.

C Explanatory memorandum

1. Governance arrangements encompass the relationships between owners, managers and other interested parties, including relevant market participants and authorities representing the public interest. The key components of governance include the ownership structure; the composition and role of the Board; the structure and role of audit other key Board committees; the reporting lines between management and the Board and the processes for ensuring management is accountable for its performance.

2. CCPs, with CSDs, are at the heart of the settlement process. Moreover, because their activities are subject to significant economies of scale, many are sole providers of certain services to the market they serve. Therefore, their performance is a critical determinant of the safety and efficiency of those markets, which is a matter of public interest. This standard is intended to be consistent with

each jurisdiction's codes of corporate governance, and to emphasize the need for a CCP's governance arrangements to support robust risk management. The OECD principles of corporate governance and Commission recommendation 2005/162/EC[61] can serve as a starting point when designing these arrangements.

3. 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 requirements. Governance arrangements should be clearly specified and publicly available. Objectives, those principally responsible for achieving them and the extent to which they have been met, should be disclosed to owners, relevant market participants (including customers of the clearing members) and public authorities. These objectives for all CCPs should include delivering sound risk management and meeting related public interest requirements. A key part of governance mechanisms is the composition of the board and the objectives that the board sets for management. It is important that those non executive or supervisory board members who are independent[62] have a clear role in the board of directors. In a group structure, there should be independent board members at least on the board of the parent company. The Board should contain suitable expertise and take account of all relevant interests. One means for the Board to take account of the objectives of all categories of participants is through their representation on the Board or through participant committees whose decisions and suggestions are adequately reported to the Board. Management and Board should have the appropriate skills and incentives to achieve a CCP's objectives and to fulfil public interest requirements, and should be accountable to owners and relevant participants for their performance. Reporting lines between management and the Board should be clear and direct.

4. Governance arrangements are particularly important because the interests in relation to risk management of a CCP's owners, its managers, its relevant market participants, the exchanges and trading platform it serves, and the public are different and may conflict. Given that the interests are not always compatible, there should be a predefined policy and procedures for identifying and managing these potential conflicts of interest, e.g. consultation mechanisms[63]. To ensure that such conflicts do not undermine the effectiveness of a CCP's risk management it is essential that those responsible for this aspect of a CCP's business have sufficient independence to perform their role effectively. There should therefore be a clear separation between the reporting lines for risk

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61 Commission Recommendation of 17 February 2005 on the role of non-executive or supervisory directors of listed companies and on the committees of the (supervisory) board (2005/162/EC) OJ L 52, 25.2.2005, p. 51.

62 According to the Commission recommendation 2005/162/EC, non executive or supervisory directors are not involved in the every day running of the business and have no current engagement with management. The EU recommendations define 'independence' as the absence of any material conflict of interest. The recommendations suggest that a director should be considered independent only if he/she is free of any "business, family or another relationship, with the company, its controlling shareholder or the management of either, that creates a conflict of interest such as to impair his judgement".

63 Consulting relevant market participants prior to the decision to set-up one single clearing fund or multiple clearing funds when a CCP plans to extend its activities to a new type of product(s) (e.g. OTC derivative products*)* could be one example of the use of such consultation mechanisms.

management and those for other operations of a CCP. In many cases, this may involve the creation of an independent risk committee. The mandate and operational procedures of any risk committee or other groups established to manage risks should be approved by the Board and clearly spelled out and disclosed.

5. A CCP has access to sensitive information on participants' positions, and this could be exploited for its other business activities. A CCP should take steps to prevent such misuse (e.g. Chinese walls between the different functions).

RECOMMENDATION 14: TRANSPARENCY

A The recommendation

A CCP should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using its services.

B Key issues

1. A CCP should provide market participants with sufficient information to evaluate the risks and costs of using its services. The information should include the main statistics and, where relevant, the latest audited balance sheet of the CCP. A CCP should publicly and clearly disclose its risk exposure policy and risk management methodology as defined under Recommendations 1-11.

2. Information should be accessible, at least through the internet. Information should be available in a language commonly used in financial markets as well as in at least one of the domestic languages[64].

3. A CCP should complete and disclose the answers to the key questions (other than those on Regulation, Supervision and Oversight) of this report. The accuracy and completeness of disclosures should be reviewed periodically by a CCP and at least once a year or when major changes occur.

C Explanatory memorandum

1. Informed market participants are able to identify and evaluate the risks and costs to which they are exposed as a result of participation in a CCP, and therefore, can take actions to manage their risks and costs. Providing information on prices/fees of services offered can promote competition between service providers and may lead to lowered costs and improved levels of service. Therefore, CCPs should offer services at transparent prices that allow users to compare prices easily. To this end, specific services and functions should be priced separately to allow users the option of selecting the services and functions that they wish to use. A CCP should disclose to market participants its rules, regulations, relevant laws, governance procedures, risks, steps taken to mitigate risks, the rights and obligations of participants and the costs of using its services. The information should include the main statistics and, where relevant, the balance sheet of the CCP. In addition, a CCP may be in a position to contribute to asset segregation by providing separated accounts and margining (and collateral). In this case, the CCP should clearly describe the level segregation it can offer and the consequences thereof (e.g. the approach to margining). A CCP should make clear when and in what circumstances it assumes counterparty exposure and any

[64] If required in the respective domestic market.

restriction or limitations on its fulfilment of its obligations. A CCP should also disclose appropriate quantitative information on its clearing, netting, settlement activities and risk management performance. Types of information that are particularly useful in assessing the risks and costs of participating in a CCP include the coverage realised by margin requirements, the "extreme but plausible" market conditions used in evaluating the adequacy of financial resources , the source of prices and models used in margin calculations, and other stress testing information.[65] The effort by a CCP to improve transparency fosters confidence of market participants in its safety and efficiency. The information should be publicly available and clear enough for market participants to understand the steps to be taken by a CCP and other relevant entities in the event of a default. A CCP should publicly and clearly disclose its risk exposure policy and risk management methodology.

2. Information should be readily accessible, at least through the internet. It should also be current, accurate and available in a language commonly used in financial markets as well as in at least one of the domestic languages[66].

3. Completion of the answers to the key questions set out in this report will serve not only as a basis for assessment of the implementation of the recommendations but as a basis for public disclosure to provide market participants with the complete and accurate information they need. The accuracy and completeness of disclosures should be reviewed periodically by a CCP and at least once a year or when major changes occur.

[65] In disclosing stress test information, care must be taken to avoid revealing information regarding the positions of individual participants.

[66] If required in the respective domestic market.

RECOMMENDATION 15: REGULATION, SUPERVISION AND OVERSIGHT

A The recommendation

A CCP should be subject to transparent, effective and consistent regulation, supervision and oversight. In both a national and a cross borders context, central banks and securities regulators should cooperate with each other and with other relevant authorities regarding the CCP. Such cooperation should also ensure a consistent implementation of the recommendations.

B Key issues

1. The CCP should be subject to transparent, effective and consistent regulation, supervision and oversight. Securities regulators (including, in this context, banking supervisors where they have similar responsibilities and regulatory authority for CCPs) and central banks should have the ability and the resources to carry out their regulation, supervision and oversight responsibilities effectively.

2. Securities regulators and central banks should clearly define and publicly disclose their objectives, their roles and key aspects of major policies for CCPs.

3. To ensure transparent, consistent and effective regulation, supervision and oversight, different forms of cooperation amongst relevant authorities may be required: day to day cooperation of relevant authorities of a CCP, both in national and cross-border context, and the cooperation of central banks and regulators to ensure the consistent implementation of the recommendation and to achieve a level playing field for CCPs in the European Union.

4. To enable them to carry out their activities, securities regulators and central banks should require CCPs to provide information necessary for regulation, supervision and oversight in a timely manner, including information on operations that have been outsourced to third parties or where the CCP proposes to undertake new activities.

5. Securities regulators, central banks and other relevant authorities should cooperate with one another, both nationally and in a cross border context, to achieve the safe and efficient operation of CCPs and links between CCPs.

C Explanatory memorandum

1. Securities regulators (including, in this context, banking supervisors where they have similar responsibilities and regulatory authority for CCPs) and central banks share the objective of enhancing the safety, soundness and efficiency of CCPs. The division of responsibilities for

regulation and oversight of CCPs among relevant authorities varies from country to country depending on the legal and institutional framework.

2. Securities regulators and central banks will ensure the consistent application of these recommendations and to achieve a level playing field for CCPs and securities settlement systems in the European Union.

3. While the primary responsibility for ensuring the safe, sound and efficient operation of the CCP lies with its designers, owners and operators, the relevant authorities will review on the basis of regulation, supervision and oversight that the designers, owners and operators fulfil their responsibilities.

4. The objectives, responsibilities as well as the roles and major policies of the relevant authorities should be clearly defined and publicly disclosed, so that designers, owners, operators and participants of a CCP are able to operate in a predictable environment and to act in a manner that is consistent with those policies and these recommendations. The relevant authorities should clearly define and publicly disclose their supervisory roles towards the CCP participants.

5. Securities regulators and central banks should have the ability and the resources to carry out their regulation and oversight responsibilities effectively. Regulation and oversight 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 should have adequate resources to carry out their regulatory and oversight functions, such as gathering information on a CCP, including information on relevant activities of participants in a CCP, assessing its operation and design, acting to promote its observance of the recommendations and conducting on-site visits or inspections if necessary.

6. To enable them to carry out their activities, securities regulators and central banks should require CCPs to provide them with the information necessary for regulation and oversight in a timely manner, including information on operations that have been outsourced to third parties or where a CCP proposes to undertake new activities. Information on stress tests provided to authorities should contain the scenarios and methodology employed to estimate exposures and results of the stress tests. Access to information is particularly important if the authorities need to take extraordinary actions in relation to a default.

7. Securities regulators and central banks should cooperate with each other and with other relevant authorities to achieve the safe, sound and efficient operation of CCPs and links between CCPs, to achieve the implementation of risk management practices and procedures consistent with these recommendations. The risk profile of cross-border activities varies depending on the type of the cross-border arrangement, for example, links between CCPs, cross-margining arrangements

between CCPs, CCPs operating in a group structure sharing various business elements, CCPs operating in a group structure subject to a consolidated supervision, the outsourcing of services or "off-shore systems". The justification for and level of a cooperative arrangement between relevant authorities should take into account these varying risk profiles of cross-border activities and should be addressed in a way that delivers regulation/supervision/oversight consistent with each relevant authority's responsibilities and avoids gaps, imposing unnecessary cost and duplication of controls of CCPs. Regulators/overseers can consider a variety of approaches including (1) information-sharing arrangements; (2) coordination of regulatory/oversight actions for specific matters and issues of common interest; and (3) other cooperation arrangements. . The approach selected may vary, depending on such issues as the law and regulatory approach in each jurisdiction. The approach set out in (2) above might entail a cooperative agreement for coordinating the implementation of the regulatory/oversight responsibilities of the competent authorities in line with the principles set in the 1990 Lamfalussy Report and with the cooperative oversight principles outlined in the 2005 CPSS report on 'Central bank oversight of payment and settlement systems'. The principles governing these cooperative arrangements should be set out in a formal framework, which in the interests of transparency, should be publicly disclosed. The relevant authorities should establish prior contact channels and processes (including ones with the senior and key managers of the clearing and settlement systems) to ensure continuity of communication in case of a crisis situation. Cooperation could include co-ordination of crisis management plans as well as, to the extent permitted, early, confidential flow of information between regulators and CCPs about cross-border participants who might be in trouble. The 2008 Memorandum of Understanding on cooperation between the financial supervisory authorities, central banks and finance ministries of the European Union on cross-border financial stability provides a basis for cooperation in the management of any cross-border financial crisis.

ANNEXES

ANNEX 1 : ASSESSMENT METHODOLOGY

This annex is intended as a tool for the addressees of the Recommendations for Securities, Clearing and Settlement in the European Union, to review and assess the compliance of these Recommendations in all jurisdictions of the EU. The authorities involved will agree in advance on the scope and the timeline for conducting any assessment.

As outlined in paragraphs 35 - 41 in the Introduction to the Recommendations, the Assessment Methodology is based upon the Assessment Methodology for 'Recommendations for Securities Settlement Systems' as developed by CPSS/IOSCO and published in November 2002. The methodology developed by CPSS/IOSCO is based upon the principle of 'comply or explain' which is reflected throughout the set-up of the methodology.

The public authorities as addressees of the ESCB/CESR Recommendations will conduct assessment(-s) for the application of the Recommendations in each jurisdiction. The authorities involved will cooperate closely in the performance of each assessment in a specific jurisdiction. The level of involvement for each individual authority might differ from Recommendation to Recommendation, but a balanced view requires an in-depth dialogue among these national authorities. The structuring of this national cooperation in the context of the assessment is left to these authorities.

In order to be able to measure progress at an EU-level in achieving the objectives of the Recommendations and convergence in the practice of cross-border post trading services, a dialogue will continue among national authorities to discuss issues of implementation and consistency in the application of the Recommendations.

As an outcome of this dialogue, public authorities should follow up on any deficiencies or differences identified in the assessment process or require action in areas of the Recommendations where compliance is less than fully observed. In particular, if the lack of observance poses significant financial stability concerns, actions should be taken to promote observance. Pending on the complexity and severity of the deficiency, the cross-border bottleneck identified or a less than fully observed compliance with a specific Recommendation, the shape and degree of action needed may take different forms, pending on the relevant factors (e.g. involvement of legislators, priorities, scope, time-line). In some cases, the follow-up might imply the need for a change in supervisory practice or secondary rules. In other cases of less than full observance public authorities might need to call upon the industry to address practical bottlenecks or authorities may make efforts to ensure that in due course local legislation is not inconsistent with the Recommendations.

In case attention is needed for specific issues originating in EU-law, ESCB/CESR will make sure to address these issues with the relevant EU Institutions.

This annex aims to assist authorities in the first step of the assessment process to measure compliance with the ESCB/CESR Recommendations. The set-up of the tool for every Recommendation is organized in a similar way as the format for the CPSS/IOSCO Assessment Methodology with: key-questions, assignment of the assessment category and key notes, where considered helpful. In accordance with that methodology, the degree of implementation of each recommendation should be summarised by the assignment of one of five assessment categories: Observed, Broadly observed, Partly observed, Non-observed, or Not applicable. (a few of the Recommendations may not be applicable in certain circumstances and an assessor should make clear why this or these Recommendation(-s) is or are not applicable.) The remainder of this annex provides guidance on how to assign a assessment category for each of the Recommendations. For each Recommendation the guidance identifies the key issues relevant to implementation. For each key issue, the guidance identifies a key question, the answer to which should clearly demonstrate whether and how the key issue has been addressed by the providers of the services.

ASSESSMENT METHODOLOGY FOR SSSS

RSS 1 (LEGAL FRAMEWORK)

E 1 Key questions

1. Are the laws, regulations, rules and procedures and the generally applicable, non-negotiable contractual provisions governing the operation of the SSS clearly stated, understandable, public and readily accessible to system participants?

2. (i) Does the legal framework demonstrate a high degree of legal assurance that:
   a. there is a clear and effective legal basis for immobilisation or dematerialisation of securities and for transfer of securities by book entry?
   b. each aspect of the settlement process is valid and enforceable?
   c. netting and collateral arrangements are valid and enforceable?

   (ii) In addition to the requirements of Recommendation 17, do CSDs provide market participants with information, where relevant, on several specific issues regarding the legal framework of the operator of the SSS?

3. (i) Are the rules and contractual arrangements related to the operation of the SSS enforceable in the event of the insolvency of a system participant, of a participant in a linked or interoperable system, of the operator of the system, or of the operators of linked or interoperable systems, wherever the**y are** located?

   (ii) Notwithstanding the bankruptcy or insolvency of an individual system participant, of one of its customers, of an intermediary or a component of an SSS, do the system, direct system participants, other intermediaries and their respective customers have a high degree of legal certainty regarding:
   a. rights and interests in the securities and other assets held in or through the system?
   b. which law is applicable in respect of:
      (b.1) contractual and proprietary aspects?
      (b.2) the right to use collateral?
      (b.3) transfer property interests?
      (b.4) making and receiving payments?

   (iii) Have the claims of the SSS or of a system participant against collateral posted by a participant within a system priority over all other claims of non-system creditors?

   (iv) Has a court in the jurisdiction ever failed to uphold the legal basis of these

activities/arrangements? And if so, for what reasons?

4. (i) Is there a significant level of cross-border participation in the SSS through linkages, interoperable arrangements, remote participants, or by operating through foreign offices? If so, please describe and answer Question 4(ii) and (iii).

   (ii) Are other jurisdictions relevant for determining the adequacy of the legal framework? How was this determined? Has the legal framework been analysed in the other relevant jurisdictions? When links or interoperable arrangements are used, are the rules of each CSD and the terms of any associated contracts supported by the legal framework, including insolvency law, in each jurisdiction in which the linked or interoperable CSDs operate? Do linked or interoperable systems identify, disclose and address any additional legal risks?

   (iii) Are there any conflict of law issues and, if so,
   a. have they been identified by the system operator? Do the rules governing the system clearly indicate the law that is intended to apply to each aspect of the settlement process? When links or interoperable arrangements are used, is any choice of law enforceable in the jurisdiction of each linked or interoperable CSD?
   b. does the legal framework support appropriate contractual choices of law in the context of both domestic and cross-border operations?
   c. are system operators and participants aware of applicable constraints on 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?

5. (i) Have all eligible CSDs been designated by the relevant competent authorities under the Settlement Finality Directive?

   (ii) Have the relevant authorities designated the systems that meet the criteria of the Settlement Finality Directive?

6. (i) Is the harmonisation of rules promoted by relevant public authorities with the aim of minimising discrepancies stemming from different national rules and legal frameworks?

   (ii) How many jurisdictions govern the proprietary and the contractual aspects of an SSS? Are the applicable laws identical to the law governing the system?

E 2 Assignment of an assessment category

1. Observed
    a. The laws, regulations, rules and procedures, and the generally applicable, non-negotiable contractual provisions governing the operation of SSSs, are clearly stated, understandable, public and accessible to system participants. (Q1)
    b. The legal framework demonstrates a clear legal basis and a high degree of legal assurance for each aspect of the settlement process, including netting and collateral arrangements, and market participants are provided with information, where relevant, on several specific issues regarding the legal framework of the SSS. (Q2)
    c. In the event of the insolvency or bankruptcy of a system participant, of one of its customers, of an intervening intermediary, of a component of the SSS, of the operator of the system or of the operators of linked or interoperable systems, the rules and contractual arrangements are enforceable and there is a high degree of legal certainty regarding the rights and interests in the securities and other assets held in the system or through the system and regarding the law applicable/chosen. (Q3)
    d. The operators of cross-border systems have identified the relevant jurisdictions and addressed conflict of law issues; or it is not necessary to address conflict of law issues in assessing risk because cross-border participation in the system (such as non-domestic participants or assets, links or interoperable arrangements) is at an insignificant level. (Q4)
    e. All eligible CSDs governed by the law of the EEA Member State have applied for designation under the Settlement Finality Directive. (Q5)
    f. The harmonisation is promoted by relevant public authorities and the participants in a CSD are aware of the relevant jurisdiction governing the proprietary and contractual aspects of an SSS. (Q6)

2. Broadly observed
    a. 1e is satisfied (Q5)
    b. 1a, 1b, and 1c are satisfied with only very minor exceptions that do not risk undermining the safety and soundness of the SSS. (Q1, 2, and 3)
    c. 1d or 1f is not satisfied. (Q4 and 6)

3. Partly observed
    a. 1e is satisfied (Q5)
    b. 1a is satisfied with only very minor exceptions that do not risk undermining the safety and soundness of the SSS. (Q1)

c. 1b is partly satisfied. The legal framework does not demonstrate a high degree of legal assurance for some aspects of the settlement process that, while important and posing some risks, do not jeopardise the overall safety and soundness of the SSS. (Q2)
d. Or 1c is partly satisfied; there are some limited cases where rules and contractual arrangements may not be fully enforceable in the event of the insolvency or bankruptcy of a system participant, one of its customers, an intervening intermediary, a component of an SSS, the operator of the system or the operators of linked or interoperable systems. (Q3)

4. Non-observed
    a. 1b is not satisfied. (Q2)
    b. Or 1c is not satisfied. (Q3)
    c. Or 1e is not satisfied (Q5)

E 3 Explanatory notes

1. The general emphasis of an assessment should be that the assessor is reasonably confident that there are no obvious gaps or problems with the legal basis for the SSS. The various components of the legal framework (e.g. securities law, contract law, commercial law, bankruptcy law, etc.) should not be inconsistent with or override the rules or procedures of the SSS or its ability to meet the Recommendations.

2. A weakness in the legal framework that poses some risk but does not jeopardise the safety and soundness of the SSS would be one that the system operator or regulator can demonstrate it can be appropriately mitigated by other means.

3. The information to be provided for the legal assessment of Question 2(ii) is on the specific issues set out in the report. Information must be provided only where relevant, and its relevance may vary from issue to issue: in general terms, when information is already available to market participants, CSDs should avoid duplication and in such cases simply refer market participants to the source of the information;

4. In case the CSD has applied for designation under the **Settlement Finality Directive** to the relevant authorities, the Recommendation can be considered met if: 1) the procedure for designation has started by the relevant authorities; or 2) the national legal framework ensures in any case that the CSD has the same level of legal protection as in the case it were designated.

E 1 Key questions

1. What percentage of trades between direct market participants is submitted to a trade confirmation system on trade date (T+0)? How soon after submission are problems communicated to the appropriate parties?

2. Are trade confirmation procedures in place that are capable of comparing trade information between direct and indirect market participants by T+1? Is use of the system mandatory? For what types of indirect market participants? Of those trades involving indirect market participants for which confirmation is required, what percentage is submitted to a trade confirmation system by T+0 and by T+1? How soon after submission are problems communicated to the appropriate parties?

3. Does the CSD require settlement instructions to be matched prior to settlement and no later than the day before the specified settlement date for settlement cycles longer than T+0?

E 2 Assignment of an assessment category

1. Observed
    a. A high percentage of trades between direct market participants are confirmed on T+0. (Q1)
    b. When confirmation of trades by indirect market participants is required, a high percentage is confirmed no later than T+1. (Q2)
    c. Settlement instructions are matched prior to settlement and no later than the day before the specified settlement date for settlement cycles longer than T+0. (Q3)

2. Broadly observed
    a. 1a and 1c are satisfied. (Q1 and 3)
    b. However, 1b is not satisfied. (Q2)

3. Partly observed
    a. 1c is satisfied. (Q3)
    b. However, 1a (and 1b) is not satisfied. (Q1 and 2)

4. Non-observed
    a. 1a is not satisfied. (Q1)

E 3 Explanatory notes

1. In many markets, the use of electronic trading systems obviates the need for direct market participants to confirm the terms of the trade.

2. This Recommendation does not require confirmation by indirect market participants, but in some markets such confirmation is required by regulators, clearing systems or market operators. Generally, indirect market participants for whom confirmations are required include institutional investors and cross-border clients.

3. It is sometimes difficult for all the trades to be confirmed by the deadlines. However, a high percentage of trades should be confirmed by the deadlines to meet the Recommendation. For confirmation of trades between direct market participants, "a high percentage" means at least 98%. For confirmation of trades between direct and indirect market participants, "a high percentage" should tend towards 90%. If centralised systems are in place, assessors should obtain data about the performance of the systems. If trades are matched or compared bilaterally rather than through a centralised system, it may be difficult to determine the degree of observance of the Recommendation based only on such data. Qualitative information about performance should be obtained, however, and used to assess observance.

4. Where 24-hour trading is conducted, confirmation within 24 hours after each trade is regarded as compliant with T+0. Where trading is conducted during a limited time window, confirmation before resumption of the next day's trading is regarded as compliant with T+0 trade confirmation.

5. The Recommendation does not intend to impose an additional step linking trade confirmation and settlement matching systems where this step is redundant or virtually unfeasible.

RSS 3 (SETTLEMENT CYCLES AND OPERATING TIMES)

E 1 Key questions

1. Are trades settled on a rolling basis of T+3? If settlement is on an account period basis or on a rolling basis at T+3 or longer, have the benefits and costs of a rolling cycle or a shorter settlement cycle been evaluated? By whom? Has the evaluation been documented? What was the conclusion? Did the conclusion differ depending on the type of security?

2. What percentage of trades (by number and value) fails to settle on the contractual date? What is the average duration of fails (by number and value)?

3. a What are the operating hours of the SSS? And in case of an emergency plan? At what time is the final netting cycle completed under normal circumstances? Up to what time does the system remain open for receiving same-day settlement instructions?
   b What are the operating days of the SSS? Is the SSS open when the relevant payment system is closed? If so, are there special settlement arrangements for these days or time intervals? How are cross-border settlement instructions handled on the days it is closed while other EU SSSs are open?

4. Do market practices, regulations or SSS rules provide incentives for counterparties to settle their obligations on the contractual date? What forms do these incentives take – for example, are penalties assessed for failing to settle? What steps, if any, are taken to mitigate the risks of fails? Are fails required to be marked to market? Are open positions required to be closed out at market prices if the duration of the fail exceeds a specified number of business days? What entity or entities establish, monitor and enforce these requirements?

E 2 Assignment of an assessment category

1. Observed
   a. Rolling settlement occurs no later than T+3. If more than T+3, a cost-benefit analysis of a shorter settlement cycle is performed. (Q1)
   b. Fails are not a significant source of added risk, or risks from fails are effectively mitigated. Market practices, regulations or SSS rules provide incentives to settle on the contractual date. Adequate measures are taken to mitigate the risk of fails. (Q2)
   c. Operating hours and days of the SSS at least coincide with the operating hours and days of the relevant payment system. There are concrete emergency plans according to which the SSS can extend its operating hours to ensure safe and complete settlement. In case the SSS is in operation when the relevant payment system is closed, there are special settlement arrangements for domestic and cross-border transactions. (Q3)
   d. Market practices, regulations or SSS rules provide incentives to settle on the contractual date. Adequate measures are taken to mitigate the risk of fails. (Q4)

2. Broadly observed
   a. 1a and 1b and 1d are satisfied. (Q1, 2 and 4)

b. SSS operating hours and days do not coincide with those of the relevant payment system, but the SSS has a concrete emergency plan to extend its operating hours when necessary. (Q3)

3. Partly observed
    a. 1a and 1d are satisfied. (Q1 and 4)
    b. 1b is not satisfied. (Q2)

4. Non-observed
    a. Settlement on an account on period basis or settlement on a rolling basis longer than T+3. (Q1)
    b. 1d is not fully satisfied. (Q4)

E 3 Explanatory notes

1. The amount of risk posed by fails is a function of the volatility of the security being settled, the length of time before the fail is resolved and the size of the transaction. This risk can be mitigated by marking failed positions to market and collateralising exposures that arise. Some systems also place limits on the time that a failure can remain outstanding before the system itself buys and delivers the security.

2. The cost-benefit analysis should, as a minimum, include assessing the risks involved under T+3, the potential benefit of reducing risks under the shorter settlement cycle, the steps to compress the settlement cycle, and any pre-conditions necessary for a shorter cycle. The cost-benefit analysis preferably should take into account the risks of an increase in the settlement fail rate if a shortening of the settlement cycle is implemented. Alternatively, the study could demonstrate that the risks of T+3 do not pose a danger to the settlement system (for example, if the risks are small relative to the capital of participants). In some instances, the risks associated with T+3 settlement may be large but the costs of a shorter settlement cycle may also be large. A solution in such cases may be to mitigate the risks of T+3 settlement rather than to shorten the settlement cycle.

3. In assessing whether fails are a significant source of risk, fails should not exceed 5% by value.

RSS 4 (CENTRAL COUNTERPARTIES)

E 1 Key questions

1. Has a CCP mechanism (or a guarantee arrangement) been introduced? If so, what types of financial products and market participants are covered? If no such mechanism has been

introduced, have the benefits and costs of such a mechanism been evaluated? If there is a guarantee mechanism, have the benefits and costs of transforming this arrangement into a CCP been evaluated? By whom? Has the assessment been documented? What was the conclusion?

2. Has the CCP or the guarantee arrangement been assessed against the ESCB-CESR Recommendations for CCPs or against the checklist for guarantee arrangements respectively?

E 2 Assignment of an assessment category

1. Observed[67]
    a. If there is no CCP, the balance of the benefits and costs of establishing a CCP or servicing the market by an already existing CPP has been assessed carefully and steps have been taken to introduce[68] a CCP if benefits exceed costs.
    b. If a CCP is in place, it has been assessed against the ESCB-CESR Recommendations for CCPs. (Q2)
    c. If a guarantee arrangement is in place, it has been assessed against the relevant ESCB-CESR Recommendations for CCPs if it is comparable to a CCP, in terms of significance, function and risk management tools or otherwise against the checklist for all other guarantee arrangements. (Q2)

2. Broadly observed
    a. 1 a and b are satisfied (Q1 and Q2).
    b. If a guarantee process has been introduced, it has been assessed against the relevant ESCB-CESR Recommendations for CCPs if it is comparable to a CCP, in terms of significance, function and risk management tools or otherwise against the checklist for guarantee arrangements, but the balance of the benefits and costs of transforming the guarantee arrangement into a CCP has not been assessed. (Q1 and 2)

3. Partly observed
    a. 1 a and b are satisfied (Q1 and Q2).
    b. If a guarantee process has been introduced, it has not been assessed against the relevant ESCB-CESR Recommendations for CCPs or against the checklist for guarantee arrangements. The balance of the benefits and costs of transforming the guarantee arrangement into a CCP has not been assessed. (Q1 and 2)

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[67] Please note that observation of this Recommendation does not mean that a CCP or guarantee arrangement is compliant with the ESCB-CESR Recommendations for CCPs. It only means that it has been assessed against them. Hence, observation of this Recommendation does not imply that a CCP or guarantee arrangement is safe and sound.

[68] The word 'introduce' refers to the establishment of a new CCP and/or providing a new service to the market by an already existing CCP, as the case may be.

4. Non-observed
    a. There is no CCP and the balance of the benefits and costs of a CCP has not been assessed. (Q1)
    b. If a CCP is in place, it has not been assessed against the ESCB-CESR Recommendations for CCPs. (Q2)
    c. If a guarantee arrangement is in place, it has not been assessed against the relevant ESCB-CESR Recommendations for CCPs if it is comparable to a CCP, in terms of significance, function and risk management tools or otherwise against the checklist for all other guarantee arrangements (Q2), and the benefits and costs of transforming it into a CCP have not been assessed. (Q1)

E 3 Explanatory notes

1. 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.

2. The transformation of a guarantee arrangement into a CCP may achieve a higher level of risk protection and safety. These benefits need to be balanced against the cost of establishing a CCP. However, especially for small markets, guarantee arrangements can represent viable alternatives to CCPs.

3. For markets where volume and value are relatively small, the cost-benefit analysis does not need to be extensive.

RSS 5 (SECURITIES LENING)

E 1 Key questions

1. Are markets or facilities for securities lending (or repurchase agreements and other economically equivalent transactions) clearly supported by legal, regulatory, accounting and tax systems? If impediments to the development and functioning of securities lending exist, are steps being taken by public authorities to remove them?

2. Are there markets or facilities for securities lending (or repurchase agreements and other economically equivalent transactions)? If so, are they used as a method to expedite securities settlement? How wide is the range of securities and participants involved in the markets? Do securities lending arrangements meet the requirements of the particular market in order to minimise settlement failures? Is securities lending arranged bilaterally or as an automated and

centralised facility at the level of the settlement system(s)? Are the costs and conditions for the use of the centralised facility transparent to the customers?

3. If a centralised securities lending facility has not been introduced to reduce settlement failures in the particular market, was this decision based on a (cost-benefit) study of the needs of the market? Do bilateral facilities exist?

4. Do supervisors and overseers review risk management procedures for securities lending? Do they have policies with respect to these activities? Do they ensure that entities offering such activities are or can be included within the scope of their supervisory or oversight authority?

5. If credit risk is taken by the provider of the service, are adequate risk management measures applied in line with the requirements set out in Recommendation 9, in order to preserve its financial integrity? (Is any credit risk in such arrangements fully collateralised? If not, are other risk-mitigating measures employed to address any residual risk? (How are risks mitigated – for example by conducting credit evaluations, marking exposures and collateral to market daily, and employing master legal agreements?)).

6. Do entities providing securities lending for securities settlement ensure that they do not run debit balances or create securities?

E 2 Assignment of an assessment category

1. Observed
    a. There are no impediments to the development and functioning of securities lending. (Q1)
    b. Securities lending activities are available as a method for expediting securities settlement and reducing settlement failures. (Q2)
    c. A centralised securities lending facility exists, or a cost-benefit analysis has demonstrated that this is not needed. (Q3)
    d. Supervisors have policies and procedures related to securities lending arrangements and review these arrangements to ensure that risks are appropriately monitored and controlled. (Q4)
    e. Any entity exposed to credit risk arising from its involvement in securities lending arrangements applies adequate risk management measures in order to preserve its financial integrity. If full collateralisation is not employed, other risk-mitigating measures should be employed to address any residual risk, in line with Recommendation 9. (Q5)

f. Entities providing securities lending for securities settlement do not run debit balances or create securities. Clients' assets should only be used with their explicit consent. See also key issues 5 and 6 of Recommendation 12.(Q6)

2. Broadly observed
    a. 1a, 1b, 1c, 1e and 1f are satisfied. (Q1, 2, 3, 5 and 6)
    b. However, 1d is not satisfied. Supervisors are in the process of implementing appropriate policies and procedures related to securities lending arrangements. (Q4)

3. Partly observed
    a. 1b, 1c and 1e are satisfied. (Q2, 3 and 5)
    b. 1a and either 1d or 1f are not satisfied. (Q1, 4 and 6)
    1a is not satisfied, but authorities are making efforts to remove the impediments. (Q1)
    And: 1d is not satisfied, but supervisors are in the process of implementing appropriate processes and procedures related to securities lending arrangements. (Q4)
    Or 1f is not satisfied, i.e. there have been instances of debit balances on securities accounts or the creation of securities by entities providing securities lending for securities settlement. (Q6)

4. Non-observed
    a. Only one or two of 1a to 1f are satisfied. No particular steps are being taken to address or implement the remaining conditions. (Q1, 2, 3, 4, 5 and 6)

5. Not applicable
    a. There are no securities lending arrangements in place, either bilateral or centrally facilitated, as these are not deemed to be required by the particular market, and there have been no settlement failures in recent years in the market. (Q3)

E 3 Explanatory notes

1. The Recommendation addresses the use of securities lending (or other arrangements to that effect) that are primarily employed to facilitate safe and efficient securities settlement, and the particular risks involved in such activities. The issues relating to credit risk arising from securities lending should be addressed in conjunction with Recommendation 9, whereas those relating to legal and operational risk should be addressed under Recommendations 1 and 11 respectively.

2. For securities lending, there may be circumstances where the requirement in Recommendation 9 concerning duration is not practicable, e.g. because of the liquidity of the stock involved. This should be taken into account when conducting the assessment.

3. An assessor should take into account the fact that securities lending may be available but is not used to expedite settlement owing to low fail rates in term of volumes and/or values, or that other mechanisms are available to market participants to deal with settlement failures. In such cases, the appropriate assessment category may be "Not applicable".

4. The lending of securities by a CSD to its participants is not necessarily inconsistent with the requirement that debit balances in securities be prohibited.

5. This Recommendation is consistent with the requirements of the Capital Requirements Directive, in particular Annex VIII, and Articles 22 and 123.

RSS 6 (CENTRAL SECURITIES DEPOSITORIES)

E 1 Key questions

1. Are securities issued on a dematerialised basis or as physical certificates? If the latter, are they immobilised in a CSD to facilitate settlement? What percentage of securities issued domestically (i.e. at country level, considering all entities performing all or some of the CSDs' functions) is either immobilised or dematerialised, and what is the trend? Is the transfer of securities carried out by book entry, or does it require any form of physical delivery?

2. Is the recording and transfer of securities based on a robust accounting scheme, such as best accounting practices and end-to-end audit trails? Is the level of cooperation between all entities involved in some or all of these activities of CSDs (as described above in Section C.1 and clarified in explanatory note 3) satisfactory enough to ensure the rights of both issuers and investors (especially by helping to ensure the integrity of the issues of securities)? Does the CSD have plans in place which ensure that market participants will continue to obtain access to CSD functions even if it becomes insolvent? Is there a lag between settlement and registration, and what are the implications of the time-lag for finality?

3. Is the CSD allowed (on a statutory or a regulatory basis) to enter into arrangements that carry credit or liquidity risks? If the CSD is allowed to conduct non-core business including credit or liquidity risks, does it have in place an adequate risk management process that is properly organised and has sufficient resources allocated? Are these risks mitigated according to Recommendations 5 (securities lending), 9 (Credit and liquidity risks controls) and 10 (Cash

settlement assets)? Considering that CSDs have a central function in the overall settlement process for securities, does the CSD minimise the operational risk according to Recommendation 11 (operational reliability)? Is the CSD directly involved in offering CCP services?

E 2 Assignment of an assessment category

1. Observed
    a. Immobilisation or dematerialisation is achieved and securities are transferred by book entry in CSDs. (Q1)
    b. The recording and transfer of securities is based on a robust accounting scheme such as best accounting practices and end-to-end audit trails; the integrity of the rights of both issuers and investors is secured. The CSD has a plan in place to ensure continuity of CSD functions even if it becomes insolvent. (Q2)
    c. The CSD avoids credit or liquidity risk to the greatest possible extent. (Recommendations 5, 9 and 10 are observed). It manages risks through an adequate and independent organisation of risk. It minimises operational risks (Recommendation 11 is observed). The CSD is not directly involved in offering CCP services, or the offering of CCP services is separated into a distinct legal entity. (Q3)

2. Broadly observed
    a. A CSD exists that allows securities to be immobilised/dematerialised and transferred by book entry, but some securities are not yet immobilised or dematerialised. (Q1)
    b. 1b is satisfied. (Q2)
    c. Or one of the Recommendations 5, 9, 10 and 11 is broadly observed, and the CSD does not provide CCP services directly. (Q3)

3. Partly observed
    a. Immobilisation or dematerialisation and book-entry transfers in CSDs is not achieved for the most actively traded securities. (Q1)
    b. Or the recording and transfer of securities is based on an accounting scheme that presents some weaknesses. (Q2)
    c. Or one of Recommendations 5, 9, 10 and 11 is partly observed, and the CSD does not provide CCP services directly. (Q3)

4. Non-observed
    a. 1a or 1b is not satisfied. (Q1)
    b. Or one of Recommendations 5, 9, 10 and 11 is non-observed, or the CSD provides CCP services directly.

E 3 Explanatory notes

1. With regard to the level of dematerialisation or immobilisation of securities, the degree of compliance with the Recommendation of each CSD within a particular country has to be assessed at country level and not only at CSD level. The securities mentioned above include all types of transferable securities or money-market instruments as defined in Articles 1 and 2 in Annex I, Section C of Directive 2004/39/CEE on markets in financial instruments which are actively traded.

2. 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, the CSD and issuer should closely cooperate to ensure that the securities in circulation correspond to the volume issued via that system. If several entities are involved in a given issue, adequate procedures among those entities should be put in place to preserve the integrity of the issue.

3. Although this Recommendation primarily concerns CSDs, it is also partially related for other entities performing CSD functions, including registrars and common depositories. Each organisation in charge of some or all of the functions of a CSD (as described above in Section C.1) should therefore be assessed individually against the assessment categories defined above, except for the level of dematerialisation/immobilisation of securities.

RSS 7 (DELIVERY VERSUS PAYMENT)

E 1 Key questions

1. Does the technical, legal and contractual framework ensure that delivery of securities takes place if, and only if, payment is received? If so, how? Does the DVP facility ensure a sound and effective electronic connection between the two legs of the transactions settled? What DVP model is provided?

2. Are all cash against securities transactions between direct participants and the CSD settled on a DVP basis? If not, what proportion of trades between direct participants of the CSD (by value) is settled on a DVP basis? What kind of transactions are not settled in a DVP basis (if any)?

3. Is the moment when payment and securities become final simultaneous? If not, how long is the time-lag between the final transfer of payment and securities? How long is the time-lag between the blocking of securities and/or cash and the moment they become final?

E 2 Assignment of an assessment category

1. Observed
    a. The technical, legal and contractual framework ensures DVP. (Q1)
    b. 95% or more of the trades being settled between direct participants of the CSD (by value) are actually settled on a DVP basis. (Q2)
    c. Final transfer of securities and payment is simultaneous and the time-lag between the blocking of securities/cash and their final settlement does not as a rule exceed one hour, except for night time batches. (Q3)

2. Broadly observed
    a. 1a is satisfied. (Q1)
    b. 90% or more of the trades between direct participants of the CSD (by value) are actually settled on a DVP basis. (Q2)
    c. Final transfer of securities and payment is simultaneous and the time-lag between the blocking of securities/cash and their final settlement does not as a rule exceed two hours. (Q3)

3. Partly observed
    a. 1a is satisfied. (Q1)
    b. 50% or more of the trades between direct participants of the CSD (by value) are actually settled on a DVP basis. (Q2)
    c. Final transfer of securities and payment is simultaneous and the time-lag between the blocking of securities/cash and their final settlement does not exceed half a business day. (Q3)

4. Non-observed
    a. 1a is not satisfied, or less than 50% of trades between direct participants of the CSD (by value) are actually settled on a DVP basis, or the time-lag between the blocking of securities/cash and their final settlement exceeds half a business day or more. (Q1, 2 and 3)

E 3 Explanatory notes

1. This Recommendation relates to the settlement of purchases and sale of securities against cash: free transfers of securities may occur for other reasons, for example the use of collateral for monetary policy reasons or intraday credit operations of central banks should be excluded, when

DVP facilities are not necessary or when there is realignment of positions in the issuer CSD. Free transfers for these purposes are not inconsistent with the Recommendation.

2. In some instances there is a CSD that achieves DVP, but the majority of trades by value are settled by free transfers rather than by use of the DVP mechanism. Such a situation would not meet the Recommendation as being observed or broadly observed.

3. Removal of principal risk should be achieved even if collateral substitution takes place. In this event, the collateral manager (the CSD or the central bank in case of central bank operations) should ensure that transfer of the original security is final only after the new collateral has been delivered with finality or simultaneously.

RSS 8 (TIMING OF SETTLEMENT FINALITY)

E 1 Key questions

1. Does the system permit final settlement of securities transfers on a delivery-versus-payment, free-of-payment and delivery-versus-delivery basis during the settlement day? Do the rules of the system clearly define the timing of settlement finality to mean the time at which the transfer orders of securities and/or cash become both irrevocable and unconditional? Does the legal framework that applies to the system and to its links, if any, with other systems support the timing of settlement finality?

2. Does the system provide final settlement of transfers on a real-time basis and/or through multiple-batch processing during the settlement day? If the latter, what is the frequency of the batches and within what time frame do they operate? Does the time of processing in the afternoon take into account the closing time of the relevant payment system, so that participants have time to react? If multiple batches are used, does the number and distribution of batches throughout the day ensure that securities transferred through each of the system's links can be reused by the recipients during the day?

3. Does the system promote early settlement during the day through appropriate measures? If not, how does the system ensure that it is not subject to gridlock due to participants delaying settlement until late in the day?

4. Do the rules of the system prohibit the unilateral revocation of unsettled transfer instructions on the settlement day? Does the system receive provisional transfers of securities from any other systems? If so, does it prohibit retransfer of these securities until they become final? If not, what would be the consequences of unwinding such provisional transfers for the system's participants?

E 2 Assignment of an assessment category

1. Observed
    a. The timing of settlement finality is clearly defined to mean the time at which the deliveries of securities and/or cash become both irrevocable and unconditional; final settlement occurs during the settlement day and the legal framework that applies to the system and any links with other systems support the timing of settlement finality. (Q1)
    b. Settlement is provided in real time and/or by multiple-batch processing during the settlement day; the time of processing in the afternoon takes into account the closing time of the relevant payment system. Securities transferred through each of the system's links can be reused by the recipients during the day. (Q2)
    c. Appropriate measures are provided to encourage system participants to fulfil their settlement obligations early during the settlement day; or, procedures are in place to ensure that the system is not subject to gridlock due to participants delaying settlement until late in the day. (Q3)
    d. The unilateral revocation of unsettled transfer instructions on the settlement day is prohibited; if provisional transfers of securities are received from other systems, the retransfer of the securities is prohibited until they become final.(Q4)

2. Broadly observed
    a. 1a and 1d are satisfied. (Q1, Q4)
    b. 1b is broadly satisfied. The normal timing of processing in the afternoon does not take into account the closing time of the relevant payment system, but can accommodate the settlement of transactions in emergency situations. Only a fraction, e.g. 90% of securities (by volume and value) transferred through the system's links, can be reused by the recipients during the day. (Q2)
    c. 1c is not satisfied. (Q3)

3. Partly observed
    a. 1a is satisfied. (Q1)
    b. However, 1b, 1c, and 1d are not satisfied. (Q2, 3, and 4)

4. Non-observed
    a. 1a is not satisfied. (Q1)

E 3 Explanatory notes

1. Intraday finality must be provided for each leg of a transaction whether it involves both cash and securities (DVP transactions) or just securities (free-of-payment transactions).

2. In assessing the observance of the Recommendation, it is essential to know the time when the transaction is settled, not the time when the transaction is entered into the system.

3. According to the national legal environment, there could be cases where the unilateral revocation of unsettled transfer instructions is allowed (i.e. in case of insolvency of the client of the participant that has entered the transactions). These cases will be assessed by the competent authority.

RSS 9 (CSD RISK CONTROLS TO ADDRESS PARTICIPANTS' FAILURES TO SETTLE)

E 1 Key questions

1. Does the CSD ensure that timely settlement can be completed in the event of an inability to settle by the participant with the largest obligation? If so, how? Are the credit exposures of the CSD fully collateralised? If not, what measures are in place to address risks stemming from granting uncollateralised credit? Are limits imposed on credit extensions by the CSD? Does the CSD have sufficient liquidity resources to ensure timely settlement?

2. Does the CSD permit overdraft or debit balances in securities?

3. Does the CSD evaluate the probability of multiple failures? Can settlement be completed in that event? If not, has the CSD evaluated the cost of ensuring settlement in the event of multiple failures?

E 2 Assignment of an assessment category

1. Observed
    a. The CSD, at a minimum, ensures timely settlement in the event that the participant with the largest payment obligation is unable to settle. Rigorous risk controls, in particular collateral requirements and limits, are imposed to control potential losses and liquidity pressures from participants' failures to settle. (Q1)
    b. Overdrafts or debit balances in securities are not permitted. (Q2)

c. The CSD has evaluated the additional costs to participants of greater certainty of settlement against the probability and potential impact of multiple settlement failures. (Q3)

2. 2. Broadly observed
    a. 1a and 1b are satisfied. (Q1, 2)
    b. The CSD cannot ensure timely settlement in the event of multiple defaults and it has not evaluated the costs of ensuring settlement in such events. (Q3)

3. 3. Partly observed
    a. 1a is partially satisfied but there are some weaknesses in risk controls such as inadequate measures to address risks from uncollateralised credit. (Q1)
    b. 1b is satisfied. (Q2)

4. 4. Non-observed
    a. Numerous weaknesses in risk controls imply that the CSD does not satisfy 1a. (Q1)
    b. Or: 1b is not satisfied. (Q2)

5. Not applicable if the CSD does not extend intraday credit and the CSD does not operate a net settlement system.

E 3 Explanatory notes

1. 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 and fully collateralising its credit exposures.

2. For exposures to be fully collateralised, the CSD must have the capacity to value (mark to market) the securities posted as collateral and apply haircuts to the collateral values.

3. If a CSD extends credit to issuers for corporate actions (for example, advances to issuers to fund dividend or interest payments), the CSD should institute risk controls for these exposures.

4. If a CSD acts as principal in securities lending activities, it must have appropriate risk controls for that activity.

5. The risk control measures referred to in Recommendation 9 also apply to the implicit intraday credit extended to the participants of a net settlement system (DVP models 2 and 3) operated by a CSD, even though the CSD does not itself extend intraday credit to participants.

RSS 10 (CASH SETTLEMENT ASSETS)

E 1 Key questions

1. For transactions denominated in the currency of the country where the settlement takes place, is the cash payment settled in central bank money? Is this also the case within the EU, when the domestic CSD is not located in the country of issue of the currency? If not, why is this not feasible or practicable? Are central banks taking any steps to offer enhanced mechanisms for settlement in central bank money? Are costs and conditions for the use of central bank money and commercial bank money transparent to customers? If settling takes place in a foreign currency, what steps has the central bank or the CSD taken as settlement agent to ensure that the settlement assets pose little or no credit or liquidity risk?

2. If the central bank is not used, what steps have been taken to protect CSD members from failure of the cash settlement agent? If settlement takes place on the books of the CSD, is it itself a regulated financial institution with robust legal, financial and technical capacity, in accordance with EU prudential (or equivalent) regulation? Does it strictly limit any risks associated with non-settlement activities? If settlement is offered in both central and commercial bank money, is the choice to use commercial bank money left to the sole discretion of the participant? When central bank money is not used, what risk measures have been put in place by the CSD acting as cash settlement agent to protect participants from potential losses or liquidity pressures?

3. Are EU-settlement banks regulated financial institutions with robust legal, financial and technical capacity, in accordance with EU prudential (or equivalent) regulation? Are non-EU settlement banks subject to prudential supervision by government authorities equivalent to EU banking requirements? Who determines which institutions can be active as settlement banks? What are the criteria? If multiple settlement banks can be used in principle, how many are used in practice? How concentrated are payment flows? On an average day, what percentage of total payments is credited to accounts at the institution that accounts for the largest share of payment flows? What is the financial condition of that institution (for example, its capital ratios and its credit ratings)? Are the concentration of exposures and the financial condition of the settlement banks monitored and evaluated? If so, by whom?

4. How quickly can recipients use the proceeds of securities settlements – on the same day? Intraday?

5. Does the payment system used for interbank transfers among settlement banks observe the CPSIPS?

E 2 Assignment of an assessment category

1. Observed
    a. For transactions denominated in the currency of the country where the settlement takes place, the CSD settles the cash payments in central bank money. If the central bank acting as settlement agent is not the central bank of issue, steps are taken to ensure that the settlement asset poses little or no credit or liquidity risk to CSD members. (Q1)
    b. And/or: If a non-central bank is used as the settlement agent for any currency, steps are taken to protect CSD members from potential losses and liquidity pressures that would arise from its failure. If settlement is offered in both central and commercial bank money, the choice between settling in central and commercial bank money is at the sole discretion of participants. The risk management and mitigation measures put in place by the settlement agent are adequate [and in accordance with the credit and liquidity risk mitigation approaches set out in Recommendation 9.]. The settlement agent is a regulated financial institution with robust legal, financial and technical capacity in accordance with EU prudential (or equivalent) regulation. In case the CSD is acting as settlement agent risk measures are taken to protect participants from potential losses or liquidity pressures(Q2)
    c. The settlement bank is a regulated financial institution with robust legal, financial and technical capacity in accordance with EU prudential (or equivalent) regulation. The concentration of positions is monitored. (Q3)
    d. The proceeds of securities settlements are available for recipients to use on an intraday basis. (Q4)
    e. The payment system used for interbank transfers among settlement banks substantially observes the CPSIPS. Any deviations from full observance of those principles do not cause any material credit or liquidity risks for CSD participants. (Q5)

2. Broadly observed
    a. 1a and/or 1b , 1c (if applicable), and 1d are satisfied. (Q1, 2, 3 and 4)
    b. The payment system used for interbank transfers among settlement banks observes most of the CPSIPS. The deviations from full observance of those principles may cause a limited, but not significant, amount of credit or liquidity risk for CSD participants. (Q5)

3. Partly observed
    a. 1a and/or 1b, and 1c (if applicable) are satisfied. (Q1, 2 and 3)
    b. 1d is not satisfied. (Q4)
    c. Or the payment system used for interbank transfers among settlement banks does not observe some of the CPSIPS, with the result that there could be potentially significant credit or liquidity risks for CSD participants. (Q5)

4. Non-observed
    b. 1a and/or 1b, or 1c (if applicable), are not satisfied. (Q1, 2 and 3)

E 3 Explanatory notes

1. If the settlement asset is a claim of a central bank other than the central bank of issue, procedures should be in place to strictly limit the risk that a participant's holdings of the foreign currency might not be readily convertible into claims on the central bank of issue.

2. 1c and 1e should be satisfied when there is a tiered settlement system with multiple settlement banks. If the use of only a few financial institutions for settlement produces a significant concentration of exposures, those exposures should be monitored and the financial condition of the settlement financial institutions evaluated either by the operator of the CSD, and by regulators and overseers. Assessors should identify which Core Principles are not observed. If not observed, assessors should be convinced that the deviations do not expose market participants to significant credit or liquidity risk.

3. Issues concerning access are addressed in Recommendation 14. Issues concerning transparency are covered in Recommendation 17. The implications for cash settlement assets of transactions settled via links between CSDs are addressed in Recommendation 19.

RSS 11 (OPERATIONAL RISK)

E 1 Key questions

1. Does the operator of the securities settlement system regularly identify, monitor, assess and minimise the sources of operational risk in settlement activities and related functions/services?

2. Are operational risk policies and procedures clearly defined? How frequently are they reviewed, updated and tested? Are there well-defined, transparent and consistent lines of responsibility for

operational risk? What are the governance bodies, and what are the relevant senior management responsibilities with regard to the oversight of operational risk mitigation policies? Are there sufficient personnel (who are suitably well-qualified) to ensure that procedures are implemented accordingly? Are systems and related functions subject to periodic independent (internal or external) audit?

3. Does the system operator have contingency plans and disaster recovery plans? Do these ensure that the system is able to resume business activities as soon as possible after the disruption occurs? How long does this take? Does the system operator have a second processing site? Where is it located? When does business resumption occur after a disruption to the primary site? Do contingency plans provide for the recovery of all transactions at the time of the disruption to allow the system to continue to operate with certainty? In particular, does the system allow transactions that have been entered into the system before the disruption occurred to be carried out? Does the contingency plan include a definition of the core activities that should be resumed immediately after the restart of the activities and that need to be completed by the end of the business day, and other activities which completion can be postponed? Do the procedures provide for the preservation of all transaction data? How does the system operator ensure the integrity of messages? Have Service Level Agreements been implemented? Have critical functions been identified and processes within those functions categorised according to their criticality? Does the system have in place accurate and clear information flows within the institution in order to establish and maintain an effective operational risk management framework? Does the system have adequate crisis management structures, including formal procedures and identified personnel; alternative means of communication and contact lists (both at local and cross-border level)? Have these procedures been developed with other relevant institutions (e.g. telecommunications, regulators/overseers, etc.).

4. How many times has a key system failed in the last year? What is the most common cause of failure? How long did it take to resume processing? How many transaction data, if any, were lost? Does the system operator have capacity plans for key systems, and are key systems tested periodically to determine whether they can handle stress volume?

5. Has the system outsourced any clearing and settlement operations or functions to third parties? Does the system have the approval of the relevant competent authorities if this is required by the applicable regulatory regime? If not, have the relevant competent authorities been notified in advance? Does the outsourcing entity remain answerable to the relevant competent authorities, and does it remain responsible for ensuring that the external providers meet the relevant Recommendations? Is there a formal, written and comprehensive contract in place between the outsourcing entity and outsourcee? Do the relevant competent authorities have the power to cancel the agreement if the exercise or enforcement of their rights is not possible? Are appropriate change

management procedures in place giving the outsourcing authority the power to require, control and approve changes to the outsourced services?

E 2 Assignment of an assessment category

1. Observed
    a. System operators regularly identify, monitor, assess and minimise the sources of operational risk in clearing and settlement activities and related functions/services. (Q1)
    b. Operational risk policies and procedures are clearly defined, frequently reviewed and updated and tested to remain current. The responsibilities of the relevant governance bodies and senior management are clearly established, and there are sufficient (and suitably well-qualified) personnel to ensure that procedures are implemented accordingly. Information systems are subject to periodic independent audit. (Q2)
    c. There are business continuity plans and disaster recovery plans which ensure that the system is able to resume business activities, with a reasonable degree of certainty, a high level of integrity and sufficient capacity as soon as possible after the disruption, and they are tested on a regular basis. Adequate crisis management structures are established. (Q3)
    d. There are few system failures, and all key systems are able to handle stress volume. (Q4)
    e. When the system operators have outsourced clearing and settlement operations or functions to third parties, if required, the relevant competent authorities have approved it, or, if not required, they have been informed. (Q5)

2. Broadly observed
    a. 1a, 1b 1c and 1e are satisfied. (Q1, 2, 3 and 5)
    b. However, more than a few system failures occur, though recovery of operations is adequate. (Q4)

3. Partly observed
    a. 1a and 1b are satisfied. (Q1 and 2)
    b. However, occasional system failures occur and difficulties in recovery of operations indicate that contingency plans or backup facilities need to be upgraded. (Q3 and 4)
    c. Or 1e is not satisfied. (Q5)

4. Non-observed
    a. Sources of operational risks are not identified or operational risk policies and procedures are not defined. (Q1 and 2)
    b. Or there are frequent system failures, and contingency plans and backup facilities are not appropriate. (Q2 and 4)

E 3 Explanatory notes

1. Principle VII of the Core Principles for Systemically Important Payment Systems (pp. 10, 39-43) provides additional details on operational issues, many of which are relevant to SSSs. Article 22 of the Capital Requirements Directive (CRD) also provides details of governance arrangements relating to operational risk which may be relevant to many SSSs.

2. System operators should take all reasonable measures aimed at recovering business under plausible scenario conditions no later than two hours after the occurrence of a disruption. Business should be resumed as soon as possible, and no later than the end of the day. If system operators are not able to meet this target of two hours, they should explain why to regulators when they are assessing compliance with this Recommendation.

3. "Recover" refers to the activities that were started before the disruption occurs. "Resume" refers to the undertaking of new activities in normal operating circumstances. The point at which the "two hours recover" timing objective commences depends on the scenario; however, in principle this should begin immediately after the disruption is detected.

4. System operators which outsource operations should ensure that those operations meet the same Recommendations as if they were provided directly. 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 in both ordinary and exceptional circumstances. The term "relevant competent authorities" refers to the authorities of the jurisdictions where both the outsourcing and insourcing entities are located.

RSS 12 (PROTECTION OF CUSTOMERS' SECURITIES)

E 1 Key questions

1. (i) What arrangements are used to protect customer securities from theft, loss or misuse and to ensure that they will not become subject to claims of the creditors of the entity holding securities (for example: are segregation, insurance or compensation schemes used)? Are those arrangements based upon specific laws and regulations? In the event of the insolvency of the entity holding securities, do those arrangements enable a customer's positions to be moved by a receiver to a solvent intermediary?

(ii) Do entities holding securities in custody employ robust accounting procedures including double-entry accounting?
(iii) Do the accounting procedures, including the records maintained by intermediaries, enable the identification of the customer's holding of securities at any time and without delay?

2. How often do the entities holding securities in custody reconcile their records (e.g. with the issuer CSD, the investor CSD or a custodian bank, depending on the tiering of the custody chain) ?

3. Does the legal framework support the segregation of the customer's assets or other arrangements for protecting customer securities in order to ensure that these securities are kept immune from any claims made by creditors of the entity holding securities in custody or by entities upstream in the custodial chain?

4. Do entities holding securities in custody audit their books on a regular basis to certify that their clients' individual securities holdings correspond to the global clients' positions that the entities have in custody with issuer CSDs, investor CSDs and custodians? Do such entities submit audit reports to supervisory and oversight authorities upon request? Are the entities holding securities in custody subject to mandatory internal or external audits, or both, to determine if there are sufficient securities to satisfy customer claims?

5. What arrangements are used to protect a customer from entities holding securities in custody using the customer's securities for any transaction unless they have obtained the customer's explicit consent?

6. Do entities holding securities in custody have procedures that prohibit debit balances or securities creation?

7. Does an entity with which the customer holds the securities make sure that adequate procedures for its customers' protection are in place, also when securities are held through several intermediaries? Are these procedures, where relevant, applicable to all upstream intermediaries? Are the customers informed accordingly? Is the clients' explicit consent obtained prior to the use of their assets in such activities?

8. Are the entities holding securities in custody subject to prudential supervision and regulation? Do regulatory reviews examine the procedures and internal controls used in the safekeeping of securities?

E 2 Assignment of an assessment category

1. Observed
    a. Segregation or if allowed an equivalent robust system which protect customers' securities; these arrangements are supported by the legal framework. The accounting procedures are robust and include double-entry accounting. The accounting procedures enable the identification of the customers' holding of securities at any time and without delay. (Q1)
    b. The entities holding securities in custody reconcile their records regularly, and at least once a day with the entity administering the ultimate record of holding. (Q2)
    c. The legal framework or other arrangements support segregation of the customer's assets in order to protect customer securities. (Q3)
    d. Books are audited on a regular basis to certify that clients' individual securities holdings correspond to the global clients' positions registered in the CSD's, registrar's or depository's books. Audit reports are submitted to supervisory and oversight authorities upon request. (Q4).
    e. Arrangements protect a customer from entities holding securities in custody using the customer's securities for any transaction unless the customer's explicit consent is obtained. (Q5)
    f. There are procedures that prohibit debit balances or securities creation. (Q6)
    g. Adequate procedures for customers' protection are in place, and where relevant, applicable to all upstream intermediaries. Customers are informed accordingly. (Q7)
    h. All the entities holding securities in custody are supervised and regulated. (Q8)

2. Broadly observed
    a. 1a to 1g are satisfied. (Q1-7)
    b. 95% or more of securities (by value) are held by entities which are supervised and regulated (Q8), or there have been instances of securities used without the explicit consent of their owners. (Q5)

3. Partly observed
    a. 1a, 1c to 1g are satisfied. (Q1, Q3-7)
    b. Entities holding securities in custody reconcile their records, but not as frequently as trading volume demands. (Q2)
    c. Or there have been instances of securities used without the explicit consent of their owners. (Q5)
    d. Or entities holding 90% or more of securities (by value) in custody are supervised and regulated. (Q8)

4. Non-observed
    a. 1a is not satisfied. (Q1)
    b. Or entities holding securities in custody do not reconcile their records. (Q2)
    c. Or entities holding more than 10% of securities (by value) are not supervised or regulated. (Q8)

E 3 Explanatory notes

1. Any procedure that gives the recipient of securities or a third party the impression of unconditional delivery of securities when that is not the case, or any procedure that allows unconditional retransfer or reuse of conditionally delivered securities, is considered to be the artificial creation of securities, whether or not the procedure is intentional or accidental.
2. It is acknowledged that reconciliation with the ultimate record of holdings is not always possible; in such cases, reconciliation should be made by each entity holding securities with the next layer in the custody chain. This ensures reconciliation along the whole chain with the ultimate records (because in case of disagreement among two entities, it is the entity administering the ultimate records that prevails, and all the other intermediaries along the chain must correct their records).

RSS 13 (GOVERNANCE)

E 1 Key questions

1. What are the governance arrangements of the CSD? What information is publicly available regarding the system, its ownership and its Board and management structure, and the process by which major decisions are taken and management made accountable?

2. Are the system's public interest, financial and other objectives clearly articulated and public? What are they? Do the system's objectives reflect the needs of relevant market participants as well as owners? How is the public interest taken into account? Can the system's participants or the public influence the system's decision-making process? How are major decisions communicated to owners and relevant market participants?

3. What steps are taken to ensure that management has the incentives and skills needed to achieve the system's objectives and is accountable for its performance?

4. How is the composition of the Board determined? What steps are taken to ensure that board members have the necessary skills, and represent or take into account in their deliberations the full range of shareholder and user interests as well as the public interest? Does the Board of the CSD,

or in a group structure, the board of the parent company, include independent members? If yes, how many independent members are currently on the Board and how are they usually appointed?

5. Do the governance arrangements enable the identification of possible conflicts of interest? Are the categories of conflicts of interest peculiar to the CSD described and what are they? Once a conflict of interest has been identified, what kind of resolution procedure is to be applied? Has that procedure been already used, in what circumstances, and has it proven efficient?

6. When appropriate: Is there a clear separation between the reporting line to the Board for credit risk management subjects and those for other operations? Does the Board include a risk committee that reports to the Board? Is the credit risk management process featured to earmark any large individual exposure or group of such exposures inducing possible conflicts of interest? How is the Board informed of the record of any credit exposure that is inducing conflicts of interest? Once the Board has been informed, who is in charge of initiating the resolution procedure mentioned above in key question 5? Does the Board, or any other appropriate decision-making level of the entity, approve the limits on the total credit exposure and on any large individual exposure?

E 2 Assignment of an Assessment Category

1. Observed
    a. Governance arrangements are clearly specified and information about them is publicly available. (Q1)
    b. Objectives and major decisions are disclosed to owners, relevant market participants and relevant public authorities. (Q2)
    c. Management has the incentives and skills needed to achieve objectives and is fully accountable for its performance. (Q3)
    d. The Board contains suitable expertise and takes account of all relevant interests. (Q4)
    e. Possible conflicts of interest are clearly identified and efficient resolution procedures are applicable. (Q5)
    f. When appropriate, the Board, or any other appropriate decision-making level of the entity, is informed of any subject related to credit risk management through a dedicated reporting line, and approves the limits on the total credit exposure and on any large individual exposure. The credit risk management process promptly and effectively takes into account the risk of conflicts of interest when limits to credit risk exposures (as a whole or on an individual basis) have to be set. (Q6)

2. Broadly observed
    a. 1a, 1b, 1c and 1d are satisfied. (Q1, 2, 3 and 4) When appropriate, 1f is observed. (Q6)

However, 1e is not satisfied. (Q5)

3. Partly observed
    a. 1a and 1b are satisfied. (Q1 and 2)

    However, neither 1c, 1d, 1e or 1f is satisfied. (Q3, 4, 5 and 6)

4. Non-observed

    1a or 1b is not satisfied. (Q1 and 2)

RSS 14 (ACCESS)

E 1 Key questions

1. What are the access criteria for the system? Are access rules/criteria objective, communicated to the relevant authorities and clearly disclosed to all potential applicants? In the event of refusal of access, does the CSD justifies the denial decision to the applicant in writing?

2. Are the same rules applied regardless of the identity, type and location of the applicant? If not, what variations apply and why? Is the fee structure discriminatory according to the location of the participants and their type of activity? Can discretionary treatment with regard to fees be justified by factors such as dedicated technical support or by the number of transactions (e.g. a degressive fee structure)? Can differing restrictions on access to the system be justified in terms of the need to limit risks, to ensure satisfactory technical expertise and legal powers to perform the activity, to ensure that the system operator or other users have adequate financial resources, and to counter money laundering or otherwise by EU law? Provided that Recommendation 19 is applied, is access to other CSDs allowed?

3. Under what conditions can participants terminate their membership? What arrangements does the system have in place to facilitate the exit of members which no longer meet the participation requirements? In the event of a participant failure, is there an effective procedure which is designed to smoothly transfer the safekeeping of investors' assets to another participant? Is there an explicit and compulsory suspension procedure? Are these arrangements publicly disclosed?

E 2 Assignment of an assessment category

1. Observed
    a. Criteria are objective, clearly stated, communicated to the relevant authorities and publicly disclosed. Access refusal is duly justified in writing to the applicant. (Q1)
    b. Criteria that limit access to the CSD on grounds other than risks or as set out in EU law are avoided. (Q2)

c. Procedures facilitating the orderly exit of participants or suspending the operations conducted by participants are clearly stated and publicly disclosed. (Q3)

2. Broadly observed
    a. 1a and 1b are satisfied. (Q1 and 2)
    b. However, 1c is not satisfied. (Q3)

3. Partly observed
    a. 1a is satisfied. (Q1)
    b. However, 1b is only partly satisfied. (Q2)

4. Non-observed
    a. 1a or 1b is not satisfied. (Q1)

RSS 15 (EFFICIENCY)

E 1 Key questions

1. Does the CSD have in place procedures to control costs (for example, by benchmarking its costs and charges against other systems that provide a similar service and by analysing the reasons for significant differences)? Does the CSD have in place procedures to review regularly pricing levels against operating costs?

2. Does the CSD regularly review its service levels and quality, including regularly surveys of its users? Does the CSD have in place procedures to review regularly operational reliability, including assessment of its capacity levels against projected demand? What outcomes has this review had: have they led the CSD to take measures to improve the level of service?

E 2 Assignment of an assessment category

1. Observed
    a. The CSD has in place various procedures to review effectively and regularly pricing and cost, and do so regularly (Q1).
    b. And the CSD regularly reviews its operational reliability (including adequate capacity) and service levels, including regularly surveys of its users. (Q2)

2. Broadly observed
    a. Either 1a or 1b is satisfied. (Q1, Q2)

3. Partly observed
    a. The CSD has procedures to review capacity, pricing, costs and services but do not *regularly* review them. (Q1, Q2)

4. Non-observed
    a. The CSD does not have in place procedures to review capacity, pricing and costs, nor does it have procedures to review service levels. (Q1-Q2)

E 3 Explanatory notes

1. Efficiency in systems is very difficult to assess. Assessors should talk to as many market participants as possible about their views on the system's efficiency and on whether the system meets the needs of its users.

RSS 16 (COMMUNICATION PROCEDURES, MESSAGING STANDARDS AND STRAIGHT THROUGH PROCESSING)

E 1 Key questions

1. Do entities providing securities clearing and settlement services and participants in their systems apply international communication procedures and standards as well as relevant recommendations relating to securities messages, securities identification processes and counterparty identification when implementing new system facilities and upgrading existing systems? Insofar as such standards are presently not applied, does the market have a timetable consisting of relevant targets and deadlines for their adoption in a way that balances the costs and benefits?

2. Are service providers working towards implementing STP in a manner that is consistent with efforts to achieve greater interoperability between systems, so that market participants can move swiftly and easily from one system to another?

E 2 Assignment of an assessment category

1. Observed
    a. The entities providing clearing and settlement services and participants in their systems apply international communication procedures and standards as well as relevant recommendations relating to securities messages, securities identification processes and counterparty identification when implementing new system facilities and upgrading

existing systems, or, insofar as such standards are presently not applied, the market has a timetable consisting of relevant targets and deadlines for their adoption in a way that balances the costs and benefits and the timetable is observed (Q1), or

service providers which do not adopt these international procedures and standards have adopted alternative measures allowing them to become an integral part of the European securities infrastructure (e.g. setting up efficient translation or conversion mechanisms). (Q1)

b. Service providers are working towards implementing STP in a manner that is consistent with efforts to achieve greater interoperability between systems, so that market participants can move swiftly and easily from one system to another. (Q2)

2. Broadly observed
    a. is broadly observed, but there is some residual difficulty (e.g. international standards are not yet fully applied, or the timetable for their adoption is observed with some difficulty, or the alternative measures do not allow integration into the European securities infrastructure). (Q1)
    b. Service providers are working towards implementing STP in a manner that is consistent with efforts to achieve greater interoperability between systems, but market participants cannot move swiftly and easily from one system to another. (Q2)

3. Partly observed
    a. is observed with difficulty. (Q1)
    b. is only partly observed or there are difficulties. (Q2)

4. Non-observed
    a. is not observed. (Q1)
    b. is not observed. (Q2)

E 3 Explanatory notes

1. Countries establishing or fundamentally reforming their securities settlement system should consider the benefits against the costs and draw up a timetable consisting of relevant targets and deadlines for the adoption of international procedures and standards as well as STP. This timetable should be observed.

RSS 17 (TRANSPARENCY)

E 1 Key questions

1. Does the CSD make clear disclosures to market participants about its rules, regulations, relevant laws, governance procedures, its services offered, any risks, risks arising either to participants or to the operator, any steps taken to mitigate those risks, its balance sheet data, main statistics and prices/fees associated with securities clearing and settlement services? Has the CSD completed and disclosed the questionnaire set out in the CPSS/IOSCO Disclosure Framework?

2. Have the CSD publicly and clearly disclosed their risk exposure policy and risk management methodology? Is the level of disclosure of risk control measures based on the concept of materiality?

3. How is this information made available? In what language or languages? In what formats?

4. What steps are taken by the CSD to ensure that the disclosures are complete and accurate? Are there regular reviews to ensure they remain current?

E 2 Assignment of an assessment category

1. Observed
    a. Market participants are provided with a full and clear description of the CSD's rules, regulations, relevant laws, governance procedures, services offered, any risks arising either to participants or to the operator, any steps taken to mitigate those risks, balance sheet data, main statistics and the prices/fees associated with securities clearing and settlement services.. (Q1)
    b. The CSD has publicly and clearly disclosed their risk exposure policy and risk management methodology. The level of disclosure of risk control measures is based on the concept of materiality. (Q2)
    c. Information is easily accessible, for example via the internet, and not restricted to the system's participants. Information is available in a language commonly used in the international financial markets as well as in at least one of the domestic languages[69]. (Q3)
    d. The accuracy and completeness of disclosures are regularly reviewed at least once a year by the CSD. Information is updated on a regular basis. (Q4)

2. Broadly observed
    a. 1a and 1b are satisfied. (Q1and 2)
    b. However, 1c or 1d are not satisfied. (Q3 and 4)

[69] If required in the respective domestic market

3. Partly observed
    a. 1a is satisfied. (Q1)
    b. However, 1b is not satisfied. (Q2)

4. Non-observed
    a. 1a is not satisfied. (Q1)

RSS 18 (REGULATION, SUPERVISION AND OVERSIGHT)

E 1 Key questions

1. Are CSDs subject to transparent, effective and consistent regulation/supervision/oversight?

2. Are the responsibilities of the competent authorities clearly defined? Are their roles and major policy publicly disclosed? Have the authorities that may claim special interest been clearly identified and notified to the concerned CSD? Are they written in plain language so that they can be fully understood by the designers, operators and participants of securities settlement systems, and other relevant parties?

3. Are there different forms of cooperation in place amongst relevant authorities, both nationally and across borders in order to ensure consistent implementation of the Recommendations?

4. Do the relevant authorities have the competence and the resources to carry out regulation, supervision and oversight policies effectively? Have the relevant authorities experienced limitations in accessing the information and data deemed necessary to exercise their tasks?

5. Do the relevant authorities cooperate with each other both nationally and cross-border, in order to ensure that each relevant authority is able to discharge its respective duty? Are memoranda of understanding in place to facilitate the assessment of groups holding various CSDs? Are memoranda of understanding in place to facilitate the assessment of systems providing services across borders without group structures? Are there any unresolved differences in the assessment of the home country authorities and that of other authorities that may claim a special interest? Do relevant authorities have contact channels and processes in place to ensure continuity of communication?

E 2 Assignment of an assessment category

1. Observed
    a. The system is subject to effective regulation, supervision and oversight. (Q1)

b. The responsibilities as well as roles and major policies of the securities regulator and the central banks (including the list of the authorities that may claim a special interest) are clearly defined and publicly disclosed. (Q2)
c. Different forms of cooperation exist to cater for consistent implementation of the Recommendations (Q3)
d. The securities regulators and the central bank have the ability and the resources to carry out regulation, supervision and oversight policies effectively. (Q4)
e. Securities regulators and central banks cooperate effectively with each other and with other relevant authorities. Relevant authorities' cooperation arrangements have ensured that entities providing securities clearing and settlement services provide the information and data deemed necessary to the relevant authorities to exercise their tasks. (Q5)

2. Broadly observed
    a. 1a, 1b and 1e are satisfied. (Q1, 2 and 5)
    b. However, there are unresolved differences in the assessment of the home country authorities and that of other authorities that may claim a special interest. (Q4)

3. Partly observed
    a. 1a, 1b are satisfied. (Q1 and 2)
    b. However, 1c or 1e is not satisfied. (Q3 and 5)
    c. Or the home country authorities have not consulted with other authorities that may claim a special interest. (Q4)

4. Non-observed
    a. 1a is not satisfied. (Q1)
    b. Or 1b and 1c are not satisfied. (Q2 and 3)
    c. Or the home country authorities have not set up effective cooperation and communication arrangements with other relevant authorities.

E 3 Explanatory notes

The notion of "relevant authorities" refers to all these institutions, each acting within its own remit. The responsibilities as well as the roles and major policies of the relevant authorities should be clearly defined and publicly disclosed.

RSS 19 (RISKS IN CROSS SYSTEM LINKS OR INTEROPEABLE SYSTEMS)

E 1 Key questions

1. What kinds of links are in operation (see explanatory note)? Has the CSD implemented relayed links? Has the CSD conducted a risk analysis covering the legal, contractual, financial and operational elements of the design of the link and the financial and operational integrity of the linked CSD? What is the methodology used? Was this analysis conducted when the link was established, and has it been updated since, especially after any modifications to the design of the link? Are applicable laws and risks for the participants that stem from the links clear and transparent? What is the impact for the participants of the relayed links in terms of risks and efficiency, and does it increase the risk and reduce the efficiency of the whole cross-system settlement?

2. How is DVP achieved? Is the finality of settlement provided on a real-time basis or at least through several batches a day? Does the link permit provisional transfers of securities across the link? If so, is the retransfer of these securities prohibited until the first transfer is final?

3. If the CSD extends credit to a linked CSD, are credit extensions to the linked CSD fully secured and subject to limits? Are risk controls and liquidity resources adequate to address liquidity risks posed by the link?

E 2 Assignment of an assessment category

1. Observed
    a. A risk analysis covering the legal, contractual, financial and operational elements of the design of the link is undertaken and regularly updated, and adequate measures are taken to minimise risks. If a relayed link is arranged, it does not provide additional risks and neither does it reduce efficiency. (Q1)
    b. The link achieves DVP and provisional transfers across the link are prohibited or, as a minimum, their retransfer is prohibited until the first transfer is final. Finality is provided on a real-time basis or at least through several batches a day. (Q2)
    c. Credit extensions between CSDs are fully secured and adequate liquidity management arrangements are implemented. (Q3)

2. Broadly observed
    a. 1a and 1b are satisfied. (Q1 and 2)
    b. Credit extensions to the linked CSD are fully secured, but liquidity management arrangements are not adequate. (Q3)

3. Partly observed

a. 1a and 1b are satisfied. (Q1 and 2)
b. 1c is not satisfied. (Q3)

4. Non-observed
   a. 1a or 1b is not satisfied. (Q1 and 2)

5. Not applicable
   There is no link.

E 3 Explanatory notes

1. Legal risk and custody risk of cross-system links are covered in Recommendations 1 and 12, respectively. The rules of each CSD and the terms of any associated contracts should be supported by the legal framework, including insolvency law, in each jurisdiction in which the linked CSDs operate. However, the legal issues specifically related to the cross-system links should also be assessed according to Recommendation 19. Issues associated with the protection of customer securities should be addressed in the design and operation of links to settle cross-system transactions, particularly the need to reconcile holdings to determine that they are accurate and current.

2. CSDs may perform different sets of functions including the provision of depository, credit, securities lending, collateral management, custodian and settlement services. CSDs may also provide these functions through links, and the choice of functions determines the design of the link, as does the structure of the CSDs themselves and the legal framework applicable in the respective jurisdictions.

3. Issues raised in cross-system links may also be relevant for some linked systems within a jurisdiction.

4. In addition to the categorization mentioned in the Explanatory Memorandum one can distinguish among three different types of links:
   a. Direct links – Direct links occur where a CSD opens an account with another CSD. The report distinguishes between links that are reciprocal (i.e. permit participants in either system to settle in the other system) and links that permit settlement only in one direction.
   b. Indirect links – Indirect links are established when a CSD uses the securities held in another CSD via an intermediary (a custodian bank, for example) that has an account in that CSD. This intermediary acts as a depository on behalf of the first CSD.
   c. Relayed links – A relayed link is a set of legal and operational arrangements for the transfer of securities involving three CSDs – the investor CSD, the issuer CSD and the

middle CSD. Transactions take place between participants in the issuer CSD and in the investor CSD. Although the issuer CSD and the investor CSD are not bilaterally directly linked (that is, they have not established an (in)direct link between themselves and do not hold accounts with each other), a third CSD, the middle CSD, acts as an intermediary for the transaction.

All these links may allow both DVP and free-of-payment settlement. Links are further distinguished on the basis of settlement of the cash side of transactions.

5. This Recommendation does not apply to links that are used solely to settle trades between participants in the same CSD, because the risks that such trades pose are covered in other Recommendations.

6. With regard to indirect links, the authority overseeing the investor CSD should be in charge of conducting the assessment.

7. DVP may be optional for links that process a very limited volume of transactions against cash, subject to the assessment of the concerned authorities.

ASSESSMENT METHODOLOGY FOR CCPs

RCCP 1 (LEGAL RISK)

E 1 Key questions

1. Are the laws and regulations governing the operation of a CCP and the rules, procedures, and contractual provisions for its participants, clearly stated, internally coherent, and readily accessible to participants and the public for all cleared products?

2. Does the legal framework demonstrate a high degree of assurance that there is a clear and effective legal basis for:
   - The CCP to act as counterparty, including the legal basis for novation, open offer or any other legal concept in relation to all cleared products.
   - The timing of assumption of liability as CCP.
   - Netting arrangements, accelearation and termination of outstanding obligations.
   - The CCP's interest in collateral (including margin) that a participant pledges or transfers to the CCP and prevents the defeat of such interest by the participant or a third party.
   - Default procedures.
   - Finality of transfers of funds and financial instruments.
   - Other significant aspects of the CCP's operations, risk management procedures and related rules vis-à-vis all participants including – if applicable – assets provided by non clearing participants.

3. Are the rules, procedures, and contracts of the CCP enforceable when a CCP participant, a linked CCP or an interoperable CCP or a participant in a linked or interoperable CCP defaults or becomes insolvent? Is there a high degree of assurance that actions taken under such rules and procedures may not later be stayed, avoided or reversed?

4. Is there a significant level of cross-border participation in the CCP? Has the CCP determined whether there are other jurisdictions relevant for determining the adequacy of the legal framework? Has the legal framework been evaluated for the other relevant jurisdictions? Do laws and rules support the design of any cross-border arrangement and provide adequate protection to both CCPs in the operation of the arrangement? Are there conflicts of law issues and, if so, have they been addressed? Have cross-border collateral arrangements been evaluated? Do linked or interoperable CCPs identify, disclose and address any additional legal risks?

5. Does national law allow for the CCP to be designated according to the Settlement Finality Directive? If so, have the relevant authorities actually designated the CCP?

6. **How many jurisdictions govern the proprietary and the contractual aspects of a CCP? Are the applicable laws identical to the law governing the CCP?**

E 2 Assignment of an assessment category

1. Observed
    a. The laws and regulations governing the operation of the CCP and the CCP's rules, procedures, and contractual provisions for its participants, are clearly stated, internally coherent, and readily accessible to participants and the public. (Q1)
    b. The legal framework demonstrates a high degree of assurance that there is a clear and effective legal basis for all of the CCP's operations and risk management procedures. (Q2)
    c. The rules, procedures, and contracts of the CCP are enforceable even in the case of the insolvency of a CCP participant, of a linked CCP or of an interoperable CCP and there is a high degree of assurance that actions taken under such rules and procedures may not later be stayed, avoided or reversed. (Q3)
    d. The CCP has identified the relevant jurisdictions in which it has cross-border arrangements and has taken steps to address conflict of laws issues; or it is not necessary to address conflict of laws issues in assessing risks because cross-border participation is insignificant. (Q4)
    e. Where applicable the CCP has been designated according to the Settlement Finality Directive. (Q5)

2. Broadly observed
    a. 1(a), 1(b), 1(c) and 1(e) are satisfied with only minor exceptions that do not risk undermining the safety and effectiveness of the CCP. (Q1, Q2, Q3, and Q5)
    b. 1(d) is not satisfied (Q4).

3. Partly observed
    a. 1 (a) and (e) are fulfilled with minor exceptions but the general safety and soundness of the CCP is maintained. (Q 1, Q 5).
    b. 1(b) is partly satisfied. The legal framework does not demonstrate a high degree of legal assurance for some aspects of the CCP´s operations that while important and posing some risks do not jeopardize the overall safety and soundness of the CCP. (Q2)
    c. Or 1c is partly satisfied. There are some limited cases where rules and contractual arrangements may not be fully enforceable in the event of the insolvency or bankruptcy of

a system participant, of a linked CCP or of an interoperable CCP but the CCP´s actions cannot be stayed, avoided or reversed. (Q3)

4. Non-observed
    a. Aspects of the CCP's operations or risk management procedures are not supported by the legal framework and this poses risks to the overall safety and soundness of the CCP. (Q2)
    b. Or: there is no demonstrated assurance that the rules and contracts are enforceable in the event of the default or insolvency of a CCP participant, of a linked CCP or of an interoperable CCP or the CCP's actions can be stayed, avoided or reversed. (Q3)

E 3 Explanatory note

1. In addition to supporting the core CCP activities discussed in this section, a well-developed legal framework should have a well-defined system of property, contract, securities, trust, bankruptcy, and tax laws. Also, the legal framework must permit relatively speedy access to the court (and, if applicable, arbitration) systems, must produce final judgments, and must provide a relatively convenient mechanism to enforce judgments.

2. In assessing legal risk, the phrase "high degree of assurance" is used frequently. This is because statutes and rules are often untested in court, and so CCPs and participants often rely on opinions of legal counsel as to the likely outcome of possible challenges to the scope and enforceability of such provisions. Clearly, a "high degree of assurance" can be demonstrated by an actual insolvency situation in which statutes and rules proved to be sound.

RCCP 2 (PARTICIPATION REQUIREMENTS)

E 1 Key questions

1. Does the CCP establish requirements for participants' financial resources and creditworthiness? If so, how? What factors are considered (for example, size, clearing for indirect participants, products cleared)? Does the CCP assess participants' operational capability? If so, how? What factors are considered (for example, sufficient level of relevant expertise, necessary legal powers and business practices, arrangements to meet payment obligations, risk management policies, staffing, internal audit of risk controls and IT systems)? Does a CCP establish requirements for clearing members to participate in default management processes of OTC derivatives to ensure timely resolution of a large and complex portfolio?

2. Does the CCP monitor that participation requirements are met on an ongoing basis? If so, how? Through access to regulatory reports or directly? Are reports sufficiently timely to be useful for monitoring purposes? Under what conditions can the CCP suspend and terminate participants' membership? What arrangements does the CCP have in place to facilitate the suspension and orderly exit of participants that no longer meet the participation requirements?

3. Are participation requirements objective and do they permit fair and open access? Do they limit access on grounds other than risks as set out in EU law? In the event of refusal of access, does a CCP explain in writing the denial of access? Are participation requirements, including arrangements for orderly exit of participants, clearly stated, and publicly disclosed?

E 2 Assignment of an assessment category

1. Observed
    a. To ensure timely performance by participants, the CCP establishes requirements for participation to ensure that participants have sufficient financial resources and robust operational capacity. (Q1)
    b. The CCP has procedures in place to monitor that participation requirements are met on an ongoing basis. (Q2)
    c. (i) Participation requirements are objective, permitting fair and open access, and requirements that limit access on grounds other than risks or as set out in EU law are avoided; a denial of access is explained in writing, and (ii) participation requirements and procedures facilitating the orderly exit of participants are clearly stated and publicly disclosed. (Q3)

2. Broadly observed
    a. 1(a) and 1(b) are satisfied. (Q1, 2)
    b. 1(c) (i) is satisfied but 1(c) (ii) is not fully satisfied. Some requirements are not available to the public. (Q3)

3. Partly observed
    a. 1(a) and 1(b) are satisfied (Q1, 2); but 1(c) is not satisfied. (Q3)
    b. Or: 1(b) and 1(c) are satisfied (Q2, 3); but 1(a) is not fully satisfied as there are some weaknesses in participation requirements with respect to participants' financial and operational capacity. (Q1)

4. Non-observed
    a. 1(a) is not satisfied. (Q1)

b. Or: 1(b) is not satisfied. (Q2)

RCCP 3 (MEASUREMENT AND MANAGEMENT OF CREDIT EXPOSURES)

E 1 Key questions

1. How frequently does the CCP measure its exposures to its participants? Does the CCP have the capacity to measure exposures intra-day? How timely is the information on prices and positions that is used in these calculations?

2. How does the CCP limit its exposures to potential losses from defaults by its participants? Does the CCP use margin requirements and other risk control mechanisms in a way which ensures that closing out any participant's positions would not disrupt the operations of the CCP or expose non-defaulting participants to losses that they cannot anticipate or control?

E 2 Assignment of an assessment category

1. Observed
    a. (i) The potential exposures of participants are measured at least once a day and the information on which the calculations are based is timely. (ii) The CCP has the capacity to recalculate the exposures on an intra-day basis either routinely or when pre-specified thresholds are breached. (Q1)
    b. The CCP has in place margin requirements and other risk control mechanisms designed to limit its exposures to potential losses from defaults by its participants so that the operations of the CCP would not be disrupted and non-defaulting participants would not be exposed to losses that they cannot anticipate or control. (Q2)

2. Broadly observed
    a. 1(a) (i) is satisfied. (Q1)
    b. 1(a) (ii) is not satisfied (Q1) OR 1(b) is not fully satisfied. There are minor weaknesses in the margining system that are not fully compensated by other risk control mechanisms. (Q2)

3. Partly observed
    a. 1(a) (i) is satisfied. (Q1)
    b. 1(b) is not satisfied. The CCP has not demonstrated that it has in place margin requirements and other risk control mechanisms such that closing out any participant's

positions would not disrupt the operations of the CCP and expose non-defaulting participants to losses that they cannot anticipate or control. (Q2)

4. Non-observed
    a. 1(a) (i) is not satisfied. (Q1)

RCCP 4 (MARGIN REQUIREMENTS)

E 1 Key questions

1. Are margin requirements imposed where feasible? What is the intended coverage of margin requirements? Are they sufficient to cover at least 99 % of the price movements that the CCP estimates to occur in the interval between the last margin collection and the time the CCP estimates it will be able to liquidate the relevant positions? What are these price estimations based on? What is the time interval over which potential price movements are measured? Is the interval consistent with a reasonable assumption about how quickly a defaulting participant's positions could be closed out? How does the CCP validate the models and parameters used to determine the margin levels consistent with the intended coverage? How frequently does it review and validate the models?

2. Does the CCP have the policy, the authority and operational capacity to demand margin intraday to maintain the desired coverage? Under what circumstances?

3. What types of assets does the CCP accept as margin? What types are actually held? How frequently are the assets revalued? Are haircuts applied that adequately reflect the potential for declines in asset values between the last revaluation and liquidation?

E 2 Assignment of an assessment category

1. Observed
    a. The margin requirements set by the CCP are sufficient to cover at least 99 % of the price movements that the CCP estimates to occur in the interval between the last margin collection and the time the CCP estimates it will be able to liquidate the relevant positions. The CCP bases models and parameters used in determining margin requirements on the risk characteristics of the products cleared and that take into account the interval between margin collections. The CCP regularly validates coverage of the models and parameters used to determine margin requirements. (Q1)
    b. The CCP has the policy, the authority and operational capacity to make intraday margin calls. (Q2)

c. The CCP limits the assets accepted to meet margin requirements to highly liquid instruments. The CCP applies appropriate haircuts that reflect the potential for their value to decline. (Q3)

2. Broadly observed
    a. 1(a) and 1(b) are satisfied. (Q1, 2)
    b. 1(c) is not fully satisfied. There are some weaknesses in the types of assets accepted to meet margin requirements or in the haircut procedures of the CCP. (Q3)

3. Partly observed
    a. 1(a) is not fully satisfied. The margin requirements set by the CCP are not sufficient to cover at least 99 % of the price movements that the CCP estimates to occur in the interval between the last margin collection and the time the CCP estimates it will be able to liquidate the relevant positions, or there are weaknesses in the way the CCP estimates price movements, or there are weaknesses in the review and testing of the models to ensure the coverage targeted is achieved (Q1) OR 1(a) is satisfied but 1(c) is not satisfied. (Q3)
    b. 1(b) is satisfied. (Q2)

4. Non-observed
    a. 1(a) is not satisfied. (Q1)
    b. Or: 1(b) is not satisfied. (Q2)

E 3 Explanatory notes

1. Margin requirements can be collected based on either net positions or gross positions held by a participant's customers. Under a net margin system, margin requirements are charged for net long or net short positions, that is, long and short positions held in the same security or derivative contract are offset against each other to arrive at the net long or net short positions. In contrast, margin requirements are calculated based on the aggregate of long and short positions under a gross margin system. For the purpose of this standard, both systems are acceptable as long as CCPs understand the risks inherent in these systems and have taken appropriate measures to minimise them. For example, a CCP using a net margin system should recognise that net positions can change substantially during a trading day and reflect this in its monitoring procedures. The CCP's frequency of net position calculations and its ability to make intra-day margin calls become very important. A gross margin system, because of the relatively larger flows of cash and margin required, may create liquidity pressure. CCPs with such a system thus should be cognisant of participants' and their customers' liquidity arrangements.

2. In assessing this standard, focus should be on the major products cleared by a CCP. Margin requirements for new and low volume products might be set at a lower coverage level if the potential losses resulting from such products are minimal. If the assessor is confident that there are no obvious gaps or problems with the imposition of a lower coverage level and any additional risks to the CCP are minimal, the assessor can consider that the CCP satisfies the criterion in 1(a). In evaluating this exception, the assessor can ask the CCP to provide its own risk assessment.

RCCP 5 (OTHER RISK CONTROLS)

E 1 Key questions

1. Does the CCP maintain sufficient financial resources to cover potential residual losses that exceed the losses to be covered by margin requirements? Has the CCP developed scenarios of extreme but plausible market conditions for this purpose and conducted stress tests accordingly? What scenarios are evaluated? Do the scenarios include the most volatile periods that have been experienced by the markets for which the CCP provides services? Does the CCP at least have sufficient resources in the event of default by the participant with the largest exposure? Has the potential for multiple simultaneous defaults been evaluated? Are stress tests performed at least monthly, with a comprehensive reconsideration of models, parameters and scenarios occurring at least annually? Does the CCP have a clear policy on actions to be taken in the event stress testing results indicate resources are not likely to be adequate to meet its obligations resulting from a default? Has it adhered to that policy? Is the policy made available to participants and authorities?

2. What are the types and values of resources that the CCP has available to cover losses from participants' defaults? Is there a high degree of assurance that the CCP will be able to draw on those resources for the anticipated value in the event of a participant's default? How is use of the resources by the CCP ordered? Do the CCP's rules prohibit them from being used to cover operating losses or losses from other CCP activities?

3. Are any of the resources that the CCP is relying upon to cover losses from defaults not immediately available to meet the CCP's obligations? If so, has the CCP obtained committed credit lines subject only to presentment that allow it to borrow against those assets? If so, can those lines be drawn upon sufficiently quickly to ensure that the CCP can meet its obligations when due? Do the CCP's rules ensure that the resources posted by a defaulter are used prior to other financial resources in covering losses?

E 2 Assignment of an assessment category

1. Observed
    a. Based upon its stress test procedures, the CCP has sufficient financial resources to cover potential residual losses that exceed the losses to be covered by margin requirements. The CCP is at least able to withstand a default by the participant to which it has the largest exposure in extreme but plausible market conditions. There is a high degree of assurance that the CCP can draw on the anticipated value of its financial resources in the event of a default. (Q1, 2)
    b. The CCP uses an appropriate stress test procedure to evaluate the adequacy of its resources. The procedure:
        (i.) Assesses the adequacy of resources in the event of a default in extreme conditions at least monthly, and more frequently when markets are unusually volatile or become less liquid or the size or concentration of positions held by its participants increases significantly; comprehensive tests (including full model and parameter validations and consideration of scenario choices) are performed at least annually;
        (ii.) Scenarios include the default of the participant with the largest potential obligation as well as defaults by two or more participants (particularly related group members or affiliates); the most volatile periods that have been experienced by the markets for which the CCP provides services as well as appropriate theoretical scenarios;
        (iii.) Assumptions are disclosed to participants and authorities; stress testing procedures include a clear and transparent policy on actions to be taken in the event resources potentially are not adequate. (Q1)
    c. The CCP has appropriate credit lines that allow it to borrow against assets not immediately available. The CCP's rules ensure that the resources posted by a defaulter are used prior to other financial resources in covering losses. (Q3)

2. Broadly observed
    a. 1(a) and 1(b) are satisfied. (Q1, 2)
    b. But: 1(c) is not fully satisfied. (Q3) There are some limited circumstances in which the financial resources on which the CCP depends would not be immediately available and the liquidity facilities of the CCP are not adequate.

3. Partly observed
    a. 1(b) is not fully satisfied. There are some weaknesses in the CCP's stress testing procedures. (Q1)

4. Non-observed

a. 1(a) or 1(b) is not satisfied. Financial resources fall short of the amount that the CCP's stress tests show is needed to meet the standard or there are serious weaknesses in the CCP's stress testing procedures. (Q1, Q2)

E 3 Explanatory notes

1. The effect on market values if the collateral held by a CCP is relatively concentrated should be taken into account. In case a CCP uses an insurance policy, letter of credit or parental guarantee as part of its financial resources, the precise circumstances under which it can draw on them and the speed of payout should be carefully evaluated in judging the overall adequacy of the resources.

2. A CCP should not rely primarily on contingent obligations such as insurance, parental guarantees or letters of credit. A CCP also should carefully consider its reliance on letters of credit, guarantees or securities of a participant or the affiliate of a participant. In case of a default of the participant itself, financial resources that were obligations of the participant could not be used and the availability of those provided by an affiliate could be questionable. The aggregate value of different types of guarantees from the same organisation should be monitored and limited.

RCCP 6 (DEFAULT PROCEDURES)

E 1 Key questions

1. Do the CCP's default procedures state clearly what constitutes a default? If a default occurs, do the CCP's default procedures provide it with authority to promptly close out or manage the positions of a defaulting participant and to apply the defaulting participant's collateral or other resources? Do the CCP's procedures, or mechanisms other than those of the CCP, permit the transfer or (as an alternative) liquidation of the positions and margin of customers of the defaulting participant? Do the procedures empower the CCP to draw promptly on any financial resources?

2. Does the legal framework provide a high degree of assurance that the decisions to liquidate or transfer a position, to apply margin or to draw down liquidity resources in the event of the insolvency of a participant would not be stayed or reversed? Does national insolvency law permit identification and separate treatment of customer and proprietary assets?

3. Has the CCP analysed the effects which its default management procedures may have on the market? Does the CCP's management have internal plans for implementing its default procedures? Does the plan maintain a measure of flexibility for the CCP in deciding how best to implement its default procedures? Does the plan address the need for coordination in cases where more than one

CCP, authority or a separate market operator is involved? How frequently is the plan reviewed? How is the plan tested and how often do such tests occur?

4. Are the key aspects of the default procedures (specified in paragraph 9 of the explanatory memorandum of this Recommendation) publicly available?

E 2 Assignment of an assessment category

1. Observed
    a. Default procedures state clearly what constitutes a default and explicitly permit the CCP to close out or manage the positions of a defaulting participant. The CCP's procedures, or mechanisms other than those of the CCP, permit the liquidation or transfer of the customers' positions and assets. The procedures allow the CCP to promptly draw on any financial resources, including liquidity facilities. (Q1)
    b. (i) The legal framework provides a high degree of assurance that decisions to liquidate or transfer a position, to apply collateral or to draw down liquidity resources would not be reversed and (ii) National insolvency law permits the identification and separate treatment of customer and proprietary assets. (Q2)
    c. (i) The CCP has analysed the effects which implementing its default management plan would have on the market. (ii) The CCP has an internal plan for implementing its default procedures that clearly delineates roles and responsibilities for addressing a default, including plans to draw on any financial resources. (iii) The plan addresses the CCP's information needs as well as any coordination issues, is reviewed at least once a year and is tested at least once a year. (Q3)
    d. Key aspects of the default procedures are readily available (i) to the CCP participants and (ii) to the public. (Q4)

2. Broadly observed
    a. 1(a) and 1(b) are satisfied. (Q1, 2)
    b. 1(c)(ii) and 1(d)(i) are satisfied. (Q3, 4)
    c. But: 1(c)(i) and (iii) or 1(d)(ii) is not satisfied. (Q3, 4)

3. Partly observed
    a. 1(a) and 1(b) are satisfied. (Q1, 2)
    b. 1(c) (ii) is not satisfied. (Q3) Or: 1(d) (i) is not satisfied. (Q4)

4. Non-observed
    a. 1(a) is not satisfied. (Q1)

b. Or: Default actions are reversible or can be interfered with by legal or administrative proceeding; or liquidation of positions can be stayed or reversed; or open positions can be frozen; or customer and proprietary assets and positions cannot be distinguished. (Q2)

E 3 Explanatory notes

1. In order to avoid disrupting the market and to preserve portfolio relationships in the account being liquidated to the extent possible, a special auction may be necessary to obtain a liquidation price or to liquidate positions in some cases. Procedures should be appropriate to the types of market and product cleared. It is important that the CCP analyse the effects of these different procedures so that it can choose the one which has the least impact on the market.

2. The Recommendation for written procedures does not imply rigidity in approaching a default. It is essential that a CCP be permitted some degree of flexibility in addressing a default because it is difficult to predict with certainty the best approach to contain risk. When discretion is provided, the procedures should be transparent as to the general framework for the exercise of this discretion. Transparency should not be interpreted in a way that would compromise a CCP's effectiveness in implementing its default procedures; for example, in liquidating a defaulting participant's positions, a CCP would not necessarily want to disclose its strategy.

3. A delay in settlement caused by a participant's systems or other operational problem might require the CCP to (i) call on a participant to guarantee its customers' positions or request a parent to guarantee proprietary positions, (ii) draw down funds from the CCP's capital, (iii) liquidate clearing fund contributions, or (iv) draw on lines of credit in order to make settlement. Procedures should be structured to provide enough flexibility to take the least disruptive approach (for example, the procedures should not precipitate a default if it appears that steps are available to permit settlement to occur).

4. In some jurisdictions, even without a supportive insolvency regime, it may be possible to transfer funds and accounts pursuant to a CCP's rules and subject to indemnification of the transferee by the transferor against any claim against transferred funds in bankruptcy. In the absence of an appropriate insolvency regime, this type of interim solution provides some mechanisms for a CCP to be able to manage its risks in a default.

5. A participant's default may be caused by losses in its proprietary account or by a customer default which exceeds the participant's financial resources. Where customers' margin is held on an omnibus basis at a CCP, it may be used to cover losses arising from any customer within the account, but should not be used to cover losses in the proprietary account, unless other customer protections are available.

RCCP 7 (CUSTODY AND INVESTMENT RISKS)

E 1 Key questions

1. At what types of entities is collateral held? Does the CCP verify that these entities' procedures and practices conform to the relevant ESCB-CESR Recommendations for Securities Clearing and Settlement in the European Union? If so, how? Does the CCP confirm that its interest in the securities can be enforced and that it can have prompt access to the securities in the event of a participant's default, even if these securities are held in another time zone or jurisdiction? Does it monitor the financial condition, safeguarding procedures and operational capacity of its custodians on an ongoing basis?

2. How is cash invested? Are investments secured? What standard does the CCP use to ensure that obligors are highly creditworthy? What standard does the CCP use to ensure that investments have minimal market and liquidity risks? Does the CCP invest its own capital or margin that it intends to use for risk management purposes in its own securities or those of its parent company?

3. Does the CCP consider its overall exposure to an obligor in choosing investments? Are investments limited to avoid concentration of credit risk exposures? How?

E 2 Assignment of an assessment category

1. Observed
    a. Entities holding collateral for the CCP (in compliance with the relevant ESCB-CESR Recommendations for Securities Settlement Systems or where relevant Recommendation 12 of the CPSS-IOSCO Recommendations for Securities Settlement System) should employ accounting practices, safekeeping procedures, internal and external controls, insurance, and other compensation schemes to fully protect securities; the legal framework protects securities against the claims of a custodian's creditors; there is little risk of delay in the CCP's access to securities held with the custodians. (Q1)
    b. Investments are secured or claims on high quality obligors; investments can be liquidated quickly with little if any adverse price effect. The CCP has not invested its own capital or margin that it intends to use for risk management purposes in its own securities or those of its parent company.(Q2)
    c. The CCP takes into account its overall exposure to an obligor in setting concentration limits for investments with these obligors. (Q3)

2. Broadly observed

a. 1(a) and 1(b) are satisfied. (Q1, 2)
b. 1(c) is not satisfied. (Q3)

3. Partly observed
    a. 1(a) is satisfied or 1(b) is satisfied. (Q1, 2)

4. Non-observed
    a. Neither 1(a) nor 1(b) is satisfied. (Q1, 2)

RCCP 8 (OPERATIONAL RISK)

E 1 Key questions

1. Does the CCP have a process for actively identifying, monitoring, assessing and minimising its operational risk, including risks arising from its outsourced operations and its other activities? Are operational risk policies and procedures clearly defined?

2. Are there adequate management controls and sufficient (and sufficiently well qualified) personnel to ensure that procedures are implemented appropriately? Are operational reliability issues reviewed regularly by senior management, including review by persons not responsible for the relevant operations? Is there an audit function and does it review operational risk controls?

3. Does the CCP have a business continuity and disaster recovery plan that addresses events posing a significant risk of disrupting operations? Do plans ensure that critical information can be recovered in a timely manner? Do plans allow the CCP to extend operating hours if this ensures safe and complete settlement in a case of emergency? Do plans provide, at a minimum, for the recovery of all transactions at the time of the disruption to allow systems to continue to operate with certainty? Does the business continuity and disaster recovery plan allow for resumption of operations quickly enough so that the CCP can meet its obligations on time? What is the planned resumption time? Does the system operator have a second processing site? Is the business continuity and disaster recovery plan regularly reviewed and tested with participants? Have appropriate adjustments to operations been made based on the results of such exercises?

4. How many times during the last year has a key system failed? What is the most common cause of failures? How long did it take to resume processing? How much transaction data, if any, was lost? How does the CCP ensure the integrity of messages? Does the CCP have capacity plans for key systems and are key systems tested periodically to determine if they can handle stress volume?

5. Does the CCP outsource operations? If so, have the relevant authorities been informed? Does the CCP monitor that service providers meet the relevant standards? How? Are appropriate change

management procedures in place giving the outsourcing authority the power to require, control and approve changes to the outsourced services?

E 2 Assignment of an assessment category

1. Observed
    a. The CCP actively identifies and assesses sources of operational risk and establishes policies related to it, including those operations that are outsourced to third parties, or from its other activities. Its operational risk policies are clearly defined. (Q1)
    b. All key systems have appropriate business continuity and disaster recovery plans which allow for operations to be resumed quickly enough that the CCP can meet its obligations on time. Plans are tested regularly with participants. (Q2)
    c. There are adequate management controls and sufficient personnel to ensure that procedures are implemented accordingly and operational risk controls are subject to periodic internal audit. (Q3)
    d. There are no or few key system failures and recovery of operations is adequate where there is failure, and all key systems are able to handle volume under stress conditions. The CCP has good controls in place to maintain the integrity of messages (Q4)
    e. If the CCP has outsourced operations, it has informed the relevant authorities and taken steps to monitor that service providers meet the relevant recommendations.(Q5)

2. Broadly observed
    a. 1(a), 1(b), 1(c) and 1(e) are satisfied. (Q1, Q2, Q3 and Q5)
    b. But: more than a few key system failures of limited scope or duration occur, though recovery of operations is adequate. (Q4)

3. Partly observed
    a. 1(a) is satisfied. (Q1)
    b. But: few or occasional key system failures occur and difficulties in recovery of operations indicate that business continuity plans need to be upgraded. (Q2, 4)
    c. Or: 1(c) is not satisfied. (Q3)
    d. Or 1 (e) is not satisfied. (Q5)

4. Non observed
    a. 1(a) is not satisfied. (Q1)
    b. Or: there are frequent key system failures, business continuity plans are not appropriate, or there is unacceptable level of uncertainty about data recovery. (Q2, 4)

RCCP 9 (MONEY SETTLEMENTS)

E 1 Key questions

1. Does the CCP use the central bank model or the private settlement agent model?

2. Do the CCP's legal agreements with its settlement agent(s) provide that funds transfers to its accounts are final when effected? Do the CCP's regulatory, contractual and legal frameworks clearly define the moment when the CCP's and clearing participants' reciprocal payment obligations are extinguished? Do the laws of the relevant jurisdictions support these provisions? Do the payment systems for the currencies used support intraday finality? Does the CCP routinely confirm that funds transfers have been effected as and when required by those agreements? Is the payment system used by a CCP safe and sound and does it observe the CPSIPS?

3. If the private settlement agent model is used, does the CCP establish and monitor strict criteria for the agents used that address their creditworthiness, access to liquidity, and operational reliability? If the private settlement agent model is used, does the CCP actively monitor the concentration of exposures among the settlement agents, and routinely assess its potential losses and liquidity pressures from a settlement agent's failure? If several currencies or assets are used by the CCP to receive and make payments, does the CCP assess the liquidity pressures that may stem from their use?

4. Has the CCP defined criteria in terms of creditworthiness, access to liquidity and operational reliability that settlement banks should meet? Does the CCP monitor the concentration of payment flows among the settlement banks and assess its potential losses and liquidity pressure if the settlement bank with the largest share of settlement defaults?

E 2 Assignment of an assessment category

1. Observed
    a. The CCP uses the central bank model and funds transfers to the CCP's accounts are final when effected; the legal, regulatory and contractual framework of the CCP clearly defines the moment at which the CCP's and clearing participants' obligations are extinguished. (Q1, 2)
    b. And/or: the CCP uses the private settlement agent model and (i) funds transfers to the CCP's accounts are final when effected (Q2); (ii) the legal, regulatory and contractual framework of the CCP clearly defines the moment at which the CCP' and clearing participants' obligations are extinguished (iii) the CCP establishes and monitors strict criteria for the settlement agents used that address their creditworthiness, access to

liquidity, and operational reliability (Q3); and (iv) the CCP actively monitors the concentration of exposures among the settlement agents, and routinely assesses its potential losses and liquidity pressures (Q3).

c. In either case, the payment system used for interbank transfers observe the Core Principles for Systemically Important Payments Systems (CPSIPS). (Q2)

d. The CCP has defined criteria in terms of creditworthiness, access to liquidity and operational reliability that settlement banks should meet. The CCP monitors the concentration of payment flows among the settlement banks and assess its potential losses and liquidity pressure if the settlement bank with the largest share of settlement defaults. (Q4)

2. Broadly observed

   a. 1(a) and 1(c) are satisfied but 1(d) is not fully satisfied. Criteria defined by the CCP for settlement banks cover only some of the three aspects mentioned in 1(d) or the CCP's monitoring of its exposure to the settlement bank with the largest share of settlement is not regular.

   b. And/or: 1(b) (i), (ii), (iii) and 1(c) are satisfied. (Q2, 3)

      But: 1(b) (iv) is not fully satisfied (the CCP monitors the concentration of exposures among the settlement agents but this is not done actively, or its potential losses and liquidity pressures are not assessed routinely (Q3)) or 1(d) is not fully satisfied.

3. Partly observed

   a. 1(a) and 1(c) are satisfied.

      But: 1(d) is not satisfied.

   b. And/or: 1(b) (i), (ii) and 1 (c) are satisfied.

      But: 1(b) (iii) is not fully satisfied. There are weaknesses in the CCP's procedures for monitoring adherence to its criteria for its settlement agents; or 1(b) (iv) is not satisfied. (Q3); or 1 (d) is not satisfied.

4. Non-observed

   a. The CCP uses the central bank model but funds transfers to the CCP's accounts are not final when effected or there are strong weaknesses in the observance of CPSIPS by the interbank transfer system used. (Q1, 2)

   b. And/or: 1(b) (i) or 1(b) (ii) is not satisfied or there are strong weaknesses in the observance of CPSIPS by the interbank transfer system used. (Q2, 3)

E 3 Explanatory note

1. In the RSSS the term "cash settlement" was used to refer to the settlement of payment obligations arising from deliveries of securities within a CSD. The term cash settlement is avoided here

because of its alternative use to describe a method for settling derivative contracts through payment of cash rather than delivery of the underlying asset.

RCCP 10 (PHYSICAL DELIVERIES)

E 1 Key questions

1. Does the CCP have rules that clearly state its obligations with respect to deliveries of physical instruments?

2. Does the CCP have obligations to make or receive deliveries of physical instruments? If yes, does the CCP use DVP mechanisms that eliminate principal risk? If the settlement system used by the CCP does not offer simultaneous booking of the DVP and RVP legs, does the CCP take steps to mitigate the principal, liquidity and replacement cost risks? If no DVP mechanism is available, does the CCP take other steps to mitigate principal risk?

3. Has the CCP identified the money settlement, liquidity, storage and delivery (other than principal) risks to which it is exposed because of the delivery obligations that it assumes? Does the CCP take steps to mitigate these risks? What steps does it take?

E 2 Assignment of an assessment category

1. Observed
    a. The CCP clearly states its obligations with respect to deliveries of physical instruments. (Q1)
    b. The CCP uses DVP mechanisms for deliveries of physical instruments or takes other steps to mitigate principal risk if no DVP mechanism is available. (Q2)
    c. The CCP identifies the money settlement, liquidity, replacement cost, storage and delivery (other than principal) risks to which it is exposed and takes effective steps to mitigate these risks. (Q3)

2. Broadly observed
    a. 1(a) and 1(b) are satisfied. (Q1, 2)
    b. But: 1(c) is not fully satisfied. There are weaknesses in the CCP's arrangements for managing money settlement, liquidity, replacement cost, storage and delivery (other than principal) risks associated with settlements involving physical instruments. (Q3)

3. Partly observed
    a. 1(a) is satisfied. (Q1)

b. But: 1(b) is not satisfied (Q2) or 1(c) is not satisfied (Q3), i.e. there are strong weaknesses in the CCP's arrangements for managing money settlement, liquidity, replacement cost, storage and delivery (other than principal) risks.

4. Non-observed
   a. 1(a) is not satisfied. (Q1)

E 3 Explanatory notes

1. A CCP's obligation with respect to delivery will differ from product to product. In assessing compliance with this Recommendation, focus should be on the delivery mechanism for the most actively traded products.

2. If a CCP does not have any obligation to make physical deliveries and clearly states this, an assessor should consider the CCP as having observed this Recommendation.

RCCP 11 (RISKS IN LINKS BETWEEN CCPS)

E 1 Key questions

1. What kind of links are in operation? Has the CCP carried out an initial risk assessment of the potential sources of risks that may stem from the linked CCP and arise from the link? In particular, has the CCP ensured that the linked CCP observes the ESCB-CESR Recommendations for CCPs (if established in the EU), or CPSS-IOSCO Recommendations for CCPs (in the case of non EU CCPs)? Does the initial risk assessment of the linked CCP include any other link arrangements of that CCP? Is the risk assessment information up-to-date?

2. What are the potential sources of operational, credit, liquidity and settlement risks arising from the link? Are effective mechanisms in place, including arrangements between the linked CCPs, to monitor and manage the risks identified? Are the resultant risk management arrangements designed to minimise or contain these risks, such that the CCP remains able to observe the other Recommendations contained in this report? Do the terms of the link agreement set forth how the CCP exposure to the linked CCP is managed in order to ensure an adequate level of coverage while limiting contagion risks?

3. Which laws and contractual rules govern the link? What steps have the CCPs taken to satisfy themselves that these laws and rules support the design of the link and provide adequate protection to both CCPs in the operation of the link? Do the contractual and regulatory frameworks clearly define the respective obligations of the CCP and protect them from unexpected distortions of rights/obligations?

4. For the purposes of regulation and oversight of the link, is there a framework for co-operation and co-ordination between the relevant regulatory and oversight authorities, including provisions on information sharing and the division of responsibilities in the event of any need for co-ordinated regulatory action?

E 2 Assignment of an Assessment Category

1. Observed
    a. An analysis of the risks associated with the linked CCP in the framework of the link, including any other links arrangements of that CCP, and of the design of the link itself has been undertaken and the risk assessment information are up-to-date. (Q1)
    b. The operational, credit, liquidity and settlement risks to the CCP arising from the link have been identified, and arrangements between the CCPs have been put in place to ensure that these risks are monitored effectively managed and allow covering the exposure while mitigating contagion risks. The resultant risk management arrangements are designed in such a way that the CCP remains able to observe the other standards (Q2)
    c. Laws and contractual rules support the design of the link and provide adequate protection to both CCPs in the operation of the link. (Q3)
    d. There is an appropriate framework for co-operation and co-ordination between the relevant regulatory and oversight authorities. (Q4)

2. Broadly Observed
    a. 1(a), 1(b) and 1(c) are satisfied. (Q1, 2, 3)
    b. But: 1(d) is not fully satisfied. The framework for cooperation between the relevant regulatory and oversight authorities is not in place or does not work well. (Q4)

3. Partly Observed
    a. 1(a) and 1(c) are satisfied. (Q1, 3)
    b. But: 1(b) is not fully satisfied. There are some weaknesses in the monitoring and managing of the risks identified. (Q2)

4. Non-observed
    a. 1(a) or 1(b) is not satisfied. The risk assessment is not adequate or there are strong weaknesses in the monitoring and managing of the risks identified. (Q1, 2).
    b. Or 1(c) is not satisfied. (Q3)

E 3 Explanatory notes

1. In the most straightforward type of link arrangement, also called standard access, the clearing participants of a linked CCP continue to look to that CCP for performance on obligations. The CCPs have exposures to each other that must be managed. The 'participant' CCP might post margin to support its obligations arising from the link just as other clearing participants. If both CCPs become participants of the other, the link operates in both directions. An implication of links organised in this manner is that exposures exist between the CCPs as long as any positions remain open.

2. Other links have been designed to facilitate the transfer of positions between CCPs, which might also be referred to as customised access. In such links, market participants may open positions in a product cleared by one CCP (the 'host' CCP) but subsequently all these positions are transferred to the 'home' CCP for that product. The 'host' CCP takes on the counterparty risk of its participants until the positions are transferred to the 'home' CCP, generally at the end of the trading day. After the transfer, the ‘home’ CCP becomes the counterparty to the participant of the ‘host’ CCP for the positions that are transferred. Consequently, the ‘home’ CCP takes on the counterparty risk of that participant.

3. Another type of link is where transactions between participants of the linked CCPs are jointly managed by the linked CCPs. In this type of link, the opening of a position in one CCP automatically leads to the immediate creation of an equal and opposite position at the linked CCP. The participant of a linked CCP retains counterparty risk vis-à-vis its CCP. The linked CCPs participate in each other’s systems as equals, necessitating agreement on a common risk management methodology on a product by product basis.

RCCP 12 (EFFICIENCY)

E 1 Key questions

1. Does the CCP have in place procedures to control costs (for example, by benchmarking its costs and charges - when comparable data of other CCPs are available - against other CCPs that provide a similar service and by analysing the reasons for significant differences)? Does the CCP have in place procedures to regularly review its pricing levels against its costs of operation? Does the CCP have in place procedures to review its pricing levels against those of other CCPs providing for comparable services?

2. Does the CCP regularly review its service levels, (for example, by surveying its participants)? Does the CCP have in place procedures to regularly review operational reliability, including its capacity levels against projected demand?

E 2 Assignment of an assessment category

1. Observed
    a. The CCP has in place the mechanisms to review regularly its costs and pricing (Q1)
    b. The CCP has in place the mechanisms to review regularly its service levels and operational reliability including its capacity levels against projected demand. (Q2)

2. Broadly observed
    a. Either 1(a) or 1(b) is not fully satisfied (Q1, Q2).

3. Partly observed
    a. Either 1 (a) or 1 (b) is not satisfied, (Q1, Q2)

4. Non-observed
    a. 1(a) and 1(b) are not satisfied. (Q1, Q2,)

RCCP 13 (GOVERNANCE)

E 1 Key questions

1. What are the governance arrangements for the CCP? What information is publicly available (e.g. on the internet, without restrictions) about the CCP, its ownership and its board and management structure?

2. Is there a clear separation in the reporting lines between risk management and other operations of the CCP? How is this separation achieved? Is there an independent risk management committee?

3. What steps are taken to ensure that management and the Board have the adequate skills and incentives to achieve the CCP's objectives of delivering sound and effective services and to meet related pubic interest requirements? What are the mechanisms the Board has in place to ensure the objectives include delivering sound risk management and meeting related public interest requirements? How is management and the Board made accountable for their performance? How is the composition of the Board determined? Are there mechanisms to ensure that the Board contains suitable expertise and takes account of all relevant interests? Are reporting lines between management and the Board clear and direct? Is the Board responsible for selecting, evaluating, and if necessary removing senior management? Does the Board include independent board members?

Are there participants committees and are their decisions and suggestions adequately reported to the Board?

4. Are the CCP's objectives, those responsible for meeting them and the extent to which they have been met disclosed to owners, relevant market participants, and public authorities? What are they?

5. Do the governance arrangements enable identification of possible conflicts of interest? Are the categories of conflicts of interest peculiar to the CCP described and what are they? Once a conflict of interest has been identified, what kind of resolution procedure is to be applied? Has that procedure been already used, in what circumstances, and has it proven efficient?

E 2 Assignment of an assessment category

1. Observed
    a. Governance arrangements are clearly specified and information about them is publicly available. (Q1)
    b. There is separate reporting line between risk management and other operations of the CCP. (Q2)
    c. The Board and management have the expertise and skills needed to achieve objectives and are fully accountable for the CCP's performance. Objectives include delivering sound risk management and meeting related public interest requirements. (Q3)
    d. Objectives, those responsible for meeting them, and the extent to which they have been met are disclosed to owners, participants and public authorities. (Q4)
    e. Possible conflicts of interest are clearly identified and efficient resolution procedures are applicable. (Q5)

2. Broadly observed
    a. 1(a) and 1(b) are satisfied. (Q1, 2)
    b. But: 1(c) or 1(d) or 1(e) is not satisfied. (Q 3, 4, 5)

3. Partly observed
    a. 1(a) and 1(b) are satisfied. (Q1, 2)
    b. But: 1(c), 1(d), and 1(e) are not satisfied. (Q3, 4)

4. Non-observed
    a. 1(a) or 1(b) is not satisfied. (Q1, 2)

E 3 Explanatory notes

1. Governance arrangements are likely to be effective when decision-makers have the skills, and information to make decisions that promote the objectives of owners and participants and fulfil public interest requirements, but these aspects are difficult to observe directly. The assessment categories are based on indirect, but more measurable, aspects of governance such as whether the decision-making processes are transparent. If, however, there was clear evidence of the lack of effectiveness of the governance arrangements, an assessor could take that into account in assigning an assessment category if the evidence was set out in the explanation of the assessment.

2. If the CCP is wholly owned or controlled by another entity, the governance arrangements of that entity should also be examined to see that it does not have adverse effects on the CCP's observance of this Recommendation.

RCCP 14 (TRANSPARENCY)

E 1 Key questions

1. Does the CCP disclose to market participants its rules, regulations, relevant laws, governance procedures, risks, steps taken to mitigate risks, the rights and obligations of participants and the costs of using the CCP services? Does the CCP make clear when and in what circumstances it assumes counterparty exposure and any restriction or limitations on its fulfilment of its obligations? Does the CCP provide information on the level of account separation it can provide thus contributing to asset segregation? Does the CCP disclose appropriate quantitative information on its clearing, netting, and settlement activities? Does the CCP provide market participants with sufficient information on default procedures and stress testing? Does the CCP disclose information on the main statistics and, where relevant, the latest audited balance sheet of the CCP? Does the CCP publicly and clearly disclose its risk exposure policy and risk management methodology as define under Recommendations 1-11? Does the CCP disclose the way in which it determines prices and therefore its exposure vis-à-vis its participants?

2. How is information made available? Is the information accessible through the internet? In what language or languages? In what form?

3. Has the CCP completed and disclosed the answers to the key questions set out in this report? Are there regular reviews to ensure the information contained in the disclosures remains current, complete and accurate?

E 2 Assignment of an assessment category

1. Observed
    a. The CCP provides market participants with sufficient information necessary to evaluate the risks and costs of using its services. (Q1)
    b. Information is easily accessible, at least through the internet. Information is available in a language commonly used in financial markets as well as in at least one of the domestic languages. (Q2)
    c. The answers to the key questions in this report are completed and disclosed. The accuracy and completeness of disclosures are periodically reviewed by the CCP and at least once a year or when major changes occur. (Q3)

2. Broadly observed
    a. 1(a) and 1(c) are satisfied. (Q1, 3)
    b. But: 1(b) is not fully satisfied. Information is available in a language commonly used in financial markets, but is not easily accessible through the internet. (Q2)

3. Partly observed
    a. 1(a) is satisfied. (Q1)
    b. But: 1(b) or 1(c) is not satisfied. (Q3)

4. Non-observed
    a. 1(a) is not satisfied. (Q1)

RCCP 15 (REGULATION SUPERVISION AND OVERSIGHT)

E 1 Key questions

1. How is the CCP regulated/supervised/overseen? Describe the laws that authorise and govern the CCP's operation, the applicable regulatory bodies and their respective authority for the CCP's operation. Do the securities regulator and central bank have sufficient legal capacity and resources (including experienced staff and funding) to carry out effective regulation, supervision and oversight?

2. Are the objectives, responsibilities and main policies of the securities regulator, central bank clearly defined and publicly disclosed? Are the regulations, roles and policies written in plain language so that they may be fully understood by CCPs and their participants?

3. Are there different forms of cooperation in place amongst relevant authorities, both nationally and across borders in order to ensure consistent implementation of the Recommendations?

4. What information is the CCP required to provide, including information on operations that have been outsourced? How frequently is this information provided? Are there specific information requirements for participants' defaults and CCP financial difficulties? Is the CCP required to report significant events, such as rule changes, outages, and changes in risk management procedures?

5. Do the relevant authorities co-operate with each other both nationally and across border in order to ensure that each relevant authority is able to discharge its respective duty? Do the home country authorities consult other authorities that may claim a special interest? Are there unresolved differences in the assessment of the home country authorities and that of other authorities that may claim a special interest? Do the relevant authorities experience limitations to access the information and data deemed necessary to exercise their tasks? Do relevant authorities have contact channels and processes in place to ensure continuity of communication?

E 2 Assignment of an assessment category

1. Observed
    a. The CCP is subject to effective regulation, supervision and oversight. The securities regulator and central bank have the ability and the resources to carry out regulation, supervision and oversight activities effectively. (Q1)
    b. The responsibilities as well as roles and major policies of the securities regulator and central bank are clearly defined and publicly disclosed. (Q2)
    c. Different forms of cooperation exist to cater for consistent implementation of the Recommendations (Q3)
    d. The securities regulator and central bank require the CCP to provide information necessary for regulation, supervision and oversight in a timely manner, including information on operations that have been outsourced to third parties. (Q4)
    e. The securities regulator and central bank cooperate with each other and with other relevant authorities sufficiently.(Q5)

2. Broadly observed
    a. 1(a), 1(b) and 1(d) satisfied. (Q1, 2, 4)
    b. But: 1(e) is not fully satisfied. The relevant authorities do not cooperate sufficiently (Q5)

3. Partly observed

a. 1(a) satisfied. (Q1)
b. 1(b) or 1(d) is satisfied, but not both. (Q2, 4)

4. Non-observed
    a. 1(a) is not satisfied. (Q1)
    b. Or: 1(b) and 1(d) are not satisfied. (Q2, 4)
    c. Or the home country authorities have not set up effective cooperation and communication arrangements with other relevant authorities.

ANNEX 2 : CESR/ESCB GLOSSARY

Access, Standard	**A CSD (CCP) that links to another CSD (CCP) like any other standard participant**
Access, Customized	**A CSD (CCP) links to another CSD (CCP) and some specific services are offered by one CSD (CCP) to the other.**
Batch	**A group of orders (payment orders and/or securities transfer orders) to be processed together.**
Book-entry system	**An accounting system which enables the transfer of securities and other financial assets without the physical movement of paper documents or certificates (e.g. the electronic transfer of securities)**
Business continuity	**Arrangements aimed at ensuring that a system meets agreed service levels even if one or more components of the system fail or if it is affected by an abnormal event. This includes both preventive measures and arrangements to deal with these events.**
Central bank money	**Liabilities of a central bank that take the form of banknotes or of bank deposits at a central bank and which can be used for settlement purposes.**
Central counterparty (CCP)	**An entity that interposes itself between the counterparties to the contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer.**
Central counterparty (CCP) link	**An arrangement between two CCPs that provides central counterparty services for trades performed between the participants of the two CCPs involved, without obliging those participants to become members of both CCPs.**
Central securities depository (CSD)	**An entity that: 1) enables securities transactions to be processed and settled by book entry and; 2) plays an active role in ensuring the integrity of securities issues. Securities can be held in a physical (but immobilised) or dematerialised form (i.e. so that they exist only as electronic records).**
Clearing fund	**A fund composed of assets contributed by participants in a CCP, or by providers of guarantee arrangements, that may be used in certain circumstances to settle transactions of a defaulting CCP participant and/or cover losses and liquidity pressures resulting from its defaults.**
Clearing house	**A central entity (or central processing mechanism) through which financial institutions agree to exchange transfer instructions for funds or securities. In some cases, the clearing house may act as central counterparty for the participants and therefore assume significant financial risks.**
Clearing member	**A member of a clearing house. In a CCP context, a general clearing member clears on its own behalf, for its customers and on behalf of other market participants. Direct/individual clearing members clear on their own behalf and on behalf of their customers. Non-clearing members use general clearing members to access the system's services. All trades must be settled through a clearing member.**
Close-out netting	**A special form of netting, which follows certain contractually agreed events (such as the opening of insolvency proceedings etc), whereby all existing obligations are accelerated so to become immediately due.**
Collateral	**An asset or third-party commitment that is used by the collateral provider to secure an obligation vis-à-vis the collateral taker.**

Competent authorities	**Securities regulators (including in this context banking supervisors where they have similar responsibilities and regulatory authority for CSDs and CCPs) and central banks**
Credit risk	**The risk that a counterparty will not settle an obligation for full value, either when due or at any time thereafter. Credit risk includes replacement cost risk and principal risk. It also includes the risk of the failure of the settlement bank.**
Cross-border settlement	**Settlement that takes place in a country other than the country in which one or both parties to the transaction are located.**
Cross-margining agreement	**An agreement between two CCPs which makes it possible to limit the margin requirements for institutions participating in both CCPs by considering the positions and collateral of such participants as one portfolio.**
Cross-system settlement	**Settlement of a trade through a link between two separate payment systems or securities settlement systems.**
CSD link	**A set of technical and legal arrangements between an investor CSD and an issuer CSD for the cross-system transfer of securities.** ***See interoperable systems***
Custody	**The holding and administration of securities and other financial instruments on behalf of others.**
Custody risk	**The risk of loss on securities in custody as a result of the custodian's insolvency, negligence, misuse of assets, fraud, poor administration or inadequate record-keeping.**
Default	**An event stipulated in an agreement as constituting a default. Generally, the failure to complete a funds or securities transfer in accordance with the terms and rules of the system. A failure to pay or deliver on the due date, breach of agreement and the opening of insolvency proceedings all constitute events of default.**
Delivery versus payment (DvP)	**A mechanism which links a transfer of securities (or other financial instruments) and a funds transfer in such a way as to ensure that delivery occurs if, and only if, payment occurs.**
Dematerialisation	**The elimination of physical certificates or documents of title which represent ownership of financial assets, so that the financial assets exist only as accounting records.**
Depository	**An agent with the primary role of recording the (direct or indirect) holding of securities. A depository may also act as registrar.** ***To be distinguished from "custodian".***
Designated system	**A system governed by the law of an EEA member state and designated to the European Commission by the competent national authorities in accordance with Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems, as revised.**
Direct holding system	**An arrangement for registering ownership of securities whereby each and every final investor in the security is registered by a single body, which can be the issuer itself, a CSD or a registry. In some countries the direct holding system is mandatory by law.**
Final settlement, final transfer	**A settlement or a transfer is final when it is unconditional, enforceable and irrevocable, even in the framework of insolvency proceedings against a participant (except in case of criminal offences or fraudulent acts, as decided by a competent court). In the European context, according to Directive 98/26/EC, it can be distinguished between:**

	- the enforceability of a transfer order which is binding on third parties and protected from insolvency risks from the moment defined by the rules of that system, provided the transfer order was entered into the system, before the moment of opening of such insolvency proceedings, (transfer orders entered into a system after the moment of opening of insolvency proceedings are legally enforceable only in exceptional circumstances); and **- the irrevocability of a transfer order which cannot be revoked by the participant from the moment defined by the rules of that system.** **A reference may also be made to the finality of transfer, whereby entitlement to the asset (be it cash or securities) is legally transferred to the receiving entity.**
Governance	**Procedures through which the objectives of a legal entity are set, the means of achieving them are identified and the performance of the entity is measured. This refers, in particular, to the set of relationships between the entity's owners, board of directors, management, users, regulators and other stakeholders that influence these outcomes.**
Guarantee fund	**A fund which compensates non-defaulting participants for losses which they suffer in the event that one or more participants default on their obligations.**
Haircut	**The difference between the market value of an asset and the value which it can collateralise. Haircuts are applied by the collateral taker in order to protect itself from losses owing to declines in the market value of the security in case it should need to liquidate the collateral.**
Immobilisation	**Placement of physical certificates for securities and financial instruments in a (common or central securities) depository so that subsequent transfers can be made by book entry – that is, by debits from and credits to holders' accounts at the depository.**
Indirect holding system	**A multi-tiered arrangement for the custody and transfer of ownership (or similar interests) of securities in which investors are only identified at the level of their custodian.**
Indirect link	**A link between two CSDs through an intermediary, whereby the two CSDs do not have any direct contractual or technical arrangement.**
Initial margin	**Minimum percentage of the purchase price that a client is required to pay for with his or her own cash or acceptable securities to his/her broker before the client can trade. For futures contracts, the initial margin is calculated based on a formula set by a central counterparty.**
Integrity of a securities issue	**The result of legal requirements and securities accounting procedures which ensures that the number of securities issued (i.e. booked in the issuer account at the CSD) is equal to the total number of securities in circulation (i.e. validly booked in investors' accounts) at any time.**
International central securities depository (ICSD)	**A central securities depository (CSD) which was originally set up to settle Eurobonds trades and which is now also active in the settlement of internationally traded securities from various domestic markets, typically across currency areas.**
Interoperable systems	**Two or more systems whose system operators have entered into an arrangement (including links) between themselves that involves cross-system execution of transfer orders.** **Such arrangement between two or more systems cannot be considered as a system itself.**
Intraday credit	**Credit extended for a period of less than one business day. It may be extended**

	by central banks to facilitate payment settlements and can take the form of: (i) a collateralised overdraft, or (ii) a lending operation against a pledge or a repurchase agreement.
Intraday finality	**Final settlement achieved continuously or at several times during the settlement day. Intraday finality can be provided through real-time settlement procedures and/or the settlement of the results of batch processing during the settlement day.**
Intraday liquidity	**Funds which are available or can be borrowed during the business day in order to enable financial institutions to effect payments/settlements. Repayment of the borrowed funds should take place before the end of the business day.**
Investor CSD	**A term used in the context of CSD links. The investor CSD – or a third party acting on behalf of the investor CSD – opens an omnibus account in another CSD (the issuer CSD), so as to enable the cross-system settlement of securities transactions.**
Issuer-CSD (issuing CSD)	**In the context of links between CSDs, designates the CSD in which securities are issued (or immobilised). The issuer CSD has an omnibus account in its books in the name of the investor CSD(s) for the transfer of securities to the investor CSD(s) (or to a third party, e.g. an intermediating CSD, acting on behalf of the investor CSD and its clients).**
Legal risk	**The risk of loss on account of the unexpected application of a law or regulation, or because a contract cannot be enforced.**
Liquidity risk	**The risk resulting from an event that a counterparty does not receive liquidity as agreed. Liquidity risk does not imply that a counterparty or participant is insolvent, since it may be able to effect the required settlement at some unspecified time thereafter.**
Margin	**An amount for which highly liquid collateral is required in order to cover adverse market price movements.**
Market risk	**The risk of losses (in both on and off-balance sheet positions) arising from movements in market prices.**
Matching	**The process used for comparing the settlement details provided by the buyer and the seller of securities or financial instruments in order to ensure that they agree on the terms of the transaction.**
Netting	**In the context of clearing or settlement systems, an agreed offsetting of mutual obligations by participants in a system. The process involves the calculation of net settlement positions and their legal reduction to a (bilateral or multilateral) net amount.** **Netting may take several legal forms.**
Operational risk	**The risk that deficiencies in information systems or internal controls, human error or management failures will result in unexpected losses (internal and external events).**
Oversight	**Oversight of payment systems is a typical central bank function whereby the objectives of safety and efficiency are promoted by monitoring existing and planned systems, assessing them against the applicable standards and principles, whenever possible, and, where necessary, inducing change.** ***The concept is increasingly used also for securities clearing and settlement systems.***
Participant	**An entity which is identified/recognised by the transfer system and which is allowed to send, and is capable of receiving, transfer orders to/from the system, either directly or indirectly.**

Provisional settlement	**The discharging of an obligation by means of a transfer of funds and/or a transfer of securities which is dependent on the fulfilment of certain conditions and can therefore be rescinded by one or more parties.**
Provisional transfer	**A transfer order is provisional as long as it can be revoked by the originator or as long as it can be reversed subject to certain conditions..**
Realignment	**The transfer of assets from the account of one CSD to the account of another, so as to create a direct relationship with the issuer CSD.**
Receive versus Payment (RVP)	**A mechanism which links a securities transfer and a funds transfer in such a way as to ensure that receipt of securities (or other financial instruments) occurs if, and only if, payment occurs.**
Reconciliation	**A procedure to verify that two sets of records issued by two different entities match.**
Registry	**An entity that records the ownership of securities on behalf of the issuer.**
Relayed link	**A contractual and technical arrangement that allows central securities depositories (CSDs) (issuer and investor CSDs) to hold and transfer securities through an account with a third CSD (middle CSD) acting as an intermediary.**
Replacement cost risk	**The risk that, owing to a counterparty to a transaction failing to meet its obligation on the settlement date, the other counterparty to the trade may have to replace, at current market prices, the original transaction ("replacement cost"). Also called "market risk" or "price risk".**
Secondary site	**A location other than the primary site, which systems can use to resume their business operations and other functions in the event of a disaster.**
Securities settlement system (SSS)	**A system which permits the transfer of securities, either free of payment (FOP) or against payment (delivery versus payment)**
Settlement	**The completion of a transaction or of processing in a transfer system, such that participants meet their obligations through the transfer of securities and/or funds. A settlement may be final or provisional.**
Settlement agent (settlement institution)	**The institution across whose books transfers between participants take place in order to achieve settlement within a settlement system.**
Settlement bank	**The entity that maintains accounts with the settlement agent in order to settle payment obligations arising from securities transfers, both on its own behalf and for other market participants.**
Settlement bank risk	**The risk that a settlement bank could fail, creating credit losses and liquidity pressures for a CCP and its participants.**
Settlement risk	**The risk that settlement in a transfer system will not take place as expected, usually owing to a party defaulting on one or more settlement obligations. This risk comprises, in particular, credit risks and liquidity risks.**
Settlement system	**A system used to facilitate the settlement of transfers of funds, assets or financial instruments.**
Systemic risk	**The risk that the inability of one participant to meet its obligations in a system will cause other participants to be unable to meet their obligations when due, with possible spillover effects such as significant liquidity or credit problems that may threaten the stability of or confidence in the financial markets. The inability can be caused by operational or financial problems.**
Transfer order	**An order or message requesting the transfer of funds or securities from the debtor to the creditor.**

Unwind	**The process of recalculating obligations in some net settlement systems where transfers between the accounts of participants are provisional until all of them have finally discharged their settlement obligations. If a participant fails to settle, some or all of the provisional transfers involving that participant are deleted from the system and the settlement obligations of the remaining participants are recalculated.**
Zero hour rule	**A provision in the insolvency law of some countries whereby the transactions of an insolvent institution that have taken place after midnight on the date the institution is declared insolvent are automatically ineffective by operation of law.**

ANNEX 3: THE LEGAL FRAMEWORK LAID DOWN BY THE EU INSTITUTIONS

The Council of the European Union and the European Parliament, in cooperation with the European Commission, are empowered by the Treaty to adopt legal instruments. A number of these instruments affect the operation of payment and securities settlement systems by mitigating systemic risk. Recent developments include the Settlement Finality Directive, as revised (SFD), the Financial Collateral Directive, as revised (FCD) and the Markets in Financial Instruments Directive (MiFID).

Directive 98/26/EC of 19 May 1998 on settlement finality in payment and securities settlement systems has harmonised the laws of the EU Member States and is currently under revision. It mainly ensures that transfer orders and netting of payment and settlement systems are binding and enforceable against third parties even in the event of a participant's insolvency provided that they have been entered into the system according to its rules and prior to the opening of insolvency proceedings (with limited exceptions). It further provides that the collateral posted to other participants in a system and central banks is enforceable and can be realised in accordance with the terms of the relevant agreement, unaffected from the opening of insolvency proceedings against the participant. It should be noted that the term "collateral" in the SFD has a broad meaning which encompasses all realisable assets, including credit claims. Rights and obligations of participants with regard to the system, including in case of a (foreign) participant's insolvency, are subject to the law governing the system. Rights to collateral securities recorded in an account, registry or central securities depository are governed by the law of the Member State where this account, registry or central depository is located.

Directive 2002/47/EC introduces harmonisation of the legal rules regarding the provision of collateral. The material scope of application covers financial collateral in the form of financial instruments[70] and cash. The Directive abolishes all formalities required to create and perfect collateral arrangements. If an enforcement event occurs, the realisation of the financial collateral will be possible by sale or appropriation (if agreed) of the financial instruments and by setting off the amount or applying it in discharge of the relevant financial obligation, without prior notice, court authorisation, public auction or a waiting period.[71] The Directive requires the recognition of the right to reuse pledged collateral, if contractually agreed, provides for the continuing validity of collateral, even when insolvency proceedings are initiated against one of the parties to the transaction, and recognises close-out netting arrangements and certain typical risk control measures inherent in collateral, i.e. the substitution of assets or asset prices related to mark-to-market calculations. Finally, it extends the conflict of laws rule

[70] Financial instruments are defined as: "shares in companies and other securities equivalent to shares in companies and bonds and other forms of debt instruments if these are negotiable on the capital market, and any other securities which are normally dealt in and which give the right to acquire any such shares, bonds or other securities by subscription, purchase or exchange or which give rise to a cash settlement (excluding instruments of payment), including units in collective investment undertakings, money market instruments and claims relating to or rights in or in respect of any of the foregoing"; see the Collateral Directive, Article 2(1)(e).

[71] Collateral Directive, Article 4.

of the SFD, i.e. applying the law of the place where the relevant account is maintained to all collateral in the form of book-entry securities.

On 23 April 2008, the Commission published a proposal for a Directive amending both the SFD and the FCD. The proposal takes account of recent market developments and inter alia: aligns the definitions of indirect and direct participants, defines interoperable systems for the purpose of cross system execution of transfer orders, introduces credit claims as a type of financial collateral, diminishes the risk of invalidation of credit claims offered as collateral at the absence of registration or debtor notification; and ensures the protection of night time settlement.

Directive 2004/39/EC on markets in financial instruments (MiFID[72]) was adopted on 21 April 2004, replacing the previous Investment Services Directive. MiFID entered into force as of 1 November 2007. While MiFID established a comprehensive regulatory framework governing the organised execution of transactions on regulated markets, multilateral trading facilities (MTF) and by investment firms, it also contains provisions relevant for open access to post trading infrastructures because it invites Member States to ensure that (i) local regulated markets, investment firms and market operators operating an MTF have the right to enter into appropriate arrangements with a central counterparty, clearing house and a settlement system from another Member State; (ii) investment firms from other Member States have the right of access to central counterparties, clearing and settlement systems in their territory; and (iii) members and participants of local regulated markets have a right to designate the system for the settlement of transactions undertaken on that regulated market (including in another Member State).

[72] OJ L 145, 30.4.2004, p. 1.