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PRUDENTIAL AND OVERSIGHT REQUIREMENTS FOR SECURITIES SETTLEMENT

by
Daniela Russo, Giacomo Caviglia, Chryssa Papathanassiou and Simonetta Rosati

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1 INTRODUCTION AND SUMMARY

Securities settlement systems (SSSs) have become an important component of the domestic and global financial infrastructure as securities markets have become an increasingly important channel for the flows of funds between borrowers and lenders, and investors have started managing their securities portfolios more actively. Thus, weaknesses in SSSs can be a source of systemic disturbance for securities markets and for other payment and settlement systems.

It is for this reason that the international community has increasingly focused on the soundness, safety and resilience of the post-trading infrastructure, when assessing the strengths and vulnerabilities of the financial markets in various countries. In the field of payment and settlement systems, the internationally recognised standard-setting body is the Committee on Payment and Settlement Systems (CPSS) of the central banks of the Group of Ten countries[1], which, when dealing with securities infrastructures, cooperates with the Technical Committee of the International Organization of Securities Commissions (IOSCO).

In November 2001 and November 2002 respectively, the CPSS and IOSCO each published a report identifying and discussing 19 recommendations that all SSSs should meet, together with the methodology for assessing systems against the recommendations. These recommendations have been included in the "Key Standards for Sound Financial Systems" highlighted by the Financial Stability Forum (FSF) and represent a "benchmark" for comparing and evaluating the degree of safety of SSSs around the world.[2] At the same time, as the geographical scope of application of the CPSS-IOSCO Recommendations is worldwide, they could not be too stringent and needed to be general enough to be used in a variety of contexts, ranging from the markets of developing countries to the infrastructure serving the major global financial centres. The CPSS-IOSCO reports emphasise that the recommendations are "minimum standards" (so stricter measures may be welcomed and in some cases warranted according to the specific environments in which the systems operate) and that various aspects would need to be further clarified by the relevant local authorities before the recommendations are implemented.

The assessment methodology of the CPSS-IOSCO Recommendations leaves open the possibility for the relevant authorities to extend the *scope of application* of the recommendations beyond SSSs to other major providers of similar services. Securities custody and settlement services are offered by various categories of intermediary, depending on the business practice, legal tradition and history of the country concerned.[3] As a result, while a principle of specialisation generally applies to financial intermediaries (e.g. banks and insurance companies), clearing and settlement services for securities can be provided by several

1 For this purpose, a framework for cooperation among the authorities in charge, in their respective countries, of issues affecting financial stability was set up by the Bank for International Settlements (BIS) in the form of committees, which over the years gradually developed into international standard-setting bodies. For further information, see http://www.bis.org/stability.htm. A well-known example in the banking sector is the Basel Committee on Banking Supervision.

2 For instance, the International Monetary Fund (IMF) and the World Bank have a Financial Sector Assessment Program (FSAP), which includes a detailed report assessing the financial market infrastructure of the member countries against the relevant standards and codes (known as the "ROSC"). For further information about the program, see the IMF's website (http://www.imf.org/external/np/fsap/fsap.asp#I).

3 See paragraph 1.10 of the CPSS-IOSCO 2001 recommendations report: "Because of the diversity of institutional arrangements internationally, the recommendations must focus on the functions to be performed, not on the institutions that may perform them. While some of the recommendations are relevant primarily to CSDs, others are relevant to stock exchanges, trade associations and other operators of trade confirmation systems, CCPs, settlement banks or custodians. As noted above, the distinctions between the functions of CSDs and custodians have become blurred in some markets where custodians settle trades between clients on their own books. In such markets some of the recommendations addressed to CSDs may need to be applied to such custodians. Many are also relevant to the broker-dealers, banks, investment managers and investors who use the services provided by the above-mentioned institutions. Securities regulators, central banks and, in some cases, banking supervisors will need to work together to determine the appropriate scope of application of the recommendations and to develop an action plan for implementation."

entities. For example, in most countries special entities (central securities depositories, or CSDs) have been created to centralise the issuance and settlement of securities. In some markets, a major, complementary role is played by custodians and clearing banks serving other intermediaries which do not access the CSD directly (such as in the tiered systems in place in the United Kingdom and the United States). In some financial market segments with no specific national anchor (such as the eurobond market which has developed since the 1970s), special entities have been created, i.e. the two international central securities depositories (ICSDs), Clearstream Luxembourg and the Brussels-based Euroclear Bank. In other cases, it may be business practice for securities settlement to be internalised in the books of the banks that hold investors' securities in custody ("custodian banks"), without the need for settlement instructions to be forwarded to the local CSD. Finally, in some countries, the boundaries between institutions active in this field may be even more blurred, as CSDs may be established with banking status.

Faced with this institutional "melting pot", the CPSS and IOSCO took a *functional approach* when developing the recommendations (i.e. by looking at how risks originate in the performance of the various functions, irrespective of which institution is involved in delivering the service) and left their practical implementation in the specific markets to the local regulatory authorities.

This is a particularly challenging task for the central banks and securities regulators of the European Union (EU), and has prompted the European System of Central Banks (ESCB) and the Committee of European Securities Regulators (CESR) to set up a joint working group in order to adapt the recommendations to the European environment. The European context is peculiar in that, following the adoption of EU Directives by the Member States, a significant degree of harmonisation has been achieved in many aspects of the banking and financial sector. However, most of the legal and business conditions relevant for the securities clearing and settlement industry derive from national regulations which are not harmonised, and which are the result of contrasting – sometimes even opposing – national regulatory approaches (ranging, for example, from prohibiting CSDs from engaging in any credit provision or lending activity to, at the other end of the scale, establishing CSDs with the legal form of a credit institution).

In October 2004 this joint effort resulted in the publication of a report on standards for securities clearing and settlement in the EU.[4] The report was not considered final, as further work was needed to investigate some outstanding questions, for example, to what extent, if at all, the standards should also apply to custodian banks.

One of the main objections raised during the 2004 public consultation concerned the risk that the standards developed using a *functional approach* (hence in principle applicable to any institution performing clearing and settlement functions, irrespective of whether it is a CSD, a bank or any other legal entity) would in fact overlap with and duplicate the national and international requirements to which specific categories of institution are already subject in Europe (as regulation was traditionally developed taking an *institutional approach*).[5] On the other hand, inconsistency between banking regulations and oversight recommendations may have undesirable effects, for instance in terms of competition, by causing a shift of settlement

4 "Standards for securities clearing and settlement in the European Union" (available on the ECB's website at http://www.ecb.int/pub/pdf/other/escb-cesr-standardssecurities2004en.pdf). For information about the follow-up work carried out, see the April 2005 issue of the ECB's Monthly Bulletin. It is envisaged that a revised version of the report will be the subject of a public consultation before being finally approved for implementation by the ECB's decision-making bodies and CESR.

5 The main reason why duplicated regulation should be avoided is that regulation entails compliance costs for the entities subject to it, and thus (additional) regulation that is not justified from a financial stability perspective would introduce competitive advantages or disadvantages for some market players. In turn, this alters the efficiency of the market mechanism, changes the allocation of resources and ultimately potentially drives the sector towards less costly and possibly less safe market solutions.

from infrastructure to intermediaries. This may, in turn, result in increased instability to the extent that it would lead to the concentration of risks stemming from payment and securities settlement activities in institutions, which are not subject to specific requirements for these risks.

In practice, it was necessary to analyse the current national and international regulatory regimes relevant for European banks, CSDs and ICSDs, and to compare them with the requirements in order to answer the following questions:

- Is there any overlap between the provisions of the CPSS-IOSCO Recommendations and the existing international and national requirements to which European SSSs and banks are subject?

- Are current provisions equivalent or more restrictive ("super-equivalent") for banks and CSDs? In what respect?

- Does the overlap between the CPSS-IOSCO Recommendations and existing regulation result in double requirements?

This paper presents the results of this comparative analysis and attempts to answer such questions.

Chapter 2 describes the risk-based functional approach which forms the basis of the CPSS-IOSCO Recommendations, and explains its rationale. In particular, it elaborates on the conditions that should be met to ensure that the application of the risk-based functional approach does not impair the level playing-field among market players.

Chapter 3 provides an overview of the regulatory regimes that are relevant for the comparison with some key CPSS-IOSCO Recommendations. These address the main areas of risk relevant for SSSs: securities lending (Recommendation 5), credit and liquidity risk controls, including capital requirements (Recommendation 9), operational reliability (Recommendation 11) and custody risk (Recommendation 12). Transparency requirements (Recommendation 17) are also covered, since disclosure enables market participants to evaluate the risks associated with their participation in SSSs. In particular, this chapter provides the background for the comparison by identifying the relevant:

a) EU Directives (the Codified Banking and Capital Adequacy Directives; the Markets in Financial Instruments Directive (MiFID));

b) international best practices for banks ("Principles for the management of credit risk" and "Sound practices for the management and supervision of operational risk" of the Basel Committee on Banking Supervision); and

c) national legislation and regulations for CSDs (since banks are subject to harmonised EU banking regulations).

Chapter 4 and Chapter 5 provide a detailed analysis and comparison, at the international and the national level respectively. They show that the CPSS-IOSCO Recommendations do not introduce new regulatory requirements, as most of their areas of concern are already covered by existing regulation for supervised entities.

With reference to the risks covered, the main conclusions of the paper can be summarised as follows:

– At present, there is no EU-wide harmonised institutional regulation for CSDs.

– If a CSD takes the form of a credit institution, then it is primarily subject to banking regulations, and in some cases to additional oversight requirements, as well as to self-regulation. All these regulatory measures aim to limit the risks to which the entity is exposed.

- To the extent that banking regulations cover any kind of exposure, including intraday liquidity risk, the CPSS-IOSCO concerns with respect to credit, operational, custody and legal risks are addressed by banking regulations.

- Banking regulations neither cover CSDs, nor clearing and settlement activities which are not banking activities to which mutual recognition applies under the Capital Requirements Directive.

- Consequently, specific requirements concerning the CSD function (e.g. ensuring the integrity of securities issues) or settlement services (e.g. delivery versus payment or intraday finality) are not expressly addressed by banking regulations. This applies to capital requirements, prudential measures and best practices set out in banking regulations.

- Thus, oversight recommendations may contribute to a consistent level of protection for all CSDs and ICSDs.

2 THE RISK-BASED FUNCTIONAL APPROACH

In order to ensure a level playing-field for the different entities providing clearing and settlement services, i.e. CSDs and banks, the CPSS and IOSCO developed their common standards on the basis of a risk-based functional approach. Two complementary principles underline the adoption of this approach:

- First, the CPSS-IOSCO Recommendations are to be applied to all risks stemming from the different functions related to the securities clearing and settlement business, irrespective of the legal status of the institutions bearing those risks. This applies, in particular, to those institutions which perform several functions at the same time (e.g. CSD and banking activities).

- Second, the application of the CPSS-IOSCO Recommendations should primarily take into account the different risks posed by the various individual entities which carry out the same function. This means that different entities may undertake the same activities but be subject to different types and levels of regulation.[6] This may occur because there are different ways of delivering the same services with different risk profiles. In this case, risk-based functional approaches do not always imply that the same risk management requirements should be adopted for all entities carrying out the same activities.

However, the fulfilment of these conditions does not in itself guarantee the proper application of the risk-based functional approach and therefore the absolute absence of competitive distortions. For an effective and fair application of the CPSS-IOSCO Recommendations, two additional conditions should be met to ensure equal competition in clearing and settlement services:

- First, the standards should take due account of regulation that currently exists, and not impose extra and unnecessary regulation on those market participants which are already regulated on a satisfactory basis.

- Second, a correct implementation of the recommendations presupposes the adoption of common definitions for the activities that form part of the clearing and settlement process.

- With regard to the first condition, it is acknowledged that the assessment methodology of the CPSS-IOSCO Recommendations for SSSs acknowledges that, although they are primarily addressed to CSDs, a number of them may also be relevant for custodians, e.g. securities lending (Recommendation 5), delivery versus payment, or DVP (Recommendation 7), credit and liquidity risk control (Recommendation 9), operational reliability (Recommendation 11), protection of customer assets (Recommendation 12), and transparency (Recommendation 17). However, the way in which the CPSS-IOSCO Recommendations are applied to banks providing clearing and settlement services needs to take proper account of the obligations stemming from Community and national legislation to which these entities are subject. In particular, with a view to preventing an unnecessary regulatory burden on banks, in some cases a certain function may also be subject to different regulation, depending on the institutional status of the entity that performs it. For example, since the credit activity of custodian banks is already subject to European banking regulations, the relevant CPSS-IOSCO Recommendation (Recommendation 9) recognises that the supervision of credit risk is a matter for banking supervisors.

6 For instance, securities lending may or may not involve credit risk.

It is however important that supervisors take into adequate consideration risks stemming from clearing and settlement activities and consider settlement (including intraday exposures) as any other credit and liquidity exposure. With regard to the second condition, the benefits stemming from the application of a risk-based functional approach are closely related to the existence of common functional definitions of clearing and settlement activities as well as the technical and legal aspects of carrying out these functions in different types of institution. The definitions of risks remain the same as those in the CPSS-IOSCO Recommendations. However, due to the sensitiveness of the issue, it was felt that functional definitions deserved further attention, in particular with regard to the functions and the related risks in the current market structure. Nevertheless, no definitions have been provided so far of the institutions or, in particular, of the functions which each institution is allowed to perform. It could be for instance important to have an agreed definition of central securities depositories and of the services they provide.[7]

In 2004 a functional approach was also proposed by the European Commission in the framework of its strategy for achieving an integrated, safe and efficient clearing and settlement environment for securities trading in the EU.[8] Based on the need to ensure a level playing-field for the different providers of services, the proposal highlighted the fact that there was no need to segregate banking activity for the application of the functional approach. The parties involved were invited to comment on the Commission's proposal, also taking into account the arrangements which exist in some European domestic markets and which differentiate between infrastructure and banking functions. Some functional definitions have been provided within the framework of the Code of Conduct for clearing and settlement. However, the Code does not aim at achieving financial stability (but rather at promoting competition and thereby integration). As a consequence, the work done by the Commission may need to be complemented with a more risk-based set of definitions that can be used by both regulators and overseers. In this vein, ECOFIN is discussing whether and how to adapt them to the European context (a final decision is expected next year).

7 Unless differently specified, the source of the definitions in this paper is the CPSS-ISOCO Recommendations. Some market participants consider it counterproductive to use institutional definitions. In Europe, in view of the adoption by the industry of a European Code of Conduct for clearing and settlement, the European Commission defined both institutions and functions.

8 Communication from the Commission to the Council and the European Parliament, "Clearing and settlement in the European Union – The way forward" (COM/2004/0312), available at http://europa.eu.int/comm/internal_market/financial-markets/clearing/index_en.htm#com

3 EU REGULATORY REGIMES AND RISKS RELATED TO SOME OF THE CPSS-IOSCO RECOMMENDATIONS

The banking regulatory framework in the field of SSSs is not as specific as the CPSS-IOSCO Recommendations. In particular, the risks covered by banking regulations (e.g. credit, liquidity and operational risks) are those that banks bear with respect to their overall activity. Whenever banks operate in the area of securities clearing and settlement, this implies that:

- on the one hand, if banks bear, e.g. credit risk for payment systems-related activity, this credit risk will be regulated in the same way as any other credit risk stemming from banking activities;

- on the other hand, no specific requirement has been imposed on risks stemming in particular from payment and securities settlement activities.

With the application of the CPSS-IOSCO Recommendations, it is therefore reasonable that safekeeping, asset transfer and banking activities are supervised to the minimum standards imposed on banks, regardless of the nature of the institutions carrying out such activities. Therefore, no additional provisions or inconsistencies would arise where institutions are already supervised to the minimum standards in such areas.

3.1 EU DIRECTIVES

The adoption of a Directive in the field of clearing and settlement is a well thought-out move by the Commission as a suboptimal solution. In 2004 the European regulator felt that a framework Directive may be needed for an efficient, safe and cheap cross-border clearing and settlement industry. Following the outcome of a thorough consultation and an impact assessment, this stance was reviewed in July 2006.[9]

According to the Commission, the proposal of any kind of regulatory measure in the field of clearing and settlement could slow down, or even block, the restructuring process already under way in this field. In reaching this conclusion, which is very much embedded in the "Better Regulation" approach,[10] the Commission favoured an industry-led approach to a more efficient and integrated post-trading market in the EU and called upon the industry to provide a suitable solution. In response to this call, the three main industry associations – the Federation of European Securities Exchanges (FESE), European Association of Central Counterparty Clearing Houses (EACH) and European Central Securities Depositories Association (ECSDA) – prepared a Code of Conduct that was signed in November 2006. The measures detailed in the Code address three main issues: (i) transparency of prices and services; (ii) access and interoperability; (iii) unbundling of services and accounting separation.

In the absence of an ad hoc regulatory framework for clearing and settlement at the EU level, the CPSS-IOSCO Recommendations represent the supranational benchmarks with which national legislation could comply. This may ensure coherent oversight and supervision of securities clearing and settlement also at the EU level, the need for which is even stronger in the absence of primary legislation.

In the EU regulatory framework, two Directives deal with topics addressed by the CPSS-IOSCO Recommendations and are relevant for the analysis of prudential requirements for securities settlement: the Capital Requirements Directive (comprising Directive 2006/48/EC

9 See Commissioner McCreevy's speech SPEECH/06/450 and Annex II of the "Draft working document on post-trading activities", 23 May 2006, http://ec.europa.eu/internal_market/financial-markets/clearing/communication_en.htm

10 See "White Paper on Financial Services Policy (2005-2010)", http://ec.europa.eu/internal_market/finances/docs/white_paper/white_paper_en.pdf

and Directive 2006/49/EC) and the Markets in Financial Instruments Directive, or MiFID (2004/39/EC).[11]

RISKS AND CAPITAL REQUIREMENTS

The objective of the regulatory capital in the financial sector is to set a comprehensive and risk-sensitive framework and foster enhanced risk management amongst financial institutions. Compared with the oversight regime of the CSDs, which is based on a combination of collateral requirements and limits (see CPSS-IOSCO Recommendation 9 – section 4.2), the capital requirements framework requires sound criteria for credit-granting, ongoing administration, monitoring and adequate diversification.

In the EU this set of provisions is enforced by the Capital Requirements Directive (CRD), which was adopted by the Council and the European Parliament in June 2006. The CRD introduced an updated supervisory framework, which reflects the Basel II rules on capital standards agreed at G10 level. This framework fosters risk management and encourages improvements in banks' risk assessment capabilities. The Basel II framework, which is the basis for these changes to EU legislation, aims to enhance the effectiveness of capital regulation and the stability of the banking system. The effectiveness of capital regulation is primarily increased by a more comprehensive framework which broadens the scope of capital regulation through a higher level of risk sensitivity. The stability of the banking system is enhanced first and foremost because capital requirements are better aligned with the risks taken by the individual banks.

In the Basel II and the EU framework, several aspects are relevant for risks associated with securities transactions. In particular, credit risk and operational risk are explicitly covered by the new regulatory regime. Indeed, the Basel II framework entails substantive changes to the treatment of credit risk and the introduction of an explicit capital requirement for operational risk. For both credit and operational risk, three approaches of increasing risk sensitivity are foreseen to allow banks and supervisors to select the approaches that they believe to be the most appropriate to the stage of development of bank operations and the financial market infrastructure.

Banking supervisory tools and techniques regarding securities transactions are also clearly set out under the Basel II framework and the proposed EU rules. First, there is a combination of credit and operational risk provisions regarding the quantitative definition of minimum capital requirements.[12] For example, in the standardised approach for operational risk, payment and settlement activities will be assigned a capital charge of 18% of the average over three years of the sum of the interest income and annual non-interest income in that business line. The business line is defined as money and transmission services, issuing and administering means of payment.

This set of provisions is complemented by the qualitative assessment of risks, risk mitigation techniques, and internal controls by the supervisory authorities.[13] In particular, the new framework introduces more risk-sensitive approaches to the treatment of collateral, guarantees, credit derivatives, netting and securitisation, which need to be assessed by supervisors.

Finally, clear limits for large credit exposures are set by the Basel II framework. These limits on large exposures also cover the specific risks of individual issuers in the trading book.

Although the risks posed by clearing and settlement are generally taken into consideration by banking regulations, the current and forthcoming capital adequacy regimes

11 The Capital Requirements Directive comprising Directive 2006/48/EC and Directive 2006/49/EC was published in the Official Journal of the European Union on 30 June 2006.

12 Pillar 1 of the new Basel II framework sets out criteria for banking organisations to adopt more risk-sensitive minimum capital requirements. In particular, it lays out principles for banks to assess the adequacy of their capital.

13 Pillar II of Basel II sets out principles designed to help supervisors to review the assessment of capital adequacy and to ensure that banks have adequate capital to support their risks.

may not be appropriate to cover all critical aspects in the area of securities clearing and settlement (the banking regulatory framework does not address explicitly, for instance, Delivery-versus-Payment or other technical specificities of clearing and settlement, as the latter are not listed as banking activities). This is especially the case for intraday and overnight credit exposures. The intraday lines extended for securities settlement are intended to facilitate the timely settlement of transactions in the securities markets. The essence of intraday credit is that it is not expected to result in an actual credit extension, except in cases where an operational failure of either trade delivery or funding payment by the customer is not resolved by the end of the day and results in an overdraft in the customer account. Compliance with capital requirements and large exposure limits is reported to banking supervisors on the basis of quarterly or half-yearly end-of-day data, but the requirements have to be met at all times and the internal policies for measuring and managing the exposures to the various risk profiles, including those emerging from intraday credit, form an integral part of the prudential controls performed by banking supervisors.

HOME-HOST RESPONSIBILITY

The home-host supervisory responsibility is one of the key issues related to the implementation of the CRD. Compared with Basel II, the EU capital framework is intended to improve home-host supervisory cooperation by enhancing responsibilities of the authority responsible for consolidated supervision (usually based in the home country of a bank). In particular, the new capital framework assigns to the authority responsible for consolidated supervision a coordinating supervisory role and the power to take certain prudential decisions (see Article 129 of the CRD).

Even though a prominent role of the "home authorities" is acknowledged by the existing international agreements between central banks and securities regulators – including the CPSS-IOSCO Recommendations – a growing proportion of systemically important infrastructures located in, operated from or managed from foreign countries makes the analysis of possible changes in the home-host responsibility relevant also for clearing and settlement systems. In order to address regulatory concerns efficiently and address any liquidity problems that may be triggered in a cross-border dimension by payment, clearing and settlement systems, overseers and regulators have established cooperative arrangements and memoranda of understanding to support the oversight of these infrastructures, enabling effective leverage over decisions that influence systemic risk in the respective countries.

In a cross-border dimension, both supervision and oversight cooperative frameworks should aim at responding to the increasing internationalisation of financial markets and institutions by designing supervisory arrangements that avoid gaps and reduce the risk of inconsistent policies, while eliminating unnecessary regulatory burdens. For some financial institutions, and also for systemically important payment and settlement systems, cooperative oversight or supervisory arrangements are necessary to ensure appropriate mitigation of systemic risk.

In the absence of cooperative frameworks, there is a risk that the "host" authorities where a payment system is systemically important do not have adequate powers or influence over a system which is integrated abroad. On the other hand, "home" authorities with effective powers might not give sufficient priority to the systemic risk concerns of overseas authorities.

In addition, and without prejudice to the existing responsibilities of home or host authorities, a degree of flexibility over which authorities (central banks or supervisory authorities, if not equivalent) should coordinate oversight may be taken into account by the countries concerned instead of applying a mechanistic choice of either home or host authority.

MARKETS IN FINANCIAL INSTRUMENTS DIRECTIVE

Contrary to the CRD, the MiFID does not address risks or other issues related to clearing and settlement. It only imposes some organisational requirements on investment firms regarding the safeguarding of clients' assets, similar to CPSS-IOSCO Recommendation 12 on the protection of customers' securities.[14] The rationale for not addressing issues relating to clearing and settlement is summarised in Section V.1 of the explanatory memorandum of the Directive. In particular, it highlights how, in the absence of harmonised risk management practices and an effective supervisory framework, the inclusion of the clearing and settlement functions in the list of investment services would not only fail to deliver an effective single market environment for the organisation of these activities, but could also prove to be counterproductive from the perspective of sound prudential supervision of these entities. Essentially, it has been recognised that, due to the systemic importance of operators offering such services and the complex technical and public policy considerations involved, the regulation of these distinct types of market function should be addressed separately. On the other hand, the close relationship between trading and post-trading requires coordinated regulation. This idea was supported by the ECB in its opinion on the MiFID recommending that the European Commission finalise an adequate regime for clearing and settlement.[15]

Article 34 of the MiFID, however, recognises the right of investment firms to designate the system for the settlement of transactions in financial instruments undertaken on the regulated market. This possibility is subject, inter alia, to the agreement of the competent supervisory authority attesting that the technical conditions for settlement of transactions concluded on the regulated market through a settlement system, other than that designated by the regulated market, are such as to allow the smooth and orderly functioning of financial markets.

This provision aims to create objective criteria with which the competent authorities can assess the designation of a particular system by indirect or remote members of, or participants in, a domestic regulated market. In this context, however, it is vital to ensure that the competent authorities are not perceived by participants to discriminate in favour of domestic systems where these authorities do not agree with a particular designation, provided that their decision is based on objective and harmonised criteria.

3.2 BEST PRACTICES

With the "Principles for the management of credit risk", the Basel Committee on Banking Supervision encouraged banking supervisors globally to promote sound practice for managing credit risk. Although the principles are mostly applicable to the business of lending, they should be applied to all activities where credit risk is present, making the board and senior management responsible for determining and implementing coherent credit policies. The sound practices set out by the Basel Committee address the following areas: (i) establishing an appropriate credit risk environment; (ii) operating under sound credit-granting processes; (iii) maintaining an appropriate credit administration, measurement and monitoring process; and (iv) ensuring adequate controls over credit risks.

The principles set out by the Basel Committee should be used in evaluating a bank's credit risk management system. According to the principles, a further particular instance of credit risk relates to the process of settling financial transactions. Settlement risk thus includes

14 Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments amending Council Directives 85/611/EEC and 93/6/EEC and Directive 2000/12/EC of the European Parliament and of the Council and repealing Council Directive 93/22/EEC. This Directive was adopted after four years of intense negotiation and replaced the regime set up by the 1993 Investment Services Directive (93/22/EEC).

15 Opinion of the European Central Bank of 12 June 2003 on investment services and regulated markets, and amending Council Directive 85/611/EEC, Council Directive 93/6/EEC and European Parliament and Council Directive 2000/12/EC (COM(2002) 625 final) - (CON/2003/9).

elements of liquidity, market operational and reputational risk as well as credit risk.[16]

The level of risk is determined by the particular arrangements for settlement. Elements of these arrangements that have a bearing on credit risk include: the timing of the exchange of value; payment/settlement finality; and the role of intermediaries and clearing houses.

Another group of best practices put forward by the BCBS concern operational risk. The "Sound practices for the management and supervision of operational risk", which were prepared by the Risk Management Group of the Basel Committee, address this new and growing category of risks faced by banks. Among them, the growing use of outsourcing arrangements and participation in clearing and settlement systems are seen as ways to mitigate certain risks, but also as a potential source of new risks to banks. Such risks, together with others such as legal risk (but excluding strategic and reputational risks), are grouped under the heading of operational risk, which the Basel Committee has defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Operational risk event types identified by the Basel Committee in cooperation with the industry as having the potential to produce substantial losses include execution, delivery and process management aspects such as data entry error and collateral management failures.

Following a similar approach to its work on credit risk, the Basel Committee structured the sound practices on operational risk around a number of principles. In addition to those principles which strictly refer to risk management (e.g. identification, assessment, monitoring and mitigation/control), there are also sound practices relating to the role of supervisors in: i) requiring banks to establish an effective framework for risk management; ii) monitoring and ensuring that the most appropriate procedures and practices are in place. In performing this assessment, cooperation and exchange of information with other supervisors may be necessary in accordance with established procedures.

3.3 NATIONAL LEGISLATION/REGULATION

At the national level, the implementation and enforcement of EU Directives and best practices, in particular with regard to the functions of clearing and securities settlement, vary across Member States. With a number of specific variations, three regulatory regimes can be broadly identified with regard to CSDs, whereby the activities of custodian banks are covered by banking regulations: [17]

(1) CSDs are licensed credit institutions but clearing and settlement are not classified as banking activity and, thus, are not subject to banking supervision.

(2) CSDs are not banks and they do not provide credit to their participants. Therefore, no comparison with national banking legislation is applicable.

(3) CSDs are not banks but they are allowed to provide their participants with credit or loans to settle their positions. Ad hoc regulations deal with this (typically intraday) credit activity, although they are not applicable to banks that are allowed to grant credit within appropriate risk control limits.

In the absence of any harmonised EU regulation in this field, it is acknowledged that it is not possible to achieve convergence of regulatory practices concerning the scope of business of CSDs, and notably the management of credit and liquidity risks incurred by CSDs, beyond the agreement reached by the CPSS and IOSCO and reflected in the provisions of Recommendation 9.

16 See Basel Committee on Banking Supervision, "Principles for the Management of Credit Risk", September 2000, page 2.

17 In specific situations, only ICSDs operate in the market; thus, the banking supervisor has the right to prescribe the same requirements as for banks.

4 INTERNATIONAL COMPARISON

The comparison in the following section focuses on CPSS-IOSC Recommendations that relate primarily to counterparty, liquidity and operational risks (5, 9, 11, 12 and 17) and the respective regulation and principles concerning credit institutions and investment firms in order to determine whether these recommendations duplicate or complement existing banking regulations. The following sub-sections first describe the recommendation and the banking regulations and then provide a conclusion as to whether the recommendation is covered by the banking regulations or not. They focus on CSDs, with or without banking status, banks and investment firms. As this is the first comparison between requirements, each CPSS-IOSCO Recommendation is described explicitly.

4.1 RECOMMENDATION 5: SECURITIES LENDING

CPSS-IOSCO Recommendation 5 on securities lending has two main objectives. First, it encourages the creation of a legal and tax regime that supports securities lending domestically and across borders to reduce settlement failures. Second, supervisors and overseers should have policies to ensure that risks from securities lending services are properly managed by the supervised/overseen entities. Some CSDs provide centralised lending facilities and others offer services to support the bilateral lending market. It is up to the individual market to evaluate the benefits of each type of facility. In this regard, when an (I)CSD offers securities lending and, although it does not legally act as a principal, economically speaking it undertakes counterparty risk because it guarantees the lending operation (i.e. the restitution of securities). In general, the CPSS-IOSCO Recommendation explicitly encourages securities lending as a method for expediting securities settlement and reducing settlement risk. However, considering that this is in principle an extra service outside the scope of core CSD services offered by the settlement entity, it is important that the provision of the service does not create "new" risks and that it occurs in a competitive and transparent environment.

This recommendation on securities lending does not create new requirements because the CPSS-IOSCO Recommendations are concerned with the operational, legal and counterparty risks that may arise as a result of securities lending transactions and appropriate mitigation strategies. CPSS-IOSCO Recommendation 9 has a bearing on the reading of CPSS-IOSCO Recommendation 5 because the former foresees that CSDs should not allow overdrafts or debit balances on securities accounts when CSDs arrange for securities loans to participants to facilitate timely settlement.

Turning to the regulatory treatment of securities lending, at first sight banking regulations could give the impression of being fairly neutral with regard to securities lending. In banking regulations, securities lending in terms of generating credit and custody risks is treated as any other such risk in the Capital Requirements Directive inspired by the Basel II framework (hereafter referred to as the CRD).[18]

A careful analysis shows that securities lending as a means of risk mitigation is derived from the principle of effective internal risk management systems laid down in Article 22 (1) of the CRD, which requires "effective processes to identify, manage, monitor and report the risks [that the credit institution] is or might be exposed to and adequate internal control mechanisms, including sound administrative and accounting procedures". Given the diversity of credit institutions, this requirement is to be met on a proportionate basis.

Furthermore, a more careful reading of the CRD shows that, although securities lending is not explicitly required as a risk mitigation technique, the CRD implicitly encourages

18 Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions (recast), OJ L 177, 30.6.2006, p. 1.

securities lending in various ways, as does the CPSS-IOSCO Recommendation. First, securities lending is recognised as one of the three categories of collateralised transaction (securities lending, securities borrowing and repurchase agreements). Second, credit institutions may apply a risk weight of zero to securities lending with core market participants, such as recognised clearing houses. The difference can be seen in the fact that this risk weight becomes 10% if the counterparty is not a core market participant. Third, securities lending agreements (and securities borrowing and repurchase agreements) are usually subject to the same favourable treatment, provided that the documentation used is the usual standard market agreements without any material change (Annex VIII No 59 (f)). In that sense, the CRD has already addressed the concerns that the CPSS-IOSCO Recommendation wishes to cover when discussing securities lending as a risk mitigation technique.

Another important piece of legislation, the MiFID, does not contain any provisions in relation to the avoidance of securities settlement failures since it is, by definition, devoted to trading rather than post-trading activities.

Consequently, the MiFID devotes attention to the minimisation of settlement failure for regulated markets which are required, inter alia, to have effective arrangements to facilitate the efficient and timely finalisation of the transactions executed under its systems (Article 39 (e)). This could be construed to include facilities that allow for timely finalisation, among which is securities lending, if any such failure were to occur on the trading side. However, it is more evident that securities lending is effective on the side of clearing and settlement. Thus, the risk considerations of this CPSS-IOSCO Recommendation for settlement risk for that particular group of entities are reflected in the MiFID.

Securities lending is not explicitly mentioned in the "Principles for the management of credit risk". However, it can be construed to be reflected in Principle 15, which requires banks to ensure that credit exposures are within levels consistent with prudential standards and internal limits. Internal audits are to ensure that credit activities are compliant with the banks' credit policies. On the other hand, Principle 17 invites supervisors to require an effective system to identify, measure, monitor and control credit risk and to assess a bank's policies. Supervisors should set prudential limits to restrict bank exposures to single borrowers or groups. Under the above principles, securities lending could be construed as a method to mitigate and control credit risk and, in that regard, it could be assessed or even required by supervisors as part of a bank's sound risk management policies. Thus, the basic principle of securities lending as a risk mitigation method is broadly reflected in the banking regulations and best practices.

Finally, Basel II recognises, and to some extent implicitly encourages, securities lending as a risk mitigation tool. For credit risk generated by securities lending, the CPSS-IOSCO Recommendation urges counterparties to

Table 1 CPSS-IOSCO Recommendation 5 and related legislation

Recommendation 5	CRD	MiFID
Encourages use of securities lending to reduce settlement failures.	Securities lending is a risk mitigation tool. It is recognised as a collateralised transaction with a risk weight of zero for core market participants and 10% for non-core participants.	Regulated markets are required to have arrangements to facilitate efficient and timely finalisation.
Counterparties to securities loans should employ appropriate risk management policies.	Securities lending is found in Annex VIII as one of three categories of collateralised transaction; the requirements relate only to the recognition of the effects of collateral used in this kind of transaction.	No provision.

securities loans to employ appropriate risk management policies. This is a similar approach to the one taken by Basel II, which has no specific category of risk for securities lending. Thus, the CPSS-IOSCO Recommendation can rely on banking regulations for the treatment of securities lending and related risks by institutions supervised under banking standards. A schematic summary of the above is shown in the table below.

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

CSDs often extend intraday credit to participants either as a principal or as an agent for other participants. Whenever a CSD extends credit, the risk arises that failures to settle may generate credit losses and liquidity pressures on the CSD or its participants. If the losses exceed the financial resources of those expected to bear them, further failures to settle may cause disruptions to the securities markets the CSD serves and payment systems.

To avoid such conditions, CPSS-IOSCO Recommendation 9 limits the credit activities of a CSD by prohibiting overdrafts in securities accounts and by encouraging the use of the most reliable set of controls: a combination of collateral requirements and limits. Under this approach, the control of potential credit exposures is achieved through their full collateralisation with the application of haircuts to reflect the price volatility of the collateral. At the same time, potential liquidity pressures are controlled by imposing limits on the extension of credit. Thus, on the funds side, the CSD has to limit the credit exposure to each participant at amounts that could be covered by the CSD or participants under the respective arrangements. On the securities side, a CSD which arranges securities loans to participants to avoid settlement failures can do so under the condition that debit balances are not created because CSDs should not allow overdrafts or debit balances on securities accounts.

Taking a completely different approach, the relevant banking legislation does not limit credit activities because this is the core function of banking business. Banking legislation requires sound criteria for credit-granting, ongoing administration, monitoring and adequate diversification. Thus, credit institutions and investment firms are required first to have minimum initial capital. Second, both types of entity are required to use credit risk mitigation techniques to manage credit and liquidity risks effectively. Third, credit institutions and investment firms are subject to capital requirements, meaning own funds that have to be maintained at all times. Intraday exposures are not subject to capital requirements. Finally, banking legislation provides that the activities of credit institutions and investment firms should be limited to those areas where the entity has adequate organisation, systems and controls.

Credit institutions and ICSDs with banking status are generally subject to capital requirements, while CSDs that do not have banking status generally are not.[19] As regards risk mitigation techniques, the recommendation focuses on full collateralisation for credit (including intraday credit), while the banking legislation does not explicitly require any percentage of collateralisation of credit exposures. However, as collateralisation reduces the amount of capital that needs to be maintained, credit institutions have increasingly felt the need to free up more capital by making extensive use of various types of eligible collateral for their banking activities, thus moving closer to the CPSS-IOSCO Recommendation. Moreover, the need for collateralisation can be construed to form part of the "adequate internal control mechanisms, including sound administrative and accounting procedures" of a bank laid down in Article 22 of the CRD.

In addition to the incentives that a bank has to collateralise its credit risk, banking supervisors may increase capital requirements if the level of collateralisation is deemed insufficient. This is one of five supervisory tools foreseen under

19 Whether or not they are subject to capital requirements depends on the national legal framework (see chapter 5).

Article 136 (1) of the CRD; however, another restricts the business, operation or network, or the risks inherent in activities, products and systems. The latter could implicitly form the basis for an increase in collateralisation if a credit institution no longer met the requirements of the CRD.

Under the current regime, a credit institution is responsible for the method through which it chooses to meet its capital requirements. Consequently, a credit institution may collateralise using eligible collateral in order to reduce the cost of capital and, thus, expand the range of its banking and investment activities. Therefore, on this particular point of collateralisation of credit risk, there is some convergence between the CPSS-IOSCO Recommendation and banking regulations.

A further point of comparison concerns supervisory coordination. Under the CPSS-IOSCO approach, the degree of compliance with the recommendations should be assessed by regulators, supervisors and overseers, and information should be shared according to Recommendation 18. Under the banking legislation, on the other hand, banking supervisory authorities have to review compliance with the banking legislation. Information sharing is included within the scope of consolidated supervision and reliance on home country supervision with some restricted role for the host authorities. This also includes intraday liquidity, and it can thus be considered that the CPSS-IOSCO concerns are reflected and can be adequately monitored by banking supervisors.

Similarly, a solid framework of cooperation among competent authorities is foreseen under the MiFID. For investment firms, Article 56 of the MiFID foresees extensive cooperation among national authorities and with the EU authorities. The European Commission is in the process of defining how this information flow will be organised at the level of the EU authorities. The notion of systemic relevance is a criterion to be applied when determining the frequency and intensity of the review by the competent authorities.

In addition to the points discussed in Chapter 3, the "Principles for the management of credit risk" have strong references to risk identification, measurement, control, monitoring and mitigation, and preferred methods are proposed. Supervisors are encouraged to set prudential limits that would apply to all banks irrespective of the quality of their credit risk management procedures, together with reporting requirements for credit exceeding established levels or granted to counterparties "connected" to the credit institution. Banking regulations focus on the adequate management of credit risk and have no capital requirements for intraday exposures. However, they provide supervisors with the tools to monitor intraday exposures if they wish, thus reflecting to some extent the philosophy of the CPSS-IOSCO Recommendation.

The CPSS-IOSCO Recommendation requires CSDs to put in place risk controls to limit the potential for failures to settle to generate systemic disruption and requires full collateralisation of credit extensions, unlike banking regulations. That being said, there is an area of common ground where the CPSS-IOSCO Recommendation and banking regulations can meet. First, banking regulations give incentives to banks to encourage collateralisation. Second, the banking legislation does not limit the power of supervisors to monitor liquidity and intraday risks, if they wish. In view of the above considerations, it can be concluded that there are no oversight concerns in relation to banks that satisfy the requirements of banking supervisors and, thus, their risk management policies may be excluded from the scope of the recommendation.

4.3 RECOMMENDATION 11: OPERATIONAL RELIABILITY

CPSS-IOSCO Recommendation 11 prescribes that sources of operational risk arising from the clearing and settlement process should be identified and minimised through

Table 2 CPSS-IOSCO Recommendations for counterparty and liquidity risk and related legislation

CPSS-IOSCO Recommendations	CRD	MiFID
Recommendation 5		
Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities transactions. Barriers that inhibit the practice of lending securities for this purpose should be removed.	No provision.	No provision.
Recommendation 9		
CSDs that extend intraday credit to participants, including CSDs that operate net settlement systems, should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. The most reliable set of controls is a combination of collateral requirements and limits.	Credit risk mitigation techniques, foreseen in Articles 90-93, are detailed in Annex VIII. No requirements present on the degree of collateralisation of exposures. Eligible collateralisation may however reduce the capital requirement. Collateralisation could possibly be construed to be part of the robust governance arrangements required in Article 22 of the CRD. Annex V, No 3, requires sound criteria for credit-granting, ongoing administration/ monitoring and adequate diversification. The CRD imposes: a) an aggregate limit of 25% for lending to connected counterparties; b) a 25% limit on all individual counterparties; and c) an 800% limit for total large exposures. No requirements as to the duration of credits. Regular reporting is required for any large exposures exceeding 10% of own funds as described in the CRD. Large exposures of 25% to be reported at least quarterly.	No provision.
Recommendation 18		
Securities settlement systems should be subject to transparent and effective regulation and oversight. Central banks and securities regulators should cooperate with each other and with other relevant authorities.	The CRD contains a reference (in Articles 123 and 124) to the risk management processes that firms must have in place and that the competent authority has to review.	General provision of information flow and extensive cooperation of competent authorities under Article 56.

the development of appropriate systems, controls and procedures. Operators should establish procedures to address those risks and contingency plans for key systems which are reviewed and tested regularly. Business continuity plans have to be reviewed and independently audited. The CPSS-IOSCO Recommendation requires system operators who outsource operations to ensure that those operations meet the same standards as if they were provided directly by the system operator.

Similarly, banking regulations require processes and policies to evaluate and manage exposures to operational risk. As with the CPSS-IOSCO Recommendation, they recognise that systems may be sources of systemic risk and, thus, require effective risk management of operational risk.

Operational risk and outsourcing is also covered by the MiFID. Under Article 13 of the MiFID, investment firms should take all reasonable steps to ensure continuity and regularity in the performance of their activities (Article 13 (4)). For that purpose, they have

to employ appropriate and proportionate resources, systems and procedures. There is no requirement for prior approval of outsourcing by supervisors. Outsourcing may not be undertaken in such a way as to impair materially the quality of internal control or the ability of the supervisors to monitor the investment firm's compliance with all obligations (Article 13 (5)).

Principle 13 of the "Principles for the management of credit risk" requires banks to perform a "what if" exercise and stress testing as part of their framework to address operational risk. In particular, the "Sound practices for the management and supervision of operational risk" focus on governance requirements, explicitly stating the responsibility of the board to be aware of a credit institution's operational risks and to develop a framework to deal with operational risk. Senior management has the responsibility to implement a framework with tools to put in place and regularly review contingency plans. Banks have to identify critical business processes, including those where there is dependence on third parties, for which rapid resumption is critical, making the sound practices similar to the CPSS-IOSCO requirement in this respect. Supervisors are asked to ensure that all banks, regardless of size, have an effective framework to manage operational risk. Finally, public disclosure should allow investors and counterparties to evaluate whether or not a bank has an effective framework for managing operational risk.

Credit institutions are subject to capital requirements under the banking legislation which may cover operational risks. Capital requirements are, in principle, not foreseen in the regulation of CSDs with no banking licence. The situation is very diverse in the EU. A number of countries foresee no capital requirements for CSDs which have no banking licence. Consequently, these jurisdictions do not allow their CSDs to assume credit risk. Others require CSDs without banking status to post own funds (reserves, retained earnings and net income, not only initial capital) commensurate with any risk-related activity. Each country has devised its own coherent scheme to ensure that entities have the appropriate financial resources to continue operating if operational risk occurs. This situation raises the issue of whether there is room for harmonisation regarding capital requirements for CSDs that do not have banking status in order to address operational risk. It is worth reflecting upon this issue, taking into account that operational risks are the same regardless of whether they are borne by entities that are credit institutions or not.

In sum, the main content of banking regulation and oversight recommendations largely overlap (see table 3). This is true for the general need to minimize operational risks, as well as for some specific requirements in terms of governance, business continuity plans and audit requirements. The main differences relate to outsourcing, to the quantitative approach to

Table 3 CPSS-IOSCO Recommendation 11 and related legislation - What is common

CPSS-IOSCO Recommendation 11	Banking regulation (RBCD, Basel practices)	MiFID
Minimize operational risks	Policies and processes to evaluate and manage the exposures to operational risk. Need for control and mitigation.	All reasonable steps to ensure continuity and regularity in their performance (article 13(4)).
Systems and related functions are subject to audit	No explicit reference to independent audit but reference to "competent authorities".	
Need for business continuity and disaster recovery plans	"Need for contingency and business continuity plans (annex V. n. 8, para.I).	
Responsibilities for management	Responsibilities for Board of Directors (developing strategy) and Senior management (implement)	

Table 4 CPSS-IOSCO Recommendation 11 and related legislation - What is different

CPSS-IOSCO Recommendation 11	Banking regulation (RBCD, Basel practices)	MiFID
Minimisation of operational risks	Possibility for banks to consciously take certain risks instead of minimising them. Risks are quantitatively estimated and subject to a minimum capital coverage.	
	Proportionality requirements (article 22(2)).	Proportionate resources.
Outsourcing is responsibility of the outsourcer, who should ensure that outsourced operations meet the same standards as if they were provided directly by the outsourcer.	Basel Sound practices require: a) manage all risks linked to outsourcing; including b) residual risks (e.g. disruption of services); c) need for legally robust contracts; d) clear allocation of responsibilities; e) outsourcing does not reduce the responsibilities of Board of Directors.	Outsourcing may not be undertaken if it impairs the quality of internal control and the ability of the supervisors to monitor.
	Capital requirements: 3 approaches for their determination, from basic to advanced methods. All approaches are based on a consolidated calculation across all the business lines.	

estimating operational risk exposure and to the requirements of minimum capital coverage of such exposure (see table 4).

4.4 RECOMMENDATION 12: PROTECTION OF CUSTOMERS' SECURITIES

CPSS-IOSCO Recommendation 12 urges entities holding securities in custody to employ procedures ensuring that all customer assets are appropriately accounted for and kept safe, particularly from claims of those entities' creditors. This could be accomplished by: (a) identifying clients' securities on the books of custodians and the CSD separately from own securities, which is known as "segregation"; and (b) regularly reconciling records to keep them accurate. Other ways to safeguard or protect customers against misappropriation and theft include internal controls and insurance or other compensation schemes. Entities that hold securities must ensure that procedures allow customer protection and are applicable, where relevant, to all upstream intermediaries in multi-tier holdings. These entities should be regulated and supervised (see key issue 3).[20]

Similarly, the MiFID spells out the duties of investment firms in Article 13 (7) and (8) and the respective CESR Level 2 measures to protect customer assets. The provisions contain detailed obligations for investment firms with respect to: (i) depositing customer funds in certain institutions; (ii) choosing regulated depositories for financial instruments; and (iii) keeping appropriate records of ownership that ensure that the total of client assets corresponds to the amounts held for each individual client. These obligations largely reflect the duty of CSDs to ensure the integrity of securities issues. The custody risk considerations of the recommendations are largely reflected in the proposed Level 2 measures of the MiFID for the entities that the MiFID itself addresses. CESR believes that, owing to the lack of harmonisation in insolvency laws, Level 2 measures should be result-oriented rather than specifying rigid arrangements for every circumstance.

Safekeeping and administration services are defined in Annex I of the MiFID as ancillary services that may be provided by investment firms upon authorisation. However, it is acknowledged that the terms of "safekeeping" and "administration services" are not harmonised.

20 BIS (2002), "CPSS-IOSCO assessment methodology for 'Recommendations for Securities Settlement Systems'", Basel, November.

Table 5 CPSS-IOSCO Recommendation 12 and related legislation

Recommendation 12	CRD	MiFID
Entities holding securities should employ procedures ensuring that all customer assets are appropriately accounted for and kept safe. This could be accomplished by "segregation" and by reconciling records with the issuer CSD. Other ways to safeguard or protect customers against misappropriation and theft include internal controls and insurance or other compensation schemes.	No explicit provision.	Article 13 (7) and (8) of the MiFID require investment firms (i) to deposit customer funds in certain institutions, (ii) to choose regulated depositories for financial instruments, and (iii) to keep appropriate records of ownership that ensure that the total of client assets corresponds to the amounts held for each individual client.
Entities holding securities (i) must ensure that procedures allow customer protection and that, where relevant, procedures are applicable to all upstream intermediaries in multi-tier holdings, and (ii) should be regulated and supervised.	No explicit provision.	Detailed investor protection in Article 13 (7) and (8) of the MiFID and Level 2 measures introduced by CESR on appropriate record-keeping and clarity of ownership identification, clarity of responsibilities, and maintenance of written records.

The recommendation is to a large extent reflected in the MiFID and CESR Level 2 measures. There are a few differences owing to the different scope of application of the MiFID on the trading side. Custody risk measures and investor protection in the MiFID broadly reflect the CPSS-IOSCO considerations.

Banking regulations focus on different aspects of monitoring credit risk. A credit institution that holds deposits has different duties to an entity holding securities; because cash is fungible, it is shown as a liability on the balance sheet of a credit institution and it forms part of the bankruptcy estate of the credit institution, which means that customers may lose their deposits.

Depositors can be protected up to a certain amount by a deposit insurance scheme. Securities are of a different nature; if they are segregated by being kept in separate accounts, they do not form part of a credit institution's balance sheet. Investors have the right, even if it may be difficult to exercise in practice, to take their securities outside the bankruptcy procedure. With respect to securities, it is crucial to have clear requirements for protecting customer assets because customers must not be treated as creditors if the entity holding the securities becomes insolvent. National legislation ensures protection of client's assets for deposit activities and broadly reflects the CPSS-IOSCO considerations. Harmonisation provisions are found in the MiFID. Therefore, to a large extent, the MiFID and national legislation can be primarily relied on for customer asset protection.

4.5 RECOMMENDATION 17: TRANSPARENCY

This recommendation urges CSDs and central counterparties (CCPs) to provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using the CSD or CCP services. Such disclosure can promote competition between service providers, and may lead to lower costs and improved levels of service. CSDs (and CCPs) should provide market participants with a full and clear understanding of their rights and obligations, the rules, regulations and laws governing the system, their governance procedures, any risks arising either to participants or the operator, and any steps taken to mitigate those risks. The information should be provided via the internet in a commonly used language. CSDs (and CCPs) should periodically review the accuracy and completeness of disclosures.

Table 6 CPSS-IOSCO Recommendation 17 and related legislation

Recommendation 17	CRD	MiFID
CSDs and CCPs should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using the CSD or CCP services.	Disclosure of key information to allow market participants to assess risk exposure.	Supervisory control of risks instead of disclosure to market participants in general.
Disclosure to allow participants to evaluate costs and risks as a result of their participation in the system.	General information if disclosure would put the bank at a competitive disadvantage.	No disclosure requirements regarding fees.

Similarly, the CRD, Annex III, in accordance with Basel II, sets out requirements for the disclosure of key information to allow market participants to assess risk exposure. The risk exposure policy must be publicly available. The EU provisions require disclosure of all categories of risks, and further qualitative disclosures as regards the management of certain specific risks such as credit risk.

Turning to the MiFID, it is recognised that the MiFID is imbued with a different philosophy than the CPSS-IOSCO Recommendations. The MiFID provides for the supervisory control of specific risks instead of requiring their disclosure to customers or market participants in general.[21] However, the CPSS-IOSCO Recommendations envisage both supervisory control through disclosure of the supervisors' answers (see key question 2) and disclosure.[22]

Regarding fees, the CPSS-IOSCO Recommendation concerning the disclosure of information that allows market participants to evaluate the costs associated with the CCP and CSD services offered is rather general. The CRD, on the other hand, allows only general information to be disclosed, if disclosure of more specific information would put the bank at a competitive disadvantage, provided that the reason why specific information is not disclosed is stated. Under the MiFID, there are no requirements regarding the disclosure of information on fees because Articles 27 and 28 impose an obligation on investment firms to disseminate pre-trade information on quotes, and post-trade information regarding prices and volumes, for certain transactions in financial instruments.

This CPSS-IOSCO Recommendation requires information to be publicly accessible, current, accurate and available in formats (e.g. language) that meet the needs of users. Similarly, under the CRD, institutions may provide the information on a publicly accessible internet website, or in public regulatory reports. Institutions are encouraged to provide all related information in one location and cross-refer to it in other sources.

CSDs should provide accurate and complete information. Disclosures should be periodically reviewed to ensure they remain current. Similarly, credit institutions are required to frequently assess and update information which is disclosed at least annually. Furthermore, credit institutions must assess the need for more frequent disclosures. Consequently, there are strong similarities between this CPSS-IOSCO Recommendation and the relevant sections of the banking legislation so that the CPSS-IOSCO priorities are addressed by the banking legislation.

4.6 CPSS-IOSCO RECOMMENDATIONS AND BANKING REGULATIONS

The above analysis shows that the risks that the CPSS-IOSCO Recommendations address

21 See Articles 19 (7), 13 (4) and (5), and the respective Level 2 measures proposed by CESR.

22 BIS (2002), "CPSS-IOSCO assessment methodology for 'Recommendations for Securities Settlement Systems'", Basel, November.

are the same as those addressed by the banking regulations, although the scope of application and the philosophy differ at times. The main differences concern the nature and extent of credit granted by CSDs. Owing to the central function of CSDs in securities markets and the whole financial system, which consists in keeping records of rights to securities, the CPSS-IOSCO Recommendations foresee, unlike the banking legislation, that CSDs that extend credit to participants must control possible exposures by adopting various measures, including full collateralisation (with the application of haircuts) and setting limits on the extension of credit. Securities overdrafts are prohibited.

Banking legislation is calibrated to allow authorities, if they wish, to monitor intraday exposures as any other kind of credit exposure. As regards the rest of the recommendations, the main elements of securities lending, i.e. operational reliability, customer protection and transparency, are largely reflected in the relevant regulations applicable to credit institutions and investment firms. Therefore, no additional measures are needed as regards entities with a banking licence, in order to observe the recommendations.

5 COMPARISON OF OVERSIGHT REQUIREMENTS WITH NATIONAL REGULATIONS

The oversight, supervisory and regulatory concerns in the field of clearing and settlement are addressed across the EU by various national regulations. Some harmonisation has been achieved following implementation of EU Directives. However, differences persist as regards the scope of application of the national laws, the degree of cooperation with other EU authorities, supervisory intensity, and the enforcement powers of the relevant authorities.

Furthermore, two different approaches have been followed by banking regulators and overseers of CSDs/ICSDs. While banking regulators rely to a large extent on banks' own risk management policies and internal controls (which are subject to supervisory review), overseers of CSDs and ICSDs have precise risk mitigation requirements (e.g. collateralisation).

In this chapter, the relevant national regulations setting down super-equivalent requirements, as compared with the CPSS Recommendations 9, 5 and 11, are reviewed.

5.1 CREDIT, LIQUIDITY AND SETTLEMENT RISKS

The main oversight concern about *credit risk* is the possibility of spill-over from the core, typical banking business to the clearing and settlement business (Recommendation 9). As mentioned in Chapter 4, overseers address this concern by recommending that CSDs avoid taking credit and liquidity risks to the largest possible extent, and requiring those that are allowed to extend credit under national legislation to put in place precise risk mitigation measures (i.e. use of limits on credit exposures, collateralisation of exposures and regular review of the appropriateness of the measures taken).

From this perspective, CSDs are subject to national regulations which are, in general, super-equivalent (i.e. stricter) or equivalent to the international benchmark set by Recommendation 9, although a certain degree of heterogeneity exists. For instance, CSDs may be *completely prohibited by law* from extending credit (e.g. in Estonia, Spain, Finland, the United Kingdom, Latvia, Lithuania and Slovenia).[23] Or they may be allowed to provide *some settlement-related credit* (this is the case in the Czech Republic, Italy, Denmark and – limited to securities lending – Portugal), subject to certain conditions. For instance, in Italy, such credit can be extended only on the basis of adequate guarantees. A similar provision is to be introduced in Malta. In Portugal, where the CSD can only provide credit for settlement of securities-related transactions full collateralisation is required with a view to avoiding settlement failures.[24]

On the other hand, national *banking* legislation reflects the harmonisation achieved following implementation of the relevant Directives (on capital requirements and large exposures). National banking legislation does not generally limit a bank's right to extend credit to a specific purpose. As stated in Chapter 4, specific prudential requirements (concerning internal controls, organisation and governance), together with the relevant supervisory tools, ensure that oversight concerns are addressed.[25] Moreover, in some cases, the supervisory framework explicitly takes into account the specific risks arising in the transactions-related business (see Table 2,

23 Providing a credit facility is essential in order to ensure the smooth functioning of the settlement process. In the countries listed, the function is normally entrusted to a third party. In Spain, Article 56 of Royal Decree 116/1992 prohibits the CSD (Iberclear) from granting credit to its participants. As far as the cash leg settlement is concerned, since Iberclear settles in central bank money, intraday credit is provided by the Banco de España. In the case of Estonia, lending and guarantee transactions involving cash or securities are carried out by the Tallinn Stock Exchange, which owns the Estonian CSD. Like the other Baltic exchanges, Tallinn Exchange has become part of the Swedish OMX Group. The Swedish Exchange is also a CCP serving the securities market and thus is authorised to extend credit to its members.

24 Regulation 15/2000 CMVM, Article 17, paragraphs 2 and 4.

25 In France, for instance, even if collateralisation is not a requirement, uncollateralised credit must remain within strict prudential limits. Collateralisation is a credit risk mitigation technique that is partly recognised by French law (cash and sovereign securities). In Luxembourg, in the case of uncollateralised credit, the banking supervisor has the power to prescribe a higher solvency ratio than the minimum 8%.

Annex I). For instance, in France, banks that provide settlement guarantees are required to have specific procedures in place and to measure liquidity and settlement risk arising from the investment and clearing services provided.

National banking regulations also apply to CSDs in countries where the central depositories operate on the basis of a banking licence. In the four cases where banking legislation applies to CSDs (Austria, Belgium, Germany and Luxembourg), the regulatory framework is identical, because the general (harmonised) rules on prudential supervision apply, including risk mitigation techniques and procedures. In these four countries, the application of the prudential supervision framework ensures that the bank CSD does not assume credit risks that it is unable to manage either in nature, size or complexity. In practice, however, differences subsist that are partly regulation-driven and partly market-driven. By way of example, the Austrian CSD is allowed to grant credit only in relation to certain activities and the credit is fully collateralised by the Austrian Government. In the case of Euroclear Bank, credit positions are highly collateralised owing to both supervisory requirements and market-led demands. In addition, liquidity management has been added to the oversight activities of the relevant authorities. Finally, it is worth mentioning that as part of their risk management procedures, the two ICSDs voluntarily limit their banking services to activities related to settlement or asset management, either in accordance with their constitution or on a de *facto* basis.

Credit risk can also be assumed in the context of *securities lending* (Recommendation 5; see Chapter 4). The recommendation states that securities lending and borrowing should be encouraged as a method of expediting the settlement of securities transactions and that barriers that inhibit the practice of securities lending should be removed.

Table 7 National regulations on credit risk (general provisions)

Banks	The limitations envisaged in Standard 9 are not conceptually applicable to banks owing to the different supervisory approach. However, the prudential supervisory framework ensures that overseers' concerns are met. In some cases, national legislation sets down specific requirements for banks active in the transaction/settlement business.
CSDs/ ICSDs	*With a banking licence:* Fall under national banking law (Austria, Belgium, Germany and Luxembourg). *Without a banking licence:* Different regimes, ranging from a complete *prohibition* (Estonia, Spain, Finland, the United Kingdom, Latvia, Lithuania and Slovenia) to restrictions allowing only *some settlement-related credit*, (the Czech Republic, Italy, Denmark and – limited to securities lending – Portugal), often supplemented by a collateralisation requirement.

The general environment in the Member States is now relatively favourable to securities lending and borrowing as a method for enhancing settlement efficiency and minimising the materialisation of settlement risks.

National regulations applicable to CSDs have different approaches (see Table 7). CSDs with a banking licence are obviously allowed to provide securities lending facilities and to take on credit risk (in some cases by guaranteeing a minimum return on the transaction, or by taking responsibility vis-à-vis the lender for the proper conclusion of the lending operation). In the case of CSDs without a banking licence, securities lending is possible in order to support settlement, but the role played by the CSD may vary from case to case. For example:

– According to the Portuguese Securities Code (Article 280, paragraph 3a), the settlement system operator *should* put in place procedures to be followed in the event of default, namely securities lending and borrowing.

– In other countries (the Czech Republic, Italy, Denmark, Poland[26] and Slovenia), national law *permits* the CSD to provide such facilities[27] (although in some countries, e.g. Denmark and Slovenia, there is a lack of a business case for the CSD to operate in this field, and securities lending is carried out bilaterally by the market participants).

– In Lithuania, the CSD is *prohibited*, under national legislation, from acting as principal in securities lending (securities lending is carried out by market participants on a bilateral basis).

In the absence of explicit legal provisions, national legislation (such as tax or insurance legislation) or SSS rules may encourage or, on the contrary, discourage securities lending:

– In Finland, Sweden and Spain, the tax legislation is favourable, under certain conditions, to securities lending. In Sweden, even if the national law does not contain any text expressly encouraging or discouraging securities lending, the rules applicable to SSSs provide positive incentives for participants to use this facility, in order to fulfil their delivery obligations.

– In Belgium, tax *neutrality is not assured* for stock lending unless the service is organised by a recognised lending system under the conditions set out in the Income Tax Code. In the United Kingdom, insurance rules require that insurance companies know the identity of the counterparty to any stock lending transaction, which *may cause problems* as regards participation in certain automated stock lending transactions where the counterparty's identity is not known (the latter rules can be waived if proved to be unduly burdensome, as per Financial Services Authority requirements).

The assessment methodology of CPSS-IOSCO Recommendation 5 specifies within its key issues that supervisors and overseers should have policies and procedures in place to ensure that

Table 8 National regulations on credit risk assumed in the context of securities lending

Banks	Fall under the general banking regulations on credit risk.
CSDs/ICSDs	*With a banking licence:* Fall under national banking law (Austria, Belgium, Germany and Luxembourg). *Without a banking licence:* Different approaches: o CSD is explicitly required to set up a system (Portugal); o CSD is allowed to provide the facility (the Czech Republic, Italy, Denmark*, Poland and Slovenia*); o CSD is prohibited from assuming principal risk (Lithuania**).

*Due to the lack of a business case, there is no centralised facility in Denmark.
**Securities lending takes place on a bilateral basis.

risks stemming from securities lending activities are appropriately managed by entities subject to their oversight.[28] The soundness, safety and efficiency of securities lending arrangements is addressed by national banking legislation as regards credit risk and internal control.

Custodians' risk management policies, particularly as regards large intraday credit exposures directly resulting from their clearing and settlement activities, may in some markets or jurisdictions become relevant from an oversight perspective. The CPSS-IOSCO report acknowledges the diversity of institutional arrangements in place and states that, where custodian banks perform functions that can be considered equivalent to those of CSDs (internal settlement in their books without forwarding instructions to the CSD), the need may arise to apply to custodian banks some of the recommendations addressed to CSDs. Therefore, it encourages national securities regulators, banking supervisors and overseers to work together to determine the scope of application of the recommendations more

26 In Poland, the CSD can act only as agent, organising and managing an automated securities lending and borrowing system for transactions concluded on the regulated market.
27 In Malta, a new SSS is currently being drawn up based on CPSS-IOSCO Recommendations.
28 See key issue 3 in BIS (2002), p. 10.

appropriate to the specific local market conditions.[29] In 2004 the relevant European authorities (the ESCB and CESR) looked into this issue, with particular reference to the possible application of some of the recommendations to some custodians of systemic relevance (see ESCB-CESR (2004) and ECB (2005)). In that context, they committed to further study some important open issues in cooperation with market participants before taking any implementation measure. One of the open issues studied, which is elaborated upon in this paper as a contribution to the European debate, is the relationship between the banking supervisory framework and those oversight requirements dealing with credit risk (Recommendation 9). The comparative analysis of oversight and national supervisory requirements reported in Annex I shows that existing banking regulations adequately cover these risks and are in many respects super-equivalent to the requirements of Recommendation 9. It should be remembered that, in most countries, the review of banks' risk management policies is a supervisory requirement. The relevant authorities' powers in this field are far-reaching; they may carry out on-site inspections, discuss relevant issues with the management of the supervised entities, and require detailed information to be provided. Furthermore, it is open to banking supervisors to require various corrective measures to be adopted (e.g. including, without necessarily being limited to, requiring the bank to increase the level of collateralisation). Hence, it can be concluded that oversight concerns are largely addressed by national banking regulations. Therefore, European overseers could consider that, as the oversight concerns about custodian banks are addressed by national banking regulations, custodian banks' risk management policies could be excluded from the scope of application of Recommendation 9.

5.2 OPERATIONAL RISK AND OPERATIONAL RELIABILITY

The national regulations in force in most of the Member States cover the subject matter of Recommendation 11 extensively.

National regulations addressed to CSDs are very similar – in content and scope of the requirements – to the framework set up by Recommendation 11, although they take different forms (laws, regulations, supervisory or oversight recommendations or standards).[30] The only countries where the operational risk requirements are not a result of public authority intervention are Poland, where initiatives in this field have been led directly by the CSD, and Slovenia, where it is a matter for the CSD itself (self-regulation).

In some countries (e.g. Spain, Italy), some of the governance issues addressed in the recommendation are already covered by national law.

29 See the introduction to BIS (2001), p. 2.

30 For instance, in Spain, the legal framework sets down general requirements regarding operational risk, both for the CSD and its participants. In Finland, the Financial Supervision Authority has issued a guideline explicitly addressing risk management and other aspects of internal control in CSDs, and a recommendation on operational risk management. In Italy, specific supervisory instructions for CCPs and CSDs cover this subject, while in Belgium a draft Royal Decree (in application of the Law of August 2002 on the control of financial markets, giving the CBFA responsibility for the prudential control of settlement institutions) will set down requirements for CSDs without a banking licence similar to those already in place for bank CSDs.

Table 9 National regulations on operational risk

Issue	Banking regulation	CSD regulation
Framework	Legal provisions Supervisory recommendations for CSDs and their participants (e.g. Finland)	Legal provision (Spain, Belgium, Germany, France, Hungary, Lithuania, Latvia, Luxembourg). Specific instructions for non-bank CSDs and CCP (e.g. Italy). Self-regulation (e.g. Poland and Slovenia).
Capital requirements	Harmonised framework	CSDs with banking licence (same as banks). In some countries there are capital requirements for CSDs (own funds, reserves, retained earnings, net income in addition to the initial capital)
Proportionality	No specific national requirement	No specific national requirement
Minimisation of operational risk	Relatively harmonised framework. Additional requirements for banks in Finland, Italy and Austria (under oversight framework), and Belgium (detailed recommendations).	
Outsourcing	Germany: ex-ante notification requirements Finland: information to FSA Italy and Belgium: specific risk control measures France: authorities allowed to supervise any outsourced activity directly	Explicit requirements in Belgium, Denmark, Germany, Finland and Spain. No legal provision in Austria, Czech Republic, Italy and Latvia. Forbid outsourcing (Hungary and Slovenia).

As far as *banks* are concerned, the relevant operational risk supervisory framework is:

(1) relatively harmonised, as a result of implementation of the Basel Committee's best practices in national banking regulations;

(2) equivalent and, in some respects, super-equivalent to the provisions of Recommendation 11.

In general, overseers' concerns about the monitoring and assessment of sources of operational risk are met by national provisions requiring the adequate organisation of banking activity (which needs to be assessed taking into account the degree of complexity and scope of the bank's business), risk management policies and internal audits. This is the case in Belgium,[31] Germany,[32] France,[33] Hungary,[34] Lithuania, Latvia and Luxembourg.

In some countries, banks operating in the settlement and custody business are subject to additional requirements:

– in Finland, the Financial Supervision Authority standard on management of operational risk (which entered into force at the beginning of 2005) is binding on custodian banks, while it applies to the CSD in the form of a recommendation;

– in Italy, banks must adopt specific rules governing the system of internal controls, which must take into account all categories of risks (operational and settlement risks in particular);

– in Austria, where the CSD has a banking licence, operational reliability obligations

31 Article 20 of the Banking Law. Further regulatory provisions are contained in CBFA Circular D1 97/4 on internal control and internal audits.

32 Article 25a of the Banking Act, and the Auditors' Report Regulation.

33 Regulation 97-02, in particular Article 32, deals specifically with the operational risks faced by banks, irrespective of the activities they stem from.

34 In Hungary, the Act on Credit Institutions and Financial Enterprises and the Act on Capital Markets provide for the protection of information technology systems. A government decree further details the requirements applicable to payment and securities clearing and settlement systems.

stem, in general, from Article 44a of the National Banking Act. However, as far as the clearing and settlement process is specifically concerned, operational risk is a matter under the responsibility of the national central bank, which is in charge of payment systems oversight (since 1 April 2002).

However, no super-equivalent banking legislation is in force in Spain and Ireland.

In many countries, the requirement to ensure adequate levels of *business continuity* and *disaster recovery* is the subject of super-equivalent banking provisions. For instance:

- in Spain, disaster recovery plans must be checked at least every six months;
- regular assessment of disaster recovery plans in the light of business continuity risks is also required in France;
- in Italy, the authorities may set more stringent requirements for banks and financial intermediaries that play an *important role in payment and settlement systems*, compared with the business continuity guidelines generally applicable to banks;
- in Belgium, the Financial Stability Committee has issued detailed recommendations applicable to all *systemically critical institutions* that should be implemented by 2007.

Finally, as far as *outsourcing* is concerned, in the case of CSDs/CCPs:

- regulations expressly covering outsourcing are in place in Belgium, Denmark, Germany, Finland, Spain and France, which are generally equivalent to Recommendation 11 (in Spain and France with the exception of the approval/notification requirement), although they vary in the details from country to country;
- there are currently no *specific legal provisions on outsourcing* in Austria, the Czech Republic, Italy (here the authorities have considered issuing guidelines on this topic) and Latvia (where the introduction of a requirement to provide information is currently being considered);
- finally, in Slovenia and Hungary (although the rule is currently being reconsidered in Hungary), only CSDs are permitted to carry out activities related to securities clearing and settlement, hence *prohibiting* outsourcing.

Banks, on the other hand, are subject to various supervisory requirements on outsourcing, which are considered to fully meet the oversight concerns. For example:

- in Germany, although ex ante supervisory approval is not required, an ex ante notification requirement means that the authority can take appropriate measures in the event the outsourcing contract does not satisfy the provisions laid down in Banking Circular 11/2001;
- in Finland, the Financial Supervision Authority has the power to obtain information from, and perform on-site inspections at, the companies handling the outsourced activities;
- in Italy, custodian banks must adopt specific measures with regard to the outsourced activities. Moreover, the outsourcing bank remains fully responsible for the outsourced activities;
- in France, the outsourcing contract between the bank and the third party must allow the authorities to supervise directly (for example, through on-site inspections) any outsourced activity;
- in Belgium, the subject is covered in detail.[35] The principles set out in the national rules

35 CBFA Circular PPB 2204/5.

cover governance and policy aspects, responsibility preservation, choice of supplier and continuity, service level agreements, cascade outsourcing, internal audits and compliance, external audits and prudential control.

The current supervisory practices and approaches as regards outsourcing, as well as the common policies that have been elaborated to date in the various Member States, form the basis for the "High Level Principles on Outsourcing" drawn up by the Committee of European Banking Supervisors (CEBS)[36] with a view to fostering further regulatory convergence at European level.

CONCLUSION

The analysis of the international recommendations for securities settlement systems, the EU legislative framework, and the comparison of national implementation measures show that overseers and regulators share largely the same concerns regarding the safe and efficient management of risks. Their approaches may vary from country to country if the same function is performed by a different type of entity. This may reflect historical differences of the development of EU markets because the national framework has been developed to meet the different needs of the national markets at various points in time. While the analysis suggests that the current regulatory and operational framework is equipped with tools to monitor the risk management instituted by various entities from the point of view of financial stability, there are other specific challenges that overseers and regulators are called to cope with.

First, cross-border groups are increasingly integrating several business functions across borders and legal entities. Similarly, infrastructures increasingly seize business opportunities by extending services to geographic markets outside their location or developing new products outside the traditional market segments. In this context, the process of financial integration is confronted with the increasing importance of systemic risk and at the same time with the territorial application and enforcement of the risk management framework.

Second, while advanced technology helps simplifying procedures and reducing costs, technological innovation is largely developed by new types of entities which may not always fit within the traditional distinctions of supervised entities. As a result, the distinction between banks and non banks may be blurred owing to the fact that the same service can be offered by specialised entities.

Third, the initiation by the Eurosystem of an investigation into possibly providing settlement services for securities transactions (the "TARGET2 Securities" project) provides an impetus for the operational integration of clearing and settlement to which regulatory attention will have to be devoted.

Fourth, alongside payment systems, correspondent banking arrangements still play a significant role. For example, a recent CPSS study on FX settlement risk has shown that in 2006 on a worldwide basis 32% of FX obligations were settled through correspondent banking. Correspondent banking has become more and more a specialised banking service, both cross-border and domestic (including agency arrangements and provision of indirect access to IFTS for customer banks), with an increasing concentration in some major market players offering a broad range of settlement-related services. This concentration increases the dependence of a larger number of banks on a

36 See Committee of European Banking Supervisors (2004), Annual Report, pp. 15-16 and p. 25. Work in this field by the European supervisory authorities was already underway in 2002. A public consultation on the CEBS "High Level Principles" was carried out in 2004. CEBS is considering the need to coordinate its approach to outsourcing with similar exercises carried out by CESR, CEIOPS (the Committee of European Insurance and Occupational Pensions Supervisors) and the Joint Forum at the global level. At the time of writing, a second consultation round was envisaged following further work on this issue.

few service-providing institutions as well as the dependence of IFTS on a few large participants, settling for a high number of smaller banks. Moreover, with a higher degree of concentration, the potential for internalisation of payment flows in the books of these major players increases. There might be a danger that some risks that have been eliminated from formal payment systems might reappear in the market in payment arrangements offered by banks. For example, while the finality of payments is well-defined in the case of payment systems, this may not always be true for correspondent banking arrangements. In addition, it is not excluded that bilateral netting between banks may play a more prominent role in the future.

These risks, although they are part of banks' daily business, might be of concern if developments in the market were to indicate that there is a potential for payment systems to be crowded out by in-house arrangements. Moreover, excessive concentration of business in a few entities may result in an excessive concentration of risks, and transform some institutions in "single points of failure" whose stability would be essential for the stability of the rest of the system. This may, in turn, create serious moral hazard problems.

The EU Capital Requirements Directive covers the issue of avoiding excessive concentration of exposures vis-à-vis a single institution or a group of related institutions (conglomerate).

Fifth, the monitoring and mitigation of both intraday exposures and intraday credit granted by individual service-providing banks has gained importance. During the day, correspondent banks appear to offer intraday credit to their customer banks, whereby exposures can be quite significant and seem to be only partly collateralised. This credit would be, in theory, bound by counterparty limits, although it is not clear how hard these limits are and how quickly they can be adjusted when required. Intraday exposures should be considered in any respect as a form of liquidity risk and credit risk. Because if at the end of the day this credit is not reimbursed it will automatically spill-over into overnight credit and has the potential to create significant liquidity and/or credit problems at the end of the day, when market and systems are going to close and it can be more difficult to take the appropriate measures to finance the position in the market. Against this background, it is not clear if appropriate measures are in place to prevent a spill-over of potentially huge intraday exposures into overnight exposures and which consequences this may have.

The BCBS has provided some guidance for banks on liquidity management and intraday liquidity in "Sound practices for managing liquidity in banking organisations" (2000) and set up a Working Group on Liquidity to analyse the supervision and regulation of liquidity risks in its members' jurisdictions. In parallel, individual G10 central banks are closely monitoring market developments in correspondent banking and are analysing intraday liquidity and collateral requirements stemming from recent developments in payment systems. In addition to these activities, it is worthwhile clarifying which rules and regulations addressing intraday liquidity management and intraday exposures, including those arising in correspondent banking relations, do already exist and whether there are any gaps that may call for a policy response.

Against these ongoing developments for cross-border activities and in order to address regulatory concerns efficiently and any liquidity problems that may be triggered in a cross-border dimension by payment, clearing and settlement systems, overseers and regulators have established cooperative arrangements and memoranda of understanding to support the oversight of these infrastructures, enabling effective leverage over decisions that influence systemic risk in the respective countries.

The current cooperative framework is developed on *an ad* hoc basis, when needed at the discretion of the authorities involved. The

approach followed thus far has involved the development of procedures aimed at supporting the interaction between the different sets of authorities, in order to ensure the effective safeguarding of financial stability in the single financial market. These procedures take account of the fact that the authorities, in the context of their responsibilities, need to retain the necessary discretion and flexibility to tackle the specific aspects of a potential situation. Nevertheless, challenges are growing with financial integration and business is not contained with national borders. To address this new operational dimension, a framework for enhancing cross-border and cross-sectoral cooperation among overseers and regulators would be the way forward.

In a cross-border dimension, both supervision and oversight cooperative frameworks should aim at responding to the increasing internationalisation of financial markets and institutions by enhancing supervisory arrangements that avoid gaps and reduce the risk of inconsistent policies, while eliminating unnecessary regulatory burdens.

Recent improvements in the institutional setting and present efforts to ensure their effective implementation should spur significant progress in supervisory cooperation and convergence that is in line with the challenges posed by cross-border activities. In particular, the supervisory framework can deliver an enhanced integrated supervisory interface for cross-border clearing and settlement, enabling operators to reduce their supervisory compliance burden significantly.

Without prejudice to the existing responsibilities of home or host authorities - for systemically important payment and settlement systems – any further policy action to strengthen the EU cooperative framework for cross-border clearing and settlement could be considered after the review of the supervisory framework at the EU level by the end of 2007.

ANNEXES

1 SUMMARY OF NATIONAL LEGISLATION*

Table 1 CPSS-IOSCO Recommendation 9 – Credit risk

Standard provision	Super-equivalent national legislation
CSDs that extend intraday credit to participants, including CSDs that operate net settlement systems, should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. The most reliable set of controls is a combination of collateral requirements and limits.	In **Denmark**, any exposure should be mitigated by solvency ratios. In the **Czech Republic**, loans must be "duly secured" – collateral is not explicitly mentioned. In **Portugal**, where a CSD extends credit (which is only permitted for the purposes of avoiding settlement failures), full collateralisation is required. In **Malta**, current practice is that the Exchange provides an uncollateralised overnight overdraft facility in order to ensure that the process of settlement continues unimpeded in the event of late settlement. While each "member", in accordance with the Financial Markets Act, must deposit a certain capital amount in favour of the Exchange to be utilised should a member fail in its obligations to its clients, there is no correlation between this deposit and settlement exposures. While cash settlement occurs on a net basis – and therefore settlement exposures are effectively reduced – currently the Exchange is carrying settlement risk. This situation will be addressed as soon as the new SSS currently in draft form, which is based on CPSS-IOSCO Recommendations and standards, particularly with regard to DVP and finality, is implemented later this year. Furthermore, the new legislation which is being drafted includes relevant provisions on adequate collateral. In **Poland**, the CSD operates an automatic securities lending system in which it acts as an intermediary. The loan is collateralised and it can be extended only within the liquidity-securing system. The same rules apply to repo and on-request securities lending and borrowing organised by the CSD. In **France**, collateral is not required for banks but is used for credit risk mitigation and is partly (cash and sovereign securities) recognised by regulation. Risks from uncollateralised credits must remain within the strict limits required by prudential regulation. In **Italy**, the CSD may grant loans, including intraday credit in euro or foreign currency, on the basis of adequate guarantees. The CSD which manages the settlement services (gross or net) must adopt internal systems and controls aimed at ensuring the timely closing of the settlement, even in the event of default by one or more participants. This should be done in line with international standards. In **Estonia**, in accordance with the Securities Market Act, the system operator is required to establish a guarantee fund in order to ensure execution of the obligations of the members in the system and of the system operator. The **United Kingdom** was set to implement its own credit risk systems and control requirements. In some areas, the requirements may be super-equivalent to the Capital Requirements Directive. In **Luxembourg**, the banking supervisor has the power to prescribe a higher banking ratio than the minimum of 8%. In **Hungary**, the operator of the SSS is subject to prudential rules set out in the Act on Credit Institutions and Financial Enterprises, which is harmonised with the relevant EU legislation. In **Germany**, collateralised credit has a more favourable treatment with regard to capital requirements and large exposure limits. In **Belgium**, safe and sound risk management should be in place. The risk management procedure determines the most appropriate tools for risk mitigation. All exposures, collateralised or not, should be identified, monitored and controlled. In **France**, specific requirements apply, in terms of selection and measurement of intermediation risk, to banks which guarantee settlement of transactions. Banks should set up procedures to select, measure and assess exposure to each customer and the guarantees received by customers, taking into account the customer's financial situation. At least once a year, the internal (independent) controller draws up a report on internal control, and on the measurement and monitoring of the bank's exposures (which is submitted to the Board/auditors/central bank). In **Spain**, entities should, according to the size of their business, establish "adequate accounting and administrative procedures and mechanisms for internal control with regard to the management, monitoring and control of interest and liquidity risks". The Banco de España can then check a number of specific points as regards entities' risk management policies. In **Slovenia**, the regulator (in connection with the central bank) supervises banks' operations relating to the provision of services involving securities.

* (Mid 2005)

Table 1 CPSS-IOSCO Recommendation 9 – Credit risk

	In the **Czech Republic**, the CSD is operated by the national central bank. Under Article 43 of the Capital Markets Act, the registration of securities and the operation of a settlement system for CSDs, as performed by the national bank, shall not be subject to licensing or State oversight. In **Malta**, capital requirements are risk sensitive. In **Portugal**, banks are required to submit an annual report on internal control to their regulator, describing the internal controls put in place in view of the nature of, and risks involved in, the activities conducted. In **France**, the central bank ensures that the internal risk management policy of banks is adapted to the nature and volume of the banks' activities, their size, the complexity of their operations and internal organisation, and the various types of risk to which they are exposed. In **Italy**, custodian banks are monitored with respect to prudential regulation, internal systems and controls, and internal risk management procedures. The limits established must be monitored continuously, and reviewed periodically. In **Estonia**, the Credit Institutions Act sets down the prudential limitations on concentrations of exposures of credit institutions. In **Germany**, collateralised credit has a more favourable treatment with regard to capital requirements and large exposure limits. In **Belgium**, safe and sound risk management should be in place. The risk management procedure determines the most appropriate tools for risk mitigation. In **Estonia,** the Credit Institutions Act sets down the prudential limitations on concentrations of exposures of credit institutions.
Super-equivalent requirements on reporting to the relevant authorities on large settlement-related exposures	The **United Kingdom** has super-equivalent rules that require cases where exposures are set to exceed 25% to be pre-notified. In **Spain**, large exposures should be reported quarterly or every six months, depending on the (banking) entity. An exposure is considered large when its value is greater than 10% of own funds. IBERCLEAR sends the Comisión Nacional del Mercado de Valores (CNMV), on a daily basis, details of pending settlements, corresponding to every participant of its Servicios de Compensación y Liquidación de Valores (SCLV) platform. In **Germany**, it is necessary to report large end-of-day exposures, according to current banking regulations. However, the limits on large exposures also apply to intraday exposures. In **France**, banks must comply with the requirements in respect of large exposures, and quarterly reports are submitted to the central bank. In **Belgium**, all exposures to a single counterparty should be limited to 25% of own funds of the credit institution, and the cumulative amount of all exposures should be limited to 800%. All large exposures and concentrations should be reported. Ad hoc reporting can be defined by the CBFA. In **Austria**, large exposures are defined as 10% of own funds (and must exceed EUR 500,000). In **Italy**, the Banca d'Italia monitors large exposures of the CCP's and CSD's participants on the proprietary and customer accounts through its connection to the internal system of the Italian CCP and CSD.

Table 2 Credit provision by (I)CSDs in the European Union

Country	Permitted	Not permitted	Comments
United Kingdom	✔		No specific provisions on the granting of credit by CSDs. CSDs do not currently provide credit.
Portugal		✘	CSDs may only grant credit in order to avoid settlement failures.
Czech Republic	✔		Loans to participants should be duly secured, and for the purpose of settlement.
Hungary	✔		CSDs are permitted to act as principal in securities lending; therefore, it follows that CSDs are also permitted to extend credit.
Poland	✔		A CSD can grant cash loans to participants to the extent necessary to fulfil its core activities (custody, clearing and settlement); however, CSDs do not use this prerogative.
Malta		✘	Legislation in respect of CSDs is currently in draft form. CSDs generally act as a central registration system.
Spain		✘	The Spanish legal system does not permit CSDs to grant credit to their participants.
Germany	✔		German CSDs are licensed as banks and therefore normal banking regulations apply.
Latvia		✘	CSDs are prohibited by law from extending credit.
Lithuania		✘	CSDs are prohibited by law from granting credit to market participants, and acting as principal in securities lending.
Belgium	✔		Supervision framework for credit institutions and settlement institutions is based on banking regulations and legislation on the control of financial markets.
Luxembourg	✔		Luxembourg-based ICSD is licensed as a bank.
France	✔		
Slovenia	✔		CSDs may also provide other services with regard to securities transactions, meeting obligations and exercising rights arising from securities; they are not explicitly mentioned, but not forbidden either.
Ireland	✔		Permitted although not stated explicitly. CSDs currently do not provide credit.
Slovakia	✔		CSDs are permitted by law to grant credit or loans to a client to allow it to carry out a transaction, although they do not do so in practice. Securities lending (as principal) is considered a secondary activity, and must be explicitly stated in the CSD licence (approved by the regulator).
Austria	✔		CSDs administer the export financing scheme (risk free as security is provided by the Austrian Government). Clearing and settlement is not considered a banking activity under Austrian law.
Sweden			
Finland		✘	According to the Finnish Securities Market Act, a CSD may not issue credit.
Greece			
Cyprus			
Netherlands		✘	CSDs are not allowed to run any commercial risk.
Denmark	✔		CSDs do not extend credit (i.e. settlement is in central bank money); however, they are permitted to do so under the Danish Securities Trading Act.
Italy	✔		Credit activities are limited to enabling participants to settle positions. Loans may be granted in euro or foreign currency, including intraday credit, based on adequate guarantees.
Estonia		✘	CSDs are not allowed to engage in lending and guarantee transactions of both securities and cash (although the Estonian Stock Exchange, which acts as CCP and owns the CSD, is permitted to do so).

Table 3 CPSS-IOSCO Recommendation 5 – Securities lending

Provision	Equivalent and super-equivalent national legislation
Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities transactions.	**UK** insurance rules require that insurance companies know the identity of the counterparty to any stock lending transaction. This can cause problems as regards participation in certain automated stock lending transactions where the counterparty's identity is not known. These rules can however be waived, in the event compliance would be unduly burdensome, as per Financial Services Authority requirements. In **Sweden**, the rules and regulations of the SSS include sanctions for those participants which do not deliver on time, therefore encouraging timely settlement. There is no text in Swedish law encouraging securities lending to expedite securities settlement.
Barriers that inhibit the practice of lending securities for this purpose should be removed.	In **Finland**, capital transfer tax may, in certain cases, inhibit securities lending. In **Belgium**, as concerns stock lending, tax neutrality is not assured for borrowers unless the transaction is organised by a recognised lending system in compliance with the Income Tax Code.
Super-equivalent provisions relevant for securities lending and control of risks taken by participants:	
	In the **UK**, stock lending of private customers' assets is covered by the Client Assets Sourcebook (CASS). Article 2.5 states that "if a safe custody investment belonging to a private customer is used for stock lending activity, the firm must ensure that relevant collateral is provided by the borrower in favour of the customer". Furthermore, "the level and type of collateral required should take account of the creditworthiness of the borrower and the market risks associated with the particular collateral". In **Finland**, the general terms of lending agreements must be approved by the Financial Supervision Authority (FSA). The CSD is only allowed to clear and settle lending agreements, the terms of which have been approved by the FSA. In **Sweden**, there is no central securities lending institution and securities are lent bilaterally. However, the Swedish Financial Supervisory Authority, Finansinspektionen, supervises the risk management systems of the individual institutions.

Table 4 CPSS-IOSCO Recommendation 11 – Operational reliability

Provision	Equivalent and super-equivalent national legislation
Sources of operational risk arising in the clearing and settlement process should be identified and minimised through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity.	In **Germany**, the provisions of the Banking Act are broad, thus enabling a flexible interpretation according to the size and significance of the business, and in line with the principle that the main responsibility for risk management should lie with the supervised institution. Further details on the institutions' specific organisational duties are contained in Article 25a of the Banking Act. In **Portugal**, banks are required by the Banco de Portugal to submit an annual internal controls report, which should follow the principles of the "Sound practices for the management and supervision of operational risks" issued by the Basel Committee. In **Poland**, the development of the CSD's system is subject to strict regulation relating to, for example, procurement, scope of the system and its modification. The control procedures include the following: - functional analysis; - initial project; - detailed specification; - building of the system; - testing; and - implementation. Specific additional requirements also apply to custodian banks concerning their IT systems, and other internal systems and controls. In **France**, there are specific requirements on computer security and appropriate information systems. In **Italy**, the supervisory instructions for CSDs and CCPs, issued by the Banca d'Italia and Consob (Commissione Nazionale per le Società e la Borsa), provide that the Board of Directors shall send the authorities an annual report concerning, inter alia, the structure of the system of internal controls, and the methods adopted to identify, monitor and solve any operational shortcomings. The system of internal controls and the specific procedures regarding operational risk, adopted by CSDs and CCPs, are periodically assessed by the authorities. The Board of Auditors shall send the authorities an annual report on the outcome of the controls performed, and as regards the system's operational reliability. Moreover, at least once a year, CSDs and CCPs shall test the technological and IT structures with special reference to the IT security measures adopted, and the backup and recovery procedures put in place. The testing should be conducted by third parties or by internal units, provided that the latter are independent from the production units.
Contingency plans and backup facilities should be established to allow for timely recovery of operations and completion of the settlement process.	In **Spain,** disaster recovery plans must be checked at least every six months. In Lithuania, the operator of the SSS should have a business continuity plan, but there are no guidelines as to its appropriate content. In **France**, banks must have a business continuity plan and ensure that their organisation and resources (staff, real estate, technical and financial) are regularly assessed in the light of business continuity risks. In **Belgium**, the Financial Stability Committee published general recommendations in October 2004, with the aim of achieving harmonisation in terms of recovery and resumption time objectives. The recommendations should be implemented in 2007 and are applicable to all systemically critical institutions. **Principles**: • Resumption: The objective is to enable a restart of activities before the end of the day, even if it is necessary to extend the normal operating hours in the event that an incident happens at the end of the day. • Recovery: The objective is to achieve a Recovery Time Objective (RTO) of two hours after an incident occurs. For less critical institutions, the RTO can be extended to a maximum of four hours. • A sufficient distance should be maintained between production and backup data centres in order to avoid that both could be impacted by one single incident. The idea is not to determine a specific distance (at the discretion of each institution) but rather to ensure that data centres are located in places with different risk profiles. • The cooperation of telecommunication companies is requested as regards transparency of information, so as to enable critical institutions to plan the installation of their connections and avoid so-called "single points of failure". • Regular internal testing should be carried out, at least once a year. Bilateral testing with core counterparties is also important, notably to ensure the switch between primary and backup data centres. • Critical institutions should develop disaster recovery plans that satisfy the following five conditions: (1) a short RTO; (2) high recovery point objectives to ensure an accepted level of data loss; (3) transparency for users in terms of switching between data centres; (4) adequate transaction storage on the user's side, at least during the RTO, plus a security margin, to facilitate the recovery process; and (5) adequate capacity of the backup data centre.

Table 4 CPSS-IOSCO Recommendation 11 – Operational reliability (Cond't)

	In **Italy**, specific business continuity guidelines for banks have recently been issued concerning emergency situations and the resumption of normal operating conditions. According to these guidelines, banks are obliged to define business continuity plans and take all the necessary initiatives to ensure operational reliability no later than December 2006.
ADDITIONAL PROVISIONS FROM THE EXPLANATORY TEXT OF CPSS-IOSCO RECOMMENDATION 11	
3.57 There should be adequate management controls and sufficient (and sufficiently well qualified) personnel to ensure that procedures are implemented accordingly. Risks, operational policies and procedures, and systems should be reviewed periodically and after modifications to the system. Information systems should be subject to periodic independent audit, and external audits should be seriously considered.	In **Malta**, the Exchange's annual external audit explicitly includes a review of recovery procedures. In **Spain**, in accordance with the functioning and organisation regulations, a Technical Commission, which reports to the Board of Directors and to the President, is in charge of the review and assessment of the technical systems. In **Slovenia**, in exercising control of the Stock Exchange, the Central Securities Clearing Corporation Inc. (KDD) may require that the Stock Exchange carry out a special audit of information systems and internal controls, and submit a report. In **France**, the Board of Directors should review the activities and results of the internal control system at least twice a year. In **Belgium**, the Executive Committee should set up an adequate internal control system and ensure that it is assessed at least every year. The Executive Committee should report to the Board of Directors at least once a year, through the audit committee, if one exists.
3.59 Some clearing and settlement operations may be outsourced to third parties. In these circumstances, operational risk will reside with the outside service provider. System operators who outsource operations should ensure that those operations meet the same standards as if they were provided directly by the system operator.	In **Germany**, Banking Circular 11/2001 explains the provisions on outsourcing in more detail. The pre-notification requirement ensures that the Financial Supervisory Authority (BaFin) can take appropriate measures if the outsourcing contract does not comply with the requirements laid down in the Circular. Furthermore, under the Banking Act, the institution outsourcing should ensure that it has the necessary contractual powers to give instructions to the external service provider in question, and shall include the outsourced areas in its monitoring procedures. In **Finland**, the Financial Supervision Authority has the right to obtain information and perform on-site inspections at the companies handling the outsourced activity. In **Lithuania**, the operator of the SSS should inform the Bank of Lithuania when outsourcing its services. Although not mentioned explicitly in national legislation, the Bank of Lithuania could ask for additional information from the SSS operator. In **Italy**, the authorities have considered issuing guidelines concerning outsourcing with a view to managing and controlling risks arising from outsourced activities. In particular, CSDs and CCPs would be invited to regulate outsourcing relationships in written contracts (service level agreements) which would state explicitly that the authorities would be allowed to exercise their supervisory powers with regard to the outsourced activities (i.e. by means of access to information, or requesting corrective measures). For custodian banks, specific measures must be adopted with regard to outsourced activities. The outsourcing bank remains fully answerable and responsible for any activity outsourced. In particular, general prudential measures are provided in terms of: (a) outsourcing goals; (b) assessment and selection of service providers; (c) assessment of the organisational arrangements and staff availability of the service provider; (d) contractual arrangements that enable, inter alia, the banking supervisor to carry out its functions; and (e) proper service level agreements that define the obligations of the service providers. In **France**, the outsourcing contract between the bank and third party must allow the central bank to supervise directly any outsourced activity, including by means of on-site inspections. In **Belgium**, a number of principles for outsourcing are covered by CBFA Circular PPB 2204/5. *Principle 1*: Outsourcing policy definition Each institution must define an outsourcing policy that must be approved by the Board. This policy should take into account all the principles described in the Circular and clearly define the decision-making process for outsourcing activities. *Principle 2*: Responsibility preservation Outsourcing does not reduce the management responsibility of the institutions, neither with respect to their stockholders or clients, nor with respect to their prudential authorities or supervisors.

Table 4 CPSS-IOSCO Recommendation 11 – Operational reliability (Cond't)

	Principle 3: Outsourcing decision The decision should be made on the basis of a formal and well-documented analysis. This analysis should comprise, at least: (1) an exhaustive description of the services or activities that are outsourced; (2) the expected effects of outsourcing – including a "cost-benefit" analysis; (3) the verification of compliance with the conditions described in the policy; and *Principle 4: Supplier's choice and continuity preservation* The relevant supplier must be chosen with sufficient vigilance and prudence. The rationale should take into account the financial situation, reputation, technical capacity and management of the supplier. The institution should also examine the adequacy of the supplier's contingency plan, and challenge it according to its own continuity constraints. The necessary precautions should be taken by the institution in order to enable an adequate transfer of all outsourced activities to another supplier, or back to itself, each time the continuity or quality of performance is compromised. *Principle 5: Service level agreement* A formal written contract or service level agreement must be established. This document should take into account all the principles described in the Circular. *Principle 6: Protection* The institution should ensure that all its suppliers' arrangements in terms of continuity and protection are adapted to the nature and size of the outsourced activities, to its own policy, and to the standards generally applied in the financial sector. The institution should ensure in an efficient manner that the confidentiality and integrity of data is guaranteed at all times. *Principle 7: Cascade outsourcing* Cascade outsourcing – and all conditions attached to it – should be specifically addressed in the contract signed with the relevant suppliers. According to the materiality of the related "outsourced activities", the institution should ensure compliance with all principles described in the Circular, as well as the effectiveness of the internal/external control. *Principle 8: Internal audit and compliance* The scope of the internal audit should encompass the outsourced activities. The outsourcer remains fully responsible for the control (qualitatively and quantitatively) of the outsourced activities. Full access to all aspects of the outsourced activities should be ensured. The scope of the compliance obligation encompasses the outsourced activities. *Principle 9: External audit and prudential control* Full access to outsourced activities should be given at any time. *Principle 10: Application of Belgian law* Outsourcing may not have any impact on the necessity for the institution to comply with the Belgian regulatory and legal framework.

2 LIST OF CPSS-IOSCO RECOMMENDATIONS ANALYSED IN THE PAPER

RECOMMENDATION 5: SECURITIES LENDING

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

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

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

RECOMMENDATION 11: OPERATIONAL RELIABILITY

Sources of operational risk arising in the clearing and settlement process should be identified and minimised through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Contingency plans and backup facilities should be established to allow for timely recovery of operations and completion of the settlement process.

RECOMMENDATION 12: PROTECTION OF CUSTOMERS' SECURITIES

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

RECOMMENDATION 17: TRANSPARENCY

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

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