EUROPEAN CENTRAL BANK

EUROSYSTEM

EUROSYSTEM OVERSIGHT REPORT 2009

NOVEMBER 2009

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In 2009 all ECB publications feature a motif taken from the €200 banknote.

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PREFACE

Payment, clearing and settlement systems are exposed to a wide range of credit, liquidity, operational and legal risks. Moreover, these infrastructures channel the flow of payments for goods, services and financial assets, and their smooth operation is therefore a crucial prerequisite for the proper functioning of the financial system and the overall economy. In particular, given their extensive role and the large values and volumes of financial transactions they handle, any malfunctioning of these infrastructures can have negative repercussions for the implementation of monetary policy, the stability of the financial system and the currency, as well as for economic growth and efficiency.

Against this background and considering its responsibility for monetary policy, financial stability and the smooth functioning of payment systems as well as its interest in preserving public confidence in the currency and the payment instruments used, the Eurosystem, like other central banks, has developed market infrastructure oversight as one of its basic functions to promote the safety and efficiency of payment and settlement systems. At the same time, system owners and operators remain primarily responsible for ensuring the safety and efficiency of their infrastructures and the payment and settlement services provided.

Transparency and accountability are important guiding principles for the ECB/Eurosystem in the conduct of market infrastructure oversight. In particular, in line with agreed international best practice for overseers, central banks should set out publicly their oversight policies to enable system owners and operators to understand and observe applicable requirements and standards.[1]

The Eurosystem therefore described the implementation of its oversight function in the "Eurosystem oversight policy framework", issued in February 2009.[2] Furthermore, as a complement to the publication of the oversight policy framework, the Eurosystem has decided to publish a regular "Eurosystem Oversight Report".

The main objective of the Eurosystem Oversight Report is to inform the public about the performance of the Eurosystem's oversight function and the Eurosystem's assessment of the safety and soundness of euro area payment, clearing and settlement infrastructures. In this way, the Eurosystem aims to raise awareness regarding relevant developments in these infrastructures and the Eurosystem's role in monitoring such developments and addressing potential risks and inefficiencies. Ultimately, this enhanced awareness of all stakeholders is beneficial not only for transparency and accountability reasons, but also contributes to the effectiveness of the Eurosystem's oversight policies.

1 See "Central bank oversight of payment and settlement systems", CPSS Publications No. 68, May 2005 (cf. general oversight principle A on transparency).
2 The "Eurosystem oversight policy framework" replaced the Eurosystem's 2000 policy statement on the "Role of the Eurosystem in the field of payment systems oversight".

EXECUTIVE SUMMARY

The Eurosystem Oversight Report 2009 describes the performance of the Eurosystem's oversight function, mainly during 2008 but also including the most relevant developments into 2009. It comprises three main chapters.

Chapter 1 provides an overview of the Eurosystem's oversight function.

It starts out with describing the institutional framework, highlighting the need for ongoing adaptation of the Eurosystem's oversight function in line with developments in financial markets and payment, clearing and settlement infrastructures. The main Eurosystem oversight standards and requirements are then summarised. While so far the majority of these standards and requirements relate to payment systems and payment instruments, recommendations relating to securities settlement systems and central counterparties have also been developed. Finally, the practical arrangements for conducting system oversight and cooperation are explained. These include cooperative oversight arrangements for a number of cross-border or multi-currency systems, arrangements for horizontal cooperation of overseers across different infrastructures, as well as cooperative arrangements with financial regulators and banking supervisors.

Chapter 2 provides information about the Eurosystem's oversight activities.

As mentioned above, oversight is conducted on the basis of common oversight standards. Standard-setting is therefore a very important part of the Eurosystem's oversight activities.

In this area, the main priority during 2008 was the finalisation of the "ESCB-CESR recommendations for securities settlement systems and recommendations for central counterparties in the European Union". In addition, the Eurosystem developed a harmonised oversight approach and oversight standards for payment instruments.

With regard to monitoring and assessment, the main focus as regards large-value payment systems has been on the transition from TARGET to TARGET2. Given the far-reaching nature of this change and the systemic relevance of TARGET2, the Eurosystem oversight function followed the development of TARGET2 particularly closely and carried out a comprehensive assessment of its design. Concerning retail payment instruments, the Eurosystem launched a harmonised assessment of euro area card payment schemes against the Eurosystem standards issued in January 2008. In the field of clearing and settlement systems the Eurosystem contributed to efforts to develop market infrastructures for over-the-counter (OTC) derivatives, for instance by fostering the establishment of at least one central counterparty for credit default swaps within the euro area. Other oversight activities related to business continuity and to the cooperative oversight of SWIFT.

Selected topics that were analysed in greater detail by the Eurosystem included the lessons from the financial market turmoil, the need to enhance market infrastructures for OTC derivatives and developments in correspondent banking.

Chapter 3 reports on future work priorities.

Following up on lessons drawn from the turbulence in financial markets, the Eurosystem expects to devote particular attention to the role of overseers in the forthcoming financial architecture as well as to market infrastructures and oversight arrangements for OTC derivatives, especially for the euro-denominated market segments. In addition, the Eurosystem intends to further develop its role with regard to securities settlement systems and central counterparties, focusing on the horizontal assessment of the safety and soundness of the euro area infrastructure as a whole, as well as on specific central counterparties and securities settlement systems that are of systemic importance for the euro area. Other priorities include the further development of a risk-based approach to oversight, joint work with banking supervisors to assess risks in correspondent banking, the establishment of a Eurosystem oversight framework for credit transfer and direct debit schemes in the context of the Single Euro Payments Area (SEPA), the design of the oversight framework for TARGET2-Securities (T2S), the revision of the classification of retail payment systems for oversight purposes and the TARGET2 Oversight Simulation Project.

1 THE EUROSYSTEM'S OVERSIGHT FUNCTION [3]

1.1 INSTITUTIONAL FRAMEWORK

LEGAL BASIS

The legal basis for the Eurosystem's oversight function is enshrined in the Treaty establishing the European Community and the Protocol on the Statute of the European System of Central Banks and of the European Central Bank.

According to Article 105 (2) of the Treaty and Article 3 (1) of the Statute of the ESCB, one of the main tasks of the European System of Central Banks (ESCB) is to promote the smooth operation of payment systems. The oversight role is one way in which the Eurosystem fulfils this mandate, complementary to its roles as a catalyst for market-led change and operator of payment and settlement facilities.

SCOPE

In interpreting the scope of its oversight function, the Eurosystem has placed great importance on adapting its role in the light of the evolution of market infrastructures (whereby market infrastructures are defined here and throughout the report as payment, clearing and settlement infrastructures). For instance, while the Eurosystem's oversight function initially focused on large-value euro payment systems, it gradually also extended its activities to retail payment systems and payment instruments, to reflect their growing significance.

Similarly, although the Treaty and the Statute of the ESCB only mention "clearing and payment systems" explicitly, safe and efficient post-trading infrastructures for securities markets have become an increasingly critical component of the financial system as a result of the large growth of these infrastructures over the past decade. Central counterparties and securities settlement systems handle very large volumes and values,[4] reflecting the major network externalities in this business. Against this background, any malfunctioning of securities clearing and settlement systems can have serious repercussions for monetary and financial stability and economic efficiency. Furthermore, given that one side of a securities transaction typically involves a cash payment, disturbances in the clearing and settlement process may also have negative spill-over effects for the payment systems concerned.

The safe and efficient functioning of securities clearing and settlement systems in the euro area is directly relevant to the effective fulfilment of the Eurosystem's responsibilities for the conduct of monetary policy, the smooth operation of payment systems and the safeguarding of financial stability. The Eurosystem has therefore developed a keen interest in the matter and promotes consistency of the respective oversight requirements and policies across the euro area.

Finally, the Eurosystem also monitors developments in correspondent and custodian banking and third-party service providers to market infrastructures.

METHODS

The Eurosystem's oversight function comprises three main activities.

First, the Eurosystem develops and regularly reviews, either by itself or in cooperation with other authorities, oversight standards and other requirements and expectations which the relevant overseen entities have to comply with. While Article 22 of the Statute of the ESCB also gives the ECB the power to make formal regulations to ensure efficient and sound clearing and payment systems, the Eurosystem has not so far made use of these powers but has relied instead on the issuance of (non-binding) recommendations, on the provision of expert advice and on moral suasion. This more informal and flexible approach is generally considered to be better suited to a fast-changing market environment.

3 This chapter builds on the description of the Eurosystem's oversight function which is provided in the "Eurosystem oversight policy framework" issued in February 2009.

4 For instance, the daily average of the total value of payments processed in the euro area's large-value payment systems alone amounted to € 2,713 billion in 2007. This was 30.5% of the euro area's gross domestic product.

Second, the Eurosystem performs the ongoing oversight of euro market infrastructures. In this context, the Eurosystem collects information on the performance and development of the overseen entities and their compliance with the Eurosystem's oversight requirements in order to assess the effectiveness of its own oversight policies. If the Eurosystem is not satisfied that an overseen entity is sufficiently safe and efficient, it may take action to induce change in the relevant system.

Third, the Eurosystem analyses selected topics with major oversight implications, e.g. related to developments in euro market infrastructures and the wider business environment, in greater detail.

In planning and performing its oversight activities, the Eurosystem attaches the utmost importance to constructive cooperation with the overseen entities to enhance its effectiveness and efficiency.

ALLOCATION OF RESPONSIBILITIES

The allocation of oversight responsibilities within the Eurosystem has been devised in such a way as to benefit from the Eurosystem's decentralised structure while at the same time ensuring close coordination between overseers and the overall consistency of the Eurosystem's oversight approach.

For the oversight of individual payment systems and instruments with a clear national anchorage, the Eurosystem entrusts a leading role to the central bank that is best placed to do so either because of its proximity to the overseen entity or because of an oversight obligation established in national law. For systems and instruments without a clear domestic anchorage, the body entrusted with oversight responsibility is the national central bank (NCB) where the system is legally incorporated unless the ECB's Governing Council decides otherwise and assigns primary oversight responsibility to the ECB. This is for instance the case with regard to the euro payment systems of the EBA Clearing Company (EURO1, STEP1 and STEP2), as well as for TARGET2. The ECB is also the primary Eurosystem overseer for the settlement of the euro by Continuous Linked Settlement (CLS), acting in close cooperation with all NCBs. Similarly, in the field of payment instruments, the ECB is the lead overseer for the international card payment schemes operated by Visa, American Express and Diners. In the case of the international card payment scheme MasterCard the NBB has the primary oversight responsibility.

Complementary to this clear role allocation, the Eurosystem attaches great importance to the effective coordination of its decentralised activities. In this way, the Eurosystem aims at ensuring the consistency, efficiency and effectiveness of its oversight approach, as well as benefiting from the expertise and knowledge of all of its members.

In particular, the central bank entrusted with primary oversight responsibility for an infrastructure, in representing the Eurosystem's interest in the prudent design and management of the systems or instruments it oversees, takes into account the oversight interests and views of the other Eurosystem members.

In the case of securities clearing and settlement systems, the Eurosystem benefits from oversight competences that are given to most NCBs under their domestic legal systems. NCBs typically share the relevant oversight competences with national securities regulators as well as, in some cases, banking supervisors.

In addition, the Eurosystem promotes euro area-wide consistency of the oversight policies and activities conducted in this field. With regard to the issuance of recommendations, the Governing Council adopted the ESCB-CESR recommendations (see Chapters 1.2 and 2.1). With due consideration to national legal frameworks, each NCB reports on its assessments and results of activities conducted in cooperation with the securities regulators within the Eurosystem, with the aim of facilitating transparency and consistent implementation of oversight recommendations in the different countries. Given the increasing importance of interdependencies, such reporting may take the form of an overview report to the Governing Council in which a horizontal view with a euro area/EU dimension is presented.

1.2 OVERSIGHT STANDARDS AND REQUIREMENTS

Oversight aims at ensuring the safety and efficiency of the overseen systems in order to contribute to financial stability and maintain public confidence in the currency. Oversight standards and requirements form the basis for the effective performance of oversight. They not only clarify overseers' expectations for the overseen entities, but also ensure a systematic and harmonised oversight approach vis-à-vis all concerned payment, clearing and settlement systems. A standards-based approach is also straightforward and clear in its practical application and facilitates the comparison of assessment results across different systems.

This section provides an overview of the main Eurosystem oversight standards and requirements.[5] These are applied in a consistent way both to systems operated by the Eurosystem (e.g. TARGET2) and to euro area systems operated by the private sector.

Some of the Eurosystem's oversight standards and requirements were developed on the basis of internationally agreed standards and recommendations (see Chapter 1.3), although with the necessary modifications that result from the specific economic and institutional setting of the euro area.

PAYMENT SYSTEMS AND INSTRUMENTS

The Eurosystem applies different types of oversight standards to payment systems, depending primarily on the extent of their relevance for overall financial stability.

For systemically important payment systems, since January 2001 the Eurosystem has applied the "Core Principles for Systemically Important Systems" of the Committee on Payment and Settlement Systems (CPSS), with a customised Eurosystem assessment methodology. The Core Principles give guidance for the design and operations of the respective payment systems, including the requirements for a sound legal basis, adequate management of financial risks, security and operational reliability, efficiency and governance.

"Systemically important payment systems" (SIPS) are primarily large-value payment systems, which form the backbone of the euro area post-trading infrastructure (the main ones being TARGET2 and EURO1). Although retail payment systems are used for the bulk of payments between individuals, companies and public administrations, and their safety and efficiency correspondingly play an important role in the smooth functioning of the financial system as well as for public confidence in the currency, they are not always considered systemically important. At the same time, the turnover volumes in some euro retail payment systems have increased significantly and the possible implications for systemic risk of major disruptions in these systems must be recognised.

Against this background, in June 2003 the Eurosystem clarified in its "Oversight standards for euro retail payment systems" that euro retail payment systems should comply with adjusted sets of standards, depending on their systemic relevance.

More specifically, the Eurosystem's "Oversight standards for retail payment systems" distinguish between three different categories of retail payment systems, based on clear quantitative criteria relating to the penetration of the retail payment system in the relevant market, the aggregated financial risk in the system and the potential risk of domino effects within the system in the event of disturbances. While "systemically important retail payment systems" (SIRPS) are expected to comply fully

5 A full overview of existing Eurosystem oversight policy documents is provided in Annex 1.

with the "Core Principles for Systemically Important Payment Systems", this applies only partially to "prominently important retail payment systems" (PIRPS).[6] "Other retail payment systems" are only subject to national oversight requirements.

In recent years, the Eurosystem further specified its oversight expectations for payment systems. In June 2006, the Eurosystem issued "Business continuity oversight expectations for systemically important payment systems" with regard to the business continuity aspects of Core Principle VII for SIPS. These expectations give guidance to SIPS operators on measures to achieve adequate levels of resilience, focusing on business continuity strategy, planning and testing, as well as crisis management.

An essential part of payment systems are the payment instruments used therein. These include mainly non-cash instruments, such as payment cards, credit transfers, direct debits and cheques. Even though neither the provision nor the use of payment instruments is typically associated with systemic risk, the safety and efficiency of these instruments is important both for maintaining confidence in the currency and for promoting an efficient economy. The Eurosystem has therefore developed oversight standards for some of the payment instruments used in the euro area.

An early concern in this regard was the security of e-money schemes. Following the 1998 ECB "Report on electronic money", in May 2003 the Eurosystem published the "Electronic money system security objectives", which specified the Eurosystem's expectations regarding the technical security of such systems.

In January 2008, the Eurosystem published its "Oversight Framework for Card Payment Schemes – Standards", which lays down common oversight standards for card payment schemes operating in the euro area. The development of SEPA further underlined the importance of common safety and efficiency standards for credit transfers, credit cards, debit cards, direct debits and other types of payment instruments used across the euro area. Against this background, the Eurosystem also developed a harmonised oversight approach for payment instruments and launched work on specific oversight frameworks for SEPA credit transfers and direct debits (see Chapter 2.1).

SECURITIES CLEARING AND SETTLEMENT SYSTEMS

In order to create a level playing field for providers of securities settlement systems and central counterparties (CCPs) in Europe and to promote consistency of the respective oversight policies and activities, the Eurosystem, together with the other NCBs of the ESCB and in cooperation with the European Committee of Securities Regulators (CESR), developed non-binding recommendations addressed to public authorities. The ESCB-CESR "Recommendations for securities settlement systems and recommendations for central counterparties in the European Union" were published in June 2009 (see Chapter 2.1).

Increasingly, oversight concerns have also extended to cover market infrastructures for derivatives markets, particularly to the markets for the derivatives that are traded on an OTC basis, which account for the vast majority of all derivatives. Indeed, the use of OTC derivatives has increased sharply in recent years. According to the Bank for International Settlements (BIS), both the notional amounts outstanding and the gross market values of global OTC derivatives markets multiplied by a factor of more than six between mid-2001 and mid-2008.[7]

While the clearing and settlement of OTC derivatives is still to a large extent organised on a bilateral basis, following the turbulence in financial markets the pre-existing initiatives to develop the respective market infrastructures, including through the wider adoption of CCP clearing,

6 The Eurosystem is currently considering a possible revision of its oversight standards for retail payment systems; see Chapter 3.
7 Notional amounts outstanding increased from approximately USD 100 trillion to more than USD 680 trillion; gross market values rose from around USD 3 trillion to more than USD 20 trillion. See the BIS "Triennial Central Bank Survey" of March 2002 and the BIS report on "OTC derivatives market activity in the first half of 2008" of November 2008.

gained further impetus and strong political support, including by the Group of Twenty countries (G20) (see Chapters 2.2 and 2.3).

Against this background, it is important to ensure that recommendations for CCPs also adequately capture the specific risks inherent in the clearing of OTC derivatives and ensure a level playing field between different clearing services providers. Within the EU, this has already been achieved with the recent adoption of the ESCB-CESR recommendations for CCPs. The main priority going forward will be to achieve a consistent framework in this field at global level as well (see Chapter 3).

OTHER REQUIREMENTS

Eurosystem location policy

The Eurosystem considers that payment, clearing and settlement systems processing the euro should be in principle located in the euro area. Location of such key market infrastructures in the euro area enables the Eurosystem to directly fulfil its responsibilities for the smooth functioning of payment, clearing and settlement systems as well as its responsibility for the implementation of monetary policy. In particular, the Eurosystem is able to maintain full control over the euro, to facilitate access to its central banking operations, and to carry out its oversight role effectively.

In the light of these considerations, in July 2007 the Eurosystem issued the "Policy principles on the location and operation of infrastructures settling euro-denominated payment transactions", which stated that, as a matter of principle, such infrastructures should be legally incorporated in the euro area with full operational responsibility.[8] When that is the case, the Eurosystem has regulatory powers over and direct access to the decision-making body of the relevant euro payment infrastructure. This is even more crucial in the event of a crisis situation, when comprehensive and timely information from the infrastructure is indispensable for swift and well-targeted central banking actions.

As specified in the 2007 policy principles, the Eurosystem may grant exemptions from its location rule only in very specific circumstances and on a case-by-case basis. More specifically, such exceptions may be considered especially for: (i) multi-currency systems that settle payment transactions relating to foreign exchange trades on a payment-versus-payment (PvP) basis,[9] provided that the Eurosystem is directly involved in the oversight of such systems; as well as for (ii) settlement systems for non-PvP transactions that do not exceed a certain threshold in terms of the values settled and are therefore unlikely to affect monetary and financial stability in the euro area.

A similar policy statement concerning the location of clearing and settlement systems for securities and derivatives had already been issued in 2001. The "Eurosystem's policy line with regard to consolidation in central counterparty clearing" underlined that clearing and settlement systems for securities and derivatives denominated in euro should in principle, given their potential systemic importance, be located in the euro area. In December 2008, the Eurosystem reaffirmed this stance when highlighting the need for the establishment of at least one CCP for credit default swaps in the euro area (see Chapter 2.2).

User standards

In addition to its general interest in the safe functioning of securities clearing and settlement systems (SSSs) and a harmonised approach between euro area overseers in this regard, the Eurosystem needs to manage its own exposure to potential risks in SSSs, as well as in links between them, when settling its credit operations, which, according to Article 18 of the Statute of the ESCB, must be based on adequate collateral.

8 The policy principles were grounded in and further elaborated the Eurosystem's 1998 "Policy statement on euro payment and settlement systems located outside the euro area". On 20 November 2008, the Eurosystem clarified the meaning of the requirement of "legally and operationally located in the euro area", which was referred to in the 2007 policy principles.

9 Foreign exchange PvP transactions are by nature offshore to all but one of the involved currency areas.

With a view to this purpose in January 1998 the forerunner of the ECB, the European Monetary Institute, issued nine "Standards for the use of EU securities settlement systems in ESCB credit operations". These user standards, which are not oversight standards, aim to ensure that Eurosystem credit operations are conducted according to harmonised procedures that reduce central banks' risks.

1.3 SYSTEM OVERSIGHT AND COOPERATION

As mentioned above, the scope of oversight has expanded significantly over time. In addition, increased European financial market integration and globalisation have enhanced the need for cross-border information-sharing and coordination in the performance of oversight and for the consistency of oversight approaches. As a consequence, arrangements for ensuring close cooperation between overseers, both within the Eurosystem and globally, as well as for cooperation of overseers with other authorities, have gained importance.

Three main strands of work are pursued in this regard. First, for a number of cross-border or multi-currency systems cooperative oversight arrangements are in place. Second, in addition to such specific arrangements for individual systems, overseers work to achieve convergence of their approaches and effective cooperation across systems. Third, arrangements have been established to support the cooperation of overseers with financial regulators and banking supervisors.

COOPERATIVE OVERSIGHT

In May 2005, the Group of Ten (G10) central banks agreed on a framework for cooperative central bank oversight for cross-border payment and settlement systems.[10]

Under such cooperative oversight arrangements the central bank with primary oversight responsibility accepts to perform a consolidated assessment of the system, closely involving and drawing on the expertise of the other central banks concerned. At the same time, each central bank keeps full responsibility for meeting its domestic oversight obligations. The principles for cooperative oversight between central banks have also guided cooperative arrangements between central banks and other authorities, although with the necessary modifications in view of the specific powers and responsibilities of these authorities.

Cooperative oversight arrangements exist for the following systems:

CLS

The CLS system provides a multi-currency service for the synchronous, i.e. PvP settlement of payment instructions involving foreign exchange transactions with immediate finality.

CLS is provided and operated by the CLS Bank International, incorporated in New York, which was established in 2002 with the objective of reducing foreign exchange settlement risk. While CLS initially settled payment transactions related to the seven most widely traded currencies, today there are 17 currencies that are eligible for settlement via its infrastructure. CLS is regulated and supervised by the US Federal Reserve System.

Given its multi-currency nature, CLS is subject to a cooperative oversight arrangement (the "Protocol") that has been established by the G10 central banks and other central banks of issue of CLS-settled currencies.[11] The Protocol was endorsed in November 2008. It provides a mechanism for the cooperating central banks to carry out their individual oversight responsibilities in pursuit of the shared public policy objectives of the safety and efficiency

10 See CPSS, "Central bank oversight of payment and settlement systems", May 2005. The CPSS report updated the "Lamfalussy Principles" for cooperative central bank oversight of cross-border and multi-currency netting and settlement schemes set out in the BIS "Report of the Committee on Interbank Netting Schemes of the central banks of the Group of Ten countries" of November 1990.

11 The Protocol for the Cooperative Oversight arrangement of CLS is available on the Federal Reserve Board's website and can be accessed via the link: http://www.federalreserve.gov/paymentsystems/cls/default.htm#toc

of payment and settlement systems and of their focus on the stability of the financial system. It also defines the key elements governing the cooperative oversight arrangement of CLS by including provisions regarding, for example: (i) the organisational framework of the cooperative oversight, including the role of the Federal Reserve as primary overseer; (ii) the conduct of oversight assessments and reviews of CLS proposals; (iii) the sharing of information between overseers and with other authorities, including the treatment of confidential information; and (iv) procedures to achieve consensus between the overseeing central banks.

Under the Protocol, the primary forum for the cooperating central banks is the CLS Oversight Committee (OC) which is chaired by the Federal Reserve. Each participating central bank is represented by one responsible senior official (RSO) appointed by the Governor of the relevant respective central bank. In turn, each RSO can name one or more designees from the respective central bank as their deputy(ies) in the OC. The Eurosystem is represented in the OC by the ECB, which is the central bank with primary oversight responsibility for the settlement of the euro by CLS, as well as by the other G10 euro area NCBs, i.e. the Nationale Bank van België/Banque Nationale de Belgique (NBB), the Deutsche Bundesbank, the Banque de France, the Banca d' Italia and De Nederlandsche Bank.

Given the systemic relevance of CLS, the overseers engaged in its cooperative oversight carefully assess CLS's compliance with the Core Principles. In addition, CLS is required to carry out self-assessments against the Core Principles. Individual central banks also expect CLS to be compliant with their applicable policies, such as the Eurosystem location policy principles.

Euroclear

Euroclear SA/NV (ESA), incorporated in Belgium, is the parent company of the Euroclear Group of several national central securities depositories (CSDs) and one international central securities depository (ICSD). ESA owns the securities processing platforms and provides various common services to these CSDs and the ICSD. After the acquisition of NCSD in 2008, ESA is the parent company of Euroclear Bank (the ICSD) and the CSDs of Belgium, France, the Netherlands, UK & Ireland, Finland and Sweden.

In 2005, a Memorandum of Understanding (MoU) between the authorities (both overseers and securities regulators) of the Euroclear group countries was signed. In 2009 the MoU was extended to the Swedish and Finnish authorities. The MoU specifies a cooperative framework for the monitoring and assessment of common services and other issues of common interest. The Belgian authorities act as the central entry point for the collection and distribution of information and undertake and, where necessary, coordinate the assessment of the common services. At the same time, each authority remains responsible for its own CSD/ICSD.

Two committees have been established to support this cooperation. The High Level Committee sets the policies and priorities and discusses with ESA's board and management the outcome of the coordinated assessment as well as the ESA strategy concerning its common services, while the Technical Committee assists in implementing the agreed policies. The Belgian, Dutch and French CSDs have operated on one common platform (ESES) since January 2009. A crisis coordination procedure has been established to cover any possible operational incident with cross-border impact. This procedure aims to ensure timely communication between national authorities and Euroclear.

LCH Clearnet SA

LCH.Clearnet SA, incorporated in France, forms part of the LCH.Clearnet group, which in addition includes the UK-based LCH. Clearnet Ltd.

LCH.Clearnet SA's business model is based on a multi-product cross-border strategy, focusing on CCP services for financial instruments traded on the Euronext markets in Belgium, France, the Netherlands and Portugal. LCH.Clearnet SA has also been active on the Italian regulated market for Government Bonds MTS Italy (since 2002) and on the multilateral trading facility BrokerTec Italy for Italian debt securities (since 2006). In addition, LCH.Clearnet SA has provided clearing services to the Bourse de Luxembourg as well as, more recently, to several electronic trading platforms such as Smartpool (in the UK) and Equiduct (in Germany). This growing international activity has required the establishment of a cooperative oversight arrangement between the competent authorities.

For its international activities on the Euronext markets in Belgium, France, the Netherlands and Portugal, LCH.Clearnet SA is supervised by the relevant French authorities (i.e., the Commission Bancaire as supervisor, CECEI as licensing authority, the Autorité des Marchés Financiers as regulator and the Banque de France as overseer) and also by Belgian (the NBB and the CBFA), Dutch (De Nederlandsche Bank and the AFM), and (since 2003) Portuguese (the Banco de Portugal and the CMVM) authorities. The cooperation of these authorities in the oversight of LCH.Clearnet SA is based on an MoU signed in 2001 and the work of the Coordination Committee on Clearing (CCC).

The CCC, composed of a technical committee and a high-level committee made up of representatives of the authorities party to the MoU, considers all matters of relevance to the oversight and supervision of LCH.Clearnet SA, such as projects and new services, changes to its operating rules, analysis of risks and risk control measures, assessment against CPSS-IOSCO and ESCB-CESR recommendations for central counterparties, etc. The authorities endeavour to reach common decisions relating, for example, to assessments or authorisations within the competence of each signatory authority. The CCC authorities work on an equal basis. A Permanent Secretariat, open to all authorities wishing to take part, is organised by the Banque de France. It acts as the contact point between the various authorities and LCH.Clearnet SA for the transmission of the necessary information for the oversight and supervision of the CCP.

Following the constitution of LCH.Clearnet Group Ltd in 2004, a MoU was signed in 2005 between the authorities of the four countries responsible for overseeing LCH.Clearnet SA and their British counterparts, the Financial Services Authority and the Bank of England. This MoU between the “Joint Regulatory Authorities” (JRA) sets out the terms and conditions for cooperation between the authorities responsible for overseeing LCH.Clearnet Group Ltd, especially in the form of a mechanism for exchanging information, the quest for harmonised oversight methods and the assessment of risk management methods and the practices developed by companies in the group over time.

An MoU with the Italian authorities (the Banca d’Italia and CONSOB) covers the link between LCH.Clearnet SA and the Italian CCP CC&G for the transactions carried out on MTS Italy.

Finally, MoUs are currently being discussed with the competent regulatory authorities in Luxembourg and Germany to cover the clearing activity of LCH.Clearnet SA for Euronext-listed securities traded on the Bourse de Luxembourg and on Equiduct.

SWIFT

S.W.I.F.T. scrl, the Society for Worldwide Interbank Financial Telecommunication (“SWIFT”), is a limited liability cooperative company registered in Belgium. SWIFT supplies secure messaging services to financial institutions and market infrastructures worldwide.

Even though SWIFT is not a payment system or settlement system itself, it has acquired potential systemic relevance owing to the strong (and still growing) reliance of many systemically important market infrastructures on SWIFT and its central infrastructure role in correspondent banking messaging flows.

The central banks of the G10, including the ECB, have agreed on a cooperative oversight arrangement for SWIFT. Given that SWIFT is incorporated in Belgium, the NBB acts as the lead overseer. The common understanding of overseers and SWIFT about the oversight objectives and corresponding oversight activities are laid down in a protocol arrangement between the NBB and SWIFT. The NBB has also concluded bilateral MoUs with each of the other central banks involved in the oversight of SWIFT. The SWIFT Cooperative Oversight Group (OG), composed of the G10 central banks and the ECB, is the forum through which central banks conduct their oversight of SWIFT, and in particular discuss oversight strategy and policies. An Executive Group of the OG discusses with SWIFT's board and management overseers' issues of concern and SWIFT's strategies to respond to these issues. At the technical level, the SWIFT Technical Oversight Group (TG) meets with SWIFT management, internal audit and staff to carry out the groundwork of the oversight process. Specialised knowledge is needed to understand SWIFT's use of computer technology and information and communication technologies and the associated risks. The Technical Group draws its expertise from the pool of staff available at the cooperating central banks. It reports its findings and recommendations to the OG.

Overseers have developed a specific set of oversight principles applicable to SWIFT, which describe in detail overseers' expectations vis-à-vis SWIFT in terms of operational risk management. The five High Level Expectations (HLEs) provide the framework through which overseers seek assurance that SWIFT appropriately manages risks to its operations that could otherwise threaten the smooth functioning of the international financial system. The HLEs cover the management of risks (HLE 1, Risk Identification and Management; HLE 5, Communication with users) and the types of risk that should be managed (HLE 2, Information Security; HLE 3, Reliability and Resilience; HLE 4, Technology Planning).

Table 1 Cooperative oversight arrangements

System/Infrastructure	Country of location	Lead overseer	Other involved authorities
CLS	United States	Federal Reserve System	• ECB • G10 NCBs (euro area: BE, DE, FR, IT, NL) • NCBs of the eligible currencies for CLS settlement
Euroclear	Belgium	NBB	• BE banking supervisor • NCBs and securities regulators of FR, NL, UK, IE (since 2009 also FI and SE)
LCH.Clearnet SA	France	Banque de France	• FR banking supervisor and securities regulator • NCBs, banking supervisors and securities regulators of BE, IT, NL, PT, UK
SWIFT	Belgium	NBB	• ECB • G10 NCBs (euro area: BE, DE, FR, IT, NL)

COOPERATION OF OVERSEERS ACROSS SYSTEMS

In addition to the cooperative oversight of specific cross-border or multi-currency systems, it is also important to ensure an overall consistent approach of overseers and to cooperate in assessing risks and interdependencies across various systems.

A relevant forum for this work at the global level is the CPSS, one of the BIS permanent central bank committees reporting to the G10 Governors. The CPSS, which in recent years has also developed closer relationships with central banks outside the G10 context, addresses general concerns regarding the efficiency and stability of payment, clearing, settlement systems and related arrangements, including their relationship with central bank services and major financial markets, especially those that are relevant for the conduct of monetary policy.

The CPSS pursues two main types of activities. First, it monitors and analyses pertinent developments, both on a regular and on an ad hoc basis. For instance, during 2008 the CPSS reported on "Progress in reducing foreign exchange settlement risk" and "The interdependencies of payment and settlement systems" (see Box 1 below). Second, the CPSS formulates non-binding standards and guidelines for the operation of systems and respective oversight arrangements to promote progress towards best practices.

Box 1

CPSS REPORT ON INTERDEPENDENCIES OF PAYMENT AND SETTLEMENT SYSTEMS

The June 2008 CPSS report on "The interdependencies of payment and settlement systems" highlighted how payment, settlement systems, central clearing counterparties and service providers have become increasingly interconnected. The study clarifies that on the one hand, interdependencies have facilitated significant reductions in specific payment and settlement-related risks. For example, delivery versus payment and PvP processes have eliminated the risk of loss of the full value of securities or foreign exchange transactions (principal credit risk). Similarly, technical relationships between systems, facilitating the standardisation, automation and integration of processes, have helped to reduce operational risks. On the other hand, interdependencies raise the potential for a wider and quicker transmission of financial disruptions across the financial system through interconnections between systems or through common key service providers and large financial institutions participating in different systems. Interdependencies are particularly strong on a domestic, same currency basis. Currently, cross-border and cross-currency interdependencies appear to be less extensive, though CLS and SWIFT are quite significant.

The CPSS encouraged system operators, financial institutions and service providers to adapt their risk management to the risks stemming from such interdependencies. These actions include: adopting broad risk management perspectives; having risk management controls that are commensurate with the system's role in the global infrastructure; and implementing wide coordination among interdependent stakeholders.

In this vein, the report suggested several potential steps to be taken by central banks, such as having a clear understanding of how interdependencies can affect the systems they oversee, reviewing whether their policies provide entities with proper incentives to address sufficiently the risks brought by interdependencies, and reviewing regularly whether their cooperative efforts with other central banks and relevant public authorities sufficiently address the coordination needs arising from interdependencies. Both the CPSS and the Eurosystem continue to be involved in pursuing objectives relating to the challenges posed by interdependencies, such as: the identification of the relative importance of those systems, institutions and service providers that are most critical to the safety of the global financial sector infrastructure; the adaptation of relevant principles and recommendations for the management of payment and settlement risks, especially operational and liquidity risks; the improvement of cooperative efforts with banking supervisors, securities regulators and other authorities to bring about consistent progress in the management of liquidity and operational risks by entities that are subject to different regulatory or oversight frameworks.

COOPERATIVE ARRANGEMENTS WITH FINANCIAL REGULATORS AND BANKING SUPERVISORS

Interdependencies between central banks' oversight function and financial regulation and supervision have grown significantly over time, e.g. owing to blurring boundaries between market infrastructures and financial institutions providing infrastructure services. Against this background, the competent authorities are cooperating increasingly closely to ensure an effective exchange of information. This cooperation often takes place informally, e.g. as ad hoc exchange of information or views on specific topics of common interest, but can also be done in a more formal way, e.g. via official mutual consultations.

Memoranda of Understanding

In order to enhance the robustness of cooperation, especially during situations of financial distress, Memoranda of Understanding have been agreed between EU NCBs, banking supervisors and finance ministries.

The 2001 Memorandum of Understanding on co-operation between payment systems overseers and banking supervisors in stage three of economic and monetary union is aimed primarily at promoting cooperation in relation to large-value payment systems, but it also deals with cooperation regarding retail payment systems. The overall framework provided by this MoU is defined with a view to ensuring the soundness and stability of payment systems and of the participating credit institutions. Cooperation and information are specifically foreseen: (i) in the case of an application to join an existing payment system or when a new system is established; (ii) on an ongoing basis; and (iii) in crisis management situations.

The 2003 Memorandum of Understanding on high-level principles of cooperation between the banking supervisors and central banks of the European Union in crisis management situations consists of a set of principles and procedures for cross-border co-operation between banking supervisors and central banks in crisis situations involving individual credit institutions or banking groups, or relating to disturbances in money and financial markets and/or market infrastructures with potential common implications for Member States.

The 2008 Memorandum of Understanding on cooperation between the financial supervisory authorities, central banks and finance ministries of the European Union on cross-border financial stability has the objective to ensure cooperation in financial crises between financial supervisory authorities, central banks and finance ministries through appropriate procedures for sharing information and assessments in order to facilitate the pursuance of their respective policy functions, including the central banks´ function relating to oversight of payment systems and to preserve the stability of the financial system of individual Member States and of the EU as a whole.

Correspondent and custodian banking

Correspondent banks are banks that provide payment and other services to banks (service-providing banks) or make use of it (customer banks), while custodian banks hold securities for their customers and provide related services. Both service-providing correspondent banks and custodian banks, typically large multinational institutions, are key components of modern payment and settlement arrangements. The growing demand for cross-border and multi-currency infrastructure solutions has further added to their importance over time.

Against this background, Eurosystem overseers have a close interest in monitoring the activities of correspondent and custodian banks and the related risks. Key concerns in this regard relate to: (i) the concentration of financial and operational risks in a limited number of large providers; (ii) risks stemming from the transfer of services that are typically provided by infrastructures to correspondent and custodian banks via the internalisation of the respective processes; and (iii) the provision of short-term (i.e. intraday) credit by correspondent and custodian banks to their customers, given that such credit is often uncollateralised and/or of significant size.

Correspondent and custodian banks are primarily subject to banking supervision. Rather than applying specific oversight standards and recommendations to these institutions, the Eurosystem cooperates with banking supervisors to assess the management of the resulting risks for euro area payment, clearing and settlement arrangements. In this way, the Eurosystem seeks to avoid any overlaps in the oversight and supervision of the banks concerned. At the same time, the dialogue of Eurosystem overseers with banking supervisors aims at fostering the mutual understanding of common risks incurred by market infrastructures and banks. With a view to this objective, in 2008 the Eurosystem set up a joint task force of overseers and banking supervisors to analyse the risks involved in correspondent banking activity and to develop a common foundation for the evaluation of such risks. The outcome of this work will shed light on the possible implications of correspondent banking activity for both, the soundness of individual institutions and the smooth functioning of the payment system as a whole (see also Chapter 3).

2 OVERSIGHT ACTIVITIES OF THE EUROSYSTEM

2.1 STANDARD-SETTING

Standard-setting activities of the Eurosystem during 2008 related to the ESCB-CESR recommendations for SSSs and CCPs and to the oversight framework for payment instruments.

ESCB-CESR RECOMMENDATIONS

Background

The Eurosystem has a keen interest in ensuring the proper functioning of SSSs and CCPs across the EU and especially in the euro area (see Chapter 1.1). In order to develop a consistent and appropriate regulatory and oversight framework in this regard, the Eurosystem, together with the other NCBs of the ESCB, has cooperated with CESR.

In 2001, the ECB's Governing Council and CESR established a joint Working Group, composed of representatives of the ECB, the NCBs and the securities regulators of the EU, to adapt the 2001 CPSS-IOSCO recommendations for securities settlement systems to the European context. Following the issuance of the CPSS-IOSCO recommendations for CCPs in 2004, the work was extended to cover these recommendations as well. In September 2004, the ESCB-CESR Working Group issued draft "Standards for securities clearing and settlement in the European Union".

While the follow-up to this work was temporarily frozen in 2005 due to open issues regarding the nature, scope and legal basis of the proposed provisions, the ESCB and CESR resumed their joint efforts in June 2008 on the invitation of the Ecofin Council. The review of the 2004 draft recommendations took into account all recent regulatory and legal developments and other related initiatives. The European

Commission, the Committee of European Banking Supervisors (CEBS), relevant market participants and industry associations were closely associated with this work at various stages. Two public consultations took place, the first with respect to the general review, the second in relation to specific changes introduced in relation to OTC derivatives. The final ESCB-CESR recommendations were published on 23 June 2009.

Main elements

The ESCB-CESR recommendations are non-binding and solely addressed to public authorities. They allow public authorities to regulate, oversee and supervise CSDs and CCPs providing clearing and settlement services in their jurisdiction with a commonly accepted frame of reference. The recommendations will thus be integrated by central banks, overseers and securities regulators into their respective assessment frameworks and/or practices. 19 recommendations deal with SSSs (CSDs and ICSDs) and 15 recommendations relate to CCPs.

The ESCB-CESR recommendations are based on and are, as a general principle, at least as stringent as the CPSS-IOSCO recommendations for SSSs and CCPs. Hence, the ESCB-CESR recommendations will substitute the CPSS-IOSCO recommendations in the EU context. The main aim of the ESCB-CESR recommendations is to promote efficient, safe and sound pan-European post-trading arrangements in order to support greater confidence in securities markets, ensure better investor protection, contain systemic risk and foster financial stability. Furthermore, the recommendations seek to improve the efficiency of the market infrastructure, which should in turn promote and sustain the wider financial market integration and efficiency in Europe. Moreover, public authorities will use the single set of recommendations to ensure a level playing field. More in general, the recommendations are complementary to other public and private sector initiatives aimed at increasing and improving the safety, efficiency and soundness of securities clearing and settlement in the EU.

Compared with the CPSS-IOSCO recommendations, the ESCB-CESR recommendations have added the following aspects in relation to the EU context. In contrast to the former, the latter: (i) focus on the harmonisation of EU rules (e.g. by requiring CSD to be open at least during TARGET2 operating hours, calling for intraday finality in Europe to facilitate interoperability as well as asking competent public authorities to ensure consistent implementation in the EU); (ii) in some areas require higher levels of risk management and transparency (e.g. regularly updated information on services and price) and add specific requirements for the outsourcing of clearing and settlement activities; and (iii) address additional risks with respect to the clearing of OTC derivatives (e.g. CCPs should provide information on the rights of the customers of clearing members with respect to collateral and consult with clearing participants on the set-up of a dedicated clearing fund in the event of a CCP's expansion of activities to new products).

Looking forward, in order to achieve a level playing field and avoid inconsistencies in the application of the ESCB-CESR recommendations, the relevant EU and national authorities should put arrangements in place to promote coherent interpretation and implementation of the recommendations. The ESCB and CESR, through periodic assessments of observance, aim to act as catalysts in this regard (see also Chapter 3).

It should also be noted that, complementary to the development of the ESCB-CESR recommendations, parallel work on custodian banks has been carried out by CEBS. This work is based on the fact that the scope of the ESCB-CESR recommendations is limited to CSDs and CCPs, while excluding custodian banks (based on the assumption that the Capital Requirements Directive (CRD)[12] or other relevant banking

12 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) and Directive 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions (recast) (OJ L 177, 30.6.2006, p. 201).

regulations would address post-trading risks associated with the settlement activities of custodian banks). Against this background, CEBS reviewed, in cooperation with CESR and the ESCB, the coverage of risks borne by custodians, taking into account that some CSDs/ICSDs/CCPs are also subject to the CRD, so as to ensure a level playing field while avoiding inconsistencies in the treatment of custodians and double regulation.[13]

OVERSIGHT FRAMEWORK FOR PAYMENT INSTRUMENTS

The move towards SEPA (see Chapter 2.2) has important oversight implications. In particular, there is a need for a uniform approach and a level playing-field in the oversight of SEPA payment instruments by central banks across the euro area. Against this background, the Eurosystem has worked to develop common oversight frameworks for payment instruments.

First, in January 2008 the Eurosystem issued the "Oversight framework for card payment schemes – standards". The framework provides a level playing field for the oversight of card payment schemes operating in the euro area and promotes their reliability, which has become an increasingly important issue in the light of their growing use. In many European countries, card payments represent the vast majority of cross-border retail transactions and the most common means of internet-based payments.

Second, based on the above standards, during 2008 the Eurosystem developed a generalised approach incorporating a minimum set of common oversight standards for payment instruments. The objective of these standards is to establish a common ground for all payment instrument frameworks, while leaving enough flexibility for the specificities of the individual instruments involved.

The "Harmonised oversight approach and oversight standards for payment instruments", published in February 2009, will also form the basis for the development of the oversight frameworks for the forthcoming new SEPA payment instruments, namely the SEPA credit transfer and direct debit schemes (see Chapter 3).

2.2 MONITORING AND ASSESSMENT

In its ongoing oversight activities, the Eurosystem follows developments in euro area infrastructures that may have oversight implications, monitors the infrastructures' performance, and assesses their compliance with the Eurosystem's oversight requirements. If deemed necessary from an oversight perspective, the Eurosystem may also take action to induce changes in overseen infrastructures.

PAYMENT SYSTEMS AND INSTRUMENTS

LARGE-VALUE PAYMENT SYSTEMS

TARGET2

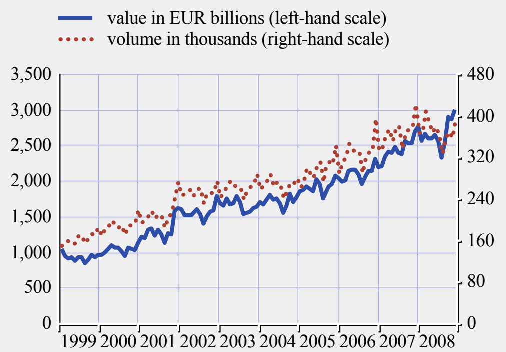
The most important development in euro area large-value payment infrastructures during 2008 was the completion of the phased migration from the TARGET infrastructure to the TARGET2 infrastructure in May 2008.

The move to TARGET2 has brought significant benefits in terms of system efficiency and resilience. In particular, TARGET2 has established an advanced and more harmonised service level based on a common pricing scheme for all participants. In addition, TARGET2 employs a wide range of tools to promote the optimisation of participants' intraday liquidity management. Moreover, TARGET2 provides dedicated functionality and procedures for the smooth settlement of payment orders submitted by ancillary systems, which are now able to access any of their participants' accounts in TARGET2 via a standardised interface.

Given the size and the concentration of potential operational and financial risks in the TARGET2 infrastructure, it is highly systemically relevant.

13 The CEBS reported on its findings to the Ecofin Council in December 2008. In April 2009, the CEBS also issued a follow-up report on the materiality of custodian banks' internalising settlement activities or their carrying out of CCP-like activities.

Chart 1 Average daily volumes and values settled by TARGET



Source: ECB.

Considering also the far-reaching nature of the transition to TARGET2, the Eurosystem oversight function[14] has followed its development and performance particularly closely.

Given the importance of the establishment of TARGET2, overseers launched an assessment of the design of the new infrastructure already in 2006. The assessment focused on the core of the system, the Single Shared Platform (SSP). In addition, the six domestic proprietary home accounting (PHA) applications, which are allowed to continue providing limited real-time gross settlement (RTGS) services in the transition period ending 2012, were assessed by the respective NCBs.[15]

During the assessment, overseers examined the compliance of the TARGET2 design with the Core Principles for Systemically Important Payment Systems as well as the Eurosystem's Business Continuity Oversight Expectations. The Eurosystem's common methodology constituted the basis for the exercise, i.e. the "Terms of reference for the oversight assessment of euro systemically and prominently important payment systems against the Core Principles" complemented with the "Guide for the assessment against the business continuity oversight expectations for SIPS".

The TARGET2 oversight function concluded in its 2007 report that the design of TARGET2 was well established and met the relevant standards at high level. A number of the oversight function's findings required further action on the part of the TARGET2 operator function, but this did not preclude the launch of TARGET2. A number of issues could only be settled after the introduction of TARGET2. Therefore, building on this initial work and discussions with the system operator, the TARGET2 oversight function further elaborated on its assessment report during 2008, and it was finalised and published in April 2009. The final assessment report contained some oversight recommendations where further investigations by the TARGET2 system operator were required. These findings related to: technical options for real-time synchronisation between the two processing regions and provision of additional collateral in contingency processing; a review of the operational overhead costs; finalisation of the change and release management procedures and the framework for the involvement of users in the future development of TARGET2 as well as a review of the level of cost recovery for the liquidity pooling functionality. Since none of the above issues had an adverse impact on the compliance of TARGET2, the overall conclusion of the assessment was that the design of TARGET2 observes all relevant Core Principles.

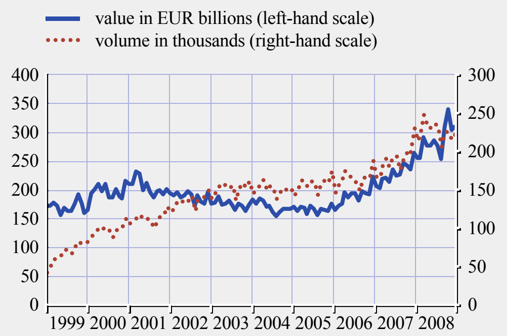
EURO1

Since June 2006 the EURO1 system, operated by EBA CLEARING, has employed a mechanism which enables participants to distribute liquidity between EURO1 and TARGET2 on an intraday basis, thereby fostering dynamic liquidity management.

The so-called Liquidity Bridge consists of two parts: prefunding, which is used to move liquidity from TARGET2 to EURO1, and liquidity distributions resulting in the

14 The oversight of TARGET2 is led and coordinated by the ECB, in close cooperation with the participating NCBs.
15 Those PHAs are operated by the central banks of AT, BE, DE, LT, PL and PT.

Chart 2 Average daily volumes and values processed by EURO1



Source: ECB.

withdrawal of liquidity from EURO1 back to TARGET2. Prefunding allows EURO1 participants that have reached their debit cap to process more payments. The liquidity distribution improves conditions for the processing of payments that would otherwise be placed on hold because the receiving participant balances have approached their credit caps.

The functionality of the Liquidity Bridge was extended in July 2008 by two further distribution windows. In May 2008, the ECB oversight function assessed their potential impact on EURO1 and TARGET2 *ex ante*. It concluded that the establishment of the two additional liquidity distribution windows would be of benefit from both a EURO1 and a TARGET2 perspective. Accordingly, the ECB communicated to EBA CLEARING that it had no objections to the establishment of the new additional liquidity distribution windows.

POPS

In 2004, Suomen Pankki assessed POPS, its online system for express transfers and cheques, using the criteria for systemically important payment systems. The conclusion was that POPS fulfilled the requirements of the principles. During 2009, Suomen Pankki conducted an assessment of compliance of POPS against the business continuity oversight expectations for SIPS as part of the Eurosystem's assessment process.

Based on Suomen Pankki's oversight monitoring, operation of POPS has been reliable and availability reached 100% during most of 2008. There have been no significant disruptions and no disturbances where more than one bank was involved. The number of payments has been at a stable level.

Due to its statistical irrelevance compared to the two major large-value payment systems, TARGET2 and EURO1, from the beginning of 2009 onwards POPS is no longer included in the Eurosystem's large-value payment system statistical reporting framework. Suomen Pankki continues to oversee POPS, including through the collection of statistics, at national level.

MULTI-CURRENCY PAYMENT SYSTEMS

CLS

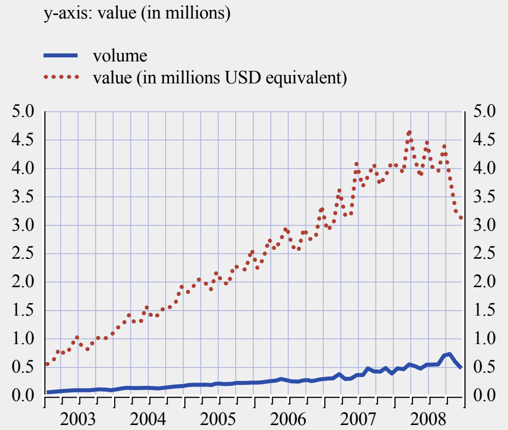
CLS has important financial stability implications both from a euro area and a global perspective, given that it is the largest infrastructure for settling payment transactions in euro outside the euro area as well as the payment infrastructure with the highest settlement value worldwide. Against this background, Eurosystem overseers closely monitor the development and performance of CLS within the relevant cooperative oversight arrangement (see Chapter 1.3).

In 2008, CLS handled 142 million transactions, which represented a 50% increase in terms of volume compared with 2007. The total amount settled was over one quadrillion US dollars. The euro, with an average share of 21% of all transactions settled by CLS in 2008, continued to be the second most important currency in the system, following the US dollar, which accounted for 43% of all transactions. The average daily value of CLS transactions settled in euro was €560 billion.

The Mexican peso and the Israeli shekel joined CLS during 2008, thus further expanding the scope of eligible currencies for settlement through CLS to 17 currencies.

Chart 3 Average daily volumes and values of payment transactions processed by CLS

(PVP and non-PVP, all currencies; in USD equivalent)



Source: ECB.

In addition to its core foreign exchange business, CLS started in late 2007 also to provide cash settlement for non-PvP single currency payment transactions. These services are limited to specific financial instruments, i.e. credit default swaps registered in the DTCC's Trade Information Warehouse and non-deliverable forward (NDF) transactions. While the volumes and values of these non-PvP transactions are still small in relative terms, in absolute terms they have been growing since their introduction. Against this background, Eurosystem overseers pay close attention to ensuring that the development of the non-PvP business of CLS does not give rise to possible conflicts with the Eurosystem's location policy (see Chapter 1.2).

As already described in Chapter 1.3, one of the main oversight achievements in 2008 was the establishment of the CLS Oversight Protocol and its adoption by all central banks that participate in the cooperative oversight of CLS. Furthermore, following the extension of CLS settlement services to settling single currency payment instructions such as credit default swaps, overseers agreed with CLS on specific commitments as a precondition for providing this type of settlement service.

RETAIL PAYMENT SYSTEMS AND INSTRUMENTS

Implications of the move towards the Single Euro Payments Area

During 2008, developments in retail payment systems and instruments were mainly related to the move towards SEPA. While SEPA is a self-regulatory effort of the European banking industry, it is actively supported by the Eurosystem and the European Commission. SEPA focuses on the harmonisation of cashless payment instruments (credit transfers, direct debits and payment cards) on the basis of the highest efficiency standards. It also aims at obtaining the necessary degree of interoperability between retail payment infrastructures in order to enable the seamless processing of SEPA payment instruments across the euro area.

In January 2008, the SEPA credit transfer (SCT) was launched. Most automated clearing houses that were processing credit transfers in euro are now able to process SCTs. SEPA for card payments started at the same time, whereas the launch of the SEPA direct debits is scheduled for the end of 2009. While these products will coexist with national instruments for some time, it is expected that they will ultimately replace their national equivalents.

The achievement of SEPA required greater harmonisation of the legal framework. The adoption of the Payment Services Directive (PSD)[16] at the end of 2007 established a sound and harmonised legal foundation for the project, which was particularly important for the implementation of SEPA direct debits. The PSD, which has to be transposed into national legislation by 1 November 2009, relates to three main areas: (i) definition of a harmonised set of rights and obligations for payment service providers and their customers; (ii) transparency regarding the conditions in which those services are offered; and (iii) harmonisation of access

16 Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC and 2006/48/EC and repealing Directive 97/5/EC (OJ L 319, 5.12.2007, p. 1).

conditions to the market of payment services. Regarding this last item, the PSD defines a new category of institution, so-called "payment institutions", that will be allowed to offer payment services, alongside credit institutions. Payment institutions will not be allowed to accept deposits and will be subject to a "light" regulatory regime.

The above developments relating to SEPA have important implications for the oversight of retail payment systems and instruments, as described below.

Retail payment systems

In 2004 the Eurosystem assessed all at the time existing SIRPS and PIRPS against the applicable Core Principles (see Chapter 1.2).[17] The result of these oversight assessments was published in August 2005.

Since then, the implementation of SEPA has fostered increased integration of retail payment systems and the establishment of links between formerly "national" ACHs.

In addition, the emergence of new and less stringently regulated payment institutions under the framework of the PSD could potentially pose concerns from an oversight perspective regarding access and participation in retail payment systems. Relevant developments are closely monitored by the Eurosystem.

Payment instruments

In May 2008 the Eurosystem launched a harmonised oversight exercise for the assessment of card payment schemes (CPSs) in the euro area against the "Oversight framework for card payment schemes – standards" which were issued in January 2008 (see Chapter 1.2). In 2008, as shown in Table 2, 33 card schemes were operating in the euro area, comprising 27 national schemes (dispersed in 13 countries) and six international schemes (Visa Europe, MasterCard Europe, American Express, Diners Club International, JCB International, China Union Pay). The Eurosystem's oversight framework is applied to 26 CPS while its application has been waived for seven CPSs, including two international ones.

Table 2 Card payment schemes operating in the euro area

	Subject to oversight	Waived
National	22	5
International	4	2
Total	26	7

Source: ECB.

National CPSs are assessed by the NCB of the country where the governance body of the CPS is legally established. Due to the cross-border nature of their activities, international schemes are subject to cooperative oversight carried out by Eurosystem assessment groups. Each assessment group consists of a lead overseer CB and other CBs that participate on the ground of special interest in the activities of the concerned international CPS for their countries. For Visa Europe, American Express and Diners/Discover the lead overseer is the ECB, while for MasterCard Europe the NBB assumes this role.

With the aim of preserving consistency and comparability of assessments, overseers follow the "Assessment Methodology" complementing the "Oversight framework for card payment schemes – standards". In addition, all assessment reports are subject to a peer review process. According to the time plan, the assessment exercise should be completed in the first half of 2010, followed by the publication of a report summarising the overall results on an anonymous basis.

Finally, it should be noted that the Eurosystem, following up on the issuance of its oversight framework for card payment schemes in January 2008, also developed a statistical

17 Six systems were classified as SIRPS: SIT of France, IRECC and IPCC of Ireland, LIPS-NET of Luxembourg, CSS of the Netherlands and PMJ of Finland. Seven systems were classified as PIRPS: CEC of Belgium, ACO and DIAS of Greece, SNCE of Spain, BI-COMP of Italy, SICOI of Portugal and STEP2, the pan-European clearing house of EBA, which has been classified by the ECB. Two systems were classified as other retail payment systems: CHB of Belgium and RPS of Germany.

framework with a focus on card fraud developments. The collection of relevant data, starting with the 2007 data, is expected to assist the Eurosystem in effectively evaluating financial and operational risks and, if necessary, shaping future fraud prevention policies.

STEP2

The scope of STEP2 and usage of its services further expanded during 2008.

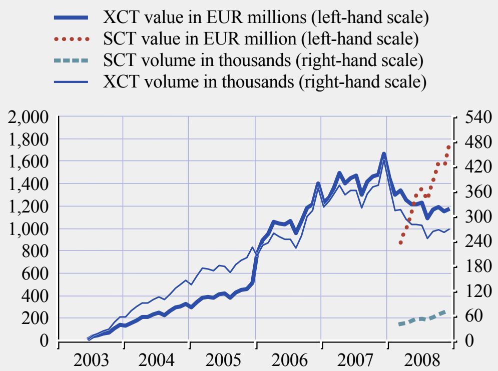
First, on 28 January 2008, EBA CLEARING launched its STEP2 SCT service. This provides processing services for SEPA-compliant credit transfers to more than 4,000 financial institutions across the 31 SEPA countries. The settlement of the STEP2 SCT service initially took place in EURO1. In May 2008 an additional intraday cycle was introduced for the SCT service to cater for the demands arising from the migration of some euro area countries' domestic traffic to this new service. Furthermore, in December 2008 the settlement of the SCT service was moved to TARGET2 and night-time settlement was launched.

Luxembourg migrated its domestic payments to STEP2 already in 2006, while 59 major Italian banks migrated their domestic payments in November 2006. The major Finnish banks have selected STEP2 to become their domestic system in the SEPA era. The Finnish retail payment system PMJ and most probably also the large-value payment system POPS will be discontinued when the relevant national end-date for non-SEPA services is reached in Finland. The PMJ volumes started to convert to the new system platform when EBA launched the possibility of night-time settlement. This conversion is expected to further develop during the course of 2009 and early 2010, when the large payment service users will have been able to convert their e-banking interfaces to SEPA standards.

In December 2008, the combined daily average of payments processed by the STEP2 SCT and STEP2 cross-border credit transfer (XCT) Services exceeded 550,000. This constituted an increase of 48% since January 2008.

Chart 4 Average daily volumes and values processed by STEP2

(XCT and SCT services)



Source: ECB.

While monitoring the performance of STEP2 in 2008, the ECB, as lead overseer of the STEP2 payment system, found that the recent changes in STEP2 did not alter the level of compliance of STEP2 with the applicable oversight standards for PIRPS. STEP2's operation was reliable and there were no significant disruptions.

Looking forward, the increased use of STEP2 for purely domestic transactions may warrant some refinement of the STEP2 oversight arrangements in order to increase involvement of the concerned NCBs.

SELECTED NATIONAL OVERSIGHT ACTIVITIES OF EUROSYSTEM OVERSEERS [18]

Oversight of retail payment systems in Belgium

The Centre for Exchange and Clearing (CEC) is the Belgian automated interbank retail payments system, which processes 99.75% of the volume of all interbank giro payments in Belgium (amounting to 2% in value).

CEC is managed and overseen by the NBB.[19] In 2008, oversight of the CEC focused on

18 Contributions from Eurosystem overseers to this section followed a voluntary approach leaving it up to the respective NCB to decide on whether to present relevant national activities.

19 In order to avoid any conflict of interest, a specific organisational structure is in place to keep oversight separate from operational activities up to the highest levels of the hierarchy.

financial risk management. Although this domain had already been assessed previously, this initiative of the NBB was justified by the migration of the CEC settlement process to the TARGET2 platform in October 2008, the interrelation with the settlement of Bancontact-Mistercash (the Belgian card payment scheme) and the peculiar market conditions that prevailed in the second part of the year. Possible improvements to CEC's financial risk management mechanisms and procedures are currently being examined.

Oversight of retail payment systems in France

As the successor to the SIT system, which was the largest retail system in Europe, CORE is a retail payment system of systemic importance. Accordingly, the CORE system has to comply with all the Core Principles for SIPS.

Against this background, the CORE operator, STET, has launched the implementation of a mutual guarantee fund complemented by individual collateral to ensure compliance with Core Principle 5 for SIPS, i.e. as regards the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation. The assessment of CORE against the Core Principles for SIPS will be completed during the second half of 2009.

Oversight of retail payment systems in Greece

In 2008, the Bank of Greece conducted a reassessment of the retail payment system DIAS against the applicable Core Principles for Systemically Important Payment Systems and verified that it retains the status of a retail payment system of prominent importance (PIRPS). The initial assessment of DIAS was performed in 2005, in the context of the Eurosystem oversight assessment of retail payment systems in euro.

Its reassessment in 2008 was triggered by a number of major changes in the system's structural and operational features. These changes include, inter alia, the radical restructuring of internal clearing procedures, the settlement of the system in TARGET2 and the use of SWIFTNet for the communication with the Single Shared Platform, the processing of SEPA credit transfers and the interconnection with another European retail payment system, Equens SE.

Oversight of retail payment systems in Malta

During 2007, the Central Bank of Malta (CBM) carried out an assessment of the Malta Clearing House (MCH) against the Core Principles for Systemically Important Payment Systems. Following this assessment, and taking into consideration the size of MCH and the way in which it operates, it was agreed to classify the MCH as a PIRPS, even though it is the only retail payment system in Malta.

Furthermore, since the assessment was carried out, the Rules and Regulations of the MCH have been updated and have also been published on the Central Bank of Malta's website.

Oversight on retail payment systems in the Netherlands

De Nederlandsche Bank oversees the retail payment systems in the Netherlands. The most important retail payment system is the Clearing and Settlement System (CSS), which is classified as a Systemically Important Retail Payment System.

CSS is owned and operated by Equens SE, which processes financial transactions also in other countries, notably Germany and Italy. During 2008, DNB initiated discussions with Equens and the central banks in countries where Equens operates as to how the oversight of Equens and its different payment systems could be carried out in the most effective and efficient way.

SECURITIES SETTLEMENT SYSTEMS AND CENTRAL COUNTERPARTIES

CENTRAL COUNTERPARTIES

CCP clearing for OTC derivatives

The market turmoil in 2008, and in particular the default of Lehman Brothers, highlighted the need for enhancing market infrastructures for

OTC derivatives, although work on this issue was initiated already before. In this context the international regulatory community considered that a wider use of CCP clearing would add significantly to the stability and resilience of these markets, focusing initially on credit default swaps (CDSs) (see also Box 4).[20]

In Europe, in October 2008 the European Commission stressed the need for a better view for regulators on the growing scale of OTC derivatives exposure, and in particular of credit derivatives, and requested to establish one or more European CCP solutions. At its meeting in December 2008, the Ecofin Council supported the European Commission's request to create one or more European CCP clearing capacities in OTC derivatives markets and indeed considered this a "matter of urgency".

For its part, the Eurosystem also underlined the importance of reducing counterparty risk and enhancing transparency in OTC derivatives markets in view of their systemic importance. At its meeting on 18 December 2008 the ECB's Governing Council confirmed, in line with its earlier statement of September 2001 on the consolidation of CCP clearing, that there was a need for at least one European CCP for credit derivatives and that, given the potential systemic importance of securities clearing and settlement systems, at least one such infrastructure should be located within the euro area. The Governing Council again underlined this position on 16 July 2009. The Governing Council noted that a particular priority from the Eurosystem's perspective is the use of euro area infrastructures for the clearing of euro-denominated CDSs. Two possible providers for a euro area solution in this field are Eurex Clearing, which went live with its CCP for CDS both for indices and single-name CDS – in July 2009 and LCH.Clearnet SA which intends to have its CCP for CDS up and running by December 2009.

In order to facilitate the discussion between European stakeholders and to act as a catalyst for effective private sector action to establish CCPs for CDS, the ECB hosted several meetings on the issue during 2008 and 2009. Participants included the potential providers of such CCPs, their regulators and the main users (dealers and buy-side).[21] The meetings complemented initiatives by the Federal Reserve Bank of New York and the European Commission in this field.

In order to effectively address the specific risks associated with the clearing of OTC derivatives, it is imperative that CCPs active in this field apply adequate risks control measures. The adaptation of the ESCB-CESR recommendations for central counterparties to the specific risks associated with the clearing of OTC derivatives has been a milestone in this respect (see Chapter 2.1). At the same time, given the envisaged global product scope of several CDS CCP solutions put forward during 2009, global regulatory convergence is also indispensable. In this context the Eurosystem strongly supports the current review of the application of the CPSS-IOSCO recommendations to CCPs for OTC derivatives, which was launched in mid-2009 (see Chapter 3).

OTHER OVERSIGHT ACTIVITIES

Business continuity

In 2006, after the publication of the Business continuity oversight expectations for SIPS (see Chapter 1.2) and a conference on market infrastructures' business continuity hosted by the ECB,[22] the Eurosystem strengthened its information-sharing procedures on business continuity. In particular, during 2008 the ECB and sixteen NCBs dedicated a section of their websites to the business continuity of payment and SSSs.[23] These websites are intended to

20 See the G20 Declaration of the Summit on Financial Markets and the World Economy of 15 November 2008, in which the G20 called for the imminent launch of CCP services for CDSs.

21 Details of these meetings are available on the ECB's website at http://www.ecb.europa.eu/paym/html/index.en.html under "latest events".

22 http://www.ecb.europa.eu/events/ conferences/html/ecbcf_mibc.en.html

23 The ECB's website on business continuity is available at http://www.ecb.europa.eu/ paym/pol/bc/html/index.en.html.

provide a reference point regarding business continuity arrangements for EU market infrastructures as well as to enhance public transparency in this regard.

The websites facilitate the provision of coherent, up-to-date and easily accessible information on national, euro area or international business continuity standards or initiatives. The minimum contents of the business continuity websites have been agreed by NCBs and the ECB. More specifically, NCBs' websites typically contain information or hyperlinks to relevant websites regarding standards/principles or initiatives established at national level. The ECB's website also refers to EU-wide sources (Eurosystem, ESCB, European Commission, etc.) and international sources (IMF, BIS, CPSS, World Bank). In addition, it provides access to the Eurosystem glossary of major business continuity terms in relation to payment and securities settlement, which was adopted in June 2007.

SERVICE PROVIDERS

SWIFT

In 2007, SWIFT announced an overhaul of its messaging infrastructure, with a view to moving to a multi-zonal messaging architecture. The new topology will enable multiple processing zones, making it possible for intra-zone messages to stay within their region of origin.

SWIFT's Distributed Architecture project comprises of two phases. During Phase 1, to be completed by the end of 2009, SWIFT designs and implements two message processing zones: the European and Trans-Atlantic zones. Country allocation to processing zones was determined in 2008. An additional SWIFT operating centre is being set up for the European zone, and should be operational by the end of 2009. In addition, SWIFT implements a command and control capability in Asia, allowing SWIFT's operations to be controlled from this region, as well as from Europe and from the US. Phase 2 of the project consists of the roll-out of a new global SWIFT operating centre to serve both zones, which is planned to be operational by the end of 2012.

SWIFT cooperative oversight activities in 2008 focused primarily on the monitoring of this distributed architecture project. Aspects reviewed included the resilience features of the new architecture, the organisation of project management, the monitoring of the project, testing strategies, and customer communication plans.

Other areas of specific SWIFT oversight attention included its role in the processing of financial sector messaging, traffic evolution, internet-based access solutions, cyber defence, IT audit activities, security risk management and enterprise risk management. The impact of the financial turmoil on SWIFT messaging activity was also closely monitored.

2.3 ANALYSIS OF SELECTED TOPICS

LESSONS FROM THE FINANCIAL TURMOIL

While the reliable functioning of market infrastructures is generally indispensable for a stable financial system, this is even more the case during distressed market conditions. In the case of market turbulence or liquidity strains, as have recently affected the global financial system the robust and resilient operation of market infrastructures is crucial to support the uninterrupted flow of funds, securities and other financial instruments between economic agents. In this way, market infrastructures can act as a buffer to more volatile market activity, helping to maintain public confidence in financial markets and services as well as limiting the financial and economic impact of market disturbances.

It is important to note that the 2008 financial market turbulence did not originate from market infrastructures but related primarily to inadequate risk management of financial institutions, excessive risk taking, as well as shortcomings in market governance and transparency. However, the financial tensions posed remarkable challenges for market infrastructures and tested their resilience under extreme conditions.

In particular, with the intensification of the financial turmoil from September 2008 onwards, the increased volatility of financial markets caused peaks in transaction volumes in payment systems and required some CCPs, owing to the increased volatility of asset prices, to make larger and more frequent margin calls. The key market infrastructures processing and settling euro-denominated transactions (such as TARGET2, EURO1 and CLS) and euro area securities clearing and settlement infrastructures proved to be sufficiently robust to cope with these added pressures, which were managed effectively and without any major disruptions.

More specifically, as regards payment systems, it is noteworthy that the functioning of the EURO1 and CLS systems remained fairly stable and fail-safe despite the extreme market conditions, i.e. no failure in settlement occurred and no significant capacity problems were encountered.

The financial turmoil did also not have any remarkable impact on the technical performance of TARGET2. No large fluctuations of volume or value of transactions were observed. The intraday pattern of payments was only slightly shifted, providing no evidence of unfavourable changes in participants' behaviour to delay the timely submission of payment orders. The availability ratio reached 100% in the last quarter of 2008, and the real-time payment processing capability remained at a high level, whereby more than 99% of all transactions in TARGET2 were processed in fewer than five minutes. The outstanding values of those key performance indicators pointed to the beneficial effect of the integrated technical infrastructure of TARGET2 on the operational reliability of the system.

Similarly, euro area CSDs and ICSDs coped well with the variations in the security transactions' flow caused by the turmoil. In 2008, settlement turnover (in value) was affected as a result of the market turmoil, in particular in the last quarter when the crisis intensified. Custody values, however, have been relatively less affected.

Growing uncertainty and counterparty risk was observed with regard to the unsecured money market, which resulted in a gradual drying-up of that market and a stronger recourse to central bank funding as well as collateralised interbank money markets (e.g. Euro GC Pooling). Collateral valuation systems, on which certain market infrastructures' internal settlement processes as well as some of their value-added services like tri-party collateral management rely, have proven to be robust during the financial turmoil.

While the financial market turbulences did not have a systemic impact on any of the relevant euro market infrastructures, it highlighted in particular two areas in which steps to further strengthen their resilience would be useful, including: (i) the development of market infrastructures for OTC derivatives markets (see the following section of this Chapter); and (ii) the enhancement of crisis management arrangements and procedures, including the Eurosystem's own arrangements.

The activation of crisis management procedures on a cross-border basis was triggered by an event related to the collapse of Lehman Brothers on 15 September 2008. As a prompt reaction to the announcement of the bankruptcy of the parent company, that same day market infrastructures activated their own default procedures and accordingly notified their participants. Owing to the extensive presence of Lehman Brothers in various financial markets and infrastructures, this involved a very complex process overall, which required the close cooperation of a wide range of system providers, overseers and regulatory bodies and demonstrated the increasing interdependencies of market infrastructures that result from indirect relationships between them through common participants (see Chapter 1.3).

The experiences gained during the financial turmoil in general, and with regard to the Lehman case in particular, highlighted a few imperfections of the existing crisis-related arrangements. These mainly concerned the information-sharing procedures between overseers and banking supervisors and between these authorities, market infrastructures and their participants, as well as insufficient transparency of default procedures. During 2008, the Eurosystem, in cooperation with market infrastructures and their participants, launched an assessment of these shortcomings and of market or regulatory initiatives to address them.[24] The Eurosystem will also endeavour (with other regulatory authorities as appropriate) to define concrete follow-up actions with regard to some of the observed weaknesses which are not covered by existing initiatives (see Chapter 3).

MARKET INFRASTRUCTURES FOR OTC DERIVATIVES

Regulators have been working with the financial industry to strengthen market infrastructures for OTC derivatives in recent years. Despite the explosive growth of OTC derivatives during the past decade, the clearing and settlement arrangements remained predominantly bilateral and non-standardised, and have continued to require a considerable degree of manual intervention. Against this background, participants' back offices increasingly struggled to cope with the growing volumes and complexity of OTC derivatives trades, and the heightened market activity and volatility during the financial turmoil presented further challenges. Resulting processing backlogs, documentation issues and uncertainties about counterparty risk raised concerns of policymakers[25] and spurred initiatives to further develop market infrastructures for OTC derivatives. During 2008, these efforts focused especially on market infrastructures for credit derivatives, namely CDS.

24 This work was conducted with the assistance of the ECB contact groups dealing with payment systems and securities infrastructures, namely COGEPS and COGESI.

25 See Financial Stability Forum, "Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience", April 2008.

Box 2

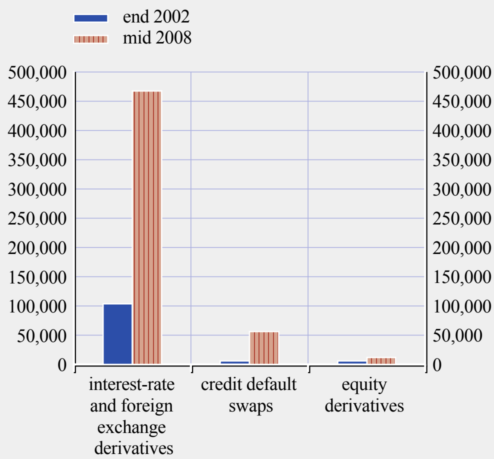
DEVELOPING MARKET INFRASTRUCTURES FOR CREDIT DEFAULT SWAPS

When during 2008 the financial market turmoil turned from a liquidity crisis into a solvency crisis, the development of market infrastructures for CDS became a particular priority. Although in mid-2008 CDS accounted, with outstanding notional amounts of USD 54.6 trillion, for only around 10% of all OTC derivatives, they were the products with the strongest exponential growth in recent years. Between 2002 and 2008, the outstanding notional amounts of CDS increased by a factor of almost 25, whereas the respective figures for interest rate, foreign exchange and equity derivatives increased by a factor of less than five (see Chart A).

A malfunctioning of CDS markets could pose threats to financial stability in view of the considerations set out below.

Chart A Evolution of OTC derivatives markets: growth by product type, 2002-2008

(notional amounts outstanding; USD billions)

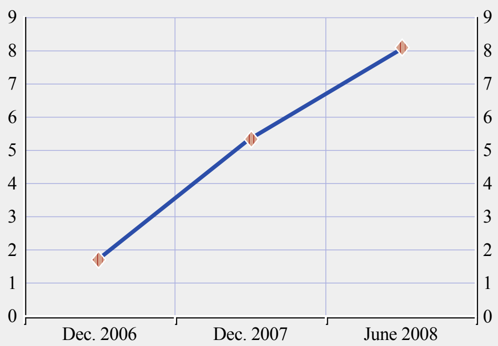


Source: BIS.

First, the CDS exposures of banks relative to their total assets have increased sharply in recent years, reaching a significant proportion in terms of total counterparty risk and the capital cushions of the involved financial institutions (see Chart B).

Chart B CDS gross market values relative to total banking assets, 2006-2008 [1)]

(percentages)



Sources: BIS, ECB calculations.
1) The chart shows the gross market values of all CDS contracts reported to the BIS as a percentage of the total assets of the BIS reporting banks. CDS gross market values – representing the outstanding value of CDS contracts subject to the market's assessment of the probability of credit events – offer a better approximation to the respective risk exposures than notional amounts outstanding, as the latter would be at risk only in the event of both default by the reference entity (in the case of index products: of all reference entities) and zero recovery on the underlying debt obligation. The proportion of CDS exposures relative to total banking sector assets provides a rough approximation of banks' respective exposures, as not all BIS reporting banks are involved to the same extent in the CDS business, and the risks for banks very active in this field is significantly higher. At the same time, banks usually make offsetting CDS trades to hedge their risk exposures and this lowers net risk exposures.

Second, in addition to their growing importance from a purely quantitative perspective, CDS exposures also merit particular attention as the associated economic risks are, when compared for example to interest rate and foreign exchange derivatives, more difficult to manage effectively, e.g. owing to the greater complexity of the underlying and the difficulty of estimating correlations across different CDS exposures. Furthermore, owing to lack of transparency regarding CDS, these instruments have contributed to the increased opacity of credit markets, helping to shift credit exposures in a manner that makes it very difficult to assess how different institutions are interlinked and how much credit risk they actually hold.

Third, owing to the close links between the prices for CDS and the prices for the traditional debt obligations of borrowers, CDS markets are closely linked to bond markets. Additionally, CDS are widely used as price indicators for other markets, including loan and even equity markets and could therefore influence these markets as well. Furthermore, these linkages have intensified over time, as CDS evolved from a form of insurance against the default of corporate borrowers to a wider tool for managing credit risk as well as for purely speculative purposes.

Fourth, specific risks for financial stability arise from the significant concentration of the related risks in a small number of market players. While precise figures on this point are not available, it is illustrated by the limited number of dealers which contribute to the calculation of the two major CDS indices, CDX and iTraxx Europe.[1]

Given the systemic relevance of CDS markets, the challenges for effective risk management, the high degree of market concentration, and the very limited market transparency, there is a significant risk that financial problems of a major CDS counterparty can have wider financial stability implications. During 2008, this was underlined not only by the demise of Lehman Brothers, but also by the near-defaults of Bear Stearns and the American Insurance Group (AIG). Against this background, efforts to step up counterparty risk management in

1 Ten international banking groups contribute to the calculation of the two indices, plus one group in the case of iTraxx Europe and five additional groups in the case of CDX.

CDS markets through the establishment of CCP facilities are a particular priority.[2] CCPs for CDS, by virtue of concentrating outstanding positions in one resilient counterparty can help to: (i) reduce counterparty risk through the diversifaction and sharing of risk exposures, netting and strict margining procedures; (ii) increase market integrity, transparency and the availability of information; (iii) standardise the criteria for evaluation of exposures; and (iv) free up collateral.

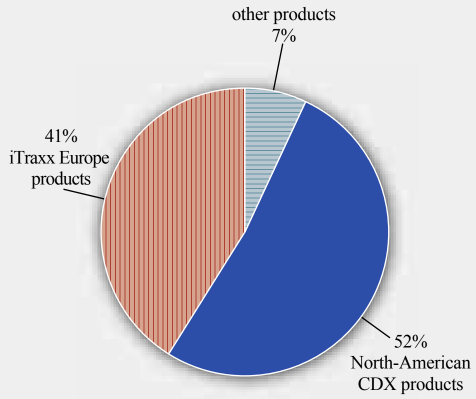
Together with their international counterparts, European regulators and central banks highlighted the urgency of the issue during 2008 (see Chapter 2.2). As underlined by the European Commission and the Ecofin Council, there is a case for at least one CCP for CDS located in Europe. Furthermore, the ECB's Governing Council has confirmed in two recent decisions (on 18 December 2008 and on 16 July 2009) the importance of at least one solution for clearing CDS denominated in euro being located in the euro area. As set out in Charts C and D and table below, Europe accounts for a significant share of global CDS markets both in terms of the reference entities of the products, currency denomination, and market share of dealers. Thus, the robustness of CDS markets is of great importance for European institutions and financial markets and the competent European authorities, who want to ensure that they are able to perform their respective regulatory, supervisory and oversight tasks effectively.

An EU CCP for CDS offers significant benefits in terms of congruence between the location of the markets on the one hand, and the scope of the applicable regulatory framework on the other hand. This gives rise to significant advantages for public authorities and market participants alike. For instance, an EU solution ensures congruence between supervisory powers and ultimate supervisory and fiscal responsibilities, while at the same providing CCP's users with

2 At the same time, this work has been complemented by various initiatives to strengthen the operational infrastructure of CDS markets (e.g. aimed at a wider adoption of electronic trading and trade confirmation, portfolio compression, contract standardisation), as well as market arrangements related to credit events (e.g. through the hard-wiring of an auction-based mechanism for outstanding exposures and clarification of the treatment of restructuring as a credit event).

Chart C Geographical segmentation of CDS index and index tranche products

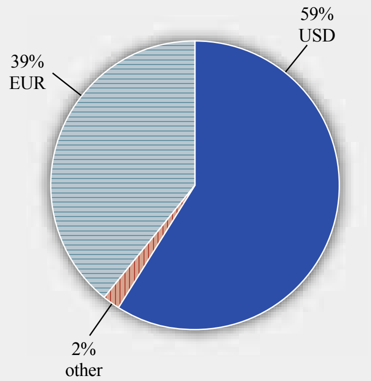
(values of all contracts; per-trade basis; January 2009)



Sources: DTCC, ECB calculations.

Chart D Currency split of CDS markets

(approximate currency split of CDS settled by the CLS bank (2007))



Source: CLS, ECB calculations.

congruence between the CCP's procedures and requirements and the wider legal and regulatory framework.

Market share of European dealers in CDS markets

2007	2008
Around 35% of global CDS trades involved at least one counterparty domiciled in the EU.	66% of the dealers contributing to calculation of the iTraxx Europe indices are domiciled in Europe. 50% of the dealers contributing to the CDX indices are domiciled in Europe.

Sources for 2007: BIS, Banking Supervision Committee.
Source for 2008: Markit.

Furthermore, the use of at least one euro area CCP for CDS, namely for the clearing of euro-denominated contracts, ensures consistency between monetary policy, financial stability, oversight and wider market infrastructure arrangements for the euro area on the one hand and the core infrastructure for such a systemically important market on the other hand. In particular, it enables the Eurosystem to effectively perform its oversight function as well as to facilitate access for CCPs to the Eurosystem's central banking operations. The recent financial market events have demonstrated that effective access of a CCP to central bank liquidity can be an important tool to facilitate the management of a default of a major clearing member, especially in a situation of wider market liquidity strains.

Overall, the above congruence benefits would be particularly pronounced during times of financial distress. However, given the importance of very swift and determined action during crisis situations it is indispensable that the relevant institutional arrangements are already well established during normal times. Moreover, lack of congruence between the arrangements and procedures on an ongoing basis and those during financial distress could give rise to moral hazard and accountability problems.

DEVELOPMENTS IN CORRESPONDENT BANKING

Payment flows between credit institutions can be cleared and settled via established payment systems or via correspondent banking accounts. Historically, the latter arrangements were used to settle cross-border and cross-currency transactions. Correspondent banking is also used for domestic payments, e.g. if a bank decides to use another bank for specific payment activities. Both for the service-providing bank and the customer bank this can be an efficient solution. Important further reasons for the existence of correspondent banking arrangements are the lack of specific payment system solutions for some types of payments, the provision by the service-providing bank of value added services for the customer bank, relationship banking and operational risk management considerations. In some cases, correspondent banking services are so relevant (in terms of value transacted and number of customer banks) that they can be compared to small payment systems.

In order to study correspondent banking arrangements in euro, and to gain insights into the risk inherent in them, the Eurosystem started to survey this business in the immediate aftermath of European Economic and Monetary Union. The objective was to check whether the new common infrastructure of TARGET would reduce the use of correspondent banking arrangements. In November 2004, the ECB's Governing Council decided to continue performing regular surveys at two-yearly intervals. In September 2007 the Eurosystem performed the sixth survey on correspondent banking, involving 110 banks from 19 countries. The results, reported to the survey participants in the last quarter of 2008, confirm that correspondent banking arrangements continue to be in considerable use, both within individual countries and for cross-border transactions, although banks channel an increasing number of transactions towards established payment systems. In the survey period 82% of the value and 89% of the number of all payments in euro were routed through payment systems. In addition to this, banks offering correspondent banking services used established payment systems to settle a large share of correspondent banking transactions; payments settled on correspondent banking accounts, without being routed by the service- providing bank through payment systems, represented just 8% of the value and 1% of the number of all reported correspondent banking transactions.

In the sixth survey a reduction in the number of both customer banks and transactions was noted, while values of transactions increased. The average size of the payments to be settled through correspondent banking arrangements (€61,400) is in between payments settled through large-value payment systems (€4,9 million) and retail payment systems (€690).

Consistent with the evidence gained from previous reports, correspondent banking is a very concentrated activity, with the largest reporting banks accounting for a significant share of total reported transactions. In addition to this concentration on the supply side, there is also evidence of a concentration of the correspondent banking activities on the demand side, i.e. a significant share of transactions of the reporting banks being attributed to a small number of customer banks. Concentration on both the demand and supply side reflects the concentration and consolidation tendencies in the financial sector. Most reporting banks provide intraday credit (and, to a significantly lesser extent, also overnight credit) to their customer banks. Intraday credit is normally granted without collateral, but on an uncommitted basis. In the future, further attention will be focused on the risks of correspondent banking.

3 PRIORITIES FOR FUTURE WORK

ROLE OF OVERSEERS IN THE FORTHCOMING FINANCIAL ARCHITECTURE

An important area for follow-up action to the financial crisis is the strengthening of the global financial architecture, with a view to further enhancing the stability and the resilience of the global financial system. This is a wide strand of work involving a variety of public sector measures.[26]

Overseers play an important role in this regard, namely by ensuring that payment systems, CCPs and SSSs do not give rise to or act as a transmission channel for financial disturbances. Moreover, overseers are well positioned to provide support in crisis situations to other authorities and to market participants with complementary know-how especially when the turmoil does not only concern one particular infrastructure but is of a system-wide nature.

Against this background, during 2008 the Eurosystem assessed the effectiveness of existing oversight arrangements in the light of the experiences during the recent financial market turmoil, with the aim of identifying potential areas for improvement (see Chapter 2.3). In particular, the default of Lehman Brothers in September 2008 provided a real test for existing procedures and policies, demonstrating the importance of "institution-based interdependencies" (see Box 1) in the global financial system.

Based on the respective lessons learned, the Eurosystem overseers decided to take action to: (i) improve crisis communication-related oversight responsibilities, tools and procedures; (ii) analyse the default rules and procedures of major market infrastructures processing the euro in order to detect possible inconsistencies between such rules and improve their transparency; and (iii) conduct a mapping of institution-based interdependencies (i.e. related to critical participants active across different infrastructures).

The respective work will be done in cooperation with banking supervisors and other relevant

26 See the "Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience" of 7 April 2008 as well as the respective follow-up "Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience: Update on Implementation" of 2 April 2009.

authorities as appropriate. The proposals for improvement are based as much as possible on existing information, tools and procedures. In improving crisis communication arrangements, overseers will take into account the measures agreed in the 2008 Memorandum of Understanding on cooperation between the financial supervisory authorities, central banks and finance ministries of the European Union on cross-border financial stability.

MARKET INFRASTRUCTURES AND OVERSIGHT ARRANGEMENTS FOR OTC DERIVATIVES

The limited development of post-trading infrastructures for derivatives, and corresponding shortcomings in risk management and transparency, are not limited to CDS markets but affect OTC derivatives markets more broadly. Therefore, while during 2008 the attention of overseers and regulators focused on addressing immediate concerns regarding CDS markets, the scope of this work has widened during 2009.

The Eurosystem, in its oversight capacity and also as part of its advisory role for EU regulatory action, contributes to the discussion as to how market infrastructures for OTC derivatives should be further developed and overseen. In this context, the Eurosystem issued a contribution to the European Commission's public consultation on measures to enhance the resilience of OTC derivatives markets on 4 September 2009.[27] In addition, the Eurosystem can make use of its catalytic role in spurring private-sector initiatives in this field. The ultimate objective of the Eurosystem's work in this field is to ensure that OTC derivatives markets meet appropriate standards in terms of safety, efficiency and resilience that are equivalent to the ones in regulated markets for securities and derivatives.

Another important issue will be to further develop the cross-border arrangements among overseers and other competent authorities for OTC derivatives markets. For instance, given the emergence of multiple CCP solutions for CDS located in different jurisdictions and their envisaged global product coverage, there is a need for close global regulatory cooperation to ensure a level playing field for all solutions and to pre-empt the potential risk of regulatory arbitrage or competition on grounds of risk management. The possible emergence of global infrastructures and service providers for trade data storage, pre-settlement and life cycle management services may raise similar concerns.

In this context, an immediate priority is the review of the CPSS-IOSCO recommendations for central counterparties, with specific regard to new issues related to OTC derivatives. A dedicated CPSS-IOSCO working group took up this issue in July 2009.[28] In addition, practical arrangements for global information-sharing and coordination among authorities need to be enhanced. The establishment of the OTC Derivatives Regulators Forum in September 2009 has been a major achievement in this respect.[29] The Forum provides a means for supporting regulators' international efforts to cooperate, exchange views and share information related to OTC derivatives CCPs and trade repositories.

ANALYSIS OF THE MARKETS AND MARKET INFRASTRUCTURES FOR EURO-DENOMINATED FINANCIAL PRODUCTS

Given its responsibilities for oversight as well as more broadly for financial stability and the smooth functioning of payment systems within the euro area, the Eurosystem pays particularly close attention to the development of the availability of adequate market infrastructures for euro-denominated financial products within the euro area.

Against this background, at the end of 2008 the Eurosystem initiated an analysis of selected markets for euro-denominated financial products and the associated post-trading infrastructures. Particular emphasis was given to identifying where and how these products are traded, cleared and settled. The analysis comprised the markets

27 See http://www.ecb.europa.eu/pub/pub/ paym/html/index.en.html
28 See http://www.bis.org/press/p090720.htm
29 See http://www.newyorkfed.org/newsevents/ news/markets/2009/ ma090924.

for interest rate swaps, credit default swaps (CDS), foreign exchange derivatives and OTC equity derivatives, as well as repo markets.

The findings of this analysis showed that the euro is a major currency within all of these markets.[30] In addition, there seems to be a need for further developing and strengthening the euro area post-trading infrastructures for these markets. A particular priority at the present juncture is the effective implementation of at least one CCP for euro-denominated CDS within the euro area.

OVERSIGHT OF SECURITIES SETTLEMENT SYSTEMS AND CENTRAL COUNTERPARTIES IN THE EURO AREA

The endorsement of the ESCB-CESR recommendations for securities settlement systems and central counterparties in June 2009 has important implications for the implementation of the Eurosystem's interest in the smooth functioning of these infrastructures. In particular, although the enforcement and monitoring of the ESCB-CESR recommendations with regard to national systems will stay at national level, this work will have to be complemented by a horizontal assessment at Eurosystem level, namely in view of growing interdependencies between systems and in order to ensure the efficiency, soundness and safety of the euro area's SSSs/CCPs infrastructure as a whole.

It should also be noted that, inter alia owing to increased consolidation in the euro area clearing and settlement industry, it could be beneficial for the lead overseer of a specific infrastructure to share information regarding the oversight assessment with other relevant Eurosystem central banks.

RISK-BASED APPROACH TO OVERSIGHT

During the past years, the Eurosystem's oversight activities have been performed in a context characterised by an increased emphasis on formalisation, a wider scope of application of oversight policies, increased attention to accountability, and efforts to integrate risk-based analyses and frameworks into the oversight approach. At the same time, over time an increasing number of systems, schemes, arrangements and instruments have become subject to oversight. Those dual forces leading to an increased complexity of oversight in a limited resources environment have convinced the Eurosystem to develop a new tool presenting the landscape of the entities to be overseen along three dimensions:

– A horizontal overview of the Eurosystem's payment infrastructure: presenting the relative importance of different systems, arrangements, instruments, schemes with respect to the Eurosystem's objectives to promote the smooth operation of payment systems, i.e. in terms of both safety and efficiency.

– For each of these systems/arrangements/instruments/schemes individually: an assessment of the risks with the purpose of prioritisation of attention/efforts. For such assessments, the risk framework is based on the oversight standards as approved by the Governing Council.

– Presenting a horizontal overview on risks throughout the euro area infrastructure as a whole.

This tool will serve various purposes:

– enabling the Eurosystem overseers to differentiate between the different systems, schemes, instruments that are within the scope of the Eurosystem, and to identify which are the most relevant (or most urgent to tackle) from the oversight perspective; and

– providing an important instrument for supporting the Eurosystem's transparency

30 See ECB report entitled "OTC Derivatives and Post-Trading Infrastructures", published in September 2009: available at http://www.ecb.int/pub/pdf/other/overthecounterderivatives200909en.pdf

and accountability in relation to the organisation and prioritisation of oversight activities. The tool itself will not change or interfere with any of the existing responsibilities of ECB or NCB overseers.

This new tool will support a more efficient implementation of the Eurosystem's oversight function. Obviously it will not be a static, unique exercise, but rather a process that will gradually be rolled out, subject to iterations and periodical updates, with a focus on the euro area payment infrastructure as a whole.

RISKS IN CORRESPONDENT BANKING

In their correspondent banking activities, service-providing banks offer payment services to customer banks either through established payment systems or outside them, as internalised payments. This is based on an account relationship with the customer bank, normally assisted by the granting of intraday (and sometimes also overnight) credit. Thus, in relation to correspondent banking there is an interest both by payment system overseers and banking supervisors, which should cooperate to effectively address relevant issues (see also Chapters 1.3 and 2.3).

With a view to this objective, in 2008 the Eurosystem set up a joint task force of overseers and banking supervisors to analyse the risks involved in correspondent banking activity and to develop a common foundation for the evaluation of such risks. The outcome of this work will shed light on the possible implications of correspondent banking activity for both, the soundness of individual institutions and the smooth functioning of the payment system as a whole.

EUROSYSTEM OVERSIGHT FRAMEWORK FOR CREDIT TRANSFER AND DIRECT DEBT SCHEMES

In February 2009 the Eurosystem issued its "Harmonised oversight approach and oversight standards for payment instruments", focusing in principle on SCTs and SEPA direct debits (SDDs) (see Chapter 1.2). On this basis, the Eurosystem is working to specify common oversight frameworks for credit transfers and direct debits.

These frameworks will be based on a risk-based "building block" approach to ensure that the schemes are built on a sound knowledge of the functioning of the market for credit transfer/ direct debit payments and properly address the relevant risks to which such schemes are exposed. In particular, they will aim to protect all participants in the schemes from legal, financial, operational, reputational, and overall management risks.

The frameworks will cover SDDs, SCTs and any other new payment instruments that are used SEPA-wide. The Eurosystem will also develop a detailed assessment methodology for these schemes. Each NCB may also decide to apply the frameworks to the oversight of remaining national (non-SEPA) payment instruments if they deem this appropriate.

T2S OVERSIGHT

In parallel with the progress concerning the development of T2S, the Eurosystem is undertaking an analysis of possible options for the oversight of T2S within the cooperative framework of central banks and national regulators of those CSDs which have expressed their intention to outsource their services to the Eurosystem.

It is acknowledged that T2S is a technical infrastructure and not a system.[31] That being said, any failure of T2S has the potential to impair the functioning of CSDs across Europe that will outsource settlement functions to T2S. Therefore, the Eurosystem, recognising how systemically critical T2S is, is considering how to organise its oversight. The discussions reflect in particular the necessity for T2S to facilitate

31 T2S is composed of a single technical platform consisting of a settlement engine to support the processing by CSDs using T2S services of transfer orders of participants of CSDs and a database holding relevant static data, including data related to the securities accounts maintained by CSDs and the cash accounts maintained by NCBs. T2S is not a "system": it is neither a CSD nor a SSS, since it will only provide the technical facilities for the settlement by the CSDs using T2S services and it will not open itself accounts for participants.

CSDs' ongoing compliance with applicable national regulatory requirements, having regard to the finalised ESCB-CESR recommendations, to maintain a level playing field and to avoid conflicts of interest.

Workshops for T2S oversight were organised on 18 June and on 26 August 2009. The participants, comprising central banks, securities regulators and a CESR representative, discussed comparable existing frameworks for cooperative oversight of cross border utilities applied by national authorities to identify common general principles for coordination between authorities. The workshop members are considering the principles, basis, scope, criteria and instruments of oversight, as well as the mode of coordination between all relevant authorities and the possibility of a lead overseer.

By the end of 2009, the workshop members are aiming to conclude and communicate a framework for the oversight of T2S during the development phase and discuss specific issues of relevance for the operational phase.

CLASSIFICATION CRITERIA FOR EURO RETAIL PAYMENT SYSTEMS

After the start of the SEPA process and the fostered evolution of domestic retail systems into SEPA-compliant infrastructures, the Eurosystem intends to revise the retail payment systems classification criteria, which have so far based on the importance of retail payment infrastructures at national level. In addition, there may be a need for an intensified cooperative approach to the oversight of those retail systems that have significant cross-border implications. Against this background, the Eurosystem is expected to study and consider the development of a revised version of its oversight standards for retail payment systems.

TARGET2 OVERSIGHT SIMULATION PROJECT

The Eurosystem has started a TARGET2 Oversight Simulation project, which will be carried out by conducting quantitative and qualitative risk assessments on the functioning of TARGET2 on the basis of transaction-level data. The objective of the project is to understand the behaviour of the system in stress situation and to identify structural elements that undermine or, conversely, contribute to the stability of the system. The project, which will mainly rely on an enhanced version of Suomen Pankki's Payment System Simulator and a common platform for the access and analysis of the data, is expected to deliver first insights in the first half of 2010.

ANNEXES

I EUROSYSTEM OVERSIGHT POLICY DOCUMENTS

GENERAL FRAMEWORK

"Eurosystem oversight policy framework", ECB, February 2009.

PAYMENT SYSTEMS AND PAYMENT INSTRUMENTS

"Report on Electronic Money", ECB, August 1998

"Policy statement on euro payment and settlement systems located outside the euro area", ECB, November 1998.

"Role of the Eurosystem in the field of payment systems oversight", ECB, June 2000.

"Core Principles for Systemically Important Payment Systems", Bank for International Settlements, January 2001 (adopted by the ECB's Governing Council on 25 January 2001).

"Electronic money systems security objectives", ECB, May 2003.

"Oversight standards for euro retail payment systems", ECB, June 2003.

"Business continuity oversight expectations for systemically important payment systems", ECB, June 2006.

"The Eurosystem policy principles on the location and operation of infrastructures settling euro-denominated payment transactions", ECB, July 2007.

"Oversight framework for card payment schemes – standards", ECB, January 2008.

"The Eurosystem policy principles on the location and operation of infrastructures settling euro-denominated payment transactions: specification of "legally and operationally located in the euro area", ECB, November 2008.

"Harmonised oversight approach and oversight standards for payment instruments", ECB, February 2009.

SECURITIES SETTLEMENT SYSTEMS AND CENTRAL COUNTERPARTIES

"The Eurosystem's policy line with regard to consolidation in central counterparty clearing", ECB, September 2001.

"Recommendations for securities settlement systems and recommendations for central counterparties in the European Union", ECB and the Committee of European Securities Regulators, May 2009.

2 EURO PAYMENT, CLEARING AND SETTLEMENT SYSTEMS

EURO AREA LARGE-VALUE PAYMENT SYSTEMS

The euro area landscape of large-value payment systems (LVPS) comprises three infrastructures: TARGET2, EURO1 and POPS.

TARGET2

In January 1999, in conjunction with the introduction of the euro, the Eurosystem's TARGET infrastructure started to provide real-time gross settlement (RTGS) for large-value and time-critical payments in euro. TARGET comprised the RTGS systems of the participating and connected NCBs, the ECB's own TARGET component (the ECB Payment Mechanism) and the telecommunications network connecting all these components. By 2007 TARGET was available for all credit transfers in euro between banks in 17 EU Member States including the, at the time, 13 euro area countries plus Denmark, Estonia, Poland and the United Kingdom.

In November 2007, the Eurosystem launched the migration to the second generation of TARGET, namely TARGET2, which was completed in May 2008. In contrast to the decentralised institutional set-up of TARGET, TARGET2 operates on the basis of a single technical platform, through which all payment orders are submitted and processed in the same technical manner. The minimum harmonisation principle of TARGET is replaced with a maximum harmonisation concept. Thus, the move to TARGET2 has constituted a fundamental change of the predominant element of the LVPS infrastructure within the euro area, which accounts for around 90% in terms of the value of all payments processed by LVPS located in the euro area.

TARGET2 is run by the Eurosystem under the ultimate responsibility of the ECB Governing Council. Three Eurosystem NCBs – the Banca d'Italia, the Banque de France and the Deutsche Bundesbank – jointly provide the single technical infrastructure, known as the Single Shared Platform (SSP), and operate it on behalf of the Eurosystem. While TARGET2 is a single technical platform, from a legal point of view each participating and connected CB continues to have its own RTGS system and maintains the business relationships with local participants. TARGET2 is based on a "two regions/four sites" structure to ensure the highest levels of operational resilience.

EURO1/STEP 1

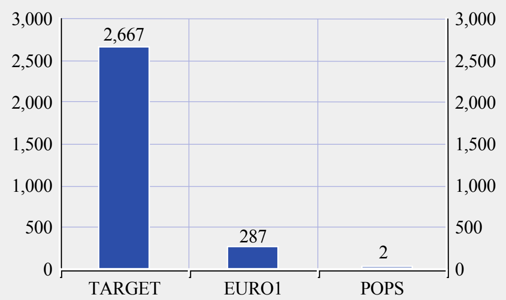
EURO1 is a large-value payment system for cross-border and domestic transactions in euro between banks operating in the EU. Like TARGET, EURO1 started operations on January 1999. The system functions on the basis of the so-called Single Obligation Structure (SOS), according to which each participant faces only one single obligation or claim against the community of all other EURO1 participants at any given time on each settlement day. The SOS does not allow for any unwinding and payment messages are irrevocable and final upon being processed. The continuous calculation of the single position (obligation or claim) of each participant is carried out by a processing system operated by SWIFT, which acts as the processing agent for EURO1.

EURO1 is operated by the EBA CLEARING. The latter is owned by the banks participating in EURO1 as direct participants. Currently, EURO1 has 66 direct participants. EURO1 is the second largest large-value payment system in the euro area after TARGET. It accounts for around 10% in terms of value and around 40% in terms of volume of all payments processed by euro area LVPS.

The STEP1 system is designed to process single cross-border transactions in euro between the EU banks that did not comply with the strict EURO1 admission criteria. It operates using the technical platform of the EURO1 system, allowing its participants to exchange payments with the other STEP1 participants, as well as with the entire community of EURO1 banks. A STEP1 participant is not allowed to have a negative position at any point in time during the processing hours of the STEP1 system,

Chart 1 Values processed by large-value payment systems in the euro area in 2008

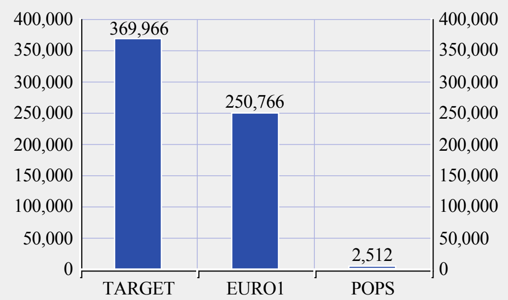
(EUR billions)



Source: ECB.

Chart 2 Volumes processed by large-value payment systems in the euro area in 2008

(EUR billions)



Source: ECB.

and receives its payment capacity from a EURO1 participant of its choice, acting as its settlement bank.

POPS

Suomen Pankki's online system for express transfers and cheques (POPS) is the country's large-value online interbank system through which customer transfers related to express transfers and cheques are handled. POPS is a real-time payment system operating on a decentralised basis through which the participating banks send payment messages bilaterally. At the end of 2008 there were nine clearing banks operating the system as direct members. Funds for payment are transferred via the banks' settlement account in Suomen Pankki.

Suomen Pankki has classified POPS as a systemically important payment system. However, despite its significance at national level, POPS only accounts for a very small share of the payments processed by euro area LVPS. In 2008, the market share of POPS in terms of average daily volumes settled by euro area LVPS was only 0.4%. POPS also differs from the two major euro area LVPS, TARGET2 and EURO1, in terms of the large share of normal commercial customer transactions settled, which account for almost 100% of the business.

Suomen Pankki does not envisage operating POPS after the national end-date for non-SEPA services. It is envisaged that POPS will be replaced by an enhanced STEP2 system.

EURO AREA RETAIL PAYMENT SYSTEMS

The euro area landscape of retail payment systems processing the euro is much more heterogeneous than the one for large-value payments. Most retail payment systems still focus on domestic markets. Based on the Eurosystem's "Oversight standards for retail payment systems" (see Chapter 1.2), the Eurosystem has classified euro area retail payment systems within three categories, namely systemically important retail payment systems, prominently important retail payment systems and other retail payment systems.

SYSTEMICALLY IMPORTANT RETAIL PAYMENT SYSTEMS

SIT/CORE (FR) In France, a new retail payment system called CORE was launched in 2008. The aim of CORE is twofold: to provide new technical features to achieve state-of-the-art technology and to be fully SEPA-compliant. The CORE operator, STET, was created in December 2004 by several French credit institutions and CORE started functioning in January 2008 in order to process the new SEPA credit transfers. The migration phase applying to national means of payment from the former retail payment infrastructure SIT to CORE started in June 2008 and was successfully completed in October 2008. From that time, CORE has cleared all interbank retail payment transactions in France.

CSS (NL) CSS is the most important retail payment system in the Netherlands and is owned and operated by Equens SE. Equens provides services for non-cash and card-related transaction processing, clearing and settlement to clients in several countries, especially in the Netherlands, Germany and Italy. With an overall annual volume of €8.7 billion payments transactions and 3 billion POS and ATM transactions (inclusive Equens Italia), Equens has a market share of over 15% in the euro area. Following the processing of the payments, CSS periodically determines the amounts which the banks owe one another on behalf of the account holders (customers such as consumers or retailers). The totals are notified to De Nederlandsche Bank, as all banks established in the Netherlands hold an account in its T2-NL system. Equens has a mandate to debit and credit these accounts, thus settling the payments. After that, the banks inform their own account holders of their bank balance on the basis of the processing data which they receive from the CSS. In January 2008 Equens launched a system for processing SEPA transactions (the ZVS platform). In 2008 Equens and the Italian ICBPI Group established a joint venture: Equens Italia. All processing activities for both cards and payments of the ICBPI Group are transferred to Equens Italia. Within three years it is envisaged that Equens Italia will become a wholly-owned subsidiary of Equens SE.

PMJ (FI) 12 banks operating in Finland participate in the PMJ retail interbank payment system. The decentralised system, based on the bilateral data sharing subject to mutually agreed rules and arrangements, handles domestic customer payments and related data, especially payment transfers, recurrent payments, direct debits and various card-related payments. The system also supports the transmission of data on payment transfers also when the payer and payee have their accounts in different banking groups. Funds are transferred via the parties' accounts in Suomen Pankki, the T2-Suomen Pankki system. PMJ is an ancillary system (ASI) of T2. As the major Finnish banks have selected the STEP2 system to become their domestic system in the SEPA era, PMJ will be discontinued when the relevant national end-date for non-SEPA services will be reached in Finland.

PROMINENTLY IMPORTANT RETAIL PAYMENT SYSTEMS

BI-COMP (IT) BI-COMP – managed by the Banca d'Italia – is a multilateral deferred net settlement system that settles credit transfers, debit cards, cheques, direct debits and other payment instruments (paper-based and less standardised electronic payments). Up to now the Banca d'Italia has not directly handled the preparatory phases (these have been left to private operators) but only the calculation of the multilateral clearing balances and settlement in central bank money. Over the last two years, with a view to enabling BI-COMP to process the SCT and link it with other European retail infrastructures, the system underwent profound changes: (i) it developed a new procedure for SCTs; (ii) it increased the number of settlement cycles from one to three; (iii) in line with the European Automated Clearing House Association's model, it signed (together with the private operator ICBPI) interoperability agreements with the Dutch retail payment system Equens SE (in April 2008) and with the Austrian retail payment system STEP.AT (in February 2009). In 2008 BI-COMP processed a daily average of 7.9 million payments and an average daily value of €13.4 billion; in the same year BI-COMP started processing the SCT.

SNCE (ES) The SNCE (Sistema Nacional de Compensación Electrónica) is a privately owned system for retail payments operated by Iberpay. The SNCE is a highly decentralised deferred net settlement system that clears and settles credit transfers, direct debits, cheques, bills of exchange and a small number of other, less standardised, payment instruments. The clearing and settlement process is highly automated, and more than 99.7% of payments are processed without any physical exchange of documents. Most credit institutions operating in Spain participate in the system either as direct or indirect participants. In 2008, the SNCE processed a daily average of 5.4 million payments, with an average daily value of €7.2 billion. In January 2008, the SNCE launched a service for the processing of SEPA credit transfers.

CEC (BE) CEC is the central point for channelling transactions between banks issuing the instructions and banks receiving the payments, operating day and night. CEC participants exchange payment instructions relating to transfers totalling up to €500,000 cheques of up to 50,000 euro, unpaid cheques, domiciliations, unpaid domiciliations, card payments (debit card, credit card and PROTON electronic purse) and commercial bills. In volume they represent around 99.75 % of all interbank giro payments in Belgium, but only 2% in value. The CEC, which operates exclusively on the basis of telecommunication, is a net settlement system which once a day transfers net settlement balances to T2. Starting in 2007, the system was further developed in order to be able to process the new SEPA payment instruments. On January 28, 2008 the CEC started operating the SCT.

STEP2 (EBA CLEARING) STEP2 is a pan-European payment infrastructure for cross-border, and increasingly also for domestic, retail payments in euro provided by EBA CLEARING. In practical terms, it is a payment processing service that sorts and forwards payment orders, and computes bilateral positions between its participants on a gross basis. There are currently three different services offered within the STEP2 platform: the XCT Service, for credit transfers that are in line with the CREDEURO Convention of the European banking industry; the ICT Service, especially designed for the Italian banking community in preparation for the SEPA; and the SCT Service launched on 28 January 2008 for the processing of credit transfers compliant with the EPC SEPA Credit Transfer Scheme Rulebook. STEP2 SEPA positions have been settled in TARGET2 since December 2008; the other positions are settled in EURO1.

IPCC and IRECC (IE) The retail clearing system in Ireland comprises the Irish Paper Clearing Company Limited (IPCC), which clears paper instruments, mainly cheques, and the Irish Electronic Payments Clearing Company Limited (IRECC), which clears retail electronic payments, both debit and credit. It is based on a series of bilateral arrangements between participants rather than on a centralised clearing infrastructure in common ownership. The interbank liabilities that arise as a result of the daily exchange process carried out between IPCC and IRECC participants are netted bilaterally and thereafter multilaterally, to produce single obligations to, or claims on, the other members of the system as a group. The latter are settled in central bank money across participant accounts in T2. In 2009, both the IPCC and IRECC retail payment systems have been re-classified as being of “prominent importance” rather than of “systemic importance”.

SICOI (PT) SICOI (Sistema de Compensação Interbancária) is a deferred net settlement interbank clearing system for retail payments below €100,000. The Banco de Portugal is the manager and settlement agent. SICOI supports the processing of payments related to cheques, electronic funds transfers), SDDs, ATM/POS card transactions and bills of exchange. The system is based on a 24-hour online electronic processing system. The clearing and settlement process is entirely automated without any physical exchange of documents among participants. All sub-system clearing balances are settled in T2-PT. Most banks operating in Portugal are either direct or indirect participants in one or more of SICOI subsystems. In 2008 SICOI processed a daily average of 5.1 million payments and an average daily value of €1.3 billion; in the same year SICOI started processing the SCTs.

DIAS (GR) DIAS is a private netting system for retail payments which settles in T2. DIAS is owned and operated by Interbanking Systems S.A. or DIAS S.A. Payment instruments processed by the system include credit transfers, direct debits, card payments and cheques. With respect to credit transfers, DIAS supports both SEPA and non-SEPA products and also provides cross-border SCTs through its interconnection with the Dutch retail payment system Equens SE. In 2008, DIAS processed 75,525,513 transactions in euro with a total value of €218.9 billion. In addition DIAS processed 6,040,478 balance enquiries.

ACO (GR) The Athens Clearing Office (ACO) is a not-for-profit, multilateral, paper-based, cheque clearing system which settles in T2. Its objective is the same-day clearing of cheques presented by and drawn on participants of the system and the provision of related information. ACO is owned by its participants and operates on a contractual arrangement basis. In 2008, ACO processed 2,746,652 cheques with a total value of €204,167,295,320. The cheques in euro were 2,704,119 with a total value of €204,166,389,143.

Giro Clearing system (SI) Giro Clearing was a payment system for low-value credit transfer orders (up to €50,000), where both interbank and customer payments were processed. The operator of the Giro Clearing system was Banka Slovenije, which acted as the clearing and settlement agent; settlement of multilateral net positions was done via participants' Payments Module (PM) accounts in T2-Slovenija. Giro Clearing ceased operations on 31st July 2009. This followed a decision by Slovenian banks in the course of the SEPA project to implement a SEPA-compliant CSM. Thus, a new payment system for processing SEPA SCTs (the SEPA Internal credit transfers payment system, SEPA ICT) was launched in March 2009, replacing the Giro Clearing system. SEPA Internal credit transfers (SEPA ICT) is a payment system operated by the bank-owned company Bankart and enables the execution of SEPA credit transfers up to €50,000, wit h settlement of multilateral net positions carried out via participants' PM accounts in T2-Slovenija.

SLOD (PT) All financial and public sector institutions holding settlement accounts with the Banco de Portugal which were not eligible to participate in the SPGT2 (PHA), because they did not comply with the accession criteria, were integrated into a specific gross settlement system called SLOD (Settlement System for Other Depositors), which was a less sophisticated system, governed by more restrictive rules (e.g. participants had no access to the Interbank Clearing (SIBS) transfer channel and therefore used SWIFT, fax and telex and could not be granted intraday credit), although settlement did occur within the SPGT2 IT platform. These financial institutions' settlement accounts were almost exclusively intended for the settlement of operations within the Interbank Money Market or the Intervention Operations Market or, in the case of non-bank participants in stock market clearing operations, for the settlement of the respective balances. This system ceased operations on 2 March 2009.

Cyprus Clearing House (CY) The Cyprus Clearing House (CCH) is the largest retail payment system in Cyprus in terms of both transaction volumes and values. It is an automated clearing house for the clearing and settlement of cheques and is operated by the Central Bank of Cyprus (CBC). CCH has 16 direct participants (including the CBC) and one indirect participant. Settlement takes place in central bank money (via TARGET2 to T2 participants) on a multilateral net settlement basis. In 2008, the system processed 17.4 million cheques amounting to a value of €34.7 billion.

Malta Clearing House (MT) The Malta Clearing House was set up in the early 1970s with the purpose of providing cheque and money order clearing arrangements between the participating institutions. The system is based entirely on the agreements and rules established by the Malta Clearing House. The tasks involved in the processing of cheques through the clearing house are shared between the participating institutions, with the clearing house only facilitating the exchange of the instruments and the associated electronic information. Participation is open to all credit institutions and to financial institutions providing related services. Six credit institutions, including the Central Bank of Malta, and one financial institution currently participate.

JCC Payment Cards System (CY) JCC Payment Systems Ltd. (JCC) is a joint venture company established by local credit institutions inter alia for the clearing and settlement of payment card transactions. JCC also operates the national authorisation centre and POS network for card transactions. There are 9 direct and 2 indirect participants in the Payment Cards Clearing and Settlement System. The payment card transactions are settled in commercial bank money on a net settlement basis. In 2008, the system processed 30.2 million transactions (payments and ATM withdrawals for domestic and foreign cards), amounting to a value of €2.7 billion.

OTHER RETAIL PAYMENT SYSTEMS

RPS (DE) In German interbank clearing, the Deutsche Bundesbank offers its Retail Payment System (RPS) for the processing of non-urgent domestic and cross-border retail payments relating to credit transfers and the collection of cheques and direct debits in euro. For the settlement of cross-border payments, the RPS has been connected to the STEP2 system of the EBA since November 2003 and to STEP.AT since August 2008. RPS is used by 255 credit institutions, primarily commercial banks. In 2008 around 9.8 million transactions (amounting to almost €9.4 billion) were processed each working day of which approximately 43% were credit transfers and roughly 57% were collection orders for direct debits and converted cheques. The share of national payments was nearly 100% of all payments processed in the RPS. The gross settlement procedure used in the RPS prevents the payment beneficiary from incurring any credit risk. The Deutsche Bundesbank aims only to play a complementary role in retail payments; this is reflected by the fact that the RPS has a market share of less than 15% in German retail payments.

STEP.AT (AT) STEP.AT was launched by the Oesterreichische Nationalbank on 2 July 2007

Table 1 Values processed by retail systems in the euro area in 2008

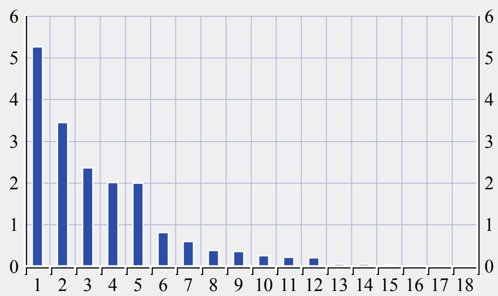
(EUR millions)

Retail system	Value of transactions
SIT/CORE (FR)	5,261,917
BI-COMP (IT)	3,447,991
RPS (DE)	2,357,210
CSS (Equens) (NL)	2,013,837
SNCE (ES)	1,997,854
CEC (BE)	803,010
STEP2 (EBA Clearing)	596,924
IPCC and IRECC (IE)	378,132
SICOI (PT)	353,919
PMJ (FI)	254,110
DIAS (GR)	218,873
ACO (GR)	204,167
GIRO CLEARING SYSTEM (SL)	49,121
SLOD (PT)	44,825
Cyprus Clearing House (CCH) (CY)	34,739
Malta Clearing House (MT)	7,386
JCC Payment Cards System (CY)	2,743
STEP.AT (AT)	1,866

Source: ECB.

Chart 3 Values processed by retail systems in the euro area in 2008

(EUR millions)



1 SIT/CORE (FR)
2 BI-COMP (IT)
3 RPS (DE)
4 CSS (Equens) (NL)
5 SNCE (ES)
6 CEC (BE)
7 STEP2 (EBA Clearing)
8 IPCC and IRECC (IE)
9 SICOI (PT)
10 PMJ (FI)
11 DIAS (GR)
12 ACO (GR)
13 GIRO CLEARING SYSTEM (SL)
14 SLOD (PT)
15 Cyprus Clearing House (CCH) (CY)
16 Malta Clearing House (MT)
17 JCC Payment Cards System (CY)
18 STEP.AT (AT)

Source: ECB.

Table 2 Volumes processed by retail systems in the euro area in 2008

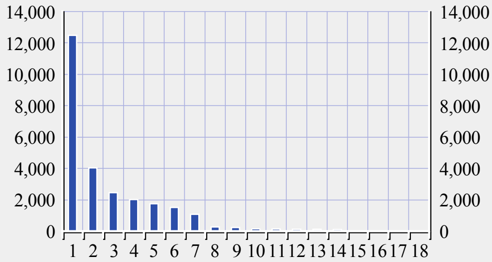
(EUR millions)

Retail system name	Volume of transactions
SIT/CORE (FR)	12,491.3
CSS (Equens) (NL)	4,039.8
RPS (DE)	2,465.4
BI-COMP (IT)	2,024.9
SICOI (PT)	1,750.4
SNCE (ES)	1,510.6
CEC (BE)	1,063.4
PMJ (FI)	259.4
IPCC and IRECC (IE)	227.5
STEP2 (EBA Clearing)	116
DIAS (GR)	75.5
GIRO CLEARING SYSTEM (SL)	55.9
JCC Payment Cards System (CY)	30.2
Cyprus Clearing House (CCH) (CY)	17.4
Malta Clearing House (MT)	5.8
ACO (GR)	2.7
STEP.AT (AT)	0.6
SLOD (PT)	0.1

Source: ECB.

Chart 4 Volumes processed by retail systems in the euro area in 2008

(EUR millions)



1 SIT/CORE (FR)
2 CSS (Equens) (NL)
3 RPS (DE)
4 BI-COMP (IT)
5 SICOI (PT)
6 SNCE (ES)
7 CEC (BE)
8 PMJ (FI)
9 IPCC and IRECC (IE)
10 STEP2 (EBA Clearing)
11 DIAS (GR)
12 GIRO CLEARING SYSTEM (SL)
13 JCC Payment Cards System (CY)
14 Cyprus Clearing House (CCH) (CY)
15 Malta Clearing House (MT)
16 ACO (GR)
17 STEP.AT (AT)
18 SLOD (PT)

Source: ECB.

as a clearing platform for regional interbank payments. STEP.AT provides processing procedures for payment orders by utilising the new generation of SEPA formats as well as SWIFT and EDIFACT formats. In order to account for the specific needs of all participants (in total 248), STEP.AT allows for direct, indirect and sub-indirect participation.

CENTRAL COUNTERPARTIES/ SECURITIES SETTLEMENT SYSTEMS

In 2008, two major CCPs in the euro area were active on a cross-border basis, LCH.Clearnet S.A. and Eurex Clearing AG. Both serve several markets across different categories of assets and different locations. Other euro area central counterparties serving only the domestic markets are CCP (Austria), HELEX (CCP on derivatives) (Greece), CC&G (Italy) and MEFF (Spain). The European Multilateral Clearing Facility NV (EMCF) in the Netherlands is the CCP for transactions in European shares that are processed on the trading platforms of Chi-X, Nasdaq OMX and BATS Europe. Since 9 March 2009 the UK-based EuroCCP has cleared transactions in European shares that are effected on the trading platforms of Turquoise, NYSE Arca Europe and Smartpool.

The euro area securities settlement landscape included 25 CSDs and ICSDs in 2008. However, some of these institutions belonged to the same holding group. For instance, the Euroclear Group comprises four CSDs that are located within the euro area (i.e. Euroclear France, Euroclear Netherlands, Euroclear Finland Oy and Euroclear Belgium). The other two CSDs are Euroclear UK & Ireland and Euroclear Sweden. In addition, the international central securities depository (ICSD) Euroclear Bank, located in Belgium, belongs to the Euroclear group. Similarly, the Clearstream Group comprises the CSD Clearstream Banking AG in Germany and the ICSD Clearstream Banking S.A. in Luxembourg. Furthermore, in Spain, BME comprises the CSD Iberclear and the three local SSSs. Together with Monte Titoli (which belongs to the London Stock Exchange Group (LSE)), the aforementioned institutions constitute the most important CSDs in the euro area in terms of turnover value and number of transactions. In 2008, VP Lux Sarl, a fully-owned subsidiary of the Danish CSD, VP Securities A/S (offering clearing, custody and issuer services) was established as a CSD in Luxembourg, mainly to enable Danish issuers to issue, through VPLux, securities eligible for Eurosystem credit operations. VP Lux started its SSS operations in 2009.

Table 3 Overview of euro area securities settlement systems and central counterparties

Country	CSD	CCP [1]
Austria	CSD.A (OeKB)	CCP Austria (Derivatives, securities)
Belgium	NBB-SSS Euroclear Belgium Euroclear Bank	LCH.Clearnet SA
Cyprus	CDCR	
Finland	Euroclear Finland OY	OMX Clearing (Derivatives)
France	Euroclear France	LCH.Clearnet SA (Derivatives, repos, securities, also for government securities, credit default swaps planned)
Germany	Clearstream Banking Frankfurt AG	Eurex Clearing AG
Greece	BOGS HELEX	HELEX (CCP on Derivatives)
Ireland	NTMA [2]	No physical infrastructure [3]
Italy	Monte Titoli	CC&G (Derivatives, repos, securities, also for MTS italy and euromts) LCH.Clearnet SA
Luxembourg	Clearstream Banking Luxembourg S.A. VP LUX	LCH.Clearnet SA
Malta	MSE	
Netherlands	Euroclear Netherlands N.V.	EMCF NV (European Multilateral Clearing Facility) LCH.Clearnet SA
Portugal	Interbolsa SITEME	LCH.Clearnet SA
Slovakia	CDCP SR NBS-CR	
Slovenia	KDD	
Spain	$\left.\begin{array}{l}\text{Iberclear}\\ \text{SCL Barcelona}\\ \text{SCL Bilbao}\\ \text{SCL Valencia}\end{array}\right\}$ BME Group	MEFF (derivatives) MEFFCLEAR (fixed income)

Source: ECB.
1) The list refers to CCPs active in the relevant national market. Thus, the French LCH.Clearnet SA clears those markets where it is mentioned in the table.
2) Irish Government Bonds are settled in Euroclear Bank, while Irish equities are settled, under Irish law, in Euroclear UK &Ireland (EUI). With effect from 31 March 2008 the National Treasury Management Agency (NTMA) ceased to operate its SSS for Exchequer Notes.
3) CCP services for Irish Securities in euro are provided by Eurex Clearing AG.

Table 4 Value of delivery instructions processed by CSDs in the euro area in 2008

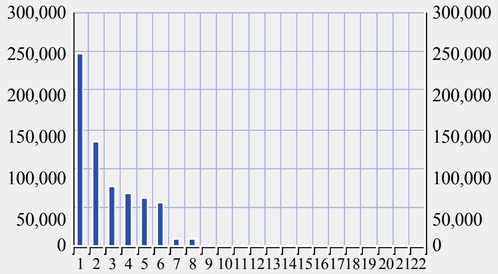
(EUR billions)

Total for 2008	
Euroclear Bank (BE)	248,791
Euroclear France (FR)	134,266
Iberclear (ES)	75,462
Monte Titoli (IT)	67,195
Clearstream Banking Frankfurt AG (DE)	62,473
Clearstream Banking Luxembourg S.A. (LU)	54,993
BOGS (GR)	8,368
NBB-SSS (BE)	8,300
Euroclear Finland (formerly APK)	845
NBS-CR (SK)	528
CSD.A (OeKB) (AT)	313
Euroclear Belgium (BE)	310
Interbolsa (PT)	149
HELEX (GR)	92
SITEME (PT)	92
CDCP SR (SK)	35
KDD (SL)	20
CDCR (CY)	2
MSE (MT)	2
Regional SSSs	0
NTMA (IE)	0
Euroclear Netherlands NV (NL)	-

Source: ECB.

Chart 5 Value of delivery instructions processed by CSDs in the euro area in 2008

(EUR billions)



1 Euroclear Bank (BE)
2 Euroclear France (FR)
3 Iberclear (ES)
4 Monte Titoli (IT)
5 Clearstream Banking Frankfurt AG (DE)
6 Clearstream Banking Luxembourg S.A. (LU)
7 BOGS (GR)
8 NBB-SSS (BE)
9 Euroclear Finland (formerly APK)
10 NBS-CR (SK)
11 CSD.A (OeKB) (AT)
12 Euroclear Belgium (BE)
13 Interbolsa (PT)
14 HELEX (GR)
15 SITEME (PT)
16 CDCP SR (SK)
17 KDD (SL)
18 CDCR (CY)
19 MSE (MT)
20 Regional SSSs
21 NTMA (IE)
22 Euroclear Netherlands NV (NL)

Source: ECB.

Table 5 Number of delivery instructions processed by CSDs in the euro area in 2008

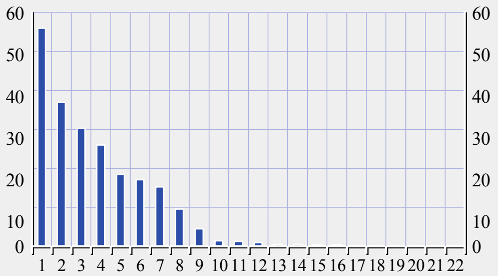
(thousands)

Total for 2008	
Clearstream Banking Frankfurt AG (DE)	56,014
Euroclear Bank (BE)	36,993
Euroclear France (FR)	30,384
Monte Titoli (IT)	26,032
Euroclear Finland (FI)	18,428
Iberclear (ES)	17,097
Clearstream Banking Luxembourg SA (LU)	15,183
HELEX (GR)	9,602
Euroclear Netherlands NV (NL)	4,399
CSD.A (OEKB)	1,433
Euroclear Belgium (BE)	1,261
Interbolsa (PT)	949
KDD (SL)	444
CDCR (CY)	442
BOGS (GR)	378
NBB-SSS (BE)	328
MSE (MT)	24
CDCP SR (SK)	20
NBS-CR (SK)	2
SITEME (PT)	1
NTMA (IE)	0
Regional SSSs (ES)	-

Source: ECB.

Chart 6 Number of delivery instructions processed by CSDs in the euro area in 2008

(thousands)



1 Clearstream Banking Frankfurt A.G.(DE)
2 Euroclear Bank (BE)
3 Euroclear France (FR)
4 Monte Titoli (IT)
5 Euroclear Finland (FI)
6 Iberclear (ES)
7 Clearstream Banking Luxembourg S.A.(LU)
8 HELEX (GR)
9 Euroclear Netherlands N.V. (NL)
10 CSD.A (OEKB)
11 Euroclear Belgium (BE)
12 Interbolsa (PT)
13 KDD (SL)
14 CDCR (CY)
15 BOGS (GR)
16 NBB-SSS (BE)
17 MSE (MT)
18 CDCP SR (SK)
19 NBS-CR (SK)
20 SITEME (PT)
21 NTMA (IE)
22 Regional SSSs (ES)

Source: ECB.

Table 6 Value of cash (outright) securities transactions cleared by CCPs in the euro area in 2008

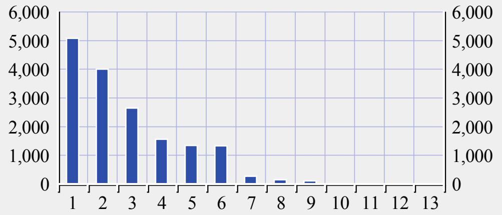
(EUR billions)

	Total for 2008
EUREX Clearing AG (DE)	5,077
LCH.Clearnet SA (FR)	4,000
CC&G (IT)	2,648
LCH.Clearnet SA (NL)	1,558
LCH.Clearnet SA (IT)	1,348
European Multilateral Clearing Facility (NL)	1,335
LCH.Clearnet SA (BE)	273
CCP (AT)	146
LCH.Clearnet SA (PT)	108
LCH.Clearnet SA (LU)	3
HELEX (GR)	1
MEFFCLEAR (ES)	-
MEFF (ES)	-

Source: ECB.
Notes: The nationality next to the CCP indicates the national market for which the data is presented. The French LCH.Clearnet SA is therefore mentioned for several markets.

Chart 7 Value of cash (outright) securities transactions cleared by CCPs in the euro area in 2008

(EUR billions)



1 EUREX Clearing AG (DE)
2 LCH. Clearnet SA (FR)
3 CC&G (IT)
4 LCH. Clearnet SA (NL)
5 LCH. Clearnet SA (IT)
6 European Multilateral Clearing Facility (NL)
7 LCH. Clearnet SA (BE)
8 CCP (AT)
9 LCH. Clearnet SA (PT)
10 LCH. Clearnet SA (LU)
11 HELEX (GR)
12 MEFFCLEAR (ES)
13 MEFF (ES)

Source: ECB.
Note: MEFFCLEAR and MEFF: data not available.

Table 7 Number of cash (outright) securities transactions cleared by CCPs in the euro area in 2008

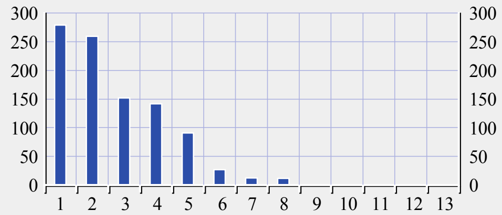
(thousands)

	Total for 2008
EUREX Clearing AG (DE)	279,196
LCH.Clearnet SA (FR)	259,219
European Multilateral Clearing Facility (NL)	151,858
CC&G (IT)	141,357
LCH.Clearnet SA (NL)	90,503
LCH.Clearnet SA (BE)	27,155
CCP (Austria)	12,516
LCH.Clearnet SA (PT)	11,709
LCH.Clearnet SA (IT)	253
LCH.Clearnet SA (LU)	46
HELEX (GR)	1
MEFF (ES)	-
MEFFCLEAR (ES)	-

Source: ECB.
Notes: The nationality next to the CCP indicates the national market for which the data is presented. The French LCH.Clearnet SA is therefore mentioned for several markets.

Chart 8 Number of cash (outright) securities transactions cleared by CCPs in the euro area in 2008

(thousands)



1 EUREX Clearing AG (DE)
2 LCH. Clearnet SA; (FR)
3 European Multilateral Clearing Facility (NL)
4 CC&G (IT)
5 LCH. Clearnet SA (NL)
6 LCH. Clearnet SA (BE)
7 CCP (Austria)
8 LCH. Clearnet SA (PT)
9 LCH. Clearnet SA (IT)
10 LCH. Clearnet SA (LU)
11 HELEX (GR)
12 MEFF (ES)
13 MEFFCLEAR (ES)

Source: ECB.
Note: MEFFCLEAR and MEFF: data not available.