

CHAPTER 18

Oversight of financial market infrastructures

Updated on 30 September 2020

Financial market infrastructures play a pivotal role in serving financial markets, supplying them with liquidity and ensuring payments and the settlement and delivery of financial instruments. In doing so they contribute directly to maintaining confidence in currencies and financial markets and, more generally, to financial stability. They also enable the smooth implementation of monetary policy by making it possible to raise and deliver securities as collateral against the delivery of cash. These infrastructures showed strong resilience in the 2008 crisis; the G20 assigned additional responsibility to some of them in 2009 (notably central counterparties and trade repositories) with a view to improving financial stability and transparency, which has led to enhanced oversight.

Operationally speaking, it is also in central banks' direct interest that infrastructures – primarily payment systems – function smoothly, as most central banks operate a national payment system themselves, while others are direct participants in such systems. Moreover, central banks themselves use financial market infrastructures for the operational implementation of monetary policy and delivery of collateral (see Chapter 12, Section 1.5; Chapter 13, Section 4.3 and Chapter 15, Section 5); this increases their interest in infrastructures' efficient functioning, as they cannot provide liquidity if the securities accepted as collateral are not delivered, for example.

As part of their mission of conducting monetary policy and ensuring financial stability, the challenge for central banks, as 'lenders of last resort', is to prevent generating moral hazard – which for market players consists in relying on central bank intervention in the event of failure of an infrastructure or a major participant.

Central banks therefore naturally started paying attention, in the early 1990s, to the systemic risks that their national payment systems could pose. It is in this context that the term 'oversight' – which at the

time had no legal or regulatory basis – first appeared. As a knock on effect, central banks' oversight scope was subsequently extended to securities settlement systems (SSS). To the extent that SSSs were required to perform settlements in the central bank's books (known as "settlement in central bank money") in order to ensure settlements' security, these systems could indeed jeopardise the proper functioning of national payment systems. Lastly, while offering greater financial security, central counterparties (CCP) have also led to risk concentration (see Chapter 11), as participant's default as well as a failure of the CCP itself can generate systemic risk. In this context, and in the interests of financial stability, the G10's central banks in particular began to work alongside financial market authorities – which were traditionally responsible for the regulation and supervision of central securities depositories and CCPs – to help oversee such entities. As a result, the financial market infrastructure ecosystem monitored by central banks has gradually expanded, and now covers not just payment systems but the entire financial instruments processing chain.

The importance of financial market infrastructures for the authorities, particularly central banks, is highlighted in the CPSS' May 2005 report *Central bank oversight of payment and settlement systems*.¹

The purpose of central bank oversight of financial market infrastructures is to ensure the effectiveness and security of existing systems (as well as the ones being developed), assess these systems against applicable standards and principles and encourage relevant adjustments where necessary.

1. Risk management standards for financial market infrastructures

The various standards applicable to financial market infrastructures originated in the financial crises of the late 1980s,

¹ <http://www.bis.org/cpmi/publ/d68.pdf>

but more importantly after the 2008 crisis. The body of standards was developed gradually, by infrastructure type, before being consolidated, in 2012, in the *CPMI/IOSCO Principles for Financial Market Infrastructures* (PFMI). These principles were subsequently transposed into binding regulations in European law.

1.1. Development of the various sets of principles

When, post the 1987 financial crisis, the importance of having strong financial market infrastructures had hit home, international standards began to emerge, beginning with those of the 1990 Lamfalussy Report² on interbank netting schemes. This report established 'minimum standards' for such systems, intended in particular to cover

legal, financial and operational risks. It also laid down founding principles for their cooperative oversight by central banks.

In line with the Lamfalussy standards and principles, several sets of standards were developed successively, initially by infrastructure type: first for systemically important payment systems (2001), then for securities settlement systems (2001) and finally for central counterparties (2004). After the 2008 financial crisis, which showed the crucial role played by financial market infrastructures and their resilience, and given the emergence of new infrastructures such as trade repositories (see Chapter 16), the authorities decided it was best to rethink these standards and incorporate them in a single document, the *Principles for Financial Market Infrastructures* (PFMI), published in April 2012.

² <http://www.bis.org/cpmi/publ/d04.pdf> (original version) <http://www.bis.org/cpmi/publ/d04fr.pdf> (French translation)

Box 1: Minimum standards for the design and operation of cross-border and multi-currency netting and settlement schemes ("Lamfalussy" standards)

The 1990 Lamfalussy Report recommended the following six 'minimum standards':

- (I) *Netting schemes should have a well-founded legal basis under all relevant jurisdictions;*
- (II) *Netting scheme participants should have a clear understanding of the impact of the particular scheme on each of the financial risks affected by the netting process;*
- (III) *Multilateral netting systems should have clearly-defined procedures for the management of credit risks and liquidity risks which specify the respective responsibilities of the netting provider and the participants. These procedures should also ensure that all parties have both the incentives and the capabilities to manage and contain each of the risks they bear and that limits are placed on the maximum level of credit exposure that can be produced by each participant;*
- (IV) *Multilateral netting systems should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single net-debit position;*
- (V) *Multilateral netting systems should have objective and publicly-disclosed criteria for admission, which permit fair and open access;*
- (VI) *All netting schemes should ensure the operational reliability of technical systems and the availability of back-up facilities capable of completing daily processing requirements.*

1.1.1. Core Principles for Systemically Important Payment Systems (CPSS, January 2001)³

The authorities' aim was to develop general, globally acceptable principles that were adaptable to a wide variety of situations. They therefore had to be generic in nature. Accordingly, 23 national central banks, including the G10 central banks, participated in the CPSS working group together with the European Central Bank, the International Monetary Fund and the World Bank. Given the conclusion that risk was not solely the province of large value payment systems – retail payment systems that processed very large volumes of small transactions could generate risk too – a global approach integrating the two types of system was adopted. Ten core principles for systemically important payment systems were defined, supplemented by four 'responsibilities' assigned to central banks that implemented these principles.

1.1.2. Recommendations for securities settlement systems (CPSS IOSCO, November 2001)⁴

Securities settlement systems (see Chapter 13) are exposed to specific risks linked to the nature of their activity. Their main purpose is to ensure the fully secure execution of securities transactions. These systems are usually managed by central securities depositories (CSDs), and are themselves linked to a payment system, which in most cases settles cash in the books of a central bank before transferring the funds corresponding to the securities transfers. The conditionality of execution of each of the transaction's two legs is known as "delivery versus payment" (DvP), whereby the final transfer of securities is made if and only if the cash transfer takes place – and vice versa.

The first international standards for settlement and delivery were developed following the Group of Thirty's recommendations of 1988.⁵ These guidelines were updated by a working group established

under the aegis of the CPSS and IOSCO, whose November 2001 report set out 19 recommendations for securities settlement systems.

1.1.3. Recommendations for central counterparties (CPSS IOSCO, November 2004)⁶

Some of the recommendations for securities settlement systems were also intended for CCPs, in particular those related to governance, transparency and operational reliability. Given CCPs' very specific risk profile, the CPSS and IOSCO developed tailored recommendations for these entities. Published in 2004, the associated report sets out 15 recommendations for CCPs, accompanied by an evaluation methodology that uses key questions to assess the CCP's degree of compliance therewith.

1.2. Principles for Financial Market Infrastructures (CPSS IOSCO, April 2012)

International efforts to enhance the security and robustness of financial market infrastructures proved their effectiveness during the 2008 financial crisis, when these infrastructures successfully negotiated the surge in market instability, transaction volume spikes and the collapse of Lehman Brothers (one of their biggest users) without any major disruption. By absorbing the increase in the volume and volatility of trading activity, the smooth functioning of these infrastructures fostered market confidence and contributed significantly to limiting the financial and economic consequences of that crisis.⁷

In light of the important role assigned to financial market infrastructures by the G20 in the commitments made at the Pittsburgh Summit in September 2009, it was crucial to ensure the long term robustness of these entities; the CPMI and IOSCO accordingly carried out work to harmonise and revise the pre existing principles relating to the various infrastructures. The juxtaposition of these various infrastructure specific principles and

3 <http://www.bis.org/cpmi/publ/d43.pdf> (original version) or <http://www.bis.org/cpmi/publ/d43fr.pdf> (French translation)

4 <http://www.bis.org/cpmi/publ/d46.pdf> (original version) <http://www.bis.org/cpmi/publ/d46fr.pdf> (French translation)

5 Clearance and Settlement Systems in the World's Securities Markets (Group of Thirty, 1988). <http://group30.org/images>

6 <http://www.bis.org/cpmi/publ/d64.pdf>

7 See "CPSS-IOSCO Principles for financial market infrastructures: vectors of international convergence" Russo D., Banque de France's Financial Stability Review, No. 17, (April 2013, pp. 79-88) : <https://publications.banque-france.fr/en/liste-chronologique/financial-stability-review?year=2013>

recommendations called for implementation of a global, coherent approach to the principles applicable to financial market infrastructures. The result was the Principles for Financial Market Infrastructures (PFMI), drafted by the CPSS (which became the CPMI in 2014) and IOSCO committees and published in April 2012.⁸

The PFMI divide financial market infrastructures into the following categories:

- payment systems (PS);
- central securities depositories (CSD);
- securities settlement systems (SSS);
- central counterparties (CCP); and
- trade repositories (TR).

The PFMI strengthened the requirements relating to credit and liquidity risk management and established new requirements for risk categories that were not covered by the former standards, such as the obligation to put in place a risk management framework that includes all risks (legal, financial, operational, etc.), the need for CCPs to make available to their users a

system that ensures the segregation and portability of members' and members' clients' positions and collateral, and requirements relating to general business risk and indirect, or 'tiered' participation risks.

They also tightened the risk management framework requirements for CCPs, stipulating that CCPs that are involved in activities with a more complex risk profile or that are systemically important in multiple jurisdictions should be able at all times to cover the exposure related to their two members with the largest positions, to cope with a scenario of two simultaneous and cumulative defaults (Cover 2, see Chapter 11). The PFMI also defined new coverage standards for business risk (capital financed liquid resources equivalent to six months of ongoing expenses required) and operational risk.

The PFMI are structured around nine main risks, which are then broken down into 24 principles, as shown in the Box 2 below.

⁸ <http://www.bis.org/cpmi/publ/d101a.pdf> (original version) or http://www.bis.org/cpmi/publ/d101_fr.pdf (French translation)

Box 2: PFMI breakdown

General organisation

- Legal basis
- Governance
- Framework for the comprehensive management of risks

Credit and liquidity risk management

- Credit risk
- Collateral
- Margin calls
- Liquidity risk

Settlement

- Settlement finality
- Money settlements
- Physical deliveries

Central securities depositories and exchange-of-value settlement systems

- Central securities depositories
- Exchange-of-value settlement systems

Default management

- Participant-default rules and procedures
- Segregation and portability

General business and operational risk management

- General business risk
- Custody and investment risks
- Operational risk

Access

- Access and participation requirements
- Tiered participation arrangements
- FMI link

Efficiency

- Efficiency and effectiveness
- Communication procedures and standards

Transparency

- Disclosure of rules, key procedures and market data
- Disclosure of market data by trade repositories

Box 3: general applicability of PFMI by infrastructure type *

		SP	CSD	SSS	CCP	TR
1.	Legal basis	•	•	•	•	•
2.	Governance	•	•	•	•	•
3.	Framework for the comprehensive management of risks	•	•	•	•	•
4.	Credit risk	•		•	•	
5.	Collateral	•		•	•	
6.	Margin calls				•	
7.	Liquidity risk	•	(1)	•	•	
8.	Settlement finality	•	•	•	•	
9.	Money settlements	•		•	•	
10.	Physical deliveries		•	•	•	
11.	Central securities depositories		•			
12.	Exchange of value settlement systems	•		•	•	
13.	Participant default rules and procedures	•	•	•	•	
14.	Segregation and portability				•	
15.	General business risk	•	•	•	•	•
16.	Custody and investment risks	•	•	•	•	
17.	Operational risk	•	•	•	•	•
18.	Access and participation requirements	•	•	•	•	•
19.	Tiered participation arrangements	•	•	•	•	•
20.	FMI links		•	•	•	•
21.	Efficiency and effectiveness	•	•	•	•	•
22.	Communication procedures and standards	•	•	•	•	•
23.	Disclosure of rules, key procedures and market data	•	•	•	•	•
24.	Disclosure of market data by trade repositories					•

* PS= payment system, CSD = central securities depository, SSS = securities settlement system, CCP = central counterparty, TR = trade repository

(1) Liquidity risk concerns only CSDs and ICSDs that have a banking licence.

Given that each type of financial market infrastructure has its own activity and risk profile, not all these principles are applicable to all infrastructures. For example, TR are not affected by liquidity risk or credit risk but are exposed to operational risk. CCPs, meanwhile, are particularly exposed to credit, market and liquidity risk in the event of a participant's default. Other risk factors may arise from links with other infrastructures. For example, securities settlement systems may be linked to one or more CCPs for the settlement and delivery of the securities leg, or – for the settlement of the cash leg – to one or more payment systems.

The table in Box 3, taken from the PFMI, shows the principles' applicability based on the infrastructure type.

Each infrastructure's risk profile varies too, depending on endogenous factors (organisation, governance, etc.) and exogenous factors (links, participants, etc.).

With regard to operational risk and in the context of rising cyber risk, in June 2016 the CPMI IOSCO also published a guidance document, *Guidance on cyber resilience for financial market infrastructures*,⁹ including recommendations to increase the resilience of financial market infrastructures and consisting of eight parts: (i) governance, (ii) risk identification, (iii) protection, (iv) detection, (v) response and recovery, (vi) testing, (vii) situational awareness and (viii) learning and evolving. The guidance aims to provide a methodological approach and tools to enable financial market

⁹ <https://www.bis.org/cpmi/pub/d146.pdf>. This guidance was followed by the publication of the Cyber resilience oversight expectations for financial market infrastructures report by the ECB in December 2018 (see Section 1.3.2 below),

infrastructures to strengthen their resilience to cyber threats.

These principles are supplemented in the PFMI by “five responsibilities of central banks, market regulators and other relevant authorities for FMIs” (Responsibilities A to E, see Section 2.4 below). These new standards were accompanied by an international CPMI IOSCO framework for the disclosure of qualitative information, including an analysis method with a framework for assessing infrastructures’ application of the principles (*Disclosure framework and Assessment methodology*), published in December 2012,¹⁰ which aims to increase financial market infrastructures’ transparency with regard to market players, so that they have all the information necessary to assess the risks to which they may be exposed by interacting with these infrastructures. This qualitative framework was supplemented by a quantitative framework designed to be applied by infrastructure type. In February 2015, the CPMI IOSCO published a report on the quantitative information to be disclosed by CCPs.¹¹

Another feature of the PFMI is Annex F, which deals with the oversight requirements applicable to critical service providers. The criticality of the services that these entities provide (such as the SWIFT financial messaging system) means that infrastructures rely heavily on their proper functioning. PFMI Annex F lists five oversight requirements applicable to critical service providers: (i) risk identification and management; (ii) information security; (iii) reliability and resilience; (iv) technology planning and (v) communication with users. In August 2017, the ECB’s Governing Council approved a Eurosystem policy to identify and oversee providers of critical services for financial market infrastructures, which gives operational form to the main principles laid down in this area by the Eurosystem’s oversight framework.¹² This policy applies to all payment systems within the Eurosystem’s remit (systemically important payment systems and retail

payment systems), the T2S platform and payment card systems. In this respect, financial market infrastructures have a responsibility to ensure that the critical service providers they use meet the oversight requirements applicable to them; in some cases, direct oversight of critical service providers may be carried out by the authorities.

The change in nature of these requirements and their transposition into binding regulations, in particular in the United States with the Dodd Frank Act and in the European Union with the EMIR (see Chapter 11) and the CSDR (see Chapters 12 and 13), constitute a paradigm shift for the infrastructure oversight framework. They result on the one hand in an obligation for infrastructures to comply with standards and on the other in possible sanctions for non compliance.

1.3. New European regulations for financial market infrastructures: the transition from soft to hard law

CPMI and IOSCO member countries have committed to implementing the PFMI in their respective jurisdictions. This is an important initiative, as the PFMI are not legally binding but rather principles and recommendations for sound risk management. The Implementation Monitoring Standing Group was put in place to monitor this implementation worldwide in the CPMI IOSCO jurisdictions. This monitoring is carried out at three levels:

- level 1: self assessments by jurisdictions on the implementation of PFMI legislation and procedures;
- level 2: peer reviews on the comprehensiveness and consistency with the PFMI of the implementing measures taken by the jurisdictions; and
- level 3: peer reviews on the consistency of the results of the infrastructures’ PFMI implementation.

¹⁰ <http://www.bis.org/cpmi/publ/d106.pdf>

¹¹ <http://www.bis.org/cpmi/publ/d125.pdf>

¹² <http://www.ecb.europa.eu/pub/pdf/>

The level 1 assessments, which are regularly updated on the BIS website,¹³ show that jurisdictions have reached an advanced stage of PFMI legal and regulatory transposition. So far, the level 2 assessments have concerned ten jurisdictions (the European Union, the United States, Japan, Australia, Hong Kong, Singapore, Switzerland, Canada, Brazil and Turkey), while the level 3 assessments have resulted in the publication of three reports, covering the financial risk management and

recovery practices of ten derivative clearing CCPs (August 2016¹⁴ and May 2018¹⁵) and the evaluation and review of the authorities' application of the five responsibilities (November 2015¹⁶).

The PFMI have also gained increasing traction worldwide under the impetus of the International Monetary Fund and the World Bank, in connection with these institutions' country evaluation programmes.

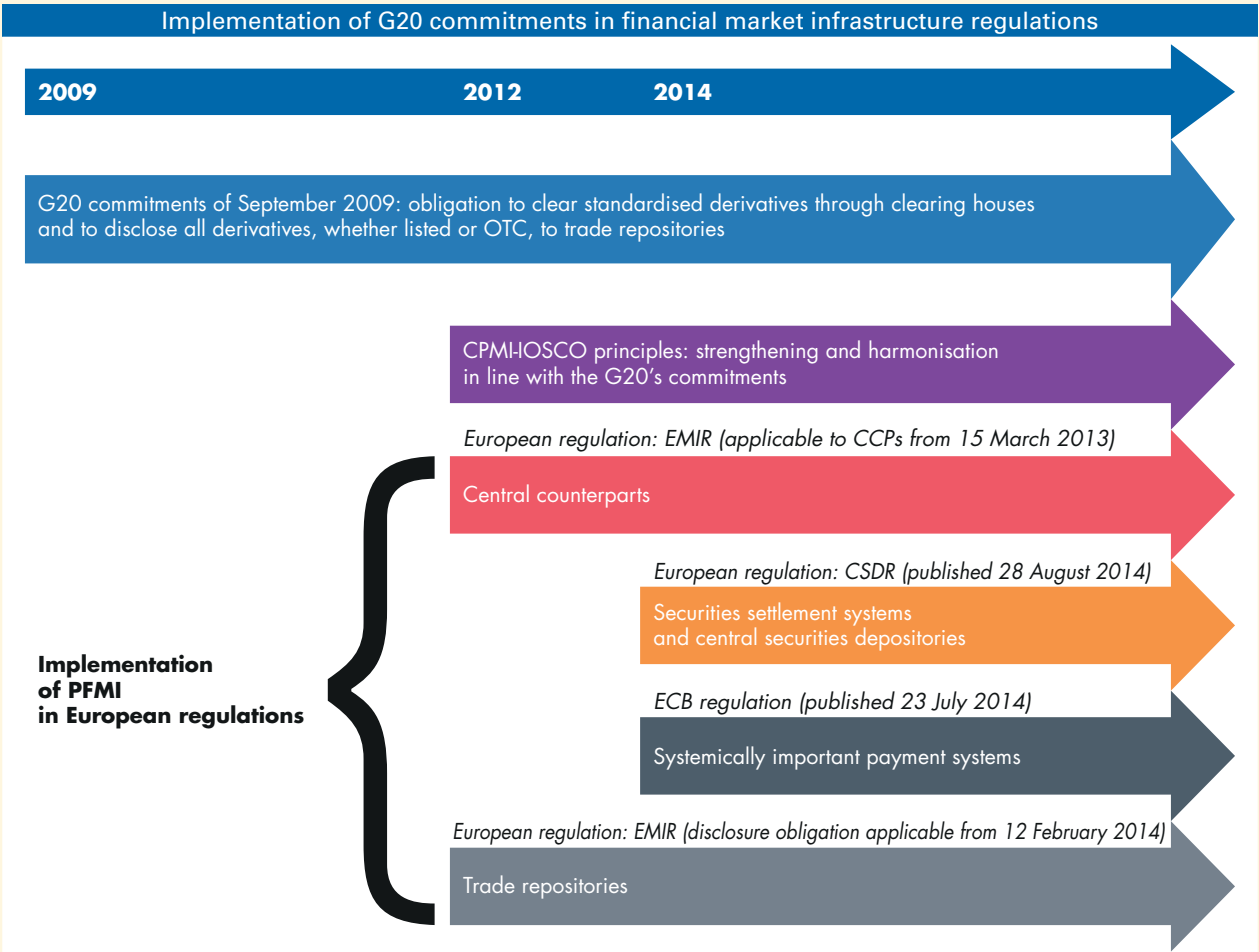
13 https://www.bis.org/cpmi/level1_status_report.htm

14 <https://www.bis.org/cpmi/publ/d148.pdf>

15 <https://www.bis.org/cpmi/publ/d177.pdf>

16 <https://www.bis.org/cpmi/publ/d139.pdf>

Box 4: Implementation of PFMI in European regulations



Source: Banque de France.

With regard to France, this implementation is carried out at the European and Eurosystem levels. The PFMI are broken down by infrastructure type, with specific regulations for each. In this regard:

- on 4 July 2012, European Regulation 648/2012 on OTC derivatives, central counterparties and trade repositories came into force (European Market Infrastructure Regulation, or EMIR), transposing into European law the PFMI applicable to CCPs and trade repositories;
- on 3 June 2013, the European Central Bank announced that the Governing Council had adopted the PFMI for Eurosystem oversight of all types of financial market infrastructure;
- on 11 August 2014, European Central Bank Regulation 2014/28 on oversight requirements for systemically important payment systems, which implements the PFMI for systemically important payment systems within the euro area, came into force. This Regulation was revised in 2017 (see below);
- and lastly, on 18 September 2014, European Regulation 909/2014 concerning the improvement of securities settlement in the European Union and central securities depositories came into force (so called CSDR, or Central Securities Depositories Regulation, transposing into European law the PFMI applicable to SSSs and CSDs).

1.3.1. EMIR for central counterparties and trade repositories

The European regulation EMIR, which was revised in 2019 (see below), establishes harmonised requirements for CCPs across the European Union (see Chapter 11, Section 4.2) based on the PFMI, and defines a common authorisation and supervision framework. Monitoring of the CCPs' compliance with EMIR requirements is

carried out by both national authorities and European level public authority colleges. These colleges, set up for each CCP, bring together the various public authorities of European Union Member States that have an interest in the CCPs' proper functioning (EMIR Article 18). The European Securities and Markets Authority (ESMA) also participates in each college, which is chaired by a national competent authority (NCA). The aim of this system is to promote both a homogeneous approach to the implementation of EMIR requirements in the European Union and appropriate assessment of a CCP's risks by taking into account its risk profile and the different market segments it serves, while involving the main relevant authorities of the other EU Member States.

The purpose of having authorities from different countries participate and using additional, college based mandates is to take into account the different perspectives that are key to the proper functioning of an infrastructure as systemic as a CCP: this makes CCP oversight as comprehensive as possible, reflecting the CCPs' increasingly important contribution to the stability of the financial system and the importance of the interdependencies at the core of these infrastructures' activity, which an authority acting alone would be unable to satisfactorily take into account.

EMIR Articles 14, 15, 17 and 49-1 provides that the EMIR colleges reaches a joint opinion on a CCP's initial authorization under EMIR, extensions of activities and services, and any significant change. The EMIR2 Regulation (EU 2019/2099), which was published on 12 December 2019 and entered into force on 1 January 2020, extends this responsibility to decisions related to Articles 30, 31, 32 (shareholders and qualifying holdings) and 35 (outsourcing). In addition, the college can now issue recommendations to the competent authorities, which must expressly justify any departure from said recommendations (comply or explain).

Box 5: Composition of the EMIR College of the French CCP LCH SA

The diagram below illustrates the composition, in early 2019, of the EMIR College of the French CCP LCH SA (the participation of the UK authorities will come to a close at the end of the transition period).



The French CCP’s EMIR College comprises 19 authorities, including the three national competent authorities: the Autorité de contrôle prudentiel et de résolution (Prudential Supervision and Resolution Authority - ACPR), the Autorité des marchés financiers (Financial Markets Authority - AMF) and the Banque de France. The Banque de France chairs the College and also represents the Eurosystem, as the central bank of issue. ESMA is a non-voting member of the College, in application of EMIR provisions.

In the CCP assessment and voting exercise, each authority is expected to vote in accordance with the mandate entrusted to it and under which it participates in the college. Colleges were created to facilitate the cooperative oversight of a CCP. Participation in the college entails no extension of an individual authority’s mandate or competence beyond the responsibility assigned to it under its internal legal rules, but does allow it to better fulfil its mandate, by being involved in the main

decisions taken by the national competent authorities concerning the CCPs whose proper functioning is important to the exercise of its mandate.

Regarding third country CCPs, as mentioned in chapter 11, EMIR 2 establishes direct supervisory powers for ESMA on systemic infrastructures. ESMA’s decision of 28 September 2020 confirms that the UK CCPs LCH Limited and ICE Clear Europe will be subject to such supervision, without

prejudice to the potential ulterior application of a relocation requirement of their activities as per Article–25(2c) EMIR 2 if they are considered as “substantially systemic” for the European Union as a conclusion of the assessment foreseen in the course of 2021 (see chapter 17).

1.3.2. ECB Regulation for systemically important payment systems

The payment systems regulatory environment also underwent a major change with the entry into force on 11 August 2014 of ECB Regulation ECB 2014/28 on systemically important payment systems (SIPS). The ECB Regulation transposes the PFMI applicable to SIPS and also lays down a set of criteria (concerning in particular volumes, market shares, cross border activity and links with other infrastructures) aimed at identifying SIPS, the list of which must be reviewed annually.

Regulation 2014/28 was revised in November 2017 by Regulation 2017/2094. This revision was the first since the original Regulation was published; since then revision has in principle been made mandatory every two years. The 2017 revision drew on lessons learned from the Eurosystem’s oversight work since the Regulation’s adoption in 2014 and from the consultation of the four systemically important payment systems (TARGET2, EURO1, STEP2-T and CORE(FR)) held between December 2016 and February 2017. The revised regulation was published on 16 November 2017.¹⁷ It clarifies existing obligations, incorporates new risk management requirements and extends authorities’ powers.

Operators must comply with this new regulatory framework within 18 months for provisions relating to financial obligations (credit risk and liquidity risk) and 12 months for all other provisions.

While the competent authorities have been given powers to impose corrective measures, the ECB is the only authority with the power to impose sanctions on SIPS. The revised

Regulation was also accompanied by a methodological note detailing the methods for calculating financial sanctions, as well as an amendment to ECB Regulation 2157/1999 on sanctions.

In a decision of 12 August 2014, the Governing Council named four SIPS in accordance with the criteria of ECB Regulation 2014/28: two large value payment systems, TARGET2 and EURO1, and two retail payment systems, STEP2 T and the French CORE(FR) system.

While TARGET2, EURO1 and STEP2 T are pan European, cross border systems subject to a cooperative oversight mechanism under the aegis of the ECB (see below), CORE(FR) is the only SIPS with offices in France; it is therefore overseen by the Banque de France on behalf of the Eurosystem.

The Eurosystem’s payment systems oversight framework uses a risk based approach. Payment systems that are classified as systemically important, for example, are subject to the most restrictive oversight framework, which includes sanctions for non compliance.

Large value payment systems that do not qualify as systemically important systems must comply with the PFMI. Retail payment systems that do not meet the SIPS criteria, meanwhile, are subject to a more or less comprehensive subset of the PFMI, depending on whether they are prominently important retail payment systems (PIRPS) or other retail payment systems (ORPS).¹⁸ The Box 6 shows this graduated approach.

In terms of cyber resilience, the Eurosystem’s oversight framework also uses a methodology (*Cyber Resilience Oversight Expectations for Financial Market Infrastructures*) that sets out overseers’ expectations with a view to applying the June 2016 CPMI IOSCO guidance on cyber resilience (see Section 1.2). To that end, the Eurosystem conducted a public consultation¹⁹ which ended in summer 2018. The final version of Cyber Resilience Oversight expectations (CROE) was published by the ECB in December 2018.²⁰

17 http://www.ecb.europa.eu/ecb/legal/pdf/celex_32017r2094_fr_txt.pdf

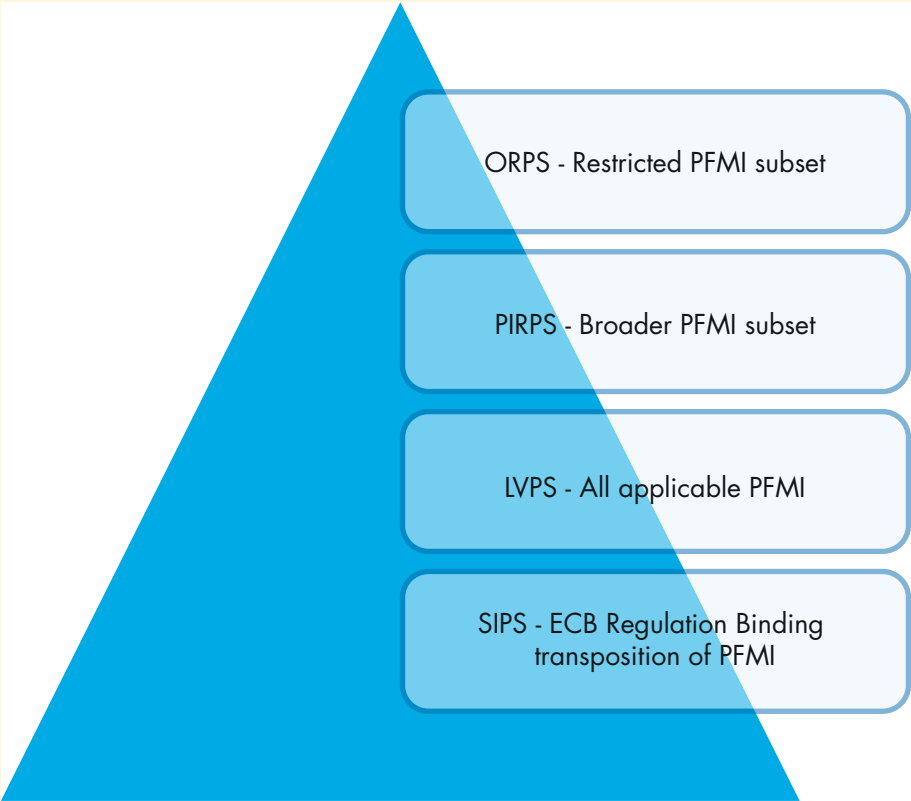
18 Cf. section 2 du chapitre 10.

19 https://www.ecb.europa.eu/paym/cons/html/cyber_resilience_oversight_expectations_en.html

20 https://www.ecb.europa.eu/paym/cons/cyberresilience/Cyber_resilience_oversight_expectations_for_financial_market_infrastructures.pdf. The CROE were adopted by the World Bank at the start of 2020 for use in emerging economies

Box 6: The Eurosystem payment systems oversight framework¹

The Eurosystem payment systems oversight framework uses a risk-based approach, under which the more critical the systems’ malfunctioning risk is to financial stability, the more extensive and binding the rules those systems must comply with are.



¹ https://www.ecb.europa.eu/pub/pdf/other/Revised_oversight_framework_for_retail_payment_systems.pdf

1.3.3. CSDR for securities settlement systems and central securities depositories

Similarly, the regulatory framework applicable to CSDs and SSSs is changing significantly under the impact of European Regulation 909/2014, the Central Securities Depositories Regulation (CSDR), published on 28 August 2014 and transposing the PFMI applicable to CSDs. It came into force at the end of September 2017. In particular, in France this new regulation applies to Euroclear France and to the new CSD, ID2S, and, as far as it is relevant, the TARGET2 Securities (T2S) common settlement and delivery platform to which

Euroclear France and ID2S migrated in September 2016 and October 2018, respectively (see Chapters 12 and 13).

1.4. International evaluations

The PFMI are not applied solely by the member jurisdictions of the CPMI and IOSCO Committees. The CPMI Committee organises regional conferences to involve a wider group of central banks. International reviews ensure that these principles are followed in all countries, with financial market infrastructures subject to external evaluations by the World Bank or the International Monetary Fund, via Financial Sector Assessment Programs (FSAP).

The latter, which are based on the PFMI, aim to assess a country's entire financial sector, including in particular its banks and infrastructures. The IMF's latest assessment of France was conducted in December 2012.²¹

2. Oversight: definition, objectives and methods

The 1990 Lamfalussy Report highlighted the importance for banks of monitoring financial market infrastructures (see above). Specifically, the report justified central bank oversight of clearing systems on the grounds that these systems' use of inadequate risk management procedures could contribute to systemic risk or lead to financial weaknesses that could prevent the proper transmission of monetary policy. For example, a payment system's failure could prevent the central bank from carrying out liquidity transfers as part of its refinancing operations, or that of a securities settlement system in a securities purchase programme could prevent the central bank from purchasing the related securities.

The Lamfalussy Report also laid the foundations for the cooperative oversight of central banks. As payment system operators and lenders of last resort, it is particularly important for central banks that the various systems function properly. The oversight function is specific and unique to central banks. Oversight of payment systems is a traditional central bank responsibility that has developed based on the 'lead overseer' concept, the overseer being the central bank of the country in which the system operator has its registered office. This oversight allows coordination of both the central bank's various functions and capabilities and the responsibilities of the market and prudential supervisory authorities, with the central bank at the heart of the system. The Lamfalussy Report acknowledged that by their nature, due to their impact on the functioning and liquidity of financial markets, particularly the foreign exchange and interbank markets, cross border and/or

multi currency clearing and settlement systems also require an international cooperative arrangement involving the relevant authorities.

The central banks' oversight scope naturally depends on the institutional and regulatory framework in force in the jurisdictions in question. In France, the Banque de France is responsible for the oversight of central counterparties, securities settlement systems, central securities depositories and payment systems.

While oversight methods also depend on the institutional and regulatory framework, the PFMI provide a common basis in terms of the principles and rules of security and sound infrastructure management.

2.1. The Eurosystem's oversight framework and the role of the Banque de France

The Eurosystem's financial market infrastructure oversight framework is known as the "Eurosystem oversight policy framework".²² It is based on the Eurosystem's mission, set out in Article 127(2) of the Treaty on the Functioning of the European Union, to promote the smooth operation of payment systems.

Within this Eurosystem framework, Article L.141 4 of the French Monetary and Financial Code enshrines the Banque de France's competence to oversee financial market infrastructures: the bank ensures the proper functioning and security of payment systems and the security of central counterparties and financial instrument settlement and delivery systems.

The Banque de France has the necessary powers for this task, insofar as the same article grants it the right to obtain the relevant information and documents from central counterparties and managers of payment systems and financial instrument settlement and delivery systems, to carry out inspections both on documents and on site, and to issue recommendations.

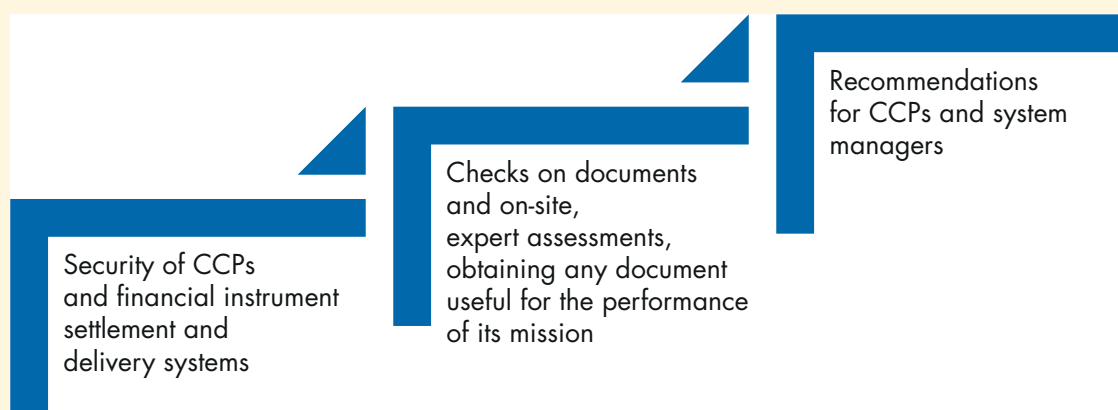
²¹ <https://www.imf.org/external/pubs/cat/longres.aspx?sk=401870>

²² <https://www.ecb.europa.eu/pub/pdf/other/eurosystemoversightpolicyframework201607en.pdf>

Box 7: Provisions of Article L. 141-4 (paragraphs II and III of the French Monetary and Financial Code)

French law clearly establishes the powers of the Banque de France to oversee financial market infrastructures. As such, the French Monetary and Financial Code confers upon the Banque de France the task of “ensuring the proper functioning and security of payment systems within the framework of the mission of the European System of Central Banks relating to the promotion of the proper functioning of payment systems provided for in Article 105(2) of the Treaty establishing the European Community”. In addition, “in the context of the missions of the European System of Central Banks, and without prejudice to the powers of the Autorité des marchés financiers (AMF) and the Autorité de contrôle prudentiel et de résolution (ACPR), the Banque de France ensures the security of clearing houses defined in Article L.440-1 and financial instrument settlement and delivery systems”.

This mission breaks down as follows:



The power to carry out on-site inspections was conferred on the Banque de France in 2013, thus strengthening its remit in this area.

These assignments are carried out without prejudice to the powers conferred on the other competent national authorities, namely the Financial Markets Authority (AMF) and the Autorité de contrôle prudentiel et de résolution (ACPR). The three French authorities have therefore coordinated their responsibilities in a collegial and collaborative manner by dividing up oversight of the French CCP LCH SA and of the central securities depository Euroclear France (between the Banque de France and the Financial Markets Authority in the latter case).

2.2. Oversight and supervision

A distinction is traditionally made between the concepts of ‘oversight’ and ‘supervision’. Oversight is defined on an institutional basis in the CPSS report of 2005 related to central banking activity, being based on soft law (i.e. without the power of sanction) and more qualitative in nature (use of persuasion, or moral suasion), whereas supervision is of a regulatory nature and does include the power of sanction. Oversight activities are therefore conducted in principle under the aegis of central banks, while

supervision is more a matter for prudential authorities. However, this distinction has faded somewhat in recent years with the narrowing of the gap between oversight objectives and methods and supervisory objectives and methods.

2.3. Cooperation between relevant authorities and international cooperation

For payment systems, which are overseen by central banks, the concepts still in force today are firstly the ‘lead overseer’ in cross

border payment systems for which a cooperative framework has been established. For example, the US Federal Reserve (Fed) is the lead overseer of the CLS foreign exchange settlement system.

Another important concept in the oversight of financial market infrastructures such as CCPs and CSDs is that of 'competent' authorities and 'relevant' authorities. Competent authorities are ones upon which regulations or legislation confer direct power to oversee the infrastructure, usually legitimised by their physical location in the jurisdiction in question. Relevant authorities are those that have an interest in the infrastructure's proper functioning and which, if necessary, participate in the oversight system, the main responsibility for which lies with the competent authorities. Relevant authorities can include supervisory authorities of CCP clearing or non clearing members (as EMIR provides for CCPs, for example), overseers of the platforms on which instruments are traded or of the SSSs that settle and deliver traded financial instruments, overseers of infrastructures with which interoperability links have been established, central banks of issue of the main currencies processed by the infrastructure, etc.

Competent authorities are responsible for the infrastructure's approval and authorisation with regard to the regulations applicable to it, and for its ongoing oversight. They have a duty to keep informed the various stakeholders, including the public, on the infrastructure's security and operation as well as changes in its risk profile, and to consult the relevant authorities with regard to matters of interest to them.

For example, CSDR Article 12 provides that several relevant authorities be involved in a CSD's oversight, in particular the authority responsible for oversight of the securities settlement system that the CSD operates, the central banks of issue of the currencies in which settlements takes place and the central bank that settles the cash part of the settlement and delivery system that the CSD operates.

2.4. Responsibilities assigned to the authorities under the PFMI

The PFMI assign five 'responsibilities' to the authorities (central banks, market regulators and other competent authorities) for the oversight of financial market infrastructures. These recommendations aim to provide guidance to the authorities for coherent and effective regulation and oversight through domestic and international cooperation, so as to avoid unnecessary duplication of work while strengthening control.

The five responsibilities are as follows:

Responsibility A: Regulation, supervision and oversight of financial market infrastructures. Under this responsibility, infrastructures must be subject to an appropriate and effective system of regulation, supervision and oversight by a central bank, a market regulator or another competent authority. The criteria determining the infrastructures subject to controls must be publicly available. The three types of authorities are required to supervise the infrastructures, while the legislative and regulatory framework defines their respective roles. Under the Eurosystem's oversight framework, for example, systemically important payment systems located outside the country of the markets that they serve are supervised in principle by the national central bank of the country in which the infrastructure's registered office is located, unless the Governing Council decides to entrust their main supervisory responsibility to the European Central Bank. Pursuant to a Governing Council decision of 13 August 2014, for example, the ECB was named the competent authority for the three pan European systemically important systems TARGET2, EURO1 and STEP2 T. Systemically important payment systems located within the country of the markets that they serve are overseen by the central bank of the country in which the infrastructure's registered office is situated; such is the case for the CORE(FR) French retail payment system, for which the Banque de France has been named the competent authority.

Responsibility B: Regulatory, supervisory, and oversight powers and resources. Central banks, market authorities and other competent authorities must have the necessary powers and resources to effectively exercise their responsibilities to regulate, supervise and oversee financial market infrastructures.

The legal basis for the powers of public authorities is generally laid down by national law. In France, for example, the legal basis of the Banque de France's mandate is laid down in Article L. 141 4 of the French Monetary and Financial Code (see above). This mandate allows authorities not only to have access to information, but also to request changes and enforce corrective measures. Regulators must also be given appropriate human and technical resources (IT, statistics, legal, knowledge of market mechanisms and financial instruments, etc.).

Responsibility C: Disclosure of policies with respect to financial market infrastructures. Central banks, market authorities and other competent authorities must clearly define and disclose their policies for regulating, supervising and overseeing financial market infrastructures.

For example, the Banque de France regularly publishes on its website²³ its financial market infrastructure and means of payment oversight report, to disclose to the public its oversight policy and report on its oversight actions and the results achieved.

Responsibility D: Application of the principles for financial market infrastructures. Central banks, market regulators and other competent authorities must adopt and systematically apply the PFMI.

As regards the Eurosystem, for example, on 3 June 2013 the ECB's Governing Council adopted the PFMI as the oversight standards for that system's infrastructures. The PFMI have also been transposed into binding regulations for CCPs, trade repositories, CSDs and SSSs, as well as systemically important payment systems.

Responsibility E: Cooperation with other authorities. This responsibility is key in view of the cross border nature of globalised financial market infrastructure oversight. It is reviewed in the box 8.

²³ <https://publications.banque-france.fr/en/liste-chronologique/report-oversight-payment-instruments-and-financial-market-infrastructures>

Box 8: Authorities' responsibility E under the PFMI: cooperation with other authorities

Central banks, market regulators, and other relevant authorities should cooperate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs.

The purpose of Responsibility E is to enable any authority with a direct interest in an infrastructure's proper functioning to participate in the cooperative oversight system that the competent authorities are required to put in place. In addition, if an authority identifies the exercise (actual or planned) of a cross-border or multi-currency service by an infrastructure within its jurisdiction, it must, as soon as possible, inform the other competent authorities (for example the relevant central banks of issue).

Fulfilling this responsibility is crucial in several respects:

- **prudential supervision of participants:** financial market infrastructure participants are generally entities subject to prudential supervision by their regulators. It is therefore important that prudential supervisors have access to relevant information on the infrastructures that handle these entities' transactions. Consider a case in which CCP C replaces counterparty B vis-à-vis bank A through the novation mechanism (see Chapter 11). This exposes Bank A to the CCP's credit risk. It is therefore logical for A's prudential supervisor to be aware of the level of collateral provided by CCP C;

.../...

- the financial stability of the currency zone associated with the currency of issue in which the financial instruments processed by the infrastructure are denominated. For example, an infrastructure located outside the euro area but processing a significant proportion of financial instruments denominated in euro could be required to make management decisions that are not aligned with the interests of the central bank of issue; this would be the case, for example, if the infrastructure suddenly decided to no longer clear certain instruments denominated in the currency of the central bank of issue that represented a significant share of the currency zone's market. It would no longer be possible to trade these instruments on a cleared basis, bilateral transactions remaining the only option. If the instruments in question were government-issued securities, the lower appetite for them could lead to their loss of value or even a loss of confidence on the part of market participants, with potentially very negative long-term consequences for the economy concerned. Infrastructures that handle a currency that is not that of the central bank of issue of their country of establishment may thus pose a risk to the financial stability of the currency zone concerned. The central banks of issue of the relevant currencies must therefore be involved in the cooperative oversight system. In some cases, a location policy is the only way to prevent this type of risk (see Chapter 17, Section 3.3.1);
- management of an infrastructure's failure: the failure of a major participant that carries out cross-border transactions is likely to have repercussions on several infrastructures. An infrastructure's failure necessitates close collaboration between authorities at both the domestic and international levels to either re-establish the institution (maintenance of contracts, etc.), wind it down in an orderly manner (notably through transfer to a relay infrastructure) or provide for its resolution.

There are a number of different means of implementing Responsibility E:

- memoranda of understanding for the exchange of information;
- the colleges of regulators set up by the European legislator (EMIR for CCPs, which makes colleges mandatory; or CDSR for CSDs, under which colleges are optional) within a given jurisdiction;
- 'global' colleges such as the Oversight Committee set up by the US Federal Reserve Bank for CLS (see Chapter 9, Section 3), which concerns authorities with several jurisdictional powers, or the cooperative oversight of SWIFT, under the aegis of the Banque nationale de Belgique, in which the G10 central banks participate (see box 9 below).

With the exception of EMIR-type legislative measures, these forms of cooperation are usually established on the basis of written agreements signed by the participating authorities, and include confidentiality commitments.

Box 9: SWIFT cooperative oversight

The Society for Worldwide Interbank Financial Telecommunication (SWIFT) is a Belgium-registered limited liability cooperative company that provides messaging and connectivity services to financial institutions and infrastructures. SWIFT is thus a critical provider of services for the global financial industry, particularly for financial market infrastructures.

SWIFT's oversight is conducted under the aegis of the Banque nationale de Belgique by the central banks of the other G10 countries (Germany, Canada, US, France, Italy, Japan, the Netherlands, the UK, Sweden and Switzerland) and the ECB, in two bodies that bring together all the members: a technical body, the SWIFT Technical Oversight Group (TG), and a senior body, the SWIFT Cooperative Oversight Group (OG). The TG, composed of experts, meets SWIFT's Management and Internal Audit Department regularly and reports to the OG, which focuses on SWIFT's strategy and oversight policy. The Executive Group (EG), meanwhile, brings together the central banks of Belgium, the US, the UK and Japan, as well as the ECB, and represents the OG in high-level discussions with SWIFT. Finally, the SWIFT Oversight Forum (SOF), made up of OG members and high-level central bank representatives from ten other countries (South Africa, Saudi Arabia, Australia, China, South Korea, Hong Kong, India, Russia, Singapore and Turkey), is an exchange forum that contributes in particular to discussions on the SWIFT oversight policy, the definition of SWIFT's oversight priorities, and disclosures about interdependencies between systems generated by the common use of SWIFT.

<p>The Banque de France directly oversees a number of systemic infrastructures located in France and also participates</p>	<p>in cooperative oversight systems in the European Union and internationally (see Box 10).</p>
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Box 10: Oversight by the Banque de France**Direct oversight**

The Banque de France directly oversees four systemic market infrastructures: the French CCP LCH SA (see Chapter 11), the CSDs Euroclear France and ID2S (see Chapters 12 and 13) and the retail payment system CORE(FR) (see Chapter 10). The Banque de France is also the overseer of the retail payment system SEPA(EU), launched in November 2016. In addition to processing SEPA Direct Debit and SEPA Credit Transfer payment instruments, this scheme is intended to become a pan-European payment system (see Chapter 10). The Banque de France is one of the three national authorities entrusted with oversight of the French CCP LCH SA, alongside the Autorité des marchés financiers (AMF) and the Autorité de contrôle prudentiel et de résolution (ACPR). It chairs, manages and organises the exchange of information within the CCP EMIR College, drawing on past experience to ensure that it runs smoothly. To set up and manage the LCH SA EMIR College, the Banque de France benefited from its CCP cooperative oversight experience going back more than 13 years, including (i) the establishment in 2001 of a cooperative oversight agreement between market authorities and Euronext platform overseers, (ii) the signing in 2004 of an MoU with the Italian authorities for the oversight of the interoperability link between LCH SA and the Italian clearing house Cassa di Compensazione e Garanzia and (iii) the signing in 2005 of an MoU for the oversight and supervision of the CCPs of LCH Group Ltd.

.../...

Cooperative oversight

In addition to overseeing the infrastructures located in France, the Banque de France participates in the oversight of several infrastructures operating at a European or international level whose activities have implications for the French financial system. The European infrastructures concerned are the Italian CCP Cassa di Compensazione e Garanzia, the Dutch CCP EuroCCP, the German CCP Eurex Clearing AG and the UK CCP LCH Ltd (in respect of which the Banque de France acts as the ECB's alternate); the TARGET2, EURO1 and STEP2-T payment systems and the TARGET2-Securities settlement and delivery platform, under the framework defined by the Eurosystem. The Banque de France participates in the oversight of TARGET 2 under the aegis of the ECB as the lead overseer. Given the critical nature of the services that the T2S platform provides to European CSDs, the related oversight framework is the subject of an agreement between (i) the Eurosystem, responsible for oversight of T2S' operational services, (ii) the supervisory authorities of the CSDs that have signed the participation agreement, (iii) the central banks of issue of T2S-eligible non-euro currencies and (iv) ESMA. This agreement allows the exchange of information necessary for the fulfilment, for each participating authority, of its missions with regard to the CSDs participating in T2S, as well as the platform's joint evaluation.

In regards to non-Eurosystem international infrastructures whose cooperative oversight is based on MoUs, the CLS international foreign currency settlement system is subject to cooperative oversight by the lead overseer, the US Federal Reserve, the G10 central banks (including the Banque de France) and the central banks of issue of currencies handled by the system (see Chapter 9).

In addition to financial market infrastructures, certain providers of critical services are subject to oversight. A case in point is SWIFT, which offers financial messaging services that are extensively used by banking communities throughout the world and by numerous financial market infrastructures (see Box 9 above).

Infrastructure overseen	Lead overseer
Eurosystem oversight framework	
T2	ECB
T2S	ECB
EURO1	ECB
STEP2-T	ECB
Participation in EMIR colleges	
LCH Ltd	Bank of England
EUREX Clearing AG	Bafin
CC&G	Banca d'Italia
EuroCCP	De Nederlandsche Bank
International cooperative oversight framework	
SWIFT	Banque nationale de Belgique
CLS	US Federal Reserve Bank

