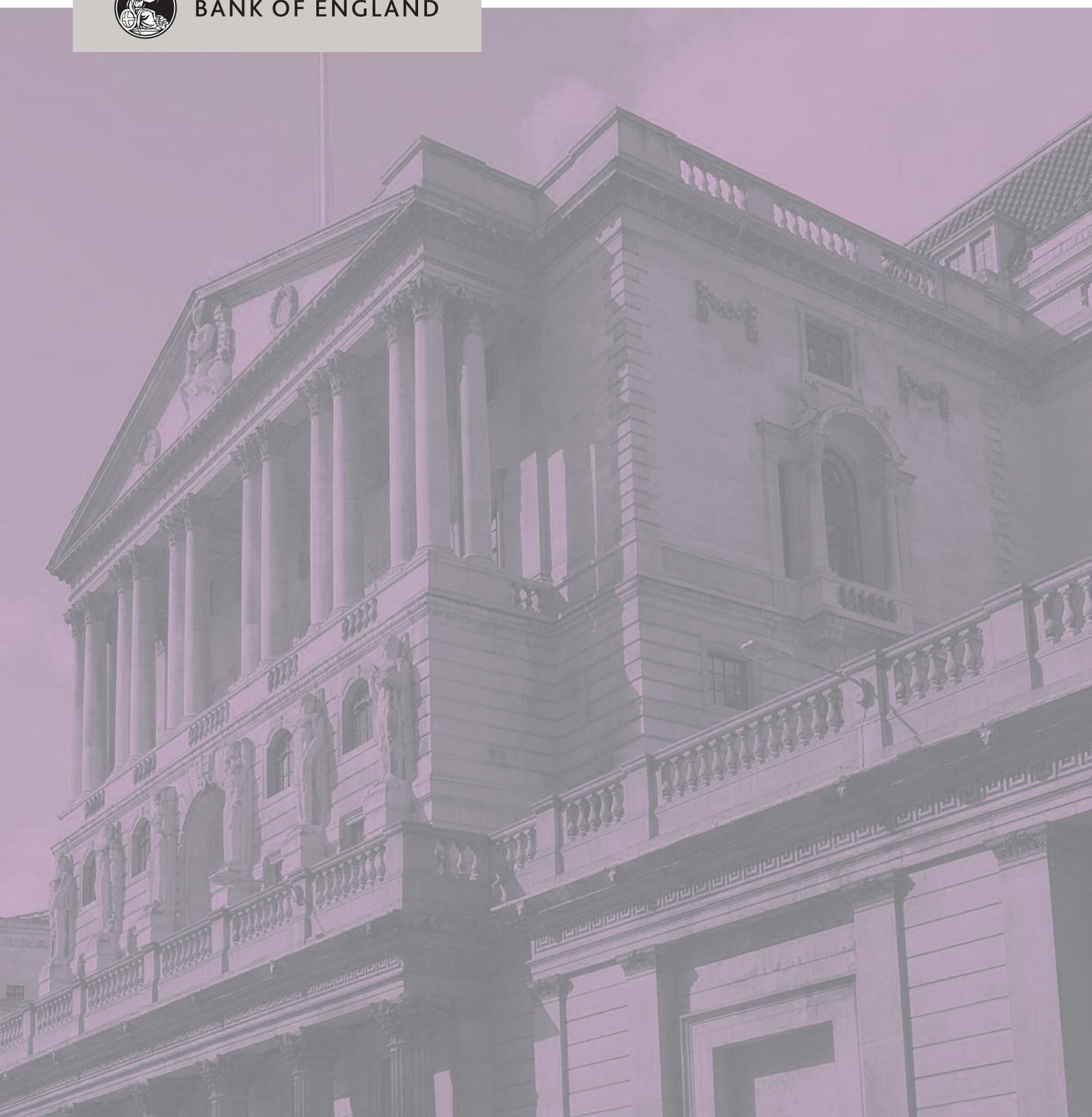


The Bank of England's supervision of financial market infrastructures — Annual Report

March 2015



BANK OF ENGLAND





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To cover the period 18 March 2014 to 11 March 2015.

Presented to Parliament pursuant to section 203B of the Banking Act 2009 and paragraph 33 of Schedule 17A to the Financial Services and Markets Act 2000.

11 March 2015

Foreword



Jon Cunliffe

Deputy Governor, Financial Stability

The Bank of England's mission is to promote the good of the people of the United Kingdom by maintaining monetary and financial stability. A key aspect of the Bank's work in pursuit of this mission is to supervise financial market infrastructures (FMIs).

The FMIs supervised by the Bank sit at the heart of the UK economy and financial system in the form of, for example, the payment systems which allow goods and services to be purchased and workers to be paid, and the securities settlement systems and central counterparties (CCPs) which facilitate the allocation of savings to investment via stock and bond markets and, in the case of CCPs, the hedging of risk via derivatives markets. The United Kingdom's monetary and financial stability consequently depends on the orderly functioning of FMIs and their robust management of systemic risk. They are also a key element of truly global financial markets, providing services in multiple currencies to users located across the world.

The importance of FMIs is set to increase in light of global regulatory initiatives such as the mandatory use of CCPs for certain derivatives contracts. This will reduce risk in the financial system but will also lead to greater concentration of risk in FMIs. Recognising this, the Bank has intensified its focus on them. As part of its Strategic Plan which was launched in

March 2014, the Bank has committed increased resources to its work on FMIs, establishing a new Directorate devoted to risk-based FMI supervision and to providing thought leadership on FMI policy and research. In the coming year, the Bank also looks forward to co-operating in its supervision of recognised interbank payment systems with the Payment Systems Regulator, the new independent economic regulator for UK payment systems, which will become fully operational in April this year.

FMIs' interaction with other actors in the financial system, such as their member firms, is intrinsic to their robustness as well as to their roles as systemic risk managers. Successful FMI supervision relies on effective co-operation with those who supervise the users of FMIs. The Bank's supervision of FMIs benefits significantly from being able to draw on and collaborate with colleagues within the Bank in the Prudential Regulation Authority, and in the Financial Conduct Authority, who supervise banks and investment firms which participate in UK FMIs and trading venues served by UK FMIs. Moreover, since many FMIs supervised by the Bank serve global markets, the Bank attaches great importance to working as closely as possible with overseas authorities both within and beyond the European Union, and to chairing and participating in supervisory colleges to ensure that UK FMIs operate in a way that is commensurate with international standards and that promotes global financial stability.

In our second *Annual Report* into FMI supervision, we provide an overview of our supervision of FMIs during the past year and outline our priorities for FMI supervision over the year ahead. Publication of this report demonstrates the Bank's continued commitment to openness and accountability.

A handwritten signature in black ink, appearing to read 'J. Cunliffe', written in a cursive style.

March 2015

Executive summary and key points

The Bank of England has responsibility for supervising financial market infrastructures (FMIs) as part of its mission to promote the good of the people of the United Kingdom by maintaining monetary and financial stability. These FMIs are recognised payment systems, central counterparties (CCPs) and securities settlement systems. This report sets out how the Bank has exercised its responsibilities over the past year,⁽¹⁾ and is part of the Bank's commitment to openness and accountability.

Key developments

- The implementation of the European Market Infrastructure Regulation has catalysed significant improvements in UK CCPs' risk management over the past year.
- All UK FMIs supervised by the Bank of England now have in place recovery plans designed to ensure the ongoing provision of critical services should they, or their operating companies, suffer financial distress.
- UK CCPs have introduced rules to comprehensively allocate losses from their investment of participants' cash collateral. These rules, introduced to comply with new UK legal requirements which came into force during 2014, enable these highly unlikely and potentially catastrophic losses to be allocated in a way which allows a CCP to continue to provide its critical services, rather than leading to the CCP's insolvency (in which case the losses would ultimately be borne by the CCPs' participants).
- UK securities markets moved to a T+2 settlement cycle on 6 October 2014 in line with requirements in the EU Central Securities Depositories Regulation. This has reduced counterparty credit risk in these markets by moving trades to settlement after two rather than three days.

Chapter 1 of this report outlines the Bank's role in the supervision of FMIs. Chapter 2 sets out how the Bank has worked to meet its financial stability objective, through FMI supervision, over the past year and reviews progress against the priorities discussed in the previous *Annual Report*. Chapter 3 summarises the forward-looking priorities that the Bank intends to focus on in the coming year and describes some of the developments expected to impact FMIs and the Bank's supervision of them in the near future.

(1) In accordance with the requirements of the Banking Act 2009 and the Financial Services and Markets Act 2000.

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Chapter 1: The Bank of England's role in the supervision of financial market infrastructures

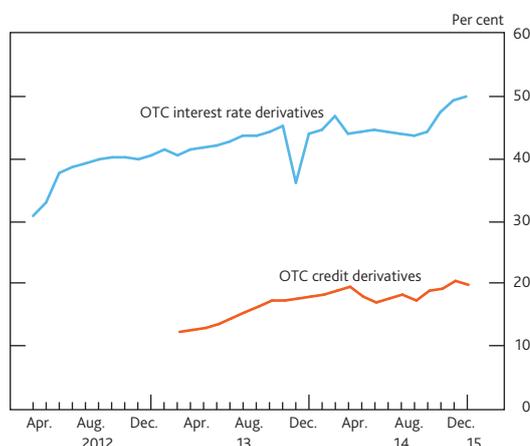
1.1 The Bank of England's approach to supervision and the purpose of this report

The Bank of England's mission is to promote the good of the people of the United Kingdom by maintaining monetary and financial stability.

Financial market infrastructures (FMIs) sit at the heart of global financial markets and the UK economy. Financial stability and, *in extremis*, monetary stability depend on the appropriate design, orderly operation and continuity of service of FMIs.

FMIs are assuming even greater systemic importance as the international regulatory community encourages more financial activity to take place via centralised infrastructures. In 2009, G20 Leaders committed that standardised over-the-counter (OTC) derivatives should be cleared through central counterparties (CCPs). As shown in **Chart 1**, 50% of the global OTC interest rate derivatives market — the largest segment of the OTC derivatives market — is now centrally cleared as of January 2015 compared to 31% in April 2012. Similarly, central clearing in the OTC credit derivatives market increased to 20% as of January 2015 compared to 12% in March 2013.

Chart 1 Percentage of gross notional outstanding globally in OTC interest rate derivatives and OTC credit derivatives which is centrally cleared

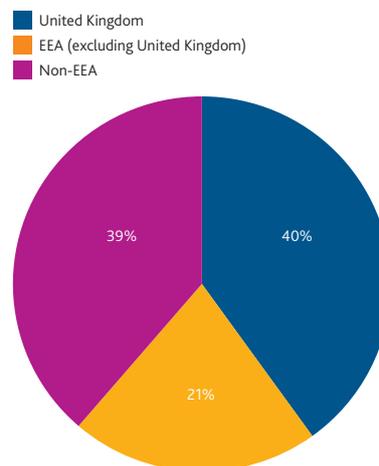


Sources: DTCC trade information warehouse reports and Bank calculations.

Beyond CCPs, in 2014 the average daily value of payments settled by supervised payment systems CHAPS, Bacs and FPS, was £290 billion, from 28 million payment messages. CREST, the United Kingdom's securities settlement system, which is also supervised by the Bank, settled a daily average of £396 billion.⁽¹⁾

Furthermore, many of the FMIs supervised by the Bank are used by market participants all over the world. As shown by **Chart 2**, in December 2014 clearing members established outside the European Economic Area (EEA) accounted for 39% of the initial margin requirement at UK CCPs. This is only slightly lower than the proportion for UK clearing members, and almost double the proportion for (non-UK) EEA clearing members.

Chart 2 Distribution of initial margin requirement at UK CCPs by location of clearing members, December 2014



Sources: CME Clearing Europe, ICE Clear Europe, LCH.Clearnet Ltd, LME Clear and Bank calculations.

The Bank therefore supervises UK CCPs, recognised payment systems and securities settlement systems with a view to protecting and enhancing the stability of the financial system, by ensuring that these privately owned infrastructures are managed in a way consistent with their roles as systemic risk

(1) Not including auto-collateralised repos.

managers. *The Bank of England's approach to the supervision of financial market infrastructures*⁽¹⁾ sets this out in more detail.

The Bank's Strategic Plan, launched in March 2014, placed renewed focus on the Bank's role as FMI supervisor, establishing a new directorate for Financial Market Infrastructure within the Bank in recognition of FMIs' increasing systemic importance. Supervision of FMIs draws on perspectives and expertise from across the Bank, including from the Prudential Regulation Authority's (PRA's) supervision of banks, insurers and investment firms. Furthermore, access to transaction-level data from trade repositories is increasingly giving the Bank insights into the potential risks to financial stability arising from derivatives markets.

Under the Banking Act 2009 and the Financial Services and Markets Act 2000 (FSMA), the Bank is required to provide a report to HM Treasury⁽²⁾ demonstrating how the Bank has met its financial stability objective through its supervision of recognised payment systems and recognised clearing houses (RCHs) respectively. This report must then be laid before Parliament.

The Bank is committed to being open and accountable in the performance of its responsibilities and in the use of its powers. The publication of this *Annual Report* is intended to help achieve this in respect of supervision of FMIs.

1.2 The Bank's statutory obligations and international commitments

The Bank's supervision of FMIs is shaped by different pieces of legislation, regulation and standards at UK, EU and international level.

1.2.1 UK legislation

The principal pieces of UK legislation that shape the Bank's supervision of FMIs are:

- Part 5 of the Banking Act 2009, which established the statutory oversight regime for interbank payment systems;
- FSMA, which set out responsibilities and powers in respect of the supervision of RCHs; and
- the Uncertificated Securities Regulations 2001, to which operators of securities settlement systems are subject.⁽³⁾

1.2.2 EU regulation

The activities of CCPs in the United Kingdom are subject to regulation by the Bank under EU law, namely the European Regulation on OTC derivatives, central counterparties and trade repositories of July 2012, commonly known as the European Market Infrastructure Regulation (EMIR). EMIR

came into force in August 2012 and many of the main associated technical standards to support it came into force in March 2013. EMIR and the technical standards are directly applicable in the United Kingdom. Therefore, UK-incorporated CCPs need to satisfy the provisions of the Regulation and standards, together with any additional domestic requirements, in order to achieve and maintain authorisation under EMIR. More detail on EMIR authorisations is provided in Box 1.

The Central Securities Depositories Regulation (CSDR), which came into force in September 2014, establishes common EU laws for Central Securities Depositories (CSDs). During 2014, the Bank, along with other EU authorities, assisted the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA) in developing the draft technical standards mandated by the CSDR which will set more detailed rules in many areas. ESMA's draft standards were published for consultation in December 2014, while the EBA published theirs for consultation in February 2015. As with EMIR, the United Kingdom's existing regime will continue to apply to CSDs until a decision on an authorisation or recognition under the new regime has been reached. More detail on the CSDR is provided in Box 2.

1.2.3 International standards

As part of the Bank's supervisory approach, each supervised UK FMI is assessed annually against international standards, as set out in the *Principles for financial market infrastructures (PFMIs)*⁽⁴⁾ published by the Bank for International Settlements' Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions (CPMI-IOSCO) in April 2012. The Bank expects supervised FMIs to perform an annual self-assessment against these standards as an input into the Bank's own assessment. Since both EMIR and the CSDR draw on the *PFMIs* for much of their content, there is overlap between these international standards and the EU regulations for CCPs and CSDs. For recognised payment systems, the Bank has adopted the *PFMIs* without amendment as the principles to which, under the Banking Act 2009, operators of recognised payment systems must have regard when operating their systems.

1.3 FMIs subject to the Bank's supervision

FMIs supervised by the Bank are listed in **Table A**.

(1) www.bankofengland.co.uk/financialstability/Documents/fmi/fmisupervision.pdf.

(2) Both Acts were amended by the Financial Services Act 2012.

(3) The Bank is also subject to, and has responsibilities under, other pieces of legislation. See the glossary for details.

(4) www.bis.org/cpmi/publ/d101a.pdf.

Table A FMIs supervised by the Bank and the key supervisory legislation they are subject to^(a)

<p>Central counterparties (CCPs) are regulated under FSMA as recognised clearing houses (RCHs) and under EMIR. The embedded payment systems of LCH.Clearnet Ltd and ICE Clear Europe are also both recognised interbank payment systems under the Banking Act 2009.</p>	
CME Clearing Europe Limited	Clears a range of OTC and exchange-traded derivatives and spot commodities contracts.
ICE Clear Europe Limited^(b)	Clears a range of exchange-traded derivatives and OTC credit default swaps.
LCH.Clearnet Limited	Clears a range of exchange-traded and OTC securities and derivatives.
LME Clear Limited	Clears a range of metal derivatives traded on the London Metal Exchange, and OTC metal contracts.
<p>Payment systems which are systemically important may be recognised by HM Treasury. Recognised payment systems are overseen by the Bank under the Banking Act 2009.</p>	
Bacs	Operated by Bacs Payment Schemes Limited (BPSL), processes higher volume and lower value payments, such as salary, benefit, Direct Credit and Direct Debit payments.
CHAPS	Operated by CHAPS Clearing Company Limited (CHAPS Co), is the United Kingdom's high-value payment system, providing real-time gross settlement of sterling transfers between members.
CLS	Operates the world's largest multicurrency cash settlement system for foreign exchange transactions in 17 currencies, including sterling.
Faster Payments Service (FPS)	Operated by Faster Payments Scheme Limited (FPSL), processes standing orders and electronic retail transactions, including transactions generated in internet, mobile and telephone banking.
<p>Securities settlement systems may be regulated under FSMA as RCHs and are subject to the Uncertificated Securities Regulations in the United Kingdom. Euroclear UK and Ireland Limited operates the CREST system, which is also a recognised interbank payment system under the Banking Act 2009.</p>	
Euroclear UK and Ireland Limited (EUI) CREST	EUI operates the CREST system — the securities settlement system for UK gilts and money market instruments denominated in sterling, euro and US dollars, as well as UK equities — which settles sterling and euro transactions on a gross delivery versus payment basis (EUI also operates CREST for the purposes of settling Irish equities).

(a) This table sets out the FMIs that are the main focus of the Bank's supervision. The Bank also has other responsibilities, such as under the Settlement Finality Directive (see Glossary) and in respect of Recognised Overseas Clearing Houses (see Section 2.4).

(b) ICE Clear Europe is regulated as an RCH under FSMA; its application for EMIR authorisation has been submitted and is being processed (see Box 1).

Box 1 EMIR authorisations

Since the previous *Annual Report*, three UK CCPs — CME Clearing Europe, LCH.Clearnet Ltd and LME Clear — have been authorised under EMIR. The Bank continues to assess ICE Clear Europe's application.

EMIR entered into force in 2012, and sets new requirements for EU CCPs. In common with all other EU CCPs, UK CCPs were required to apply to their national competent authority (NCA) — which, in the United Kingdom, is the Bank of England — for authorisation under these standards.

The Bank then conducted a comprehensive review of each UK CCP's application against all of the organisational, conduct of business and prudential requirements in EMIR and additional domestic requirements.

In respect of the three UK CCPs which have been authorised under EMIR, the Bank produced a risk assessment of each CCP and recommended to each CCP's college (made up of relevant EU regulators) that the CCP be authorised. Having duly considered the relevant college's opinion in accordance with EMIR, the Bank authorised these three UK CCPs.

This process delivered significant improvements in each UK CCP's safety and soundness. Some of these improvements are described in Section 2.1.

Box 2 Central Securities Depositories Regulation

Financial markets, as they currently exist, rely on the effective functioning of CSDs. In Europe, a CSD operates a securities settlement system, as well as recording securities in a book-entry system and/or maintaining securities accounts. An event that leads to the unavailability of a CSD can have a direct impact on financial stability and, because operational problems in settlement can impact the size and distribution of reserves held at a central bank, there are potential implications for the implementation of monetary policy and central bank liquidity facilities. A CSD is therefore a potential point of failure for financial markets.

The European Commission proposed the Central Securities Depositories Regulation (CSDR) which entered into force on 17 September 2014. It creates the first harmonised authorisation, supervision, and regulatory framework for CSDs. It will also introduce a common settlement discipline regime.

Work is now ongoing with ESMA and the EBA to produce technical standards, which will set more detailed rules in many areas of CSDR, by 18 June 2015. The Bank expects to continue to contribute to the development of these standards, while

working closely with EUI and market participants to help ensure a smooth implementation of the new regime after the standards enter into force.

The CSDR also required the harmonisation of the settlement cycle to 'T+2' across the EU by 1 January 2015,⁽¹⁾ ie the settlement date of a securities transaction should occur no later than the second business day after the trade takes place. For those countries that were operating on a longer cycle, this had the benefit of reducing counterparty credit risk by moving trades more quickly to settlement.

The UK market moved to T+2 on 6 October 2014, ahead of the CSDR deadline. With the support of the Bank and the Financial Conduct Authority, the move to a T+2 settlement cycle in the United Kingdom was co-ordinated by an industry-led working group chaired by EUI that was established in January 2014. This complex changeover was successfully and smoothly completed, and was on the same date as 24 other EU markets.

(1) Article 5.2, Regulation EU No. 909/2014.

Chapter 2: Report on the Bank's supervision of FMIs over the past year

2.1 Progress against 2014 supervisory priorities

In Chapter 3 of *The Bank of England's supervision of financial market infrastructures — Annual Report (March 2014)*, hereafter referred to as 'last year's *Annual Report*', the Bank discussed the themes which would feed into its supervisory priorities for UK FMIs during 2014. This section reviews progress in those areas and in other key elements of the Bank's supervisory approach.

2.1.1 Credit and liquidity risk CCPs

Unlike payment and securities settlement systems which do not normally take credit risk as principal, CCPs centralise, net and manage counterparty credit risk in the markets they clear, by acting as the buyer to every seller and the seller to every buyer. A CCP's primary loss-absorbing resource is the initial margin (IM) provided by its participants. IM requirements are typically determined using quantitative models designed to forecast the loss a CCP could incur following a member default. EMIR specifies various prudential standards for these models that have helped to catalyse welcome improvements to UK CCPs' management of counterparty credit risk over the past year.

For example, it is vital for financial stability that the models used by CCPs to calculate IM requirements strike an appropriate balance between risk-sensitivity and procyclicality so that, if market conditions deteriorate, the CCP already has adequate loss-absorbing resources without the need for destabilising spikes in IM requirements, which may cause liquidity stress for participants.⁽¹⁾ Balancing risk-sensitivity and procyclicality is a key requirement in EMIR, and UK CCPs have implemented a number of enhancements to their margin models in response to this requirement.

CCPs' members also contribute to prefunded default funds which mutualise losses from a participant default which exceed the defaulter's initial margin. Each UK CCP sizes its default fund(s) to ensure that the sum of defaulting members' initial margin, the default fund and a contribution of the CCP's own capital are sufficient to absorb the loss that would arise from the default of its two largest clearing members in 'extreme-but-plausible' market conditions.⁽²⁾

Extreme-but-plausible market conditions are typically simulated using stress tests based upon a suite of historical and hypothetical stress scenarios. The Bank analyses the suitability of these scenarios carefully, as they are the key determinant of the overall amount of default resources held by a CCP. For example, the Bank expects — and EMIR requires — that historical scenarios would replicate, in full, the most severe stress event observed over the past 30 years (where reliable data are available) and capture all the market risks to which the CCP could be exposed under stress. These historical scenarios should be complemented by hypothetical scenarios, especially for markets for which the available historical data do not include sufficiently severe periods of stress to qualify as extreme-but-plausible.

As outlined in Section 3.1.1 of last year's *Annual Report*, the Bank is conducting a thematic review of stress-testing practices across UK CCPs. This work has found that there is currently significant diversity in how UK CCPs construct historical and hypothetical stress scenarios for different markets. It is however difficult objectively to compare the severity of different scenarios. The Bank welcomes the commitment by CPMI-IOSCO⁽³⁾ to explore the case for additional regulatory guidance on the design of CCP stress tests, and would welcome development of a suitable international arrangement for consistently applying standardised stress tests to CCPs, as a means of enabling regulators, clearing members and other stakeholders to better compare the resilience of CCPs. These standardised stress tests must, however, recognise the diversity of business models of CCPs globally, and should be applied as 'minimum' stress tests that are complemented by more tailored and rigorous internal stress testing developed and implemented by individual CCPs.

The Bank announced in 2014 that it will allow EMIR-authorized CCPs in the EEA (and ESMA-recognised⁽⁴⁾ CCPs established outside the EEA) operating in UK markets to

(1) See Murphy, D, Vasios, M and Vause, N (2014), 'An investigation into the procyclicality of risk-based initial margin models', *Bank of England Financial Stability Paper No. 29*; www.bankofengland.co.uk/research/Documents/fspapers/fs_paper29.pdf.

(2) See Murphy, D and Nahai-Williamson, P (2014), 'Dear Prudence, won't you come out to play? Approaches to the analysis of central counterparty default fund adequacy', *Bank of England Financial Stability Paper No. 30*; www.bankofengland.co.uk/research/Documents/fspapers/fs_paper30.pdf.

(3) www.bis.org/press/p150311.htm.

(4) See Section 2.4 for an explanation of this status.

Box 3

Addressing settlement risk in FPS and Bacs through cash prefunding

Settlement risk in deferred net settlement (DNS) payment systems can be eliminated if members fully cover their net obligations, before settlement, with cash held at the central bank. This is known as 'prefunding' and is planned to be implemented in Bacs and FPS in due course.

In DNS systems, payments are accumulated and netted before settlement occurs. Usually settlement occurs once a day in Bacs or several times during the day in FPS. Netting payment values before settlement means that DNS systems often require significantly less liquidity than RTGS systems. But as settlement only occurs at specific set points in the day, this exposes participants to settlement risk (the risk that another member does not settle their transactions) for the period during which settlement is deferred. Within DNS systems, settlement risk has two main components: liquidity risk and credit risk.

Liquidity risk occurs where a scheme member cannot meet its obligations to provide cash at the time of settlement, leaving a shortfall of cash to settle. This crystallises into credit risk where that member never pays what it owes, leaving other members short. This credit risk arises because banks

receiving payments in these systems may have already credited customers' accounts prior to the completion of settlement.

Members' credit and liquidity exposures can be limited by putting a cap on the net debit position that each member can accumulate over any settlement cycle. Collateralising settlement exposures also mitigates credit risk. For example, members can pledge securities as collateral partially or fully to cover their net obligations to others.

The *PFMIs* recommend that DNS systems such as Bacs and FPS maintain resources to cover the credit exposures of the two participants and their affiliates with the largest debit positions. Non-cash collateral does not, however, remove liquidity risk because the securities provided as collateral need to be sold to raise cash, which might take some time. Similarly it does not entirely remove credit risk as the value realised for the assets may be less than required to cover the shortfall, especially in stressed market conditions.

Liquidity risk can be addressed by the use of cash as collateral, for example by requiring each member to back its net obligation to other members with cash held at the central bank. This is the system that Bacs and FPS plan to implement in 2015, thereby going beyond the *PFMIs*' recommendation by covering the failure of all participants and their affiliates and not just the largest two.

participate in its Sterling Monetary Framework. Participating CCPs will have access to sterling reserves accounts at the Bank in order to help CCPs manage the credit and liquidity risk they face through their investment of participants' sterling cash collateral. Furthermore, access to Operational Standing Facilities will act as a means for these CCPs to manage unexpected sterling payment shocks. Finally, these CCPs will also have access to sterling liquidity insurance via the Discount Window Facility in order to backstop CCPs' own management of their liquidity risk.

As noted in its press release of 4 March 2015,⁽¹⁾ the Bank considers it important for the safety and soundness of CCPs that they have access to liquidity arrangements in the currencies they clear. This is first and foremost the responsibility of the private operators. In addition, access to central bank liquidity can provide a backstop arrangement. The most efficient ultimate source of this backstop liquidity for non-domestic currencies in the event of major market disruption is provided by the network of central bank swap-lines. This is already the case for a number of major foreign currencies.

Payment and securities settlement systems

Bacs and FPS have been seeking to eliminate the settlement risk faced by their members for a number of years, by completely 'prefunding' their net obligations with cash held at the Bank. This was planned to be implemented in November 2014 but has faced delays as changes to the Bank's Real-Time Gross Settlement (RTGS) system, necessary to the completion of the project, have been halted following the October 2014 RTGS outage. More detail on prefunding is provided in Box 3 and on the RTGS outage in Section 2.1.3.

Tiering, the arrangement whereby some market participants access an FMI indirectly through a direct member, entails credit and liquidity exposures between those direct and indirect participants. The Bank has previously set supervisory priorities to CHAPS Co and EUI to reduce tiering and both systems have progressed this further during 2014, with CHAPS Co enrolling Bank of New York Mellon as a direct member, and EUI enrolling State Street as a settlement member. However, although the Bank remains committed to enabling de-tiering for CHAPS and EUI, efforts to enrol new members have faced delays this year, following the Bank

(1) www.bankofengland.co.uk/publications/Pages/news/2015/036.aspx.

Box 4

Recovery and resolution: developments in international policy

Due to FMIs' central role in the markets which they serve, financial stability relies on the continuity of these FMIs' critical services and FMIs must therefore maintain robust risk management standards to minimise their likelihood of failure. However, since no degree of robustness can reduce this likelihood to zero, FMIs must also be able to recover from threats to their viability and financial strength that might prevent them from continuing to provide critical functions to the markets they serve. Furthermore, in the event that an FMI's recovery measures are either unsuccessful in absorbing losses or, if implemented, likely to lead to financial instability, then a resolution regime is necessary for some types of FMI.

In October 2014, international central banks and regulators published guidelines on FMI recovery and resolution: the CPMI-IOSCO report on 'Recovery of financial market infrastructures',⁽¹⁾ and the Annex on FMI resolution to the Financial Stability Board's (FSB's) 'Key attributes of effective resolution regimes for financial institutions'⁽²⁾ respectively.

The CPMI-IOSCO report states that FMIs should have rules to fully allocate uncovered losses from participant default and uncovered liquidity shortfalls, as well as tools to promptly

replenish financial resources employed in a stress event. It further states that the recovery plan should extend to losses from general business, custody and investment risks, and in particular that FMIs should have comprehensive arrangements in place to allocate losses from investment risk incurred through payment, clearing and settlement activity.

The FSB report provides guidance to resolution authorities on the design of FMI resolution regimes that have the objective of achieving the continuity of critical functions without exposing taxpayers to loss.

The European Commission continues to work on the legislative proposal regarding CCP recovery and resolution described in Section 3.1.2 of last year's *Annual Report*. The Bank believes that the EU should fully implement the international guidelines discussed above. This will ensure that EU CCPs outside the United Kingdom are also required to have in place recovery arrangements, and should supplement the resolution tools already available to the Bank under the UK resolution regime.

(1) www.bis.org/cpmi/publ/d121.pdf.

(2) www.financialstabilityboard.org/wp-content/uploads/r_141015.pdf.

halting any system changes following the RTGS outage in October 2014 (as it did for prefunding).

2.1.2 Recovery and resolution

This section describes the significant progress made during 2014 to further develop the United Kingdom's regime for FMI recovery and resolution. Box 4 discusses developments in international policy in this area including forthcoming EU legislation on CCP recovery and resolution, which the Bank hopes will supplement the resolution tools already available to it as the resolution authority for UK CCPs.

'Recovery' refers to the actions that an FMI itself might take to maintain its viability as a going concern and to continue to provide its critical services following an event which threatens its viability. Such an event might be the default of multiple large participants resulting in losses which exceed the FMI's prefunded financial resources, or significant losses either on an FMI's investment portfolio or due to an operational incident which exceed the FMI's capital. 'Resolution' meanwhile refers to the process by which the authorities can intervene to manage the failure of an FMI either to restore the ability of the FMI to perform its critical functions as a going concern, or to ensure the performance of those functions by another entity

or arrangement coupled with the orderly wind-down of the FMI.

UK recognised payment systems and securities settlement systems have now put in place recovery plans which aim to ensure the ongoing provision of critical services should their operating companies suffer financial distress. This fulfils the forward-looking priority described in Section 3.1.2 of last year's *Annual Report*, and means that all supervised UK FMIs now maintain recovery plans. As described in Section 2.1.2 of last year's *Annual Report*, UK CCPs began to maintain recovery plans from 1 February 2014 to meet a new regulatory requirement put in place in the United Kingdom through amendments in July 2013 to the Recognition Requirements Regulations made under FSMA.⁽¹⁾ All UK FMIs' recovery plans will be subject to ongoing review by both the FMIs themselves and the Bank as supervisor.

Adding to the recognition requirements, the July 2013 amendments also required UK CCPs, by 1 February 2014, to

(1) Regulation 3 of the Financial Services and Markets Act 2000 (Over the Counter Derivatives, Central Counterparties and Trade Repositories) (No. 2) Regulations 2013 amending the Financial Services and Markets Act 2000 (Recognition Requirements for Investment Exchanges and Clearing Houses) Regulations 2001 (www.legislation.gov.uk/ukxi/2013/1908/made).

put in place rules to allocate losses arising from clearing member default that exceed their prefunded resources.⁽¹⁾ As described by Section 2.1.2 of last year's *Annual Report*, all UK CCPs introduced these rules with a view to enabling them to continue to provide their critical services without having to assume support from public funds even in the face of losses that would otherwise have caused their insolvency.

The same amendments also required UK CCPs to put in place, by May 2014, arrangements to allocate solvency-threatening losses arising other than as a result of a clearing member default ('non-default losses'). Complying with this requirement was identified as a forward-looking priority in Section 3.1.2 of last year's *Annual Report*, and during 2014 all UK CCPs achieved this priority, complying with the requirement by implementing rules to allocate to participants any losses incurred by CCPs from investing their participants' cash collateral which exhaust a pre-defined amount of the CCP's own capital ('investment losses'). Although CCPs are constrained by EMIR to invest only in cash or in highly liquid financial instruments with minimal market and credit risk, the absolute amounts invested by CCPs can still be very large in relation to their own capital. These rules seek to enable investment losses to be allocated in a way which allows the CCP to continue to provide its critical services, rather than, in the absence of public funds, leading to the CCP's insolvency (in which case the losses would ultimately be borne by the CCPs' participants).

The Bank did not expect UK CCPs to introduce loss-allocation rules for non-default losses other than investment losses in order to comply with the July 2013 FSMA amendment. While loss-allocation mechanisms allow some losses (in particular credit losses) to be largely borne by the users of the CCP, the Bank agrees with CPMI-IOSCO's position that 'losses relating to general business risks are properly the responsibility of the owners of the FMI'.⁽²⁾ Other recovery tools, such as capital-raising, insurance or indemnity agreements, may also be suitable for these other types of non-default losses.

Finally, Section 3.1.2 of last year's *Annual Report* referred to HM Treasury's consultation on the secondary legislation required to bring into force the provisions in the Financial Services Act 2012 that extend the United Kingdom's Special Resolution Regime to cover UK CCPs. This secondary legislation⁽³⁾ was made on 9 July 2014, and the extension came into effect on 1 August 2014. This gives powers to the Bank to resolve a failing CCP through the transfer of property to either a private sector purchaser or a bridge CCP owned by the Bank, or to transfer ownership of a CCP to any person.

This complements the Bank's role as resolution authority for UK banks, buildings societies and certain investment firms, and there are important interlinkages between CCPs and these types of firms. Accordingly, the Bank would need to carefully

consider the overall financial stability impact that would occur when conducting a CCP resolution not just on a CCP but also its participants and the markets it serves, in line with the objectives set out in the Banking Act 2009.

A Special Administration Regime for recognised payment systems, operators of securities settlement systems and firms which have been designated as their critical service providers was also established by the Financial Services (Banking Reform) Act 2013. The secondary legislation required to commence this regime has yet to be made, but the Bank will continue to work with HM Treasury to achieve this.

2.1.3 Operational risk management

In last year's *Annual Report*, the Bank noted that the operational performance of FMIs had generally improved in 2013. Likewise in 2014, FMI reliability has generally been good, notwithstanding some incidents occurring during the year which resulted in some FMIs not meeting their annual operational targets. Robustness and operational availability are important for FMIs, as markets often rely on the provision of FMIs' services. Many of the United Kingdom's FMIs ultimately rely on the Bank's RTGS system in order to support their own operations which, following several years of 100% availability, suffered an outage of approximately nine hours duration in October 2014, which was resolved intra-day. Following the incident, the Governor commissioned an independent review which will publish its findings in due course. The Bank is also conducting business assurance testing of RTGS and has delayed any changes to the RTGS system until this is completed. This has impacted supervisory priorities, including the implementation of prefunding and adding new members to CHAPS and CREST (as noted in Section 2.1.1 above).

An FMI's operational resilience includes its controls to protect against, and recover from, an attempt to penetrate, shut down or manipulate its computer systems ('cyber risk'). As noted in last year's *Annual Report*, FMIs and their Bank supervisors have been involved in the UK authorities' programme to address the Financial Policy Committee (FPC) 2013 Recommendation to test and improve the resilience of core parts of the UK financial sector to cyber attack. Improving resilience against cyber risk is a supervisory priority for all FMIs supervised by the Bank. The past year has seen progress in assessing and improving FMIs' resilience and, in order to properly test resilience, many FMIs are participating in the UK authorities' programme of 'CBEST' vulnerability testing⁽⁴⁾ against key cyber threats as described in Section 3.1.3 of last year's *Annual Report*.

(1) For more on CCP loss-allocation rules, see Elliott, D (2013), 'Central counterparty loss-allocation rules', *Bank of England Financial Stability Paper No. 20*; www.bankofengland.co.uk/research/Documents/fspapers/fs_paper20.pdf.

(2) Paragraph 4.6.3, www.bis.org/cpmi/publ/d121.pdf.

(3) www.legislation.gov.uk/uk/si/2014/1828/made?view=plain.

(4) www.bankofengland.co.uk/financialstability/fsc/Pages/cbest.aspx.

2.1.4 Governance

Following the introduction of new independent directors to their Boards in 2013 and 2014, CHAPS Co, BPSL and FPSL have all undertaken subsequent Board effectiveness reviews. The findings from these reviews are being addressed over the coming year.

In accordance with EMIR requirements, each UK CCP now has a Board risk committee composed of representatives of both clearing members and clients, as well as independent board members, to advise the CCP's board on any arrangements that may impact the risk management of the CCP, such as a significant change to the CCP's risk models. Strong user and independent representation in their governance structures should help ensure that UK CCPs focus not only on the management of microprudential risks to themselves but also on systemic risks.

2.1.5 Disclosure

Transparency on the part of FMIs is vital in order to enable those who rely on the FMIs' services, including members, indirect participants, authorities, and the general public, to understand the risks faced from participating in a particular FMI and to monitor the quality of FMIs' risk management. To this end, all UK FMIs have published, or are in the process of completing, the CPMI-IOSCO disclosure framework⁽¹⁾ this year, a consistent framework across global FMIs for public qualitative disclosures about their activities.

2.2 Use of powers

FSMA, the Banking Act 2009 and the Uncertificated Securities Regulations grant powers to support the Bank's supervision of FMIs and the attainment of the regulatory requirements specified by, or under, EU and domestic legislation. These powers vary between each piece of legislation. They include being able to require the relevant FMIs to provide information or commission independent reports, being able to make on-site inspections, being able to require changes to FMIs' rules, and being able to give directions. If the Bank's directions are not followed, the Bank also has powers under FSMA and the Banking Act 2009 to issue sanctions against an FMI including publishing details of any compliance failures and imposing financial penalties. The Banking Act 2009 includes powers for disqualifying management and, ultimately, closing a recognised payment system. The ultimate sanction in relation to CCPs or a securities settlement system would be to revoke authorisation.

Over the past year, the Bank has only exercised its statutory powers to gather information. However, the Bank expects to commission at least one independent expert report in the coming year, to aid supervisors in forming a view on particular areas of risk in FMIs. As noted in Section 3.1.4, the Bank anticipates that it will commission more independent expert

reports, or require FMIs themselves to commission independent reports, in the future. FMIs' co-operation and progress in meeting supervisory priorities have meant that no sanctions have been issued by the Bank to an FMI this year.

2.3 Domestic co-operative oversight

The design and conduct of FMIs can have an impact on the risks faced by their participants, some of which are financial institutions supervised by the PRA and/or Financial Conduct Authority (FCA).

As required by the Financial Services Act 2012, the Bank (including the PRA) and the FCA have a Memorandum of Understanding (MoU)⁽²⁾ that sets out how they co-operate with one another in relation to the supervision of markets and market infrastructure. This reflects the FCA's and the PRA's responsibilities for the supervision of participants of FMIs and the FCA's responsibilities for trading venues that rely on, or are connected with, FMIs supervised by the Bank. The 2012 Act also introduced an obligation to review this MoU annually. The Bank and FCA have said that, as set out in the MoU, these reviews will include feedback from industry and that the findings will be published (in the Bank's case, in these *Annual Reports* on FMI supervision).

The Bank and FCA conducted the first such review in early 2014, following the commencement of the new UK regulatory responsibilities in April 2013. This review concluded that the arrangements for co-operation had worked well over the first eleven months of the authorities' new responsibilities, with appropriate co-ordination and no material duplication. The second review of the MoU, conducted in January 2015 by the Deputy Governor responsible for Financial Stability at the Bank and the FCA CEO, again considered the views of industry and staff, concluding that the MoU's arrangements for co-operation have worked well, with appropriate co-ordination and no material duplication. They emphasised their continued commitment to effective co-operation and that staff should work together to take forward those suggested improvements identified by industry and the necessary revisions to the MoU and supporting co-ordination processes in light of the new Payment Systems Regulator (PSR).

A new MoU is also currently being agreed between the Bank, FCA, PRA and the new PSR, which is a subsidiary of the FCA. The PSR is an independent economic regulator for payment systems, with its own board, with statutory objectives to promote effective competition, innovation and the interests of service-users. The PSR was incorporated in April 2014 and will become fully operational in April 2015.

(1) www.bis.org/cpmi/publ/d106.pdf.

(2) www.bankofengland.co.uk/about/Documents/mous/moumarket.pdf.

HM Treasury is proposing to designate several payment systems to be regulated by the PSR⁽¹⁾ and there is some potential overlap with those systems already supervised by the Bank (CHAPS, Bacs and FPS). Although the Bank's supervision of payment systems remains unchanged, for those payment systems who now have two UK regulators, the MoU being agreed specifies how the Bank and PSR intend to comply with their statutory requirement to co-ordinate.

2.4 International co-operative oversight

Many FMIs serve global markets and are relevant to financial stability in multiple jurisdictions. Therefore, one of the responsibilities ('Responsibility E') set out in the *PFMIs* for central banks, market regulators and other relevant authorities for FMIs is for them to 'co-operate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs'. The Bank takes this responsibility very seriously and it is an essential part of the Bank's FMI supervision. As well as themselves being part of groups that include other overseas FMIs, many of the FMIs supervised by the Bank are used by market participants all over the world, as described in Section 1.1.

The Bank is therefore at the forefront of co-operative oversight internationally through chairing global colleges for LCH.Clearnet Ltd and ICE Clear Europe. It is through these global colleges that the Bank implements the second of the four safeguards identified by the FSB in 2012 for a resilient and efficient global central clearing framework, namely 'co-operative oversight arrangements between all relevant authorities, both domestically and internationally, that result in robust and consistently applied regulation and oversight of global CCPs'.⁽²⁾

Tables B and **C** below detail the key FMIs for which the Bank either chairs, or participates in, co-operative oversight arrangements. **Table B** also details the CCP EMIR colleges in which the PRA participates.

As described in Box 3 of last year's *Annual Report*, the United Kingdom's domestic regime for Recognised Overseas Clearing Houses (ROCHs) will over time be replaced by EMIR. Since last year's *Annual Report*, all EU CCPs which had ROCH status⁽³⁾ have been authorised under EMIR by their NCA, and so have ceased to be ROCHs. The remaining ROCHs (the Chicago Mercantile Exchange, ICE Clear US, and SIX x-clear) have each applied for 'recognition' by ESMA to allow them to continue operating in the EU, as required by EMIR. They will cease to be ROCHs once ESMA decides upon the outcome of their application.

Before ESMA recognises a non-EU CCP, the European Commission must have deemed the regulatory regime in that CCP's home jurisdiction as 'equivalent' to EMIR. This entails

Table B EMIR college arrangements in which the Bank participates

CCPs for which the Bank chairs an EMIR college

CCP
CME Clearing Europe
ICE Clear Europe Limited
LCH.Clearnet Limited
LME Clear Limited

CCPs for which the Bank participates in an EMIR college chaired by another authority

CCP	Authority which chairs the college
Eurex Clearing AG	BaFin
European Central Counterparty N.V.	De Nederlandsche Bank

CCPs for which the PRA participates in an EMIR college

CCP	Authority which chairs the college
AthexClear SA	HCMC
BME Clearing	CNMV
Cassa di Compensazione e Garanzia S.p.A.	Banca d'Italia
CCP Austria Abwicklungsstelle für Börsengeschäfte GmbH (CCP.A)	FMA
CME Clearing Europe Limited	Bank of England
Eurex Clearing AG	BaFin
European Central Counterparty N.V.	De Nederlandsche Bank
European Commodity Clearing	BaFin
ICE Clear Europe Limited	Bank of England
LCH.Clearnet Limited	Bank of England
LCH.Clearnet SA	Banque de France
LME Clear Limited	Bank of England
Nasdaq OMX AB	FI
OMI Clear – C.C., S.A.	CMVM

the Commission concluding that a jurisdiction's prudential, conduct and organisational rules for CCPs deliver similar outcomes to the EMIR standards, that its supervision and enforcement are effective, and that it provides for an equivalent system of recognising CCPs established in other jurisdictions.

(1) www.fca.org.uk/psr/what-we-do/who-we-regulate.

(2) The other three safeguards are: fair and open access by market participants to CCPs, based on transparent and objective criteria; resolution and recovery regimes that ensure the core functions of CCPs are maintained during times of crises and that consider the interests of all jurisdictions where the CCP is systemically important; and appropriate liquidity arrangements for CCPs in the currencies they clear.

(3) Cassa di Compensazione e Garanzia S.p.A., Eurex Clearing AG, European Central Counterparty N.V., and LCH.Clearnet S.A.

Table C Other co-operative arrangements in which the Bank participates

FMIs for which the Bank chairs a co-operative oversight arrangement	
FMI	Co-operative oversight arrangement(s)
ICE Clear Europe Limited	'Global' college
LCH.Clearnet Limited	'Global' college
FMIs for which the Bank participates in a co-operative oversight arrangement chaired by another authority	
FMI	Co-operative oversight arrangement(s) and the chairing authority
CLS	CLS Oversight Committee, organised and administered by the Federal Reserve.
Euroclear SA/NV (ESA)	ESA Higher Level Committee and ESA Technical Committee, both chaired by the National Bank of Belgium.
SWIFT	International SWIFT Oversight arrangements, chaired by the National Bank of Belgium.

The Bank is supportive of efforts to ensure international regulatory standards for CCPs which eliminate regulatory arbitrage. In some cases, this may require a process of 'levelling up' to the most prudent standards on key areas of CCP risk management. The Bank also supports the FSB and G20 Leaders' agreement that jurisdictions and regulators should be able to defer to each other when it is justified by the quality of their respective regulatory and enforcement regimes, based on similar outcomes, in a non-discriminatory way, paying due respect to home country regulation regimes.

2.4.1 EMIR colleges

EMIR requires the NCA to establish a regulatory college for each EU CCP. A CCP's college includes other relevant EU authorities according to criteria specified in EMIR.

Colleges play an important part in the EMIR process as the NCA must consult the college on decisions related to authorisation, significant changes to risk models, and introduction of new products. Over the course of 2014, in line with EMIR requirements, the Bank has established EMIR colleges for each of the four UK CCPs supervised by the Bank. The Bank recognises the importance of effective and efficient engagement with EMIR colleges and thus continues to enhance arrangements for ensuring college members are well-informed on developments that materially affect the risk profile of the CCP.

The Bank is also a member of the EMIR colleges for two non-UK EU CCPs by virtue of European Central Counterparty N.V.'s interoperability arrangement with UK CCP, LCH.Clearnet Ltd, and Eurex Clearing AG's link to UK CSD, EUI. More detail on CCP interoperability is provided in Box 5. The Bank would also qualify for membership of an EU CCP's EMIR college if sterling constituted one of the most relevant EU currencies of the financial instruments cleared at that CCP.

The PRA (as described in Table B) and the FCA are also members of the EMIR colleges for all UK CCPs and several other European CCPs by virtue of, in the PRA's case, its supervision of UK clearing members and, in the FCA's case, either its supervision of UK clearing members or its supervision of UK trading venues.

2.4.2 Global CCP colleges

As well as EMIR colleges, the Bank continues to operate 'global' CCP colleges for LCH.Clearnet Ltd and ICE Clear Europe respectively. These include EU and also non-EU authorities with an interest in these CCPs. As chair of the colleges, the Bank seeks to:

- promote the safety and efficiency of the CCPs;
- support college members in fulfilling their respective regulatory, supervisory, or oversight mandates; and
- provide a mechanism whereby the responsibilities of multiple authorities can be discharged.

The Bank actively notifies, engages with, and discusses relevant issues with members of the global college on a regular basis. The Bank undertook a review of the effectiveness of the global colleges in August 2014. The review confirmed that the colleges were meeting their objectives and recognised some areas of improvement which will be a focus for the year ahead, including greater college involvement in assessment against the *PFMIs* and more regular sharing of data.

2.4.3 Other colleges and forms of international co-operation

The Bank continues to participate in the international supervisory arrangements for CLS and SWIFT. CLS is recognised by HM Treasury under the Banking Act 2009 and the Bank discharges its oversight primarily through the CLS Oversight Committee, a co-operative oversight college organised and administered by the Federal Reserve, which also has a dedicated team of supervisors assigned to CLS. The CLS Oversight Committee includes representatives from the 17 central banks of issue with CLS settled currencies, as well as five other Eurosystem central banks.

SWIFT is not an FMI and is not recognised under UK legislation, but it is systemically important to the United Kingdom and to the global financial system. As such, the Bank participates, together with certain other central banks, in the international SWIFT Oversight arrangements, chaired by the National Bank of Belgium.

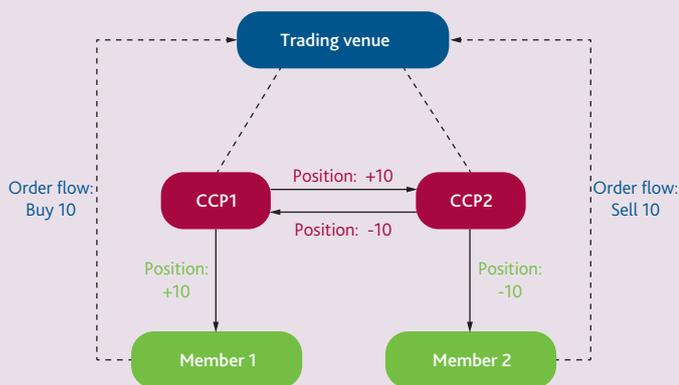
In contrast to EMIR, the CSDR does not provide for co-operation between authorities through colleges. Instead, there are information-sharing and co-operation requirements between competent authorities and relevant authorities on the authorisation and supervision of CSDs. As the NCA for

Box 5 CCP interoperability

Interoperability describes an arrangement in which two or more CCPs operate a clearing link which enables clearing members of one CCP to clear trades matched with clearing members of the other interoperable CCP(s).

A simplified example is provided in **Figure A**.

Figure A Simplified example of interoperability arrangements



An original purchase of ten 'units' by Member 1 from Member 2 is novated into three contracts:

- (1) Member 1 and its CCP, CCP1. Member 1 is net long ten units to CCP1.
- (2) Member 2 and its CCP, CCP2. Member 2 is net short ten units to CCP2.
- (3) CCP1 and CCP2. CCP1 is net long ten units to CCP2. CCP2 is net short ten units to CCP1.

Each CCP clears its clearing member's trades on this trading venue and so CCP1 (CCP2) has a net short (long) position of ten to its clearing member. To maintain a balanced book, CCP1 and CCP2 will trade the net position of their interoperable clearing members across the link, so CCP1 will be long ten units to CCP2, and vice versa.

Examples of interoperability in Europe are links between LCH.Clearnet Ltd, Dutch CCP European Central Counterparty N.V. and Swiss CCP SIX x-clear in the clearing of cash equities, a link between LCH.Clearnet Ltd and Norwegian

CCP Oslo Clearing in the clearing of equity derivatives, and a link between French CCP LCH.Clearnet SA and Italian CCP CC&G in the clearing of Italian government bond transactions.

Interoperability arrangements offer some financial stability benefits, notably by expanding the scope of multilateral netting,⁽¹⁾ but the creation of a link between two or more CCPs also creates new risks in the clearing system that need to be prudently managed. In particular, they create a bilateral risk exposure between the interoperable CCPs which must be mitigated in part by the exchange of initial margin between the CCPs and through agreed operational risk controls. The Bank of England issued a public consultation paper⁽²⁾ in November 2014 on its proposed approach to implement the ESMA Guidelines and Recommendations on CCP interoperability.⁽³⁾ This paper discusses: the level and sourcing of inter-CCP margin; the application of default resources to exposures to interoperable CCPs; loss-allocation arrangements between interoperable CCPs; and the application of ESMA's standards to derivatives interoperability.

The consultation concluded on 16 January 2015. The Bank received useful feedback on these standards from both CCPs and market participants and will use this, along with continued dialogue with the regulators of interoperable CCPs, to shape its supervisory policy towards CCP interoperability in 2015.

- (1) Clearing members can have a single net position with one CCP, rather than multiple and possibly offsetting positions at different CCPs.
- (2) www.bankofengland.co.uk/markets/Documents/cpesma1114.pdf.
- (3) ESMA Guidelines and Recommendations for establishing consistent, efficient and effective assessments of interoperability arrangements, 10 June 2013, available at www.esma.europa.eu/system/files/2013-323_annex_1_esma_final_report_on_guidelines_on_interoperability.pdf.

EUI, the Bank expects to continue its close relationship with the Central Bank of Ireland, which will be a relevant authority as it is responsible for the oversight of the securities settlement system in Ireland, which is operated by EUI.

On the basis of the draft standards under consultation by ESMA, the Bank expects to be a relevant authority for at least Euroclear Bank SA/NV and Clearstream Banking SA as an EU central bank that issues one of the most relevant currencies in which settlement takes place. The Bank welcomes the opportunity to co-operate closely with their respective NCAs, the National Bank of Belgium and the Commission de Surveillance du Secteur Financier, in the authorisation and supervision of these International CSDs, the safety and soundness of which are important to the United Kingdom's financial and monetary stability.

The Bank's co-operation with other international authorities in respect of the UK FMI it supervises is not limited to those authorities which are fellow members of structured co-operative oversight arrangements. To support this, the Bank has MoUs with a number of international authorities⁽¹⁾ to provide a framework for requesting and sharing information and in some cases to provide specific details for co-operation concerning certain firms or types of firms.

For example, the Bank works closely with the Commodity Futures Trading Commission (CFTC) and the Securities Exchange Commission (SEC) in the United States since both LCH.Clearnet Ltd and ICE Clear Europe are registered with the CFTC and ICE Clear Europe also with the SEC.

(1) www.bankofengland.co.uk/about/Pages/mous/international.aspx.

Chapter 3: Forward-looking priorities and changes ahead

3.1 Forward-looking priorities

The Bank's current priorities for UK FMIs for 2015, which build on and have evolved from priorities in previous years, are discussed below. These are subject to continuous review as new issues or risks emerge.

3.1.1 Credit and liquidity risk

The Bank is conducting thematic reviews of aspects of CCP risk management which are not currently subject to granular international standards. In particular, the Bank is continuing to assess UK CCPs' stress-testing practices (see Section 2.1.1), their processes for managing clearing member default, and their approaches to monitoring and managing credit and liquidity risk intra-day and to validating risk models. In particular, the Bank will contribute to CPMI-IOSCO's work to explore the case for additional regulatory guidance on the design of CCP stress tests.

Bacs and FPS are working towards implementing prefunding arrangements for their participants, which would close this supervisory priority, while EUI and CHAPS continue to progress their de-tiering work by planning to enrol additional direct members.

3.1.2 Recovery and resolution

A legislative proposal on CCP recovery and resolution, which may extend to other types of FMI, is expected from the European Commission later this year. As discussed in Box 4, the Bank believes that this legislation should fully implement the CPMI-IOSCO and FSB international guidance published in October 2014. In particular, EU CCPs should be required to maintain a recovery plan, and to have loss-allocation rules to comprehensively allocate both uncovered losses arising from clearing member default and solvency-threatening losses arising from investment risk incurred as a result of payment, clearing and settlement activity. The legislation should also establish resolution objectives, triggers, tools and institutional architecture⁽¹⁾ which are consistent with the FSB's internationally agreed guidance, in order to supplement the resolution tools already available to the Bank under the UK resolution regime.

3.1.3 Operational risk management

Although operational performance was generally good in 2014, not all FMIs met their operational targets in 2014. The

Bank has assigned supervisory priorities that aim to address the root cause of excess operational risk at the affected FMIs and supervisors will monitor the implementation of these priorities over the coming year. Work will also continue in 2015 to improve resilience against cyber attack at all supervised FMIs. This will include more FMIs participating in the Bank's programme of vulnerability testing and subsequently working with their supervisors to address any gaps found.

3.1.4 Governance

As recognised by the *PFMIs* and the Bank's *Supervisory Approach*, governance at FMIs should put systemic risk management at the centre of culture and decision-making. In the coming year, building where appropriate on the PRA's work during 2014 on governance at banks and insurers, the Bank will place a particular focus on the quality of governance at UK CCPs to ensure *inter alia* that commercial objectives are not inappropriately prioritised over systemic risk management. To aid its work on governance (and potentially other areas), the Bank expects to use its powers more frequently in the future to either commission independent expert reports into FMIs or to require FMIs themselves to commission such reports.

Furthermore, the Bank expects that, through their representation on CCPs' board risk committees as well as via other means of bilateral and multilateral engagement, CCP participants should rigorously interrogate CCPs' risk management on an ongoing basis. Ensuring CCPs are robust and resilient relies on a joint effort not just from CCPs and regulators but also their users, and the Bank will work with PRA supervisors to achieve this.

3.1.5 Disclosure

The Bank will expect UK CCPs to begin making the public quantitative disclosures set out by the CPMI-IOSCO standards in this area, which were published in February 2015.⁽²⁾ Quantitative disclosures by CCPs will put clearing participants in a better position to understand the quality of risk management at CCPs and to challenge CCPs on the quality of their risk management. The Bank will expect UK CCPs to

(1) Including arrangements for cross-border co-operation between authorities such as Crisis Management Groups.

(2) www.bis.org/cpmi/publ/d125.pdf.

engage with their participants in this type of dialogue. Disclosures should begin as soon as practicable, and by no later than 1 January 2016, and will complement the qualitative disclosures made under the CPMI-IOSCO *Disclosure framework* by all FMIs.

3.2 EMIR and mandatory central clearing

In 2015, the Bank will continue to implement the new CCP supervisory framework established by EMIR. EMIR and the associated technical standards constitute a significant body of detailed standards against which supervisors must assess CCPs' compliance and related to which supervisors should report information and assessments to EMIR colleges. EMIR also introduces a formal process through which supervisors assess proposals by an EU CCP to clear a new product or to adopt any significant change to its risk models and parameters.

Implementation of this framework is of particular importance since under EMIR, specified classes of OTC derivatives between certain types of market participant can be required by law to be centrally cleared. ESMA and the European Commission continue to work on the first such mandatory clearing requirements, which will likely cover certain OTC interest rate and credit derivatives. Once finalised, these will represent a significant milestone towards implementing in the EU the G20 Leaders' commitment at Pittsburgh in 2009 that 'all standardized OTC derivative contracts should be... cleared through central counterparties'.

UK CCPs will need to monitor and manage *inter alia* the credit, liquidity, investment and operational risks which mandatory clearing could pose via potential increases in cleared volumes and changes in the profile of clearing participants. The Bank will also continue to monitor the impact of increased central clearing on the safety and soundness of UK CCPs as well as on UK financial stability more generally.

At present, disapplying a clearing mandate for a particular contract — should, for example, liquidity dry up or one or more CCP cease to clear that contract — could take a number of months since it would require a change in EU legislation. The Bank believes that a quicker mechanism is needed to suspend or revoke a clearing obligation in the EU.

Another aspect of the G20's agenda to make derivatives markets safer and more transparent was for all trades in derivative contracts to be reported to trade repositories. This began in the EU in February 2014. The Bank is investigating ways to use this data to enhance its macroprudential surveillance, for example to inform analysis of the appropriate extent of mandatory clearing given underlying market structures. In parallel, the Bank is in the process of introducing

more structured reporting arrangements for UK CCPs, in order to facilitate more rigorous analysis of micro and macroprudential risk.

3.3 Payment systems landscape changes

The Bank will continue to provide input into industry discussions on payment systems strategy in the United Kingdom to ensure that financial stability is given due consideration. Over the past year, the Bank has shared its views through responses to the FCA's 'Payment Systems Regulation: Call for Inputs'⁽¹⁾ and the PSR's Consultation Paper on 'A new regulatory framework for payment systems in the UK'⁽²⁾ respectively. To provide clarity on its views, the Bank has set out four criteria for assessing change in the payments landscape from a financial stability perspective. The criteria are that:

- any changes do not lead to an unacceptable increase in settlement risk;
- changes should maintain or enhance the robustness and resilience of UK payment systems;
- payment systems are able to facilitate the continuity of payment services in resolution; and
- the Bank's ability to effectively supervise systemically important payment systems is maintained.

The Bank will use these criteria when assessing any proposals for change in the payments landscape and encourages their widespread use to inform work in this area. The Bank will continue to engage with these discussions by, among other things, actively participating in the PSR's Payments Strategy Forum.

Additionally, Bank supervisors will continue to inform wider Bank research, as and when it concerns FMIs, to increase its understanding of the economy and the financial system with models, tools and analysis relevant to the maintenance of financial stability.

3.4 Securities Financing Transactions Regulation

In January 2014, the European Commission published legislative proposals for a Securities Financing Transactions Regulation (SFT), the primary objective of which is to enhance transparency in securities financing markets for financial stability purposes by requiring securities financing transactions to be reported to trade repositories. The approach will be modelled, where appropriate, after reporting of derivatives transactions under EMIR.

(1) www.fca.org.uk/static/documents/psr/non-confidential-responses-to-march-2015-psr-call-for-inputs_1.pdf and www.bankofengland.co.uk/publications/Documents/speeches/2015/speech799.pdf.
 (2) www.fca.org.uk/psr/our-consultation.

The SFTR complements parallel transparency work at a global level and will implement in Europe the FSB's transparency recommendations, which will be finalised later this year.

The Bank is supportive of, and has been actively involved in, both the Commission's proposals and the FSB recommendations, which support the FPC's priority of ensuring diverse and resilient sources of market-based finance.

Annex: Key statistics on UK FMIs during 2014^(a)

CCPs (by default waterfall)^(b)

		Total initial margin requirement (£ equivalent, millions)		Default fund (£ equivalent, millions)		Number of clearing members Dec. 2014	Operational availability of embedded payment systems 2014	Products cleared
		2014	2013	2014	2013			
CME Clearing Europe		16	59	135	132	18	100%	Clears a range of OTC and exchange-traded derivatives and spot commodities contracts.
ICE Clear Europe	Credit default swap	4,492	3,525	876	1,222	81	99.97%	Clears a range of exchange-traded derivatives and OTC credit default swaps.
	Futures and options	17,593	15,244	974	578			
LCH.Clearnet Ltd^(c)	Commodities	527	4,351	147	322	38	99.72%	Clears a range of exchange-traded and OTC securities and derivatives.
	Equities	642	462	185	150	38		
	ForexClear	136	159	202	191	21		
	Listed Interest Rate	6	3	16	7	10		
	RepoClear	8,382	10,408	793	625	73		
	SwapClear	21,003	14,248	2,577	2,193	98		
LME Clear^(d)		5,487	n.a.	391	n.a.	43	100%	Clears a range of metal derivatives traded on the London Metal Exchange, and OTC metal contracts.

Recognised payment systems

		Volume		Value (£ equivalent, millions)		Number of settlement bank members Dec. 2014	Operational availability 2014	Important payment types
		2014	2013	2014	2013			
Bacs		23,087,866	22,509,992	17,473	16,674	16	99.998%	Higher volume and lower value payments, such as salary, benefit, Direct Credit and Direct Debit payments.
CHAPS		144,352	138,241	268,615	277,229	21	99.65%	Settlement of financial market transactions including CLS sterling pay-ins and pay-outs and house purchases.
CLS	All currencies	790,346	791,378	3,101,570	3,189,911	62	99.94%	Settlement of foreign exchange transactions in 17 currencies, including sterling.
	Sterling	56,521	53,264	236,564	244,785			
CREST^(e)	Sterling	181,329	180,356	675,678	825,191	16	99.83%	Settlement of gilts, equities and money market instruments (including in respect of the Bank's Open Market Operations and repo markets transactions more generally).
	US dollar	5,244	4,016	1,356	981			
	Euro	4,139	3,638	650	563			
	Total CREST	190,712	188,010	677,684	826,735			
Faster Payments Service		4,351,502	3,824,621	3,572	3,049	10	100%	Standing orders and electronic retail transactions, including transactions generated in internet, mobile and telephone banking.

(a) Volumes and values are the daily averages for 2014, unless otherwise noted.

(b) Except for CME Clearing Europe whose data is aggregated across both its default waterfalls.

(c) The 2014 average initial margin requirement and default fund figures for LCH.Clearnet Ltd's Commodities waterfall cover the period from 22 September 2014 to 31 December 2014 due to the launch of LME Clear on 22 September 2014. The 2013 average initial margin requirement and default fund figures for LCH.Clearnet Ltd's Commodities, Equities and Listed Interest Rate waterfalls cover the period from 6 November 2013 until 31 December 2013 — this is because, before 6 November 2013, the clearing services currently covered by these three waterfalls were all covered by a single default fund.

(d) LME Clear launched in 2014 and therefore 2014 average values are the daily averages for 22 September 2014 (launch date) to 31 December 2014. 2013 values are not applicable.

(e) Volumes and values include auto-collateralised repos, which were not included in last year's Annual Report.

Glossary of terms

Auto-collateralised repo

For the purpose of transactions settling in CREST, the repo generated by the CREST system between a CREST Settlement Bank's repo member account and/or its linked member account and the Bank, delivering collateral against which liquidity is provided by the Bank in the event of that CREST Settlement Bank having insufficient liquidity available in CREST to settle a transaction.

Central counterparty

An entity that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer.

Central securities depository

An entity that provides securities accounts, central safekeeping services, and asset services, which may include the administration of corporate actions and redemptions, and plays an important role in helping to ensure the integrity of securities issues (that is, ensure that securities are not accidentally or fraudulently created or destroyed or their details changed).

Collateral

An asset or third-party commitment that is used by a collateral provider to secure an obligation *vis-à-vis* a collateral taker.

Credit risk

The risk that a counterparty, whether a participant or other entity, will be unable to meet fully its financial obligations when due, or at any time in the future.

Default fund

A fund consisting of assets contributed by members of a system that would be used to pay liabilities of defaulting members.

Deferred net settlement

A net settlement mechanism which settles on a net basis at the end of a predefined settlement cycle.

Exposure

The maximum loss that might be incurred if assets or off balance sheet positions are realised, or if a counterparty (or group of connected counterparties) fail to meet their financial obligations.

G20

The G20 group comprises 19 countries and the European Union, representing the world's largest economies, whose finance ministers and central bank governors have met periodically since 1999.

Interoperability

An arrangement in which two or more CCPs operate a clearing link which enables clearing members of one CCP to clear trades matched with clearing members of the other interoperable CCP(s).

Liquidity risk

The risk that a counterparty, whether a participant or other entity, will have insufficient funds to meet its financial obligations as and when expected, although it may be able to do so in the future.

Loss allocation

Rules or arrangements that specify how losses in excess of a CCP's prefunded resources would be allocated.

Operational risk

The risk that deficiencies in information systems or internal processes, human errors, management failures, or disruptions from external events will result in the reduction, deterioration, or breakdown of services provided by an FMI.

Payment system

A set of instruments, procedures, and rules for the transfer of funds between or among participants; the system includes the participants and the entity operating the arrangement.

Securities settlement system

An entity that enables securities to be transferred and settled by book entry according to a set of predetermined multilateral rules. Such systems allow transfers of securities either free of payment or against payment.

Settlement risk

The general term used to designate the risk that settlement in a funds or securities transfer system will not take place as expected. This risk may comprise both credit and liquidity risk.

Systemic risk

The risk that the inability of one or more participants to perform as expected will cause other participants to be unable to meet their obligations when due.

Tiering

Tiered participation occurs when direct participants in a system provide services to other institutions to allow them to access the system indirectly.

Trade repository

An entity that maintains a centralised electronic record (database) of transaction data.

Legislation

Settlement Finality Directive

The EU Directive on Settlement Finality in Payment and Securities Settlement Systems (Directive 98/26/EC) was implemented into UK law by the Financial Markets and Insolvency (Settlement Finality) Regulations 1999.⁽¹⁾ The Bank is the United Kingdom's designating authority.⁽²⁾ Designated systems receive protections against the operation of normal insolvency law in order to ensure that transactions that have been submitted in the system are irrevocable, to reduce the likelihood of legal challenge to the finality of settlement and to ensure the enforceability of collateral security. The Bank maintains a list of UK designated systems on its website.⁽³⁾

Companies Act 1989

Under the Companies Act 1989, the Bank has various powers regarding CCP default rules. These include reviewing CCPs' default rules and giving directions concerning action taken under those default rules. The Bank can also make an Order recognising that the relevant provisions of the default rules of an EEA CCP or third-country CCP satisfy relevant requirements. The Bank must maintain and publish a register of Orders made.

(1) SI 1999/2979 (as amended from time to time).

(2) The FCA is the designating authority in respect of recognised investment exchanges.

(3) www.bankofengland.co.uk/financialstability/Pages/fmis/supervised_sys/systems.aspx.

Abbreviations

BPSL – Bacs Payment Schemes Limited.
CCP – Central counterparty.
CEO – Chief Executive Officer.
CFTC – Commodity Futures Trading Commission.
CHAPS – Clearing House Automated Payment System.
CHAPS Co – CHAPS Clearing Company Limited.
CLS – Continuous Linked Settlement.
CME – Chicago Mercantile Exchange.
CPMI – Committee on Payments and Market Infrastructures.
CSD – Central Securities Depository.
CSDR – Central Securities Depositories Regulation.
DNS – Deferred net settlement.
EBA – European Banking Authority.
EEA – European Economic Area.
EMIR – European Market Infrastructure Regulation.
ESA – Euroclear SA/NV.
ESMA – European Securities and Markets Authority.
EUI – Euroclear UK & Ireland Limited.
FCA – Financial Conduct Authority.
FMI – Financial market infrastructure.
FPC – Financial Policy Committee.
FPS – Faster Payments Service.
FPSL – Faster Payments Scheme Limited.
FSB – Financial Stability Board.
FSMA – Financial Services and Markets Act 2000.
ICE – InterContinentalExchange.
IM – Initial margin.
IOSCO – International Organization of Securities Commissions.
LCH – London Clearing House.
LME – London Metal Exchange.
MoU – Memorandum of Understanding.
NCA – National competent authority.
OTC – Over the counter.
PFMIs – Principles for financial market infrastructures.
PRA – Prudential Regulation Authority.
PSR – Payment Systems Regulator.
RCH – Recognised clearing house.
ROCH – Recognised overseas clearing house.
RTGS – Real-time gross settlement.
SEC – Securities and Exchange Commission.
SFTR – Securities Financing Transactions Regulation.
SWIFT – Society for Worldwide Interbank Financial Telecommunication.

