Payment Systems Oversight Report 2012

March 2013

BANK OF ENGLAND

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Executive summary

This annual report on the Bank of England's oversight of payment systems sets out how the Bank has exercised its responsibilities under Part 5 of the Banking Act 2009 since the previous *Oversight Report* in April 2012.

Some significant risk-reducing changes have been implemented by the recognised payment systems over the past year. These include:

- *Reduced tiering in the wholesale payment systems*: In April 2012, CHAPS introduced rules to create a presumption that banks with a significant amount of sterling payments should participate in the CHAPS system directly rather than indirectly. A number of large indirect participants have confirmed their intention to join CHAPS as direct members over the next two years.

- *Reduced credit risks in central counterparty (CCP) payment arrangements*: The recognised CCPs have revised their rules to ensure that losses arising from the failure of a payment bank would fall on members choosing to use that bank rather than the CCP itself. They have also taken steps to reduce intraday exposures to the commercial bank a CCP chooses for pooling its cash collateral before it is secured.

- *Improved default arrangements for Deferred Net Settlement (DNS) payment systems*: The recognised DNS payment systems have implemented a number of changes to strengthen their default arrangements. The two such systems now both have caps that limit the maximum debit position of each member during the settlement cycle, and arrangements to increase these caps by lodging additional collateral if necessary to allow smooth flow of payments without reintroducing credit risk. They now have arrangements to ensure that the system can settle in the event of the failure of its largest participant in all circumstances and have introduced procedures for allocating uncovered losses.

- *Improvements in governance*: CHAPS and FPS have appointed full-time managing directors and alongside Bacs are increasing staff numbers. A process to recruit independent chairs and directors to the Boards of Bacs, CHAPS and FPS has begun.

Further work remains to be done in some areas.

- Work is underway to build on progress in the past year and develop a long-term model for eliminating settlement risk in the recognised DNS systems.

- To reduce tiering in the wholesale systems, those indirect participants identified by the system operators as systemically important to the payment system need to be brought on board as direct members or settlement banks.

- All the recognised systems should ensure their operational risk controls are fit for purpose, including for cyber risk, and take appropriate steps to ensure their members achieve consistently high levels of operational performance.

Chapter 1 of this *Oversight Report* outlines the Bank's oversight of payment systems and summarises changes to the oversight regime that will follow the implementation of the Financial Services Act 2012, which amends part 5 of the Banking Act 2009. Chapter 2 gives an overview of how the Bank has implemented the statutory framework for payment systems oversight under Part 5 of the Banking Act 2009 over the past year. Chapter 3 describes the Bank's priorities for further work within the framework of the new international *Principles for financial market infrastructures*. Chapter 4 contains summary information about the recognised payment systems overseen by the Bank.

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Chapter 1: Bank of England oversight of payment systems

This chapter summarises the Bank of England's oversight of payment systems and changes to the oversight regime which will come into effect in 2013.

1.1 Overview of the Bank's oversight role

Part 5 of the Banking Act 2009 sets out the statutory framework for the conduct of payment systems oversight by the Bank of England.(1)

Under the Banking Act, HM Treasury recognises interbank payment systems that are of systemic or system-wide importance. The criteria for recognition are set out in the Act. The Bank oversees the recognised payment systems, of which there are currently seven — the three main sterling payment schemes (Bacs, CHAPS and Faster Payments Service (FPS)); the foreign exchange settlement scheme CLS; and the payment arrangements embedded in the CREST securities settlement system (SSS) operated by Euroclear UK and Ireland (EUI) and the CCPs operated by LCH.Clearnet Ltd and ICE Clear Europe.

The Bank also undertakes regular 'horizon scanning' to examine whether any interbank payment systems not currently recognised by HM Treasury satisfy the criteria for recognition set out in the Banking Act 2009. This analysis is shared with HM Treasury. HM Treasury has not recognised any additional systems since the previous *Oversight Report*.

Under the Banking Act, the operators of recognised payment systems are required to have regard to Principles published by the Bank, and to comply with any Codes of Practice that are published by the Bank. After consulting with HM Treasury, the Bank has now adopted the internationally agreed *Principles for financial market infrastructures* (*PFMIs*) published in April 2012 by the Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions (CPSS-IOSCO). The *PFMIs* are described in more detail in Box 2. To date, the Bank has not published any Codes of Practice.

The Banking Act provides the Bank with a range of powers to support its oversight. These include powers to give directions to the operators of recognised systems, seek changes in rules of these systems, require the provision of information, inspect premises and require independent reports. The Banking Act also sets out sanctions such as publication by the Bank of details of a compliance failure, financial penalties, management disqualification or closure of the system. To date, the Bank has exercised its statutory powers only to gather information.

1.2 Changes to the Bank's approach to oversight

The Financial Services Act received Royal Assent in December 2012. The legislation transfers responsibility for supervision of CCPs and SSSs from the Financial Services Authority (FSA) to the Bank with effect from 1 April 2013. This responsibility will sit alongside the Bank's existing responsibilities for the oversight of recognised payment systems. In light of these extended responsibilities, the Bank has reviewed and revised its approach to oversight of payment systems so as to achieve an appropriate degree of consistency across different categories of financial market infrastructure (FMI). Proposals concerning these changes are set out in *The Bank of England's approach to the supervision of financial market infrastructures*,(2) published in December 2012. The final version of which will update and supersede the Bank's 2009 publication on oversight of payment systems.(3)

These changes will lead to some adjustment in the Bank's approach to the oversight of recognised payment systems. In particular, the Bank will expect all types of FMI, including the recognised payment systems, to produce annual self-assessments against the new *PFMIs*. The Bank will also ask to interview nominees for key roles in recognised systems and place greater focus on recovery and resolution. The Bank has issued a consultation draft of a policy statement on financial penalties for all the FMIs it will supervise, the final version of which will replace the policy for recognised payment systems published in December 2009.(4)

Where recognised payment systems are embedded within CCPs or SSSs, the Bank will, from April 2013, be responsible for supervision of the payment system and supervision of the Recognised Clearing House (RCH) that operates the system.(5)

(1) www.legislation.gov.uk/ukpga/2009/1/contents.
(2) www.bankofengland.co.uk/publications/Pages/news/2012/161.aspx.
(3) www.bankofengland.co.uk/publications/Documents/other/financialstability/oips/oips090928.pdf.
(4) www.bankofengland.co.uk/financialstability/Documents/role/risk_reduction/payment_systems_oversight/pdf/finalcpsupervisionoffmis.pdf.
(5) EUI, LCH.Clearnet Ltd and ICE Clear Europe are all RCHs under the Financial Services & Markets Act (FSMA) 2000.

Box 1 Legal changes to the payment systems oversight regime

The Financial Services Act 2012 ('the Act') amends the Bank's financial stability objective in the Bank of England Act 1998 to be 'to protect and enhance the stability of the financial system of the United Kingdom'. It also makes some changes to the statutory framework for the oversight of recognised payment systems in part 5 of the Banking Act 2009 and grants some additional powers to the Bank.

- The Bank's power to request information from recognised payment systems is expanded to allow action in pursuance of its financial stability objective.
- Recognised payment system operators, officers and staff have immunity from liability in damages when acting in accordance with a direction given by the Bank for the purpose of resolving or reducing a threat to the stability of the UK financial system.
- HM Treasury may also confer immunity on any person at its discretion in respect of action or inaction in accordance with a direction given by the Bank for the purpose of resolving or reducing a threat to the stability of the UK financial system.
- The Act gives the Bank the power to request injunctions.
- The Act allows for amending recognition orders in respect of recognised payment systems.
- The Bank is required to report annually on performance of its functions in respect of supervision of RCHs and recognised payment systems.
- The Bank is required to establish a complaints scheme with an independent Complaints Commissioner.(1)
- The Act gives HM Treasury power to direct the Bank if necessary for EU/international compliance reasons.
- The Act gives HM Treasury power to arrange independent inquiries into regulatory failures.

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

These systems will remain subject to the two distinct legal regimes, but the Bank will seek to dovetail its oversight and supervisory activities such that systems have a single point of contact and a single set of supervisory/oversight expectations.

The Bank has also published a draft Memorandum of Understanding with the Financial Conduct Authority (FCA) and PRA which covers co-operation in relation to recognised payment systems and RCHs.(1) The Bank will co-operate closely with PRA supervisors in the course of its supervision of FMIs. Where the PRA is responsible for the prudential supervision of participants of FMIs supervised by the Bank, it will share relevant information with the Bank as appropriate and *vice versa*. The Bank will work closely with the FCA where responsibilities overlap, for example on the supervision of groups that include trading venues as well as CCPs.

1.3 Requirement for self-assessment and disclosure by FMIs

Monitoring, managing and mitigating risk, including systemic risk, is a key role of the operators of FMIs. The Bank will expect the Boards and managers of recognised systems to have regard to the stability of the financial system as a whole and to take full responsibility for managing their systems in a manner that protects the resilience of the FMI. Consistent with that, the Bank will expect each recognised system to undertake a self-assessment against the *PFMIs*. FMIs will be expected to review their self-assessment at least annually, and alert the Bank to any material changes.

The FMI's self-assessment will not replace the Bank's own judgement. It will be used as one input to the Bank's assessment, as an indicator of the FMI's risk tolerance and risk management capability.

CPSS-IOSCO published in December 2012 a methodology for assessing compliance with the *PFMIs* and a framework for disclosing the information used to make an assessment.(2) FMIs' plans for managing risk must be suitably transparent to those who rely on the FMIs' services, including: members and their clients; the authorities; and the general public. CHAPS, Bacs and FPS intend to undertake self-assessments in early 2013 and to comply with the disclosure framework by end-2013. The FSA has initiated similar self-assessment exercises for EUI, LCH.Clearnet Ltd and ICE Clear Europe; for the CCPs these exercises will be undertaken in the context of their applications for authorisation under the new European Regulation on over-the-counter derivatives, CCPs and trade repositories (commonly known as the European Market Infrastructure Regulation, EMIR)

1.4 Co-operative oversight

The *PFMIs* expect central banks, market regulators, and other relevant authorities to co-operate with each other to promote the safety and efficiency of FMIs. The Bank is committed to working closely with relevant international authorities and will actively seek their input, going beyond the minimum levels of co-operation set out in the *PFMIs*. This will, in the Bank's view, contribute to the effectiveness of supervision of UK FMIs by enriching the picture of risks, and providing opportunity for

(1) www.bankofengland.co.uk/publications/Documents/other/pra/draftmou.pdf.
(2) www.bis.org/publ/cpss106.pdf.

other authorities to contribute insights, challenge assumptions, and influence outcomes in ways that reduce risk.

The Bank is a member of co-operative oversight arrangements for CLS, SWIFT, Euroclear Group and LCH.Clearnet Group and continues to work to ensure that these arrangements effectively support the Bank in fulfilling its responsibilities under the Banking Act.

During 2012, the FSA established multilateral co-operative oversight arrangements in respect of LCH.Clearnet Ltd's SwapClear service and ICE Clear Europe's credit default swap (CDS) business.(1) The Bank has been involved in sharing information on these CCP's payment mechanisms as part of this initiative and expects to continue to enhance the co-operative arrangements after it assumes responsibility for supervision of LCH.Clearnet Ltd and ICE Clear Europe, in April 2013

1.5 Payments regulation

In 2012, HM Treasury issued a consultation setting out options for improving the way payments strategy is made in the United Kingdom.(2) Further to this consultation, the Chancellor announced in February 2013 plans to regulate payment systems. HM Treasury's consultation made clear that the Bank's oversight would remain unchanged, and preserving financial stability would continue to be given priority in decision making in relation to payment networks. It will be important for the Bank to co-ordinate effectively with the authorities that will carry new regulatory responsibilities in relation to competition and consumer protection.

Following consultation in August 2012,(3) the authorities have been giving further consideration to the need for resolution powers, or similar powers, for critical FMIs. HM Treasury will be consulting shortly on a proposal for dealing with payment and settlement systems.

(1) SwapClear provides a central clearing service for interest rate swaps and similar contracts in 17 currencies.
(2) www.hm-treasury.gov.uk/d/setting_strategy_uk_payments190712.pdf.
(3) www.hm-treasury.gov.uk/d/condoc_financial_sector_resolution_broadening_regime.pdf.

Chapter 2: The Bank's priorities for oversight over the past year

This chapter gives an overview of how the Bank has implemented the statutory framework for payment systems oversight under Part 5 of the Banking Act 2009 over the past year.

2.1 Progress made against 2012 oversight priorities

The 2011 *Oversight Report* identified five priority areas for the Bank's oversight across the recognised payment systems — reducing tiering in wholesale payment systems; mitigating intraday credit and liquidity risks in CCP payment arrangements; improvements in default arrangements for Bacs (subsequently extended to include FPS); improving scheme governance; and improving scheme contingency arrangements and their testing. Good progress has been made against each of these priorities over the past year, leading to significant reductions in systemic risk.

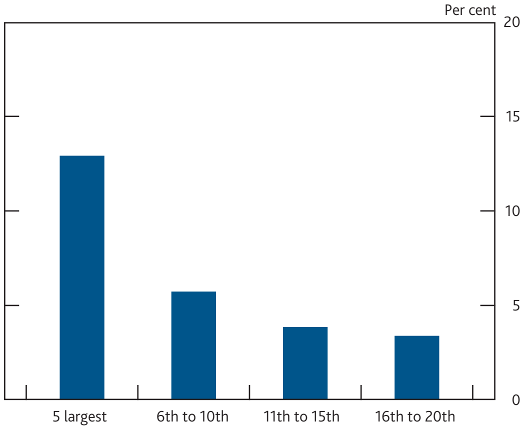
2.1.1 Reduction in tiering in the wholesale payment systems

UK payment systems are relatively highly 'tiered'. Tiering means that some banks rely upon the services provided by other banks — direct participants (or 'settlement banks') in the system concerned — to access the payment system. This can pose risks to financial stability. For example, tiering can introduce intraday credit and liquidity exposures between settlement banks and the indirect participants that use their services, which can act as a source of contagion. Each indirect participant is also operationally dependent on its settlement bank for access to the system and so would experience disruption in the event of that bank's operational failure.

Currently around 45% of payments by value in CHAPS are made on behalf of indirect participants. This proportion would be significantly reduced if the largest indirect participants joined the system (**Chart 1**).

There has been material progress on reducing tiering in CHAPS. In April 2012, CHAPS implemented rules that give its Board power to preclude indirect relationships that present unacceptable systemic risk. An indirect relationship may be prohibited if an indirect participant's average daily payment activities exceed either:

Chart 1 Share of CHAPS payments made by the largest indirect participants, by value[(a)]



Source: Bank of England.

(a) Percentage values based on 20 largest indirect participants by value in December 2012.

(i) 2% of the average total payment activity, by value, processed by CHAPS each day; or

(ii) 40% of the average daily value of its settlement bank's own payments in CHAPS;

and if the settlement bank and indirect participant do not demonstrate sufficient mitigation of the risks created.

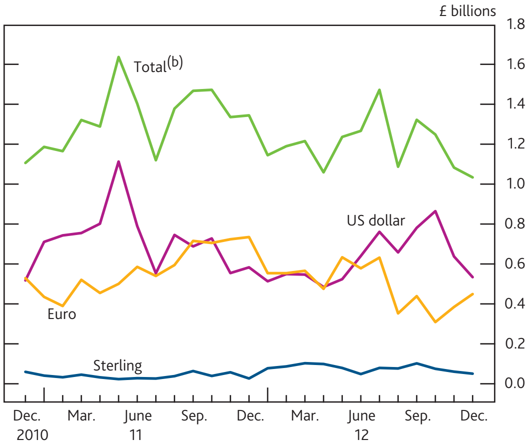
State Street joined CHAPS as a settlement bank in September 2012 and a number of other large indirect participants have confirmed their intention to join over the next two years.

In parallel, EUI has started to analyse data on intraday exposures between CREST members and their settlement banks. These data provide a granular picture of the bilateral exposures, including the extent to which they are secured by settlement banks' floating charges over securities held in CREST. Where potentially material exposures are identified, EUI intends to engage with the members and settlement banks concerned to highlight the potential exposure, and identify mitigating actions. Discussions with some members over settlement bank status are under way.

2.1.2 Reducing credit and liquidity risks in CCP payment arrangements

CCPs can make and receive significant values of cash payments to and from their clearing members each day (**Chart 2**), principally as a result of margin requirements. CCP payment arrangements often involve networks of commercial payment banks, with inward payments ultimately 'concentrated' intraday at a single bank.

Chart 2 Monthly average of daily transfers over ICE Clear Europe's Assured Payment System, by currency and in aggregate[a]

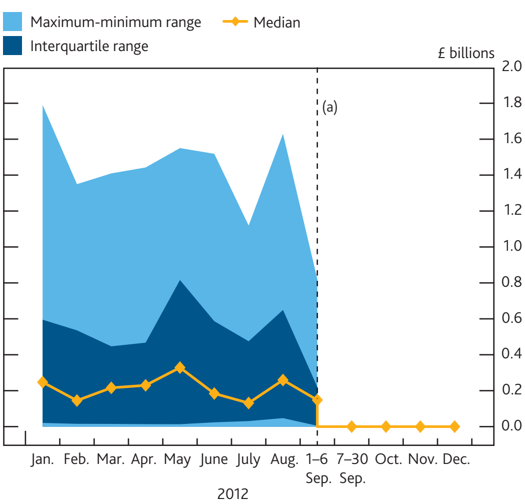


Sources: ICE Clear Europe and Bank calculations.

(a) Revised figure.
(b) ICE Clear Europe also transfers a small value of Swiss francs, Canadian dollars and Swedish krona across the APS.

This process of collecting cash payments from members can result in CCPs accumulating large intraday credit balances with commercial payment and concentration banks. In September 2012, LCH.Clearnet Ltd revised its rules to implement a scheme known as 'extended member liability'. This ensures any loss stemming from the failure of a payment bank would fall on the members that choose to use that payment bank to make and receive payments, rather than on the CCP itself (**Chart 3**). ICE Clear Europe implemented a similar rule change in March 2013. The revised rules substantially reduce systemic risk by insulating the CCPs from payment bank risk.

Chart 3 LCH.Clearnet Ltd's intraday credit exposures to its payment banks



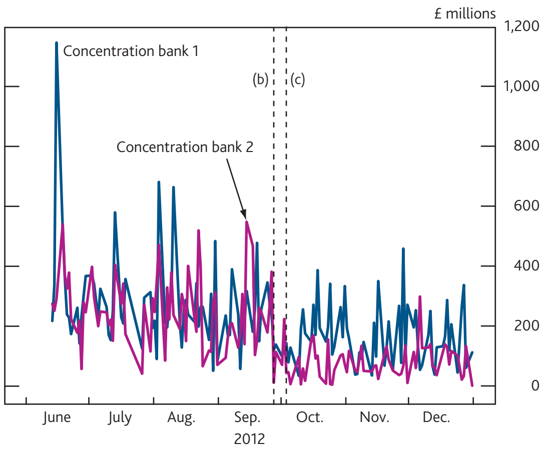
Source: LCH.Clearnet Ltd.

(a) Amendment of LCH.Clearnet Ltd's rules.

LCH.Clearnet Ltd concentrates sterling and euro balances at the Bank of England while balances in other currencies are held at commercial banks. ICE Clear Europe currently uses commercial concentration banks for all currencies, but intends to switch to the Bank for sterling concentration in the second quarter of 2013 and will review the case for also concentrating euro balances with the Bank later in the year.

LCH.Clearnet Ltd has implemented new operational procedures designed to limit intraday credit balances held with its US dollar concentration bank. These procedures have largely reduced peak exposures to a level more commensurate with the capital resources available to the CCP to absorb a loss from the failure of a concentration bank (**Chart 4**).

Chart 4 LCH.Clearnet Ltd's credit exposures to its concentration banks[a]



Source: LCH.Clearnet Ltd.

(a) Maximum intraday credit exposures.
(b) Implementation of operational changes for bank 1.
(c) Implementation of operational changes for bank 2.

2.1.3 Improving default arrangements for recognised DNS payment systems

Bacs and FPS are deferred multilateral net settlement systems in which members build up net debit or credit positions over the settlement cycle. Each scheme has default agreements that provide a measure of protection for members against liquidity and credit risk in the event of another member's default. Both Bacs and FPS have strengthened their default arrangements since the previous *Oversight Report*.

Bacs increased the level of collateral held in its default fund, the Liquidity Funding and Collateralisation Agreement (LFCA), as a temporary measure until Bacs was able to introduce changes to prevent the creation of unlimited exposures between members (**Chart 5**). And in January 2013, Bacs introduced caps to limit the net debit position each member can build up in the system during a settlement cycle, thereby capping other members' credit and liquidity exposures and reducing the amount required to be held in the LFCA.

Box 2 CPSS-IOSCO *Principles for financial market infrastructures*

The *PFMIs* were published in April 2012. Prepared by the Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions (CPSS-IOSCO), the *PFMIs* update and consolidate international standards for payment systems, central securities depositories, SSSs and CCPs as well as establishing new standards for trade repositories. They also update the responsibilities of the authorities that supervise and/or oversee FMIs.

The *PFMIs* are set out in **Table 1** below. There are 24 Principles in total, 18 of which are relevant to payment systems (including payment arrangements embedded in CCPs and SSSs). The *PFMIs* incorporate all 14 of the Bank's previous principles, published in 2009.(1) For the first time, these international standards include separate Principles on tiering (Principle 19) and business risk for payment systems (Principle 15), both of which had been included in the Bank's previous principles. They also strengthen requirements in important areas, most notably the management of credit and liquidity risk and governance.

After consulting with HM Treasury, the Bank has adopted the *PFMIs* as the basis for its oversight of payment systems, superseding the Principles published by the Bank in 2009. This ensures that the Bank's oversight is in line with international best practice. Under the Banking Act 2009, recognised payment systems are formally required to have regard to the Principles; and the Bank assessed each system against the relevant *PFMIs* in 2012.

Table 1 CPSS-IOSCO Principles

1	**Legal basis:** An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.
2	**Governance:** An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.
3	**Framework for the comprehensive management of risks:** An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.
4	**Credit risk:** An FMI should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence.
5	**Collateral:** An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.
6	*Margin (not relevant to payment systems).*
7	**Liquidity risk:** An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.
8	**Settlement finality:** An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.
9	**Money settlements:** An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.
10	*Physical deliveries (not relevant to payment systems).*
11	*Central securities depositories (not relevant to payment systems).*

(1) www.bankofengland.co.uk/publications/Pages/other/financialstability/oips/default.aspx.

12 **Exchange-of-value settlement systems (*only relevant to CLS among the recognised systems*):** If an FMI settles transactions that involve the settlement of two linked obligations, it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

13 **Participant-default rules and procedures:** An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

14 *Segregation and portability (not relevant to payment systems)*.

15 **General business risk:** An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

16 **Custody and investment risks:** An FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.

17 **Operational risk:** An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.

18 **Access and participation requirements:** An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

19 **Tiered participation arrangements:** An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

20 *FMI links (not relevant to payment systems)*.

21 **Efficiency and effectiveness:** An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

22 **Communication procedures and standards:** An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

23 **Disclosure of rules, key procedures, and market data:** An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

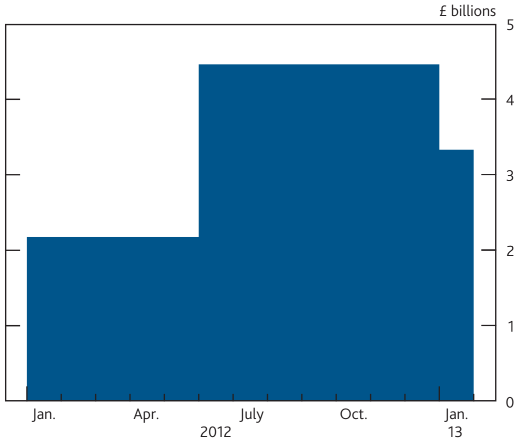
24 *Disclosure of market data by trade repositories (not relevant to payment systems)*.

In the event of exceptional payment flows, these caps could be reached, inhibiting the member's ability to make further payments. This helps to prevent contagion if a member bank is genuinely unable to pay, but could unhelpfully disrupt payments if the affected bank is solvent and could make extra cash available. To mitigate this risk, caps have been set with a significant cushion over previous peak values. In addition, members can choose to increase their cap by providing securities as further collateral up to a predefined maximum. In exceptional circumstances, Bacs members can also request a temporary increase in their cap using cash reserves held at the Bank.

Members' exposures within FPS are also limited by caps. In 2012, the system operator Faster Payments Scheme Limited (FPSL) introduced changes to provide certainty that committed liquidity will cover the default of the largest member, even when its cap is temporarily increased. As in Bacs, an FPS member can, in exceptional circumstances, request a temporary increase in its cap beyond the scheme limits using cash reserves held at the Bank. In parallel, FPS adjusted the level of caps to ensure that they provide sufficient headroom to avoid unnecessary payment flow disruption if a cap is reached outside the Bank of England's operating hours. Payments are processed through FPS in near real time 24 hours a day, seven days a week, so it would be readily apparent to users if a bank was unable to send payments. Reviewing caps had become increasingly urgent as values and volumes of payments processed through FPS increased (**Chart 6**).

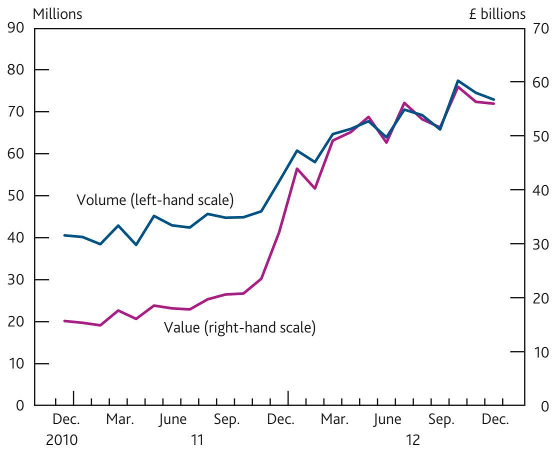
Both Bacs and FPS have introduced procedures for allocating uncovered losses in the event of multiple member defaults that might, in aggregate, exceed committed liquidity and collateral.

Chart 5 Bacs LFCA collateral value since January 2012



Source: Bacs Payment Schemes Ltd.

Chart 6 Monthly aggregate volumes and values in Faster Payments Service



Source: UKPA.

2.1.4 Strengthening governance

In the previous *Oversight Report*, the Bank highlighted that governance arrangements for CHAPS, Bacs and FPS were falling behind good practice.

These three systems have taken measures to strengthen their governance. CHAPS Co and FPSL appointed separate, full-time managing directors in April and June 2012 respectively. The Boards of both schemes have approved increased staff numbers, most notably in risk and project management, and staff numbers have begun to rise. Bacs has also recruited additional operational and project staff.

The *PFMIs* further envisage that scheme governance arrangements must explicitly support public interest objectives, including financial stability, and expect scheme Boards to include independent Board members. In December 2012, Bacs, CHAPS and FPS Boards approved the recruitment of independent chairs and directors to the Boards. Recruitment is now under way.

2.1.5 Continued improvements in contingency arrangements and their testing

Payment systems require robust contingency arrangements to minimise disruption to payment services in the event of an operational incident or failure. The recognised payment systems generally demonstrated high levels of operational availability over the past twelve months. However, CREST experienced a number of outages early in 2012 and LCH.Clearnet Ltd suffered a significant IT problem on 31 December. These incidents were satisfactorily resolved on the days concerned, but highlight the importance of robust operational risk controls across all recognised systems (see Box 3).

Some important steps have been taken to improve operational resilience over the past twelve months. For example, LCH.Clearnet Ltd has introduced a contingency network connection to CREST that would allow submission of settlement instructions during a SWIFT outage. A number of major CREST members (including several settlement banks) have already implemented similar contingency arrangements. EUI has conducted an analysis of which other CREST members should follow suit in order to limit disruption to settlement if SWIFT is unavailable for an extended period, and will engage with the members concerned.

In addition to their regular business continuity tests, the systems undertook a number of further exercises including the simultaneous operation of exchange, CCP and SSS recovery sites which are used in case a major incident shuts down primary sites.

2.2 Other areas of progress

Further reductions in risk have been achieved in other areas. For example, EUI has undertaken an outreach programme to deepen member understanding of the 'Non-standard CREST Closure' (NSCC) procedure that would be activated if CREST could not remedy a serious system failure by the end of the business day. The procedure involves freezing positions at the point of the failure, which may have implications for how members and settlement banks manage their liquidity overnight.

LCH.Clearnet Ltd and EUI are also working closely with the London Money Markets Association (LMMA) to develop a central clearing service for term Delivery-By-Value (DBV) transactions. This initiative is being overseen by a sub-group of the Money Markets Liaison Group (MMLG) with the objective of reducing the operational and liquidity risks that stem from the current convention of unwinding and re-establishing DBV trades on a daily basis, irrespective of the underlying maturity of the transaction.(1)

(1) www.bankofengland.co.uk/publications/Pages/news/2013/022.aspx.

Box 3 Significant operational incidents over the past year — SWIFT, EUI, LCH.Clearnet Ltd and member banks

Although overall operational performance has generally been sound, some of the recognised systems experienced significant incidents during 2012. The systems were also indirectly affected by serious operational problems at member banks.

LCH.Clearnet Ltd experienced a major IT failure on 31 December that affected operational processes including payment arrangements. The nature of the problem created obstacles to reverting to contingency arrangements and also hindered internal and external communication. All systems were restored by the early evening of 31 December and payments settled as normal. LCH.Clearnet Ltd is investigating the causes of the incident and has developed plans to prevent a recurrence.

In May 2012, EUI experienced a significant operational incident which contributed towards an operational availability for the year as a whole of 99.75%, just below EUI's own 99.8% benchmark. As a result of this and other reported incidents, EUI is in the process of strengthening its operational risk controls and system testing arrangements, including in the context of significant IT projects scheduled for 2013.

The financial messaging system SWIFT suffered an outage in July 2012. The timing meant that there was no significant disruption to UK payment systems. SWIFT has assessed the lessons and is progressing work to reduce the risk of similar incidents occurring in future. For example, it is undertaking a targeted review to identify other potential latent issues.

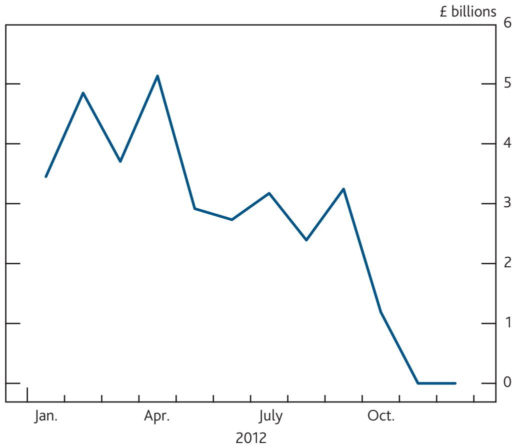
Over the past year, some UK banks have experienced high profile disruption to their payments processing. These incidents were not the result of operational faults in the central payment system processing platforms themselves. The ability of the payment system to process payments from other members was unaffected. The payment scheme companies' incident management procedures appeared to perform well in response to the incidents.

Bacs introduced in June 2012 a stepped collateral structure which requires members to provide gradually more collateral as their credit rating declines. This reduces the previous 'cliff effect' whereby members would immediately have to collateralise their net debit cap fully upon their credit rating falling below the minimum level required for membership.

In October 2012, Bacs implemented a £20 million limit on individual payments. In 2012 Q1, an average of 80 individual payments over £20 million settled through Bacs per month (**Chart 7**). The existence of large value payments in a DNS system inflates interbank exposures over the settlement cycle. These payments are better processed through a real-time gross settlement (RTGS) system like CHAPS.

Bacs, CHAPS and FPS have agreed plans to increase their own cash reserves to at least six months' operating costs by June 2013. This will reduce the likelihood of disruption to essential services in the unlikely event that any of these scheme companies experiences financial difficulties.

Chart 7 Large value payments in Bacs in 2012[(a)]



Source: Bacs Payment Schemes Ltd.

(a) Monthly total value of payments of £20 million or greater in Bacs.

Chapter 3: The Bank's priorities for oversight in the coming year

This chapter summarises the Bank's priorities for payment systems oversight in 2013.

3.1 Oversight priorities for 2013

The Bank's oversight priorities for the year ahead build on work undertaken against priorities from previous years, albeit with some changes in emphasis. For example, the focus of previous work on contingency planning has been expanded to encompass the management of operational risk more broadly, including, importantly, cyber risk. And work to mitigate credit and liquidity risks in CCP payment arrangements will be integrated with wider supervisory activities. The Bank will also review efforts to maintain and improve payment throughput in CHAPS over the year ahead following some deterioration in performance over recent years. The priority areas are discussed in turn below.

3.1.1 Settlement risk in the recognised DNS systems

Despite the major improvements that have been made over past years, Bacs and FPS default arrangements do not yet meet the new requirement in the *PFMIs* that payment systems hold sufficient resources to cover the credit exposures created by the two largest members and their affiliates. To satisfy this Principle, both the Bank and system members favour a model in which members fully pre-fund their payments with cash reserves held at the Bank, as this would fully eliminate the credit and liquidity risks arising between members. In effect, this means using a proportion of reserves held at the Bank to support net debit positions in these DNS systems. Box 4 contains further information on managing default in a DNS system.

3.1.2 Reduction in tiering in wholesale systems

It is important that the banks identified by CHAPS Co as too important in the system to rely on indirect access successfully transition to direct membership.

Tiering risks could also arise in CREST if indirect participants are reliant on their settlement banks for significant amounts of unsecured credit or liquidity. EUI is uniquely placed to analyse some aspects of these risks using data captured from the CREST system. EUI is discussing this analysis with relevant stakeholders. As in CHAPS, a modest expansion in the number of CREST settlement banks could substantially reduce intraday exposures.

3.1.3 Operational risk

By their nature, payment systems face significant operational risk. Although operational risk cannot be eliminated, systems can take steps to reduce the likelihood of these risks crystallising and mitigate the impact should they do so. In 2013, the Bank will be increasing its focus on how recognised systems manage their operational risks. One feature of the programme will be increased emphasis on the operational risks arising from members. As the member bank incidents in 2012 and early 2013 demonstrated (see Box 3), operational risk can crystallise outside the central infrastructure or system. The Bank will work closely with PRA supervisors on this topic under the new Memorandum of Understanding (see 1.2).

Another feature of the programme will be an increased emphasis on cyber risk and a framework through which it can be evaluated. In common with other areas of critical national infrastructure, payment systems need to ensure they minimise vulnerability to cyber attack. Cyber security needs to be an integral part of corporate governance and risk management processes, as highlighted in the '10 steps to Cyber Security' documents recently produced by the Government's Communications-Electronics Security Group.(1)

A number of system-specific requirements have been identified. For example, Bacs is in the process of testing member and central infrastructure procedures to clear a prolonged (three-day) backlog of settlement instructions should this ever arise. EUI is also reassessing its operational risk controls, including implementing broader regression testing of settlement functions.

3.1.4 Continued improvements in governance

Currently CHAPS, Bacs and FPS lack a fully independent presence on their respective Boards: all directors are nominated by members. **Table A** compares the governance arrangements of a number of FMIs. Bacs, CHAPS and FPS will be appointing independent chairs, as well as at least one additional independent director each, by June 2013. The independent directors will constitute a blocking minority in relevant circumstances.

(1) www.cabinetoffice.gov.uk/sites/default/files/resources/WMS_Cyber_Strategy_3-Dec-12_3.pdf.

Box 4 Managing default in deferred net settlement systems

In deferred net settlement (DNS) systems, payments are accumulated and netted before settlement occurs, either once a day (Bacs) or at set times during the day (FPS). Netting payment values before settlement means that DNS systems 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 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 position.

Non-cash collateral does not, however, remove liquidity risk because the securities provided as collateral need to be sold to raise cash, which might require 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. Alternatively, surviving members or the system operator could commit to provide the cash required to settle payments, although this solution relies on these commitments being honoured under stress. The *PFMIs* recommend that FMIs ensure that sufficient liquid resources are maintained to effect settlement under a number of scenarios including the default of the participant and its affiliates which would generate the largest payment obligation.

Settlement risk would, however, be completely eliminated if members covered their positions in advance in full in cash held at the central bank. This is known as 'pre-funding'.

Diagram 1 illustrates where credit and liquidity risk lies in a system in which individual member positions are capped, and where net obligations are partially collateralised with a mixture of cash and securities.

Diagram 1 Default management in DNS systems

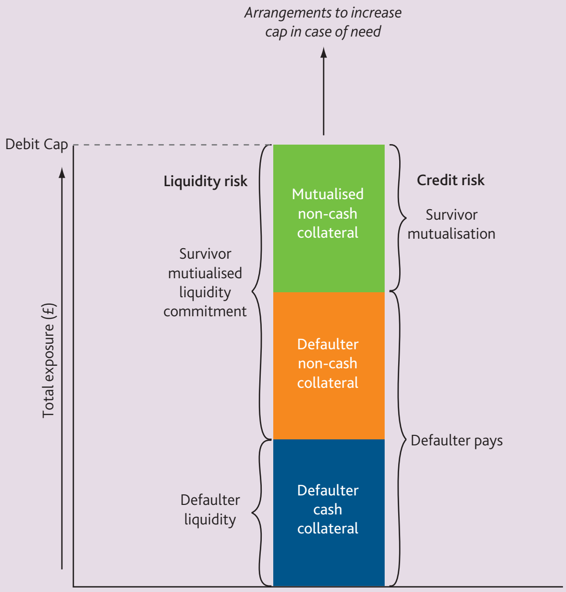


Table A Governance arrangements of selected FMIs, December 2012

	CHAPS	Bacs	FPS	CLS	EUI	ICE Clear Europe	LCH.Clearnet Ltd
Has non-executive chairman	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Has independent chairman[(a)]	No	No	No	Yes	Chairman is also a director of ESA[(b)]	Chairman is also a director of ICE Inc.[(c)]	Chairman is also chairman of LCH.Clearnet Group Ltd.[(d)]
Number of Board members	17	14	12	20	5	10	11
Number of non-executives	17	13	11	19	4	6	10
Number of independent directors (excluding chairman)[(a)]	0	0	0	3	2	5	4

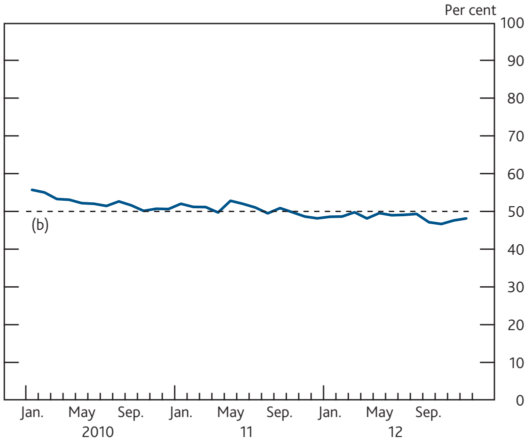
(a) Independent means chair or director who does not hold an executive post at the FMI or a member.
(b) ESA (Euroclear SA/NV) is the parent company of EUI.
(c) ICE Inc (which is incorporated in the United States) is the parent company of ICE Clear Europe.
(d) LCH.Clearnet Group Ltd is the holding company that owns LCH.Clearnet Ltd in the United Kingdom as well as CCPs in France and the United States.

3.1.5 Improvements in throughput

CHAPS settles payments on an RTGS basis, eliminating any settlement risk that might otherwise arise as part of the payment process, but requiring the paying bank to have sufficient intraday central bank liquidity to ensure it can make outward payments in a timely fashion. It is in the interests of members that payments are made regularly throughout the day, allowing this cash to be re-used to settle further transactions. If some banks do not send payments until later in the day, other banks that submit payments earlier must provide additional cash, making the whole system less liquidity efficient. If all banks try to wait for incoming cash before making outward transfers, the result would be delayed settlement of transactions, which increases settlement risk, and a concentration of payments at the end of the day, which increases the system's vulnerability to operational incidents.

To mitigate this risk, CHAPS sets and monitors so-called throughput targets. On some measures, there has been a decline in throughput over recent years (**Chart 8**). CHAPS Co is reviewing the reasons for this and whether current throughput targets are fit for purpose.

Chart 8 CHAPS throughput at noon[(a)]



Sources: Bank of England and Bank calculations.

(a) Payments between CHAPS member banks, excluding payments between members in the same banking group and payments to RTGS.
(b) CHAPS throughput guideline at noon.

In spring 2013, a liquidity savings mechanism will be introduced into CHAPS to reduce the liquidity needs of members by 'off-setting' (but still settling gross) non-urgent payments. In order for the benefit of the liquidity savings mechanism to be realised, banks will need to submit non-urgent payments to the system to enable offsetting payments to settle.

Chapter 4: Information on recognised systems

CHAPS

CHAPS is the United Kingdom's high-value payment system, providing real-time gross settlement (RTGS) of sterling transfers between members. CHAPS is operated by CHAPS Clearing Company (CHAPS Co). CHAPS Co is owned by the 19 members of CHAPS.

CREST

The CREST system (CREST) is the securities settlement system (SSS) for UK gilts and money market instruments denominated in sterling, euro and US dollars, as well as UK and Irish equities. Sterling and euro transactions are settled on a gross Delivery versus Payment (DvP) basis. CREST is operated by Euroclear UK and Ireland (EUI), which is a subsidiary of the Belgium-based Euroclear group. The Euroclear group is owned and governed by its users.

Bacs

Bacs processes direct credit and direct debit payments on a three-day DNS cycle. Bacs is operated by Bacs Payment Schemes Ltd. Bacs Payment Schemes Ltd is owned by the 16 members of Bacs.

FPS

The Faster Payments Service (FPS) is a DNS system for standing orders and electronic retail transactions, including transactions generated in telephone and internet banking. The system supports transfer of value between retail customers' accounts in near real time, 24 hours a day, and seven days a week and settles three times per working day. FPS is operated by Faster Payments Scheme Limited (FPSL). FPS is owned by the ten members of FPS.

LCH

LCH.Clearnet Ltd is the largest central counterparty (CCP) in the United Kingdom, clearing a wide range of exchange-traded and OTC products, including interest rate swaps (SwapClear) and fixed income (RepoClear). It makes and receives cash payments through the 'Protected Payments System'. LCH Ltd is fully owned by LCH.Clearnet Group Ltd. LCH.Clearnet Group Ltd is a private company, limited by shares and owned by a number of exchanges and users.

LCH.Clearnet Group Ltd and London Stock Exchange Group (LSEG) have recently agreed terms that will result in LSEG taking a stake of up to 57.8% in LCH.Clearnet Group Ltd, subject to certain conditions. Other exchanges and users of LCH will retain at least 42.2%. The deal is expected to conclude in the second quarter of 2013.

ICE

ICE Clear Europe is a CCP that clears energy derivatives and credit default swaps (CDS). Its payment system is the 'Assured Payment System'. ICE Clear Europe is operated by ICE Clear Europe Ltd, which is wholly owned by ICE Inc., which is publicly listed in the United States.

CLS

CLS provides a Payment versus Payment (PvP) settlement service for foreign exchange transactions in 17 currencies including sterling. CLS also handles payments for certain non-PvP transactions, such as non-deliverable foreign exchange forwards and some types of credit derivatives. CLS is operated by CLS Bank International, which is owned by its members.

SWIFT

SWIFT provides secure messaging services to financial institutions and market infrastructures. It also sets standards for payment and settlement messages. Although SWIFT is not a payment system, the Bank participates in its oversight because it is used by FMIs that are critical to the UK financial system. SWIFT is a member-owned co-operative.

Table B Volumes, values, members, operational availability and main payment types in recognised payment systems

	Average daily volume		Average daily value (£ millions)		Number of settlement bank members	Operational availability	Important payment types
	2012	*2011*	2012	*2011*	Dec. 2012	2012	
CHAPS							• Settlement of financial market transactions
Sterling	134,667	*135,550*	284,591	*254,489*	19	100%	• CLS pay-ins and pay-outs
							• House purchases
Bacs	22,287,266	*22,776,896*	16,318	*17,383*	16	100%	• Salary and benefit payments
							• Direct Debit and Direct Credit payments
Faster Payments Service	3,218,619	*2,092,931*	2,452	*936*	10	100%	• Telephone and internet banking
							• Single immediate and forward-dated payments
							• Standing order payments
CREST (payment arrangements supporting CREST)							
Sterling	164,055	*179,571*	420,561	*471,469*	15	99.75%	• 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	3,575	*3,790*	857	*1,066*			
Euro	3,202	*3,945*	404	*506*			
LCH.Clearnet Ltd (Protected Payments System)[(a)]							
Sterling	39	*38*	644	*891*	14[(b)]	99.96%	• Net margin flows between LCH.Clearnet Ltd's payment banks and concentration banks across LCH.Clearnet Ltd's PPS
US dollar	71	*57*	1,798	*2,211*			
Euro	38	*33*	1,106	*1,219*			
Other	105	*90*	162	*171*			• Payments for commodity deliveries
Total LCH	253	*218*	3,711	*4,492*			• Cash settlements
							• Default fund contributions
							• Coupon payments
ICE Clear Europe (Assured Payment System)[(c)(d)]							
Sterling	21	*15*	78	*38*	6	100%	• Net margin flows between ICE Clear Europe's payment banks and concentration banks across ICE Clear Europe's APS
US dollar	54	*50*	627	*728*			
Euro	49	*49*	493	*578*			
Total ICE	125	*114*	1,199	*1,345*			• Payments for commodity deliveries
							• Cash settlements
							• Default fund contributions
CLS							
All currencies	679,334	*795,635*	2,956,715	*2,977,513*	62	99.93%	• Settlement of foreign exchange trades
Sterling	45,457	*54,295*	212,588	*214,467*			

(a) This refers to cash flows across LCH.Clearnet Ltd's PPS.
(b) LCH.Clearnet Ltd's UK and US PPS banks.
(c) Revised figure.
(d) This refers to cash flows across ICE Clear Europe's APS.

Box 5 Settlement Finality Directive — designated systems

In the United Kingdom, the EU Settlement Finality Directive is implemented through the Financial Markets and Insolvency (Settlement Finality) Regulations 1999. These regulations allow payment and settlement systems to apply for certain protections against the operation of normal insolvency law, generally 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. In order to receive these protections, systems must meet the criteria set out in the Settlement Finality Regulations and be designated by the relevant authority.

The Bank is the relevant designating authority for systems processing only payment transfer orders. The Bank analyses applications for designation from such systems and decides whether to designate a system on the basis of whether it meets the requirements set out in the Settlement Finality Regulations.

Payment systems that have been designated are:

- CHAPS (operated by CHAPS Clearing Company Ltd);
- Continuous Linked Settlement (operated by CLS Bank International);
- Bacs (operated by Bacs Payment Schemes Ltd);
- the Cheque Clearing System and the Credit Clearing System (operated by the Cheque and Credit Clearing Company Ltd); and
- Faster Payments Service (operated by the Faster Payments Scheme Ltd).

Where payment systems are embedded within a central counterparty or securities settlement system (both of which qualify as Recognised Clearing Houses),[1] responsibility for designating those systems under the Settlement Finality Directive rested with the FSA in consultation with the Bank. The Treasury has amended the Settlement Finality Regulations to reflect the transfer of supervisory responsibilities for prudential supervision of CCPs from the FSA to the Bank. From 1 April 2013, the Bank will become the relevant designating authority for such systems, alongside its existing role for other payment systems.

(1) EUI, LCH.Clearnet Ltd and ICE Clear Europe are all RCHs under the Financial Services and Markets Act (FSMA) 2000.

Glossary of terms

Business risk
The risk that the payment system or any of its components — for example, an infrastructure provider serving it — cannot be maintained as a going concern in the face of adverse financial shocks.

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.

Credit risk
The risk that a counterparty or payment system participant will not settle an obligation owing to a lack of funds.

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

Deferred net settlement
Under deferred net settlement, a payment system releases details of payments to the receiving bank prior to interbank settlement. Settlement is achieved when (bilateral or multilateral) net obligations are posted to accounts at the settlement agent(s), and so participants only need to generate liquidity equal to their net obligations.

Designation
Designation under the settlement finality regulations provides additional assurance of the enforceability of a system's default arrangements in the event of insolvency proceedings against a participant.

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.

Governance
Corporate governance is the method by which an organisation is directed, administered or controlled. The corporate governance structure specifies the distribution of rights and responsibilities of the Board, managers, any shareholders and other stakeholders, and sets the rules and procedures for managing decisions on organisational affairs.

Liquidity risk
The risk that a participant in a payment system has insufficient funds to settle an obligation for full value when due.

Operational risk
The risk that a system operator or core provider to the system is operationally unable to process or settle payments as intended.

Principal risk
The risk that the seller of a security delivers a security but does not receive payment or that the buyer of a security makes payment but does not receive delivery. In this event, the full principal value of the securities or funds transferred is at risk.

Settlement Finality Directive
The EU Directive on Settlement Finality in Payment and Securities Settlement Systems (Directive 98/26/EC); implemented into UK law by the Financial Markets and Insolvency (Settlement Finality) Regulations.

Settlement risk
The risk that a participant in a system cannot or does not meet its financial obligations when, under the rules of the system, they fall due; or that another institution that facilitates the settlement of those obligations — such as the settlement agent — becomes insolvent.

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

Abbreviations

APS – Assured Payment System.
CCP – Central counterparty.
CDS – Credit default swap.
CHAPS Co – CHAPS Clearing Company Ltd.
CLS – Continuous Linked Settlement.
CPSS – Committee on Payment and Settlement Systems.
DBV – Delivery by Value.
DNS – Deferred net settlement.
DvP – Delivery versus Payment.
EMIR – European Market Infrastructure Regulation.
EUI – Euroclear UK & Ireland Ltd.
FCA – Financial Conduct Authority.
FMI – Financial market infrastructure.
FMIRs – Financial Markets and Insolvency (Settlement Finality) Regulations.
FPS – Faster Payments Service.
FPSL – Faster Payments Scheme Limited.
FSA – Financial Services Authority.
FSMA – Financial Services and Markets Act 2000.
ICE – InterContinentalExchange.
IOSCO – International Organization of Securities Commissions.
LFCA – Liquidity Funding and Collateralisation Agreement.
MoU – Memorandum of Understanding.
OTC – Over the counter.
PFMIs – Principles for financial market infrastructures.
PPS – Protected Payments System.
PRA – Prudential Regulation Authority.
PvP – Payment versus Payment.
RCH –Recognised Clearing House.
RTGS – Real-time gross settlement.
SFD – Settlement Finality Directive.
SSS – Securities Settlement System.
SWIFT – Society for Worldwide Interbank Financial Telecommunication.

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