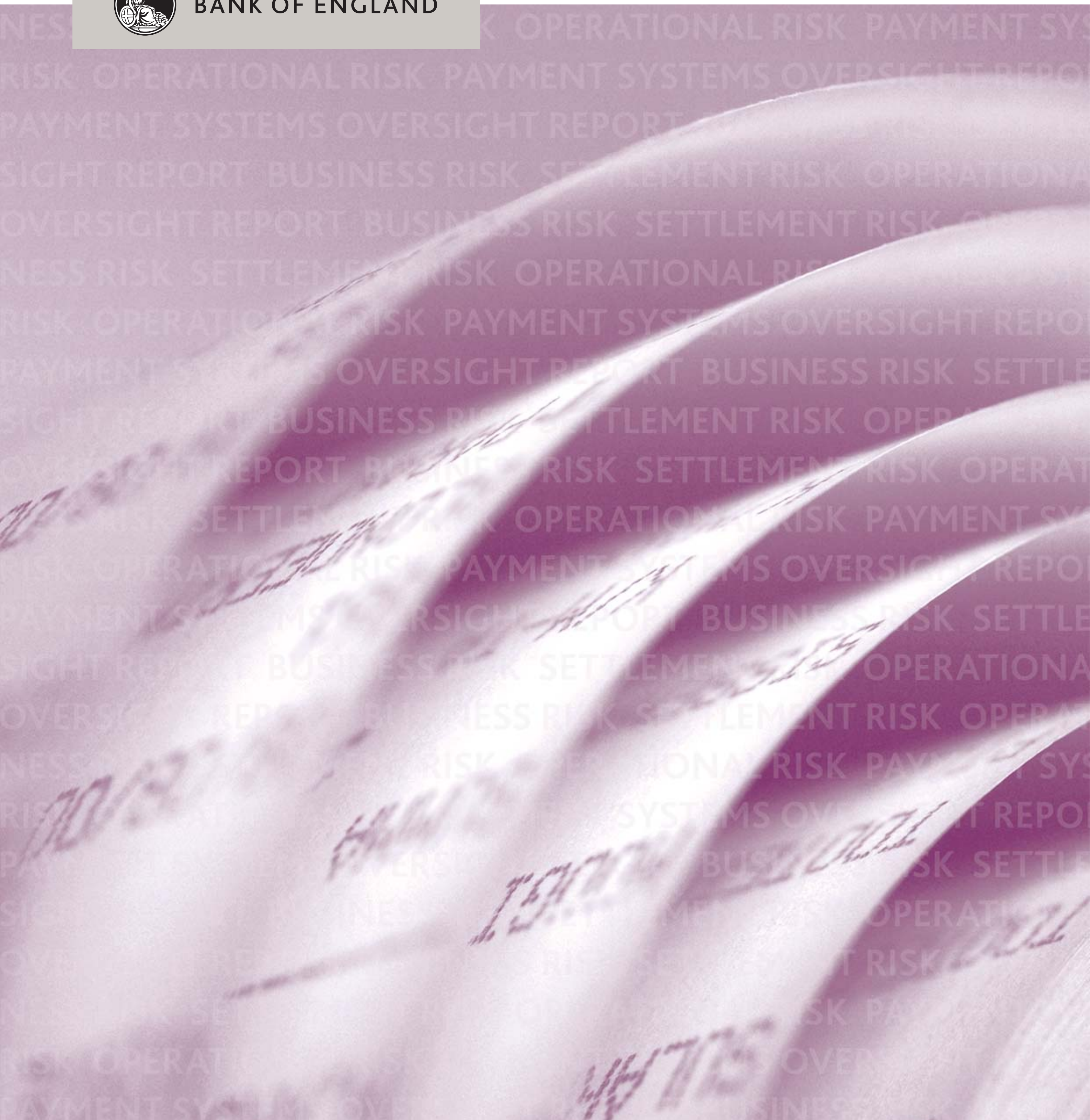
Payment Systems Oversight Report 2011

April 2012

BANK OF ENGLAND



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Executive summary

This annual report on the Bank's oversight of payment systems sets out how the Bank has exercised its responsibilities under Part 5 of the Banking Act 2009 (Box 1) since the previous *Oversight Report* in March 2011.

The main UK payment systems have continued to demonstrate high levels of operational availability. Since March 2011, systems have delivered reductions in risk. Further work remains necessary in some areas. These include the following:

- *Tiering in the wholesale payment systems*: In February 2012, the CHAPS Board agreed amendments to the CHAPS Rules to ensure systemically important banks become members rather than participate indirectly.

- *Credit and liquidity risks in central counterparty*[1] (CCP) payment arrangements: LCH.Clearnet Ltd and ICE Clear Europe are exploring options for reducing unsecured intraday credit exposures to their payment and commercial concentration banks.

- *Default arrangements for Bacs*: An agreement is now in place to ensure that settlement could complete in the event of a member defaulting with a debit position in excess of Bacs's default fund. During 2012, Bacs will be aiming to introduce limits on the maximum size of members' debit positions to address the risk that excessive uncollateralised credit exposures could build up in stress scenarios.

- *Governance weaknesses, particularly in relation to CHAPS, Bacs and Faster Payments Service (FPS)*: The process of addressing these weaknesses has begun, but further progress is required to ensure there is adequate staff resource, and that governance arrangements ensure sufficient priority and accountability for systemic risk management.

- *Contingency arrangements*: The systems have undertaken a number of tests to prove the effectiveness of their business continuity arrangements. Recently, the emphasis has shifted to strengthening contingency plans for a financial crisis.

Chapter 1 of this *Oversight Report* summarises how the Bank has implemented the statutory framework for payment systems oversight under Part 5 of the Banking Act 2009 since March 2011, and its priorities for further work. Chapter 2 summarises the main developments in recognised payment systems, as well as in SWIFT.

(1) CCPs are regulated under the FSA Recognised Clearing House regime. The Bank oversees the embedded payment arrangements within LCH.Clearnet Ltd and ICE Clear Europe.

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Chapter 1: Oversight by the Bank of England

This chapter summarises how the Bank has implemented the statutory framework for payment systems oversight under Part 5 of the Banking Act 2009 since March 2011, and its priorities for further work.

1.1 Overview of the Bank's oversight role

Central banks' involvement in the oversight of payment systems is rooted in their core role as providers of the ultimate settlement asset — central bank money. This gives central banks a direct interest in any potential systemic risks inherent in such systems. More broadly, payment systems are crucial to the smooth functioning of the financial system and economy. It is important that they operate in a way that contains risks to the system to an acceptable level. If payment systems are operated only in the narrow self interest of their members, they might underinvest in mitigating those risks. This can be countered by ensuring a broader risk perspective through central bank oversight.

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 Act, HM Treasury recognises interbank payment systems which 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 — Bacs, CHAPS, CLS, Faster Payments Service (FPS), the payment arrangements embedded in the CREST securities settlement system (SSS) operated by Euroclear UK and Ireland (EUI), and the embedded payment arrangements in LCH.Clearnet Ltd (LCH) and ICE Clear Europe (ICE).

The Act gives the Bank various powers, which it may use in pursuit of its oversight objectives if deemed appropriate (Box 1). Over the past year, the Bank has exercised its powers solely for information gathering purposes.

EUI, LCH and ICE are supervised under the Financial Services Authority's (FSA's) Recognised Clearing House regime, the Bank oversees only the embedded payment arrangements within them. The Bank liaises closely with the FSA under the auspices of a Memorandum of Understanding (MoU) which covers the respective roles and responsibilities in relation to these embedded payment and settlement systems.(2) Overseers and regulators hold regular liaison meetings, share information and undertake co-ordinated work.

Box 1 Oversight powers

The Banking Act 2009 puts the Bank's Financial Stability Objective into statute. The Act defines this objective as being 'to contribute to protecting and enhancing the stability of the financial systems of the United Kingdom'. Part 5 of the Act establishes a statutory regulatory framework for the oversight of recognised interbank payment systems to assist the Bank in pursuing its objectives in respect of payment systems. The Financial Stability Committee, a sub-committee of the Bank's Court of Directors, has responsibility under the Bank of England Act for monitoring the Bank's exercise of its functions under this framework and saw a draft of this report.

The Act provides the Bank with a graduated set of tools to support its oversight function. These include requirements for the operators of recognised systems to have regard to Principles published by the Bank,(1) and to comply with any Codes of Practice that are published by the Bank. To date no Codes of Practice have been necessary.

The Act also confers power on the Bank to require operators to establish or change system rules in a specified way and a power to give directions. The Bank is given various powers to help it gather information and assess payment systems. These comprise the powers to require the provision of information, inspect premises and require independent reports.

Failure to comply with certain requirements can lead to sanctions such as publishing details of the compliance failure, financial penalties, or (in the most serious cases) closure of the system. The Bank also has power to disqualify a person from being an operator or from holding a position of responsibility in respect of the system. The Act provides for the Bank to give warnings about the imposition of such sanctions in most cases. It also establishes an appeals process.

The Bank's supervision is conducted in the shadow of these statutory powers.

(1) The Bank published its *Principles for Oversight* in 2009 www.bankofengland.co.uk/financialstability/Pages/role/risk_reduction/payment_systems_oversight/principles_oversight.aspx.

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(1) www.legislation.gov.uk/ukpga/2009/1/contents.
(2) www.bankofengland.co.uk/publications/Documents/other/financialstability/BoE-FSA-MoU.pdf.

1.2 The Bank's oversight priorities

In the previous *Oversight Report*, the Bank identified five priority areas for reduction in risk — tiering in UK payment systems, credit risks in the payment arrangements for central counterparties (CCPs), default arrangements for Bacs, governance and contingency arrangements.

Good progress has been made in reducing these risks. There is more work to do, in part reflecting the inherent difficulties in effecting some of the required improvements. In some cases this will require improvements in project planning and resourcing. A number of systems are now committed to strengthening resourcing and governance.

The Bank's oversight priorities for the year ahead are discussed in turn below. They are largely unchanged, although there has been some shift in emphasis. For example, the Bank intends to focus in 2012 on intraday liquidity (as well as credit) risks in CCP payment arrangements.

1.2.1 Reduction in tiering in the wholesale payment systems

Tiered arrangements pose risks to financial stability: they lead to intraday credit and liquidity exposures between members and indirect participants, which can act as a source of contagion. And they render the indirect participants operationally dependent on the member for access to the system, leading to disruption in the event of an operational failure. These risks are most significant for CHAPS because of the size of the credit exposures between direct members and indirect participants, which are generally unsecured and uncommitted.

CHAPS Clearing Company Ltd (CHAPS Co) has made considerable progress in addressing tiering which should yield substantial reductions in risk in future.

Other recognised systems have collected or are in the process of collecting information about indirect participation and considering the risk issues it raises. An expansion in the number of settlement banks in CREST would bring some of the same benefits as de-tiering in CHAPS, although it is more usual in CREST for intraday credit exposures to customers to be secured.

1.2.2 Reducing credit and liquidity risks in CCP payment arrangements

Both LCH and ICE incur substantial unsecured intraday credit exposures to banks participating in their payment arrangements and to their commercial concentration banks. These exposures regularly exceed the CCPs' capital — the only resource available to absorb credit losses from this source.

LCH and ICE are exploring options to address these credit risks as a matter of priority. For example, LCH has identified a solution for eliminating its intraday exposures to payment banks, and ICE plans to concentrate sterling balances at the Bank of England. It is also important for both CCPs to ensure that they have sufficiently reliable access to the intraday liquidity required to facilitate smooth operation of their payment arrangements.

1.2.3 Improving default arrangements for Bacs

Under the current default arrangements for Bacs, the net debit position of a defaulting member could exceed the amount of liquidity committed by surviving members. Bacs has made changes to ensure that settlement will complete in this scenario. Bacs will also be taking steps to limit the net debit positions that individual members can build up as a matter of priority in 2012.

1.2.4 Strengthening governance

The governance arrangements of several payment systems have been reviewed to ensure they reflect corporate governance good practice and provide appropriate strategic guidance and challenge to management.

The members of CHAPS, Bacs and FPS have agreed on a series of changes which have been or are in the process of being implemented. In November, Faster Payments Service Ltd was established to replace CHAPS Co as the operator of FPS, allowing each operator to focus solely on one scheme. The FPS Board held its first meeting in November 2011 and the transfer of assets completed in February 2012. Additionally, the Payments Council has begun to receive and discuss regular reports from the schemes on their progress against the Bank's oversight expectations, thereby increasing accountability and visibility of representatives on scheme boards for delivery against these expectations. In early 2012, the scheme committee structure was enhanced, and a new CHAPS managing director and interim FPS managing director were appointed, ending the temporary arrangement whereby one managing director covered all three schemes (CHAPS, FPS and Bacs).

The overall framework for strategy formulation for CHAPS, FPS and Bacs will depend in large part on the outcome of HM Treasury's review of the regulatory framework for payment systems announced in November 2011.

1.2.5 Continued improvements in contingency arrangements and their testing

Payment systems need to have robust contingency arrangements which are tested through challenging exercises (Box 2). Recently, the focus has shifted to resilience against a financial crisis. It is important that systems craft robust yet flexible plans that take due account of the interdependencies between systems. A key objective should be to ensure continuity of service even in the most extreme scenarios, including multiple member or counterparty default.

Box 2 Payment system resilience

The payment systems have continued to undertake tests to improve the effectiveness of their business continuity arrangements. Since March 2011, the payment systems have participated in a number of cross-sector exercises to test the co-ordination of sector contingency plans during an incident.

All of the overseen systems as well as SWIFT, VocaLink and the Bank itself (as operator of the real-time gross settlement (RTGS) system) participated in the November 2011 Market-wide Exercise.(1) The core of the scenario was a cyber attack on the financial sector, which included the loss of CHAPS payments integrity within the member banks. This highlighted the need to improve understanding of the alternatives to using CHAPS, and their limitations.

Most of the overseen systems also took part in the cross-sector 'Waking Shark' desktop exercise in March 2011, which focused on how financial firms and market infrastructures would communicate and co-ordinate during a cyber attack on the financial sector.

In May 2011, SWIFT held its fourth SWIFT Crisis Co-ordination & Communication Committee (SC3) simulation exercise. Representatives participated from five major currency zones. The sterling team comprised representatives from the Bank and all of the overseen payment systems with significant payment flows in sterling. Sterling contingency arrangements held up well against the scenario.

All three of these exercises incorporated cyber attack as part of the scenario. Tackling cyber risk is one of the National Security Council's top five objectives.(2) The Bank has assessed information security practices in CHAPS, Bacs and FPS to gauge how mature and adaptable their approach is to cyber risk. While results were encouraging, the Bank will be pursuing areas for further improvement with the schemes.

(1) www.fsc.gov.uk/section.asp?catid=678&docid=2759.
(2) www.cabinetoffice.gov.uk/resource-library/national-security-strategy-strong-britain-age-uncertainty.

In that connection, the Bank is actively engaged in international work by the Committee on Payment and Settlement Systems (CPSS) and International Organization of Securities Commissions (IOSCO) on the design of suitable resolution arrangements for financial market infrastructures.

1.3 Other oversight activities

The Bank undertakes regular 'horizon scanning' to identify whether any interbank payment systems not currently recognised by HM Treasury may satisfy the criteria for recognition set out in the Banking Act 2009. Over the past year no change was proposed.

The Bank also holds meetings with the infrastructure providers that supply outsourced services to recognised payment systems. These meetings assist with information gathering.

The Bank co-operates closely with the FSA in pursuit of its oversight objectives. The Bank has worked with the FSA on tiering and in assessing the need for improvements to liquidity risk management by LCH and ICE. More broadly, the Bank and the FSA are deepening co-ordination arrangements in respect of CCPs and SSSs in anticipation of regulatory responsibilities for these entities transferring to the Bank once the regulatory reform bill has been enacted by Parliament, expected in 2013 (see Section 1.4 below).

The Bank participates in a number of international co-operative oversight arrangements (or 'colleges'), and works with international counterparts to ensure that they provide an effective tool for addressing oversight concerns about the relevant system. In 2011, the Bank continued to participate in colleges for LCH.Clearnet Group and Euroclear Group (in both cases alongside the FSA), CLS and SWIFT. These colleges are described in the previous *Oversight Report*.(1) The Bank strongly supports the principle of co-operative oversight based on robust procedures for information sharing and consultation between authorities.

The Bank has a role in designating payment systems under the Financial Markets and Insolvency (Settlement Finality) Regulations 1999 which implement the EU Settlement Finality Directive (SFD) in the United Kingdom. This significantly reduces the legal risks systems and their direct participants might otherwise face following a default. In 2011, there were no changes to the payment systems designated by the Bank — currently, Bacs, CHAPS, CLS, FPS and the Cheque and Credit Clearings. The Bank was consulted by the FSA on applications for designation from a number of (non-recognised) CCPs, including EuroCCP.

1.4 Looking ahead

The Bank expects to conduct oversight in 2012 within a similar framework to 2011. Nonetheless, a number of domestic and international developments are likely to affect the future conduct of payment systems oversight.

In January 2012, the Government introduced its Bill for financial reform. As outlined in the previous *Oversight Report*, this Bill implements the changes to supervisory responsibility which the Government announced in 2010. The Bill will give the Bank of England responsibility for supervision of CCPs and

(1) www.bankofengland.co.uk/publications/Documents/psor/psor2010.pdf.

Box 3 IMF FSAP

In 2011, the International Monetary Fund (IMF) undertook a Financial Sector Assessment Programme (FSAP) in the United Kingdom. As part of this, the IMF assessed CHAPS, CREST and LCH, as well as the Bank's conduct of payment systems oversight, against internationally accepted standards.(1) The IMF published its reports in August 2011.(2)

The IMF noted that the Bank and the FSA had taken a number of steps to strengthen the supervision and oversight of financial market infrastructures since the crisis. The IMF also made a number of thematic recommendations to the Bank and the FSA set out in the table below.

Recommendation	Progress
Ensure that sufficient and reliable funding options are in place for CCPs, including committed credit lines subject only to presentment.	The Bank is working with the FSA to identify improvements to CCP liquidity risk management.
Develop contingency plans to deal with the failure of a CCP.	The FSA, currently the regulator of CCPs, supports the implementation of loss-allocation rules by CCPs. The Bank is participating in international work on the design of suitable resolution regimes for CCPs.
Offer central bank settlement to CCPs identified as systemically important.	The Bank stands ready to provide settlement facilities (in sterling and euro) to CCPs and believes this can deliver a significant reduction in intraday credit risk.
Establish monitoring of concentration of banks' payment and settlement activities.	The Bank has developed indicators to monitor concentration of banks' payment and settlement activities. It discusses material issues with the FSA.
Undertake unified assessment of the RTGS system, including an assessment of the finality of transactions.	The Bank will conduct such assessments under its own risk framework. The RTGS system is part of the wider operation of the Bank's balance sheet.

The IMF concluded that CHAPS, CREST and LCH observed or broadly observed all of the applicable standards. They identified several actions to improve their observance set out in the table below. The Bank is monitoring progress against these actions.

Action	Progress
CHAPS Co should develop procedures to make clear where losses would fall if a member in a net debit position were to default while in bypass mode.	Since the IMF report, CHAPS Co has agreed and embedded in its rules procedures to make clear that if a member in a net debit position were to default while in bypass mode, any losses would fall to the remaining members.
CHAPS Co should demonstrate that it can simultaneously manage both the CHAPS and FPS schemes. CHAPS Co should also demonstrate improvements to its succession planning.	Since the IMF assessment, a new CHAPS Co managing director has been appointed. Also Faster Payments Scheme Limited has replaced CHAPS Co as operator of the FPS.
CREST's risk mitigation arrangements, such as exposure limits and a guarantee fund, should be put in place to reduce the credit risk associated with the US dollar settlement in commercial bank money.	EUI will be reviewing the size of the credit exposures and possible mitigating actions during 2012.
All CREST's requirements to be a euro or sterling settlement bank should be clearly defined in the CREST Rules. Existing settlement banks should not be in a position to veto an applicant euro or sterling settlement bank.	Admission requirements are already set out in the CREST Rules. EUI has produced an updated admission process document for prospective settlement banks. Existing settlement banks do not possess the right of veto for prospective applicants.
LCH should put in place safe and reliable funding options, which should include committed credit lines subject only to presentment, and could also include other options such as mutualisation of liquidity risk among the CCP's membership.	LCH is examining whether its liquidity arrangements are fit for purpose.
LCH should find a way to reduce its settlement exposures to PPS and commercial concentration banks. Settlement should be in central bank money when possible and practicable.	Since the IMF assessment, LCH has been pursuing this recommendation under Bank oversight.

(1) The CPSS Core Principles for Systemically Important Payment Systems, the CPSS-IOSCO Recommendations for Securities Settlement Systems and the CPSS-IOSCO Recommendations for Central Counterparties.
(2) www.imf.org/external/pubs/cat/shortres.aspx?TITLE=united&auth_ed=&subject=&ser_note=All&datecrit=During&Lang_F=English&brtype=Date&YEAR=2011&submit=Search.

SSSs, and thus bring together the regulation of these infrastructures alongside payment systems oversight in the Bank. The Bill also makes some changes to the current regime for payment systems oversight. It proposes some new powers for the Bank, including a new enforcement power.

For CCPs, the supervisory model will need to reflect the recently agreed European Market Infrastructure Regulation (EMIR) and associated regulatory technical standards. These standards are currently being prepared by the European Supervisory Agencies, chiefly the European Securities and Markets Authority (ESMA), in some cases with the involvement of the European System of Central Banks (ESCB). The Bank and FSA are actively engaged with this process.

Central banks and securities regulators are concurrently reviewing and consolidating international standards for systemically important payment systems, SSSs, CCPs, trade repositories and central securities depositories. The CPSS and IOSCO published a joint consultation paper in March 2011[1] and envisage publishing final standards, together with a proposed assessment methodology, in April 2012. The Bank will in due course, review its own Principles for the oversight of recognised payment systems in light of these new standards.

The CPSS and IOSCO will also establish a revised framework for co-operation between authorities for systems that are systemically important across jurisdictions. This is one of a number of European and international initiatives that provide the basis for stronger arrangements for co-operative oversight of financial market infrastructures that operate across national borders and/or in multiple currencies. EMIR will also establish strong co-operative college arrangements for the initial authorisation of European CCPs, as well as the extension of services or activities of authorised CCP.

(1) www.bis.org/press/p110310.htm.

Table A Volumes, values and main payment types in recognised payment systems[(a)]

	Volume		Value (£ millions)[(b)]		Important payment types
	2011	*2010*	2011	*2010*	
CHAPS	135,550	*127,146*	254,489	243,429	• Settlement of financial market transactions • CLS pay-ins and pay-outs • House purchases
Bacs	22,776,896	*22,421,858*	17,383	*16,057*	• Salary and benefit payments • Direct Credit and Direct Debit payments • Telephone and internet banking
Faster Payments Service	2,092,931	*1,682,854*	936	*649*	• Telephone and internet banking • Single immediate and forward dates payments • Standing Order payments
CREST (payment arrangements supporting CREST)[(c)]					
Sterling	164,699	*182,585*	471,469	*508,153*	• Settlement of gilts, UK and Irish equities and money market instruments (including in respect of OMOs and repo markets transactions more generally)
US dollar	3,790	*3,164*	1,066	*1,603*	
Euro	3,945	*5,341*	506	*975*	
LCH.Clearnet Ltd (Protected Payment System)[(d)]					
Sterling	54	*51*	1,598	*1,412*	• Settlement in respect of cash margin payments
US dollar	60	*49*	2,901	*2,357*	• Payments for commodity deliveries
Euro	50	*46*	2,654	*1,903*	• Cash settlements
Other	151	*114*	332	*283*	• Default fund contributions
Total LCH	315	*260*	7,485	*5,955*	
ICE Clear Europe Ltd (Assured Payment System)[(e)]					
Sterling	14	*16*	37	*39*	• Settlement in respect of cash margin payments
US dollar	49	*47*	706	*701*	• Payments for commodity deliveries
Euro	47	*45*	560	*422*	• Cash settlements
Total ICE	110	*107*	1,303	*1,162*	• Default fund contributions
CLS[(f)]					
All currencies	795,635	*764,291*	2,977,513	*2,682,527*	• Settlement of foreign exchange trades
Sterling[(g)]	54,295	*59,404*	214,467	*196,372*	

Sources: Bank of England, CLS Bank International, Euroclear UK & Ireland, ICE Clear Europe Ltd, LCH.Clearnet Ltd and UK Payments Administration Ltd.

(a) Daily averages unless otherwise stated.
(b) US dollar, euro and 'other' figures are shown as sterling equivalent.
(c) Value figures refer to cash movements within CREST (and will therefore include the value of transactions settled between CREST members who use the same settlement bank).
(d) Figures for the LCH.Clearnet Ltd Protected Payment System (PPS) refer to the sum of all (net) payments between LCH.Clearnet Ltd and its members through the PPS. Volume figures are based on the period 1 December 2010 to 10 December 2010 for 2010, and 1 March 2011 to 31 December 2011 for 2011.
(e) Figures for the ICE Clear Europe Ltd Assured Payment System (APS) refer to the sum of all (net) payments between ICE Clear Europe Ltd and its members through the APS.
(f) Each transaction has two 'sides'. Both sides are counted in the volume and value figures.
(g) Trades in which one leg is denominated in sterling.

Chapter 2: Key developments in the main UK payment systems

This chapter discusses recent developments in the recognised payment systems, as well as in SWIFT, the messaging service provider.

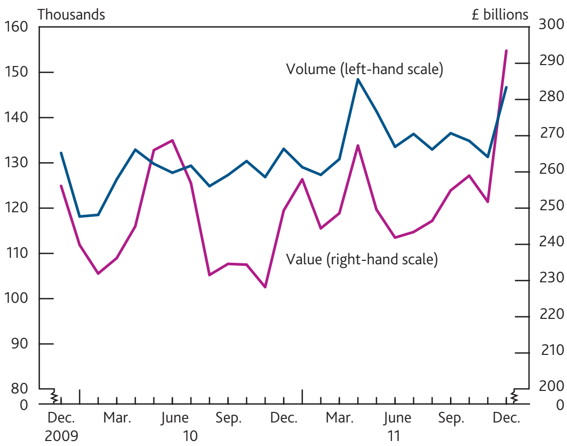
2.1 Recognised payment systems

2.1.1 CHAPS

CHAPS is the United Kingdom's high-value payment system, providing real-time gross settlement of sterling transfers between members. The CHAPS scheme company (CHAPS Co) is responsible for management of the CHAPS scheme. The RTGS infrastructure is run by the Bank.

The average daily volume and value of payments made in CHAPS increased over the year, with value increasing to £293 billion in December 2011 from £249 billion in December 2010 (**Chart 1**). The peaks in April and December 2011 reflect the reduced number of working days because of bank holidays. CHAPS has continued to achieve high levels of operational availability, although individual members have experienced outages. CHAPS operated normally over the past year despite market stress, with the average timing of payment submissions by members unchanged over the period. This contrasts with Autumn 2008, when there was evidence that payment throughput slowed because of counterparty concerns.

Chart 1 Average daily values and volumes of CHAPS sterling payments[(a)]



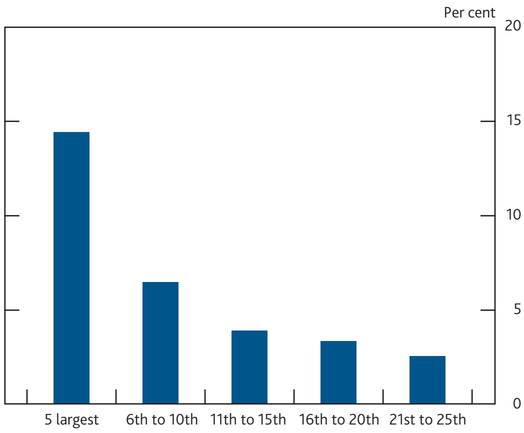
Source: UK Payments Administration Ltd.

(a) Average over calendar month.

CHAPS is a tiered payment system. There are 18 direct members of CHAPS, the majority of whom provide payment services to other institutions to allow them to access the system indirectly.

The Bank has analysed the extent of the tiered arrangements in CHAPS. While the relevant data have some limitations, they suggest that payments on behalf of indirect participants currently account for roughly 50% of the value of flows through CHAPS. If the five largest indirect participants became direct members, this would fall to around 35% (**Chart 2**).

Chart 2 CHAPS payment share amongst largest indirect participants by value[(a)]



Source: Bank of England.

(a) Percentage values based on 25 largest indirect participants by value in 2011 grouped by five.

CHAPS Co is addressing tiering as a matter of priority. Some of the largest indirect participants are now considering membership. In February 2012, CHAPS Co agreed system rules giving the Board powers to preclude members from clearing for indirect participants where doing so presents an unacceptable level of systemic risk. These rules should help to deliver concrete reductions in risk in the future.

While CHAPS Co's contingency arrangements are extensive, its importance demands exceptional levels of resilience. CHAPS Co made a number of improvements to its contingency procedures in 2011. It introduced procedures to ensure settlement can complete in the event of a member default while in RTGS bypass mode. And it implemented enhanced procedures to mitigate the risk of liquidity being drained from the system in the event that a member is unable to send but can still receive payments. As infrastructure providers around the world are finding, a strategic approach to resilience planning is needed.

CHAPS is undergoing a number of enhancements in the next few years. In early 2012, enhanced RTGS 'Business Intelligence' was implemented enabling members to manage their liquidity more closely. In 2013, liquidity savings mechanisms will be introduced into CHAPS to reduce the liquidity needs of members. CHAPS Co, SWIFT and the Bank are also developing the Market Infrastructure Resilience Service (MIRS), a generic RTGS system that will provide tertiary backup to RTGS arrangements. MIRS represents a significant improvement on the current contingency, bypass mode, because it eliminates settlement risk between members. One challenge will be to ensure that CHAPS Co is adequately resourced to manage this relatively heavy change programme.

CHAPS is strengthening its governance arrangements, including through the appointment of a new CHAPS managing director in early 2012.

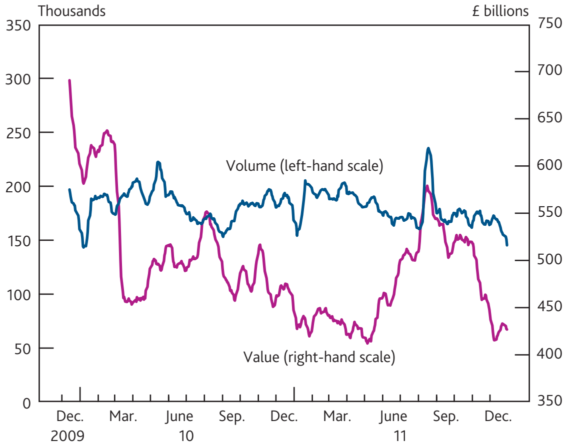
2.1.2 CREST

The CREST system (CREST) provides settlement services 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: the cash and securities legs settle simultaneously throughout the CREST day, thus eliminating principal risk from the settlement process. US dollar transactions are settled on a DvP basis between CREST members with payment obligations between settlement banks discharged via bilateral net interbank cash settlement at the end of the US settlement day.

CREST is operated by Euroclear UK & Ireland Ltd (EUI), a wholly-owned subsidiary of Euroclear SA/NV (ESA). EUI is incorporated in the United Kingdom and subject to supervision by the FSA as a Recognised Clearing House under the Financial Services and Markets Act (FSMA) 2000 and as a settlement system operator under the Uncertificated Securities Regulations 2001. The Bank oversees the sterling, euro, and US dollar interbank payment arrangements supporting CREST settlement.(1)

CREST has demonstrated high levels of operational availability in 2011, albeit with some extensions to the CREST settlement day required. Sterling settlement values have risen over the past year, peaking at over £550 billion per day in September 2011 before falling back more recently (**Chart 3**). Euro settlement values are much smaller but increased to €664 million per day in December 2011. At the same time, US dollar values have fallen to an average daily value of $1.3 billion in December 2011.

Chart 3 Daily volumes and values of sterling DvP in CREST(a)(b)



Source: Euroclear UK & Ireland.

(a) Ten-day moving average.
(b) Total values and volumes excluding self-collateralising repos.

Most CREST participants have only a single network connection to the CREST system — typically SWIFT for larger participants. This means that a sustained SWIFT connectivity problem would materially disrupt settlement. EUI and its Settlement Bank Committee, with the support of the Bank, are working together to consider the case for significant participants having dual connectivity to CREST.

EUI successfully launched its Term Delivery by Value (TDBV) service in June 2011. Previously all Delivery by Value (DBV) transactions had been conducted on an overnight basis, which generated material credit, liquidity, and operational risks as a result of the daily unwinding and re-creation of transactions. The value of outstanding TDBVs was about £8 billion at end-December 2011 (**Chart 4**). There has been a

Chart 4 Term DBV daily average total open contracts

Source: Euroclear UK & Ireland.

(1) The Bank, the FSA and the Central Bank of Ireland have entered into a Memorandum of Understanding for co-operation on the regulation of the services provided by EUI relating to the settlement of Irish securities, which account for the bulk of settlement in euro.

corresponding decline in overnight DBVs. TDBV transactions are currently arranged bilaterally, but EUI is working with LCH to introduce a centrally cleared service that will further reduce credit, liquidity and operational risks.

Gross DvP settlement necessarily requires significant amounts of intraday liquidity. The Bank currently extends sterling liquidity to CREST settlement banks by means of a self-collateralising repo (SCR) model that generates very large amounts of central bank money (CBM) during the settlement day — more than required to facilitate orderly settlement. The SCR mechanism entails back-to-back repo transactions between a member and its settlement bank and the settlement bank and the Bank — a process that generates liquidity effectively but entails operational risks and exposes both the Bank and the settlement banks to counterparty risks. EUI intends to implement changes to its CBM service in mid-2012 to replace the existing self-collateralising mechanism with a new auto-collateralisation model. This will entail a substantial reduction in the amount of liquidity generated intraday, while still ensuring DvP settlement occurs smoothly.

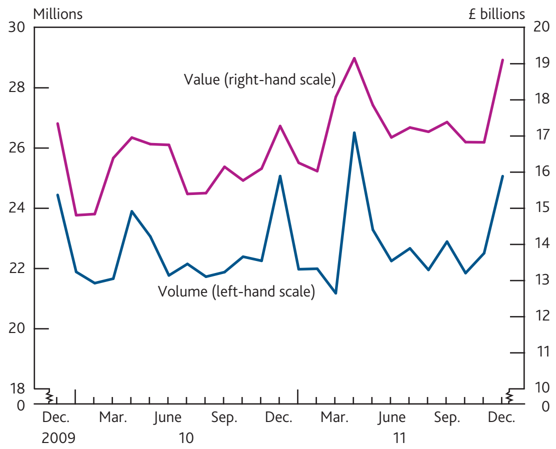
The payment arrangements that support CREST settlement are highly tiered. There are thirteen settlement banks that provide payment services to more than 33,000 CREST members. As in CHAPS, tiered participation arrangements can result in large intraday credit and liquidity exposures between settlement banks and their customers, although these exposures are largely collateralised by securities held in CREST. CREST members are also operationally reliant on their settlement banks to make and receive the cash leg of the transactions. EUI is analysing the extent of the credit, liquidity and operational risks stemming from tiered participation. This analysis will help to inform judgements on whether remedial action is necessary, for example by encouraging individual CREST members to become settlement banks. As operator of a systemically important settlement system, EUI needs to monitor and manage systemic risks.

2.1.3 Bacs

Bacs is the United Kingdom's largest payment system by volume. It operates as a deferred multilateral net settlement (DNS) system, with a three-day cycle, settling across accounts at the Bank. Bacs Payment Schemes Ltd is responsible for the Bacs Direct Credit and Direct Debit products. The processing of transactions is currently outsourced to a single third-party provider, VocaLink Ltd. There are 16 direct members of Bacs, 716 Bacs-approved Bureaux and 45 Affiliates. Citibank became a direct member in 2011.

Throughout 2011, the volumes and values in Bacs remained stable despite the ongoing migration of Standing Orders and some Direct Credits to FPS (**Chart 5**). As with CHAPS, the April and December 2011 peaks reflect the reduced number of working days. Bacs expects the continued uptake of Direct Debits to offset the migration of Standing Orders to FPS. Operational availability remained strong in 2011.

Chart 5 Average daily volumes and values of payments processed in Bacs(a)

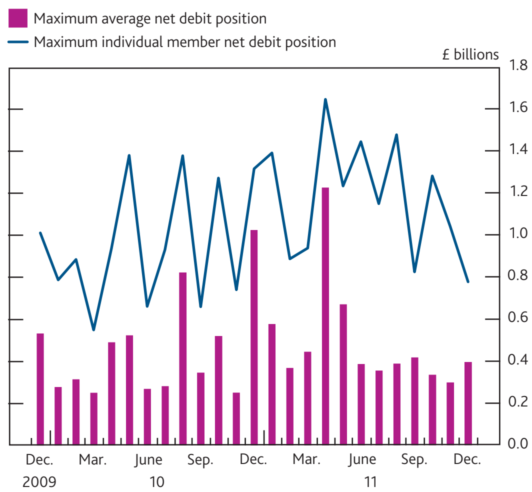


Sources: UK Payments Administration Ltd and Bank calculations.

(a) Average over calendar month.

As Bacs is a DNS system, participants are subject to credit and liquidity risk. The net settlement obligations (an indicator of the scale of the credit and liquidity risks) remained broadly within previously observed ranges (**Chart 6**). The introduction in 2005 of formal default arrangements under the Liquidity Funding and Collateralisation Agreement (LFCA) significantly reduced settlement risk in Bacs by establishing a mutualised default fund. In December 2011, Bacs members executed an enhanced agreement that ensures settlement will complete even if a member defaults owing surviving members more than the default fund. To reduce credit and liquidity risk in this

Chart 6 Monthly maximum net debit positions in Bacs(a)(b)



Source: Bank of England.

(a) Maximum average net debit position is taken from the member with the highest average of net debit positions over the calendar month (net credit positions not being taken into account).
(b) Excludes Bank of England.

scenario, Bacs is prioritising the introduction of hard caps in 2012. These will limit the debit position a member can build up. Longer term, the Bank and Bacs are also discussing a model where the defaulter would effectively cover its net debit position through fully collateralising or pre-funding the hard caps, thus reducing settlement risk further.

In recent years, Bacs has handled an increasing number of large-value payments. But settling large-value payments through Bacs creates unnecessary interbank credit exposures. Processing of large-value payments should be through an RTGS system that avoids this risk. Bacs is looking to introduce a value limit — the Board has agreed upon £20 million — for individual payments. This will have the added advantage of reducing the volatility in net debit positions and so reduce the likelihood of breaches of hard caps. Payments above this value should be settled in CHAPS.

In light of the settlement risk in the system, Bacs has a credit quality based criteria for membership, which includes the external credit rating of the member. This creates the risk that a credit rating downgrade of a member could mechanically trigger automatic — and potentially disorderly — withdrawal from the Bacs system. To prevent this, and in order to comply with the Financial Stability Board (FSB) Principles on reducing mechanistic use of credit rating agency ratings, in 2011 Bacs implemented arrangements to enable members to collateralise their debit positions whenever credit ratings fall below the minimum level set out in the membership criteria. Bacs should also establish a more graduated requirement for increasing collateral.

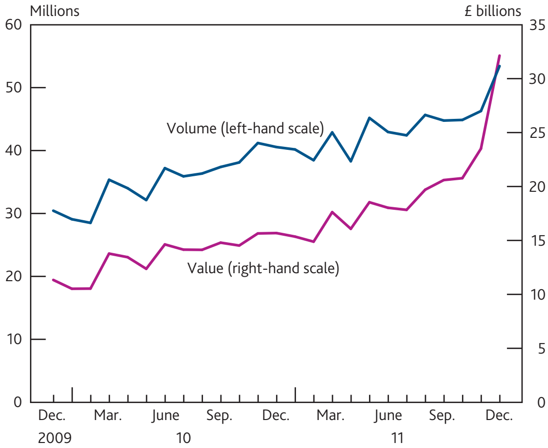
Bacs is strengthening its governance arrangements. The appointment of dedicated managing directors for FPS and CHAPS will enable the Bacs managing director to focus solely on Bacs.

2.1.4 Faster Payments Service

Launched in 2008, the Faster Payments Service (FPS) is an automated clearing service for Standing Orders and electronic retail transactions, including telephone and internet banking. Processing services are outsourced to VocaLink Ltd. The system supports transfer of value between retail customers' accounts in near real time, 24 hours a day, seven days a week. FPS is a DNS system: settlement between member banks takes place across accounts at the Bank of England three times per working day. There are ten direct members of FPS and 234 agency users.

There was a steady increase in FPS volumes and values over 2011 (**Chart 7**). The implementation of the mandatory D+1 requirement of the European Payment Services Regulations on 1 January 2012 has resulted in the migration of Standing Orders from Bacs to FPS, causing an increase in FPS volumes in January 2012. All relevant Bacs sort codes are now

Chart 7 Monthly aggregate volumes and values in Faster Payments Service



Source: UK Payments Administration Ltd.

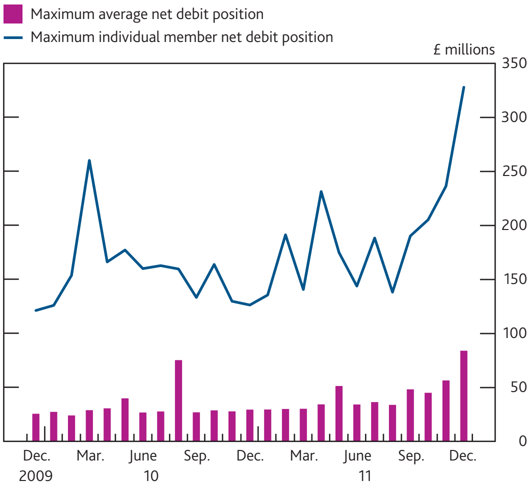
addressable in FPS, which will facilitate further growth in volumes and values. Operational availability has been good; there have, however, been a small number of settlement delays.

As part of the changes to strengthen the governance of FPS, Faster Payments Service Ltd has been established as a separate scheme company responsible for managing FPS.

As a relatively new system, FPS's arrangements for testing its contingency planning are less well developed than those of other systems. FPS is introducing a more comprehensive strategy and testing programme, and the Bank will monitor the results of completed tests. In addition, FPS is assessing the possible impact of a retail run. If retail customers became concerned about the financial standing of their bank, they could well seek to remove funds by means of internet payments through FPS. In late 2011 a retail run walkthrough took place, and FPS is planning a follow-up workshop for members.

The Bank and FPS are discussing the scope to reduce further the credit and liquidity risks inherent in FPS as a DNS system. Over the past year, the average net settlement obligations (an indicator of these risks) have been increasing although still remain modest (**Chart 8**). Credit and liquidity risks are limited by Net Sender Caps under the Liquidity and Loss Share Agreement (LLSA). Members pledge collateral to cover 100% of the largest single Net Sender Cap. There may, however, be scope to reduce settlement risk further through collateralising or pre-funding individual caps. In the meantime, it is important for FPS to ensure that the allocation of losses is clear in the event of exhaustion of the default fund.

Chart 8 Monthly maximum net debit positions in Faster Payments Service(a)



Source: UK Payments Administration Ltd.

(a) Maximum average net debit position is taken from the member with the highest average of net debit positions over the calendar month (net credit positions not being taken into account).

2.1.5 LCH.Clearnet Ltd

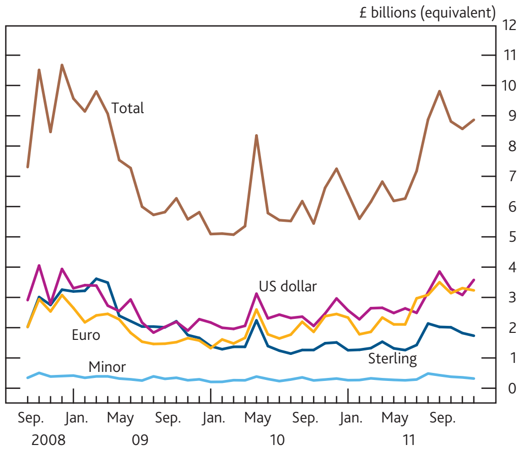
LCH.Clearnet Limited (LCH Ltd) is the largest central counterparty (CCP) in the United Kingdom. LCH Ltd clears a wide range of exchange-traded and over-the-counter (OTC) products, including equities, derivatives, commodities, interest rate swaps (SwapClear) non-deliverable forwards (ForexClear) and fixed income (RepoClear). LCH Ltd is owned by the UK-based LCH.Clearnet Group Limited, which also owns the French-based clearing house LCH.Clearnet SA. LCH Ltd is regulated by the FSA as a Recognised Clearing House under FSMA 2000.

The Bank oversees the Protected Payment System (PPS) arrangements of LCH Ltd under the Banking Act 2009.(1) These arrangements consist of a network of ten UK and ten US commercial banks ('PPS banks') with which LCH Ltd members must maintain payment accounts. Payments are transferred to concentration accounts held with the Bank of England (for sterling and euro) or commercial banks (for other currencies).(2)

CCPs such as LCH Ltd help to reduce risk to financial market participants by interposing themselves in bilateral trades, such that they become the buyer to every seller and seller to every buyer on markets they clear. By taking over the contractual obligation, the CCP protects both parties to the trade from counterparty risk. But the CCP itself is exposed to the failure of either the buyer or the seller, and thus requires its users to post margin that can absorb losses incurred in a default scenario. Additionally, LCH Ltd requires members to contribute to a mutualised default fund intended to cover losses in excess of margin. These contributions must be paid in cash; margin can be provided in either cash or high-quality collateral.

The PPS arrangements are the means by which cash is transferred between LCH Ltd and its members. This payment system is distinct from the clearing system itself. The latter transfers and manages counterparty risk, while the payment system simply facilitates the cash payments associated with this process. The average daily value of payments made across the UK PPS increased during 2011, because LCH Ltd requested additional margin from members in response to increased market volatility and concerns over the euro-area debt crisis. Values peaked at around £10 billion in September 2011 (**Chart 9**), a similar level to October 2008 following the collapse of Lehman Brothers.

Chart 9 Monthly average of daily gross transfers over the UK PPS, by currency and aggregate(a)



Sources: LCH. Clearnet Ltd and Bank calculations.

(a) Protected Payment System.

The process of making cash payments through the PPS entails the accumulation of large unsecured credit balances on LCH Ltd's accounts with the PPS banks at certain points during the day. Intraday exposures to individual PPS banks regularly exceed LCH Ltd's capital base — the only resource currently available to absorb losses stemming from the failure of a PPS bank.(3) LCH Ltd has identified a solution for eliminating these exposures which it will need to implement as a priority.

LCH Ltd has also made some initial progress in considering how to reduce unsecured credit exposures to its commercial concentration bank for US dollars. These exposures are typically larger than to any one PPS bank. As part of this work, LCH Ltd is currently developing a proposal to collateralise the majority of the credit exposure and agree a secured intraday overdraft facility.

LCH Ltd has recently introduced new procedures that accelerate the turnaround of sterling and euro liquidity in the

(1) CCPs are regulated under the FSA Recognised Clearing House regime but the Bank oversees the embedded payment arrangements within LCH.
(2) LCH does not have access to central bank facilities in US dollar and must therefore use a commercial concentration bank.
(3) Members' margin and default fund contributions can be used only to cover counterparty credit losses stemming from a member default and not the failure of a PPS bank.

PPS and allow earlier access to funds from maturing investments. LCH Ltd needs to continue to work with the PPS banks to identify ways in which intraday liquidity risks can be further mitigated, including by reducing its reliance on uncommitted intraday liquidity facilities.

LCH needs to take steps to strengthen liquidity risk management more generally.

LCH experienced an increased number of operational incidents during 2011. While many of these incidents related to external issues, the robustness of LCH's highly manual internal banking and collateral management systems falls substantially short of industry best practice, and exposes LCH to heightened operational risk. LCH has taken steps to mitigate operational risk in its existing arrangements and plans to introduce new systems over the next two years.

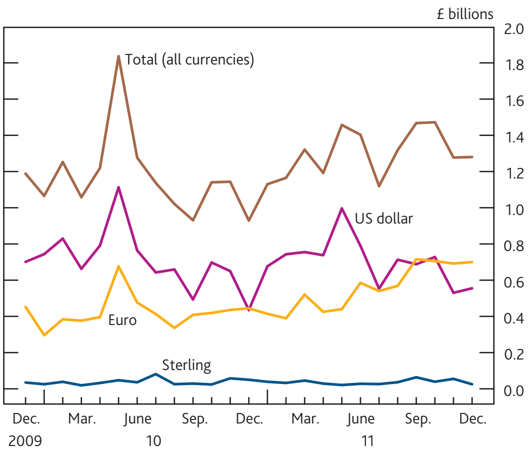
2.1.6 ICE Clear Europe Ltd

ICE Clear Europe Limited (ICE) is a CCP which clears energy derivatives and credit default swaps (CDS). It is incorporated in the United Kingdom as a private limited company wholly owned by US-based ICE Inc. ICE is regulated by the FSA as a Recognised Clearing House under FSMA 2000.

The Bank oversees the Assured Payment System (APS) arrangements of ICE under the Banking Act 2009.[1] The APS arrangements comprise a network of six commercial banks ('APS banks') with which ICE and its members maintain payment accounts, and a commercial concentration bank that also invests cash margin in the market on ICE's behalf.

ICE collects cash margin, default fund contributions, cash settlement amounts and other payments from its members in sterling, euro and US dollars. The average daily values of sterling and US dollar payments through the APS arrangements have remained broadly stable (**Chart 10**), although the average daily value of euro payments has increased slightly. The APS recorded 100% operational availability in 2011.

Chart 10 Monthly average of daily gross transfers over the APS, by currency and aggregate[(a)]



Sources: ICE Clear Europe and Bank calculations.

(a) Assured Payment System.

ICE routinely incurs substantial intraday credit exposures to the APS banks. ICE is also significantly exposed to its commercial concentration bank intraday. Internationally agreed guidelines for CCP risk management establish that a systemically important CCP such as ICE should settle its payments in central bank money where practical and available. Against this backdrop, ICE is proposing to use the Bank as concentration bank for sterling and is undertaking further analysis of using the Bank as concentration bank for euro.

Intraday exposures to APS banks arise in particular from these banks' practice of transferring funds from member accounts to ICE accounts in the early hours of the morning. This is an automated procedure that limits operational risk but also entails significant accumulation of unsecured credit balances in ICE's commercial bank accounts before markets open. These funds are recycled to members or invested on a secured basis later in the day. ICE needs to identify a suitable mechanism for reducing its intraday credit exposures to APS banks, particularly as payment values and volumes are likely to rise as demand for clearing services increases.

In addition, ICE needs to demonstrate that risks in its payment arrangements are properly managed and understood by senior management and Board members. ICE has made progress by publishing the criteria for APS bank membership, and by establishing a dedicated forum to discuss the APS. It has also published documents on its website explaining the credit and liquidity risks which arise from the operation of the APS.

2.1.7 CLS

CLS started operations in 2002, with the primary function of mitigating principal risk (also known as Herstatt risk) in foreign exchange (FX) transactions. It provides a Payment versus Payment (PvP) settlement service for 17 currencies, but also handles payments for certain non-PvP transactions, such as non-deliverable forwards and some types of credit derivatives. Currently, sterling is the fourth largest currency in CLS, representing 7% of settled value, after US dollar, euro and yen. The average daily value settled in sterling in 2011 was over £200 billion.

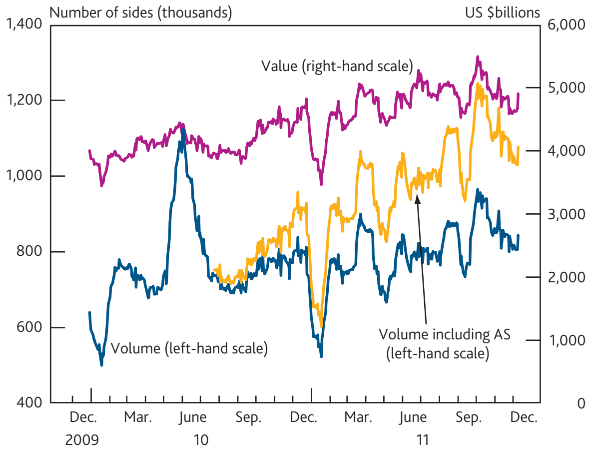
The US Federal Reserve is the supervisor and lead overseer of CLS Bank. Co-operative oversight takes place through the CLS Oversight Committee (OC), in which the Bank participates alongside other central banks. In accordance with Federal

(1) CCPs are regulated under the FSA Recognised Clearing House regime but the Bank oversees the embedded payment arrangements within ICE.

Reserve policies, CLS publishes a biennial self-assessment against the CPSS Core Principles. CLS published its latest self-assessment in December 2011.(1)

The value and volume of transactions settled in CLS increased in 2011 (**Chart 11**). On 21 September 2011, CLS set a new record for volume, settling 1.96 million sides. In 2010, CLS started its Aggregation Service (AS), which allows members to combine large numbers of low-value trades, for example from algorithmic or high-frequency trading. AS volume has more than doubled in 2011. Without the growth in the AS, the uptrend in CLS volumes would have been more pronounced.

Chart 11 Daily volumes and values settled by CLS[(a)(b)(c)]



Source: CLS Bank International.

(a) Volume figures report the number of instructions before splitting.
(b) 20-day moving average.
(c) Volume including AS is the sum of CLS volume and the gross number of transactions going into the AS.

Over the past year, Lloyds TSB and Toronto Dominion Bank have joined CLS. There are currently 63 members of whom 61 are settlement members. There were also 14,610 indirect (third-party) participants at end-December 2011.

Since March 2011, CLS has handled direct and indirect participant difficulties (respectively Dexia and MF Global) without any delays in settlement. In addition, CLS's operational reliability has been strong. The dependence on nostros and domestic RTGS systems, however, creates potential points of failure, for example an operational incident in TARGET2 on 25 July 2011 delayed CLS pay-outs.

CLS has determined that several areas of its governance structure should be improved. CLS recognised this in its self-assessment by changing its rating of Principle X (governance arrangements) from 'fully observes' two years ago to 'broadly observes'. To address the issues identified, CLS has initiated a programme of governance reform. Changes have been made to improve the working of CLS's Board of Directors, by increasing the number of directors from outside the member community and strengthening the Board's committees.

CLS is investing in its technology systems to anticipate future demand. The current system is being updated to allow for forecasted peak volumes in the next few years. Furthermore, CLS is in the process of redesigning its technology platform. By doing so, it hopes to be better able to meet future demands and to make it easier to add new functionality to the system.

The new platform is expected to facilitate same-day settlement. Currently, there is a single settlement session per day so that only transactions processed between 00:00 and 06:30 Central European Time can be settled on the same day. Other same-day trades are currently settled outside CLS and pose principal risk to the counterparties involved. Same-day transactions include the 'out' leg of In/Out swaps, a liquidity management tool introduced to decrease members' pay-in requirements in CLS. The out legs, however, reintroduce principle risk on around $150 billion of transactions a day. A same-day settlement pilot for US and Canadian dollar transactions using an additional configuration of the current technology base is set to begin in 2013 Q3.

CLS is also seeking to mitigate more settlement risk by adding more currencies to the service. CLS has a target list of 19 currencies. Adding a new currency can be a lengthy process, as CLS must ensure that all eligibility criteria are satisfied.

2.2 Other oversight

2.2.1 SWIFT

SWIFT is not a payment system and so is not overseen by the Bank under the Banking Act 2009.

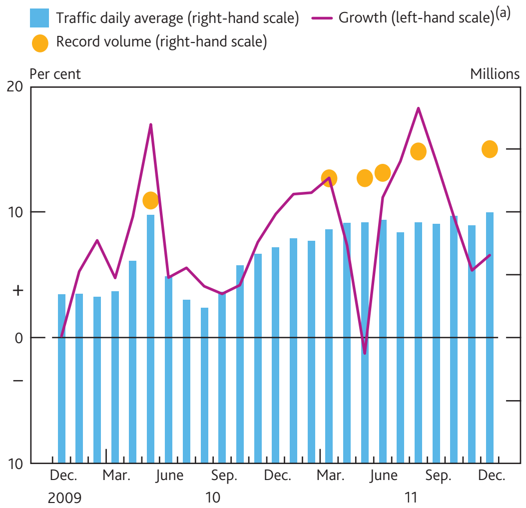
SWIFT provides secure messaging services to financial institutions and market infrastructures covering more than 9,500 users in over 200 countries. It also sets standards for payment and settlement messages, allowing back office IT systems of financial institutions around the world to communicate with one another more easily. Its services are important as it is used by financial market infrastructures that are critical to the UK financial system.

The Bank participates in the co-operative oversight of SWIFT with a college of other G10 central banks, led by the National Bank of Belgium (NBB).(2) The overseers' objective is to seek assurance that SWIFT appropriately manages risks to its operations. The mechanics of SWIFT oversight are undertaken by reference to the High Level Expectations (HLEs)(3) framework, which defines standards specific to a messaging services provider.

(1) www.cls-group.com/About/Documents/CLS%20Bank%20-%20Core%20Principles%20Assessment.pdf.
(2) NBB leads because SWIFT is incorporated in Belgium.
(3) The NBB published the HLEs in its 2007 *Financial Stability Review*, available at www.nbb.be/doc/ts/enterprise/activities/oversight/FSR_2007EN_oversight%20of%20SWIFT_article%20HLEs.pdf.

SWIFT continues to experience regular record volumes (**Chart 12**) attributed to the prolonged volatility in financial markets. SWIFT has reported no capacity issues related to these peak periods.

Chart 12 Daily average traffic in SWIFT



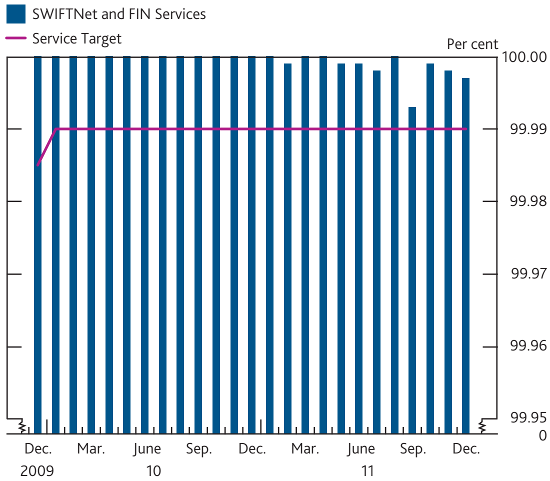
Source: SWIFT.

(a) Percentage growth on a year earlier.

SWIFT introduced its Distributed Architecture (DA) structure in January 2010, which segregates global traffic into the European zone and the Transatlantic zone. To achieve this segregation within a highly resilient service, SWIFT maintains three operating centres, one of which is hosted on leased premises. In the second stage of the DA project, SWIFT will replace this leased operating centre with a new-build operating centre, currently under construction. Services are scheduled to migrate to the completed operating centre, with the start of live operations planned for 2014.

Operational availability remains high (**Chart 13**). The dip in September 2011 was because of an incident that affected the Transatlantic zone only. SWIFT accomplished a service switch to the backup Transatlantic zone operating centre within minutes.

Chart 13 SWIFT network availability



Source: SWIFT.

SWIFT has continued to engage with its users on business continuity issues. In 2011, two international customer-facing business continuity tests were carried out successfully. Also in 2011, SWIFT ran a business continuity exercise for its crisis co-ordination and communication group which involved major users in five currency areas (Box 2). This tested information flows and the decision-making process that would be needed if severe operational problems were to affect SWIFT. Participant feedback highlighted the importance of ensuring that the user community has sufficient knowledge of SWIFT's resilience within its DA structure.

In 2011, SWIFT embarked on a four-year project to move its core messaging service ('FIN') to a new technology platform, in order to reduce operational costs and long-term technology risk. Although the conversion is intended to be transparent to users, overseers have highlighted the need for users to be able to schedule their own testing programmes. More generally, SWIFT users need to ensure the resilience of their own connections to SWIFT, and to participate in regular SWIFT testing.

Box 4 MF Global

Member defaults present a challenge for CCPs' and SSSs' embedded payment arrangements as well as their default management procedures more generally. The recent failure of MF Global UK provides a significant test of these arrangements and procedures for EUI (CREST) as well as LCH and ICE — the first such test since the collapse of Lehman Brothers in 2008 with valuable lessons for systems and supervisors. The embedded payment arrangements in UK CCPs not overseen by the Bank were also affected.

MF Global UK was a wholly-owned subsidiary of US broker-dealer MF Global Inc, which filed for Chapter 11 bankruptcy protection on 31 October 2011 having incurred large losses on euro-area sovereign bonds. The UK subsidiary was subsequently placed into the Special Administration Regime (SAR) by the FSA on 31 October. The SAR is a bespoke insolvency regime for dealing with investment banks, introduced in light of the failure of Lehman Brothers, which prioritises timely engagement with market infrastructures and authorities alongside the return of client assets and maximising returns for creditors.

UK infrastructures found it helpful for the administrator to have the objective of engaging with them.

Also in light of Lehman Brothers, the FSA had agreed and published co-operation guidance between infrastructure providers and insolvency practitioners to clarify further the unique relationship between the two in the event of default. The co-operation guidance also received positive feedback from the insolvency practitioners and UK infrastructures.

Once the court order appointing KPMG as administrators of MF Global UK had been made, the infrastructures of which it was a member initiated their default procedures. For CCPs, the main challenge was to transfer client positions and close-out house positions; both LCH and ICE were able to do this without recourse to their mutualised default funds, despite challenging market conditions, particularly for sovereign fixed income positions. Sovereign positions with LCH Ltd were relatively small — MF Global UK held more significant euro-area sovereign positions in LCH SA, the French-based CCP. MF Global UK's fixed income positions had a combined notional value of €14.7 billion in LCH Group. On 29 November LCH Group reported that these positions had been sold 'with the exception of a very small number of residual positions'.

MF Global UK's positions with ICE were not related to euro-area debt and were closed out in an orderly fashion. ICE completed the close out or transfer of all MF Global UK house and client positions by 9 November 2011.

MF Global UK's CREST settlement banks exercised their floating charges to make whole any settlements due in accordance with normal default procedures. Control of MF Global UK's accounts was then passed back to the administrators. CREST reported on 9 December 2011 that it had nearly completed the process of matched deletion of unsettled instructions.

Overall, the UK infrastructures handled the MF Global UK default well and successfully contained systemic risk. The CCPs performed their primary function of closing out the failed member's positions in an orderly fashion, with no disruption to their payment arrangements. Similarly, the CREST embedded payment system functioned smoothly.

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.

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, 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.

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.

Herstatt risk
A form of settlement risk, where one party to a trade fails to make a payment when it has already been paid by the other party. (Also foreign exchange settlement risk, cross-currency settlement risk or principal risk in foreign exchange transactions.)

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

Operational risk
The risk that a system operator or core infrastructure 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.

Repo
An agreement in which one party sells a security to another party and agrees to repurchase it on a specified date for a specified price.

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 system provide payment services to other institutions to allow them to access the system indirectly.

Abbreviations

APS – Assured Payment System
CBM – Central bank money
CCP – Central counterparty
CDS – Credit default swap
CHAPS – Clearing House Automated Payment System
CHAPS Co – CHAPS Clearing Company Ltd
CPSS – Committee on Payment and Settlement Systems
DA – Distributed Architecture
DBV – Delivery by Value
DNS – Deferred multilateral net settlement
DvP – Delivery versus Payment
EBA – European Banking Authority
EMIR – European Market Infrastructure Regulation
ESA – Euroclear SA/NV
ESCB – European System of Central Banks
ESMA – European Securities and Markets Authority
EUI – Euroclear UK & Ireland Ltd
FMIRs – Financial Markets and Insolvency (Settlement Finality) Regulations
FPC – Financial Policy Committee
FPS – Faster Payments Service
FSA – Financial Services Authority
FSB – Financial Stability Board
FSAP – Financial Sector Assessment Programme
FSMA – Financial Services and Markets Act 2000
FSR – *Financial Stability Report*
FX – Foreign Exchange
G10 – Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States
G20 – The Group of Twenty Finance Ministers and Central Bank Governors
HLE – High Level Expectations
ICB – Independent Commission on Banking
ICE – InterContinentalExchange
IMF – International Monetary Fund
IOSCO – International Organisation of Securities Commissions
LFCA – Liquidity Funding and Collateralisation Agreement
LLSA – Liquidity and Loss Share Agreement
MIRS – Market Infrastructure Resilience Service
MoU – Memorandum of Understanding
OC – (CLS) Oversight Committee
OTC – Over the counter
PPS – Protected Payments System
PvP – Payment versus Payment
RTGS – Real-time gross settlement
SAR – Special Administration Regime
SC3 – SWIFT Crisis Co-ordination & Communication Committee
SCR – Self-collateralising repo
SFD – Settlement Finality Directive
SSS – Securities Settlement System
SWIFT – Society for Worldwide Interbank Financial Telecommunication
TDBV – Term Delivery by Value service

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